

Strategies for Enhancing Environmental Awareness through Home Economics Education Program at Junior Secondary School Level in Lagos State

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Abstract

The study examined the strategies for enhancing environmental awareness through Home Economics Education at Junior Secondary School (JSS) level in Lagos State. The design used for the study was a descriptive survey design. The population of the study was 470 and the sample size was 250. Purposive sampling technique was adopted. Structured Questionnaires were the instrument for data collection. Data collected was analyzed using mean. Findings revealed physical components of the environment, environmental resources, environmental management are some of the environmental awareness concepts that can be taught in Home Economics, teaching environmental awareness in all areas of Home Economics, including the concept of environmental awareness in Home Economics textbooks and excursion to dumpsite, gas - flaring plant market, rigid nature of curriculum review and update, not promoting jingles on radio and television concerning the importance of safe environment and regular curriculum review, curriculum flexibility and active involvement of important stake holders in curriculum review are ways of removing challenges to environmental awareness at Junior Secondary School Level.

Keywords: Awareness, Strategies, Environmental, Home Economics, Education.

Introduction

Lagos is one of the fastest growing cities in the world and it has witnessed rapid population explosion and its consequences (Seriki-Mosadolohun, Abiamuwe, Ogbonna and Otobo, 2017). Its recent pattern of development and human

activities has led to environmental degradation. Seriki-Mosadolohun *et al*, (2017) observed that urban growth and land conversion involving human activities are major threats to the ecosystem. Lagos state with its unimaginable excellence has become

popularly known for its congestions and environmental issues resulting from climate change (Alagbe, 2005). Environmental literally means surrounding and everything that affects an organism during its lifetime is collectively known as its environment. In other words, environment is the sum total of water, air and land interrelationships among themselves and also with the human being, other living organisms and property.

According to Tansley (2005), an environment is a synonym of ecosystem described as the ecological unit consisting of biotic factors (living) and abiotic factors (non - living) in a specific area. Environmental components are physical elements such as space, landforms, water bodies, climate soils, rocks and minerals. They determine the variable character of the human habitat, its opportunities as well as limitations. Biological elements are elements such as plants, animals, micro-organisms and men constitute the biosphere and cultural elements are made up of elements such as economic, social and political, both physical and biological includes living and non-living component.

The Physical environment is classified into three broad categories viz., solid, liquid and gas. They represent the following spheres: the lithosphere (solid earth) the hydrosphere (water component) and the atmosphere. The biological environment consists of: plants (Flora) animals (Fauna). All the organisms work to form their social groups and organizations at several levels. In the social environment the organisms work to derive matter from the physical environment for their sustenance and development. (Smith, 2010)

Environmental awareness is to understand the fragility of our environment and the importance of its protection. Promoting environmental awareness is an easy way to become an environmental steward and participate in creating a brighter future for our children and the society at large. Environmental awareness is an integral part of the movement's success. By teaching our friends and family that the physical environment is fragile and indispensable we can begin fixing the problems that threaten it. Numerous resources are available to promote environmental awareness; group learning in or outside of class, informational and inspirational seminars, television, radio jingles among others are some of the ways of promoting environmental awareness.

Environmental challenges may be broadly grouped into major and minor types depending upon their potential to cause damage to human life and property (Joseph, 2009). Also, environmental challenges are classified under the broad titles of natural and artificial, based mainly on their mode of occurrence. Natural events occur suddenly and swiftly and consequently cause severe damage to the society and surrounding (Santra, 2011). Artificial challenges are influenced or induced by man and they have some elements of human error, negligence and or intent. Nigeria is not left out in the spatio-temporal distribution of environmental challenges. Nevertheless, in term of frequency, anthropogenic challenges are more prevalent in the country. Environmental and climate change impacts disaster such as the features of drought, desert encroachment, epidermis, floods and ocean surge have been on the rise in Nigeria in recent times.

However, notable consequences of environmental challenges include loss of lives, loss of properties, loss of genetic resources, environmental degradation, loss of habitats, climate change and global warming, biodiversity loss, as well as epidemiological threat. In Lagos State, there are natural and anthropogenic calamities of different types, magnitudes and frequencies, hence, the focus of much attention on environmental awareness. Kimani, (2007).

The most common environmental problems in Lagos State are anthropogenic in nature. They result from human interference (interaction) with the environment. They occur as a result of human intent, negligence, error or failure of human-made system. Anthropogenic hazards can be broadly classified under the titles of sociological, technical, transportation and others and they mainly occur in such areas as Makoko, Ilaje, Amukoko, Mosafejo, Orile, Ajegunle, Ijora-Badia, Okokomaiko, Ajamgbadi, Munshin and Maroko towards Ajah environs. Lack of good drainage system, irregular dredging of canals, lack of proper town planning as well as building of houses on canals in these areas calls for concern as it contributes majorly to flooding issues in Lagos State (Seriki-Mosadolohun *et al*, 2017).

Human activities in Nigeria have also resulted into environmental challenges like biodiversity loss, oil spillage, bush burning, urban housing problem, water scarcity, as well as pollution (water, soil, air, marine, noise, thermal, radioactive and vehicular). Broader worries have also arisen about the environmental challenges of deforestation, urban flooding, destruction of aquatic habitats, over-

exploitation of forest resources, illegal mining activities and dereliction, road transportation mishaps as well as solid waste problems (municipal, agricultural, industrial, hazardous radioactive and biomedical). Other forms of environmental degradation are desert encroachment, ozone layer depletion, global warming, poor environmental sanitation, unlawful exploitation of fossil fuel resources, oil spillage, gas flaring and many other challenges relating to oil exploration and production (Seriki-Mosadolohun *et al*, 2017).

Use of reusable bags such as plastic grocery-type bags that gets thrown and ends up in landfills or in other parts of the environment is dangerous. These can suffocate animals who get stuck in them or may mistake them for food (Mintzberg, 2011). Also, it takes a while for the bags to decompose. The use of reusable bags cuts down on litter and prevents animals from getting a hold of them. Printing as little papers as necessary and avoiding having a copy of every single reading material which is detrimental to the environment will help to prevent environmental pollution. Use of laptop or e-reading in class and downloading reading materials will help to reduce the amount of paper used as well. Recycling of waste instead of throwing recyclables in the trash with non-recyclables will also help to maintain a hazard free environment. Use of energy-efficient light bulbs instead of regular bulbs. They last longer and saves money and also helps to lower the temperature of the atmosphere. Limiting water usage and proper channeling of waste water will help to prevent water pollution. Strategy on the other hand is a plan of action designed to achieve a long term or overall

aim. Strategy is also a system of finding, formulating, and developing a doctrine that will ensure long term success if followed faithfully or an unfolding internal and external aspects of an organization that results in actions in a socio-economic context. A strategy describes how the ends will be achieved by the means (Mintzberg, 2011).

Major solutions to the environmental challenges in Nigeria are environmental education which has to be embedded into Home Economics curricula and must be aggressively taught by Home Economics teachers at all levels, governance of nature by individuals, formulation and implementation of stronger laws or and penalties for those who violate the law as well as the use of environmentally sound technology for the monitoring of the environment (Santos, 2009).

Environmental awareness therefore encompasses knowledge of contemporary issues affecting nature locally and beyond (Boucher, 2015). Rising environmental awareness involves translating the technical language of a natural science or related field into terms and ideas that a non - scientist can readily understand. Effective environmental education programs and materials needs to present information and ideas in a way that is relevant to the people (Schmidt, 2009). The importance of the environment cannot be overemphasized because it plays a very vital role in the healthy living of human beings, environment is the only home that humans have, and it provides air, food, and other needs. Humanity's entire life support system depends on the well-being of all the environmental factors. Therefore, environment is essential in regulating air and climate, it is also important because it

is a source of natural beauty, and is necessary for proper physical and mental health too. Environment is only the sole factor for existence of life on this earth. The only planet in our solar system that supports for existence of life (Cristina, 2017).

The central focus of Home Economics (HE) is the well-being of individuals and families in their everyday living. Home Economics education adopts an action-oriented approach in enabling individuals to actively meet ever-changing and ever-challenging environments. The vision of Home Economics is to create and sustain healthier citizens by enabling them to become health literate. The healthy lifestyle theme embraced in Home Economics provides a consolidated approach to education and aims to enable humans develop the knowledge, skills and competences to take responsibility for their actions to make informed choices while considering the impact of those actions for themselves, the well-being of other people, and society at large (NCF, 2014).

Environmental education should lead to gathering mass awareness which should bring environmentally wiser policies (Schmidt, 2009). Consequently, to preserve and conserve the environment and for people to live a quality life, special attention needs to be given to environmental issues and awareness needs to be created in Lagos state to prevent the consequences of environmental degradation. It is against this background that this study focused on strategies for enhancing environmental awareness through Home Economics education at junior secondary school level in Lagos State.

Purpose of the Study

The main purpose of this study was to examine the strategies for enhancing environmental awareness through Home Economics Education Programme at junior secondary school level. Specifically, the study:

1. identified environmental awareness concept that could be taught at the JSS Home Economics Programs
2. determined ways of teaching environmental awareness concepts at JSS Home Economics Programs
3. determined challenges to enhancing environmental awareness at JSS Home Economics programs
4. determined ways of removing challenges to enhancing environmental awareness at JSS Home Economics Programs

Methodology

Research Design: The study adopted a descriptive survey design.

Area of the Study: The study was carried out in Lagos State, South West Nigeria. Lagos state was chosen because of its high level of congestion which contributes to anthropogenic challenges in the city due to increased human activities as well as lots of environmental hazards caused by emissions from industries and flooding caused by excessive rainfall and lack of proper drainage system of which the inhabitants need to be aware of so as to be able to guide against environmental hazards.

Population for the Study: The population for this study was four hundred and seven (470). This comprises of Forty (100) Junior Secondary School Students of Home Economics from Ijero Girls Junior

Secondary School, (70) Mary-wood Secondary School and (80) Glory Point College Ebute-Metta all of 2015/2016-2018/19, (50) Students of School of Health Yaba, (Source: School of Health Admission Office) One hundred and forty (140) Senior Staff of Lagos State Ministry of Environment (Source: Lagos State Ministry of Environment).Thirty (30) registered Landlords of Lagos Mainland Local Government Area (source Lagos Mainland registered Landlord Association).

Sample and sampling Technique: Sample for this study was two hundred and fifty (250). Junior Secondary School Students of Home Economics from Ijero Girls Junior Secondary School, Mary-wood Secondary School Glory Point College Ebute-Metta, Students of School of Health Yaba, Senior Staff of Lagos State Ministry of Environment, Landlords of Lagos Island Local Government Area were purposively chosen because of their small size. Anaekwe (2007) stated that purposeful sampling ensures that only elements that meets the desired purpose or possess the attributes desired are selected. These consist of twenty (90) Home Economics Students in total, (60) Students of School of Health, (75) Senior Staff of Lagos State Ministry of Environment and (25) members of Lagos Mainland Landlord Association.

Instrument for Data Collection: Questionnaire was the instrument for data collection. Two structured questionnaires developed by the researcher were used for data collection. The first questionnaires developed were developed for junior secondary students of Home Economics, students of school of health and Landlord Association while the second questionnaire was developed for Lagos

State ministry of Environment. This was meant to generate responses on environmental issues, perception of human life, ways in which environment can be abused and ways of protecting the environment. Each questionnaire consists of two sections. Section A sought for demographic characteristics of the respondents while section B generated items based on the purposes of the study and research questions. Section B also contains Likert scale rated items as follows: Strongly Agree (SA) =4, Agree (A) =3, Disagree (D) = 2 Strongly Disagree (SD) =1.

Method of Data Collection: Data for the study was collected by the researcher with the aid of two research assistants. These assistants were trained and orientated on the purpose and nature of the study, how to distribute, collect and handle the retrieved copies of the questionnaire. This

was necessary because where it will not be possible to collect the completed questionnaire on the spot; the research assistants will help the researcher in retrieving them on agreed later dates. The research assistants would also help in interpreting the questionnaire to the respondents that are illiterates. The research assistants, being indigenes will help to reassure the respondents that their responses would not be used against them rather that their responses would facilitate research on environmental awareness.

Method of Data Analysis: Data collected were analyzed using mean. For the decision rule, the real limits of the numbers of the respondents' made was used to categorize the mean ratings of the respondents. Mean ratings from 2.50 and above were considered as "agreed upon" while items with mean ratings of 2.49 and below were considered as disagreed upon.

Results

Findings of the study

Table 1: Mean Responses on Environmental Awareness Concepts that should be taught in JSS Home Economics Programs

S/N	Environmental Awareness Concepts	Mean	Remarks
1	Physical Components of the environment	3.0	Agreed
2	Environmental Resources	2.5	Agreed
3	Importance of the environment	3.5	Agreed
4	Importance of proper environmental management	4.0	Agreed
5	Ways the environment can be abused	3.5	Agreed
6	Environmental pollution	3.4	Agreed
7	Waste generation and management	4.0	Agreed
8	Waste reduction and recycling	4.5	Agreed

Table 1 shows all the eight environmental awareness components, each has a mean score of 2.50 ($\bar{X} \geq 2.50$). Therefore, each concept should be taught in JSS Home Economics Programs.

Table 2: Mean Responses on the Ways of Teaching Environmental Awareness Concepts

S/N	Ways of Teaching Environmental Awareness	Mean	Remarks
1	Teaching environmental awareness in all areas of Home Economics, such as Food & Nutrition, Clothing and textile, Home child development	3.2	Agreed
2	Including the concepts of environmental awareness in Home Economics textbooks	2.0	Disagreed
3	Excursion to sites of environmental degradation such as, dumpsite, gas – flaring plant market and other forms of pollution sites	3.2	Agreed
4	Going on field work to erosion sites	3.7	Agreed
5	Use of resource persons	3.0	Agreed

Table 2 shows three ways environmental awareness could be taught in JSS Home Economics Programs. The three concepts, each as a mean of ≥ 3.00 .

Table 3. Mean responses on the Challenges to Enhancing Environmental Awareness Concepts at JSS Home Economics programs

S/N	Challenges to Enhancing Environmental Awareness	Mean	Remarks
1	Rigid nature of curriculum review and update	3.5	Agreed
2	Environmental Awareness concept not contained in the curriculum	3.4	Agreed
3	Lack of compliance on environmental protection by the general populace	3.3	Agreed
4	Lack of encouragement on proper waste disposal at home and schools	3.0	Agreed
5	Not promoting jingles on radio and television concerning the importance of safe environment	3.7	Agreed
6	Not promoting workshops and seminars on the need to keep our environment safe	4.0	Agreed
7	Lack of excursions to dumpsites by schools	2.4	Disagreed
8.	Lack of provision of projectors in schools to promote and make environmental awareness class interesting	4.0	Agreed
9	Religious bodies not participating in campaign for safe environment	2.5	Agreed
10	Lack of adequate use of radio jingles as a source of promoting environmental awareness campaign	2.4	Disagreed

Table 3 reveals that eight of the items therein have each a mean of 2.5 and above ($\bar{X} \geq 2.5$). This shows that there are eight challenges to enhancing environmental awareness at the JSS level within Home Economics Programs in the area of the study.

Table 4: Mean Responses on Ways of Removing Challenges to Teaching Environmental Awareness at JSS Home Economics Programs

S/N	Ways of removing challenges to environmental Awareness	Mean	Remarks
1	Regular curriculum review	3.0	Agreed
2	Curriculum flexibility and active involvement of important stake holders in curriculum review	3.4	Agreed
3.	Use of related examples and teaching methods to emphasize Environmental awareness	2.5	Agreed
4	Provision of adequate drainage systems by the government	3.0	Agreed
5	Adequate enforcement of environmental laws	3.2	Agreed
6	Sanctioning and punishing of offenders of environmental laws	2.7	Agreed
7	Collaboration between agencies in the society	3.0	Agreed

Table 4 shows that all the seven items in the Table obtained means of 2.5 and above ($\bar{X} \geq 2.5$). This shows that each of the seven items is a way of removing the challenges to teaching environmental awareness concepts with the Home Economics Programs in JSS.

Discussion of Findings

Findings revealed that the respondents agreed that the respondent agreed that the physical components of the environment, environmental resources, importance of the environment, importance of proper environmental management, ways the environment can be abused, environmental pollution and waste reduction and recycling are some of the environmental awareness concept that can be taught in Home Economics at Junior Secondary School Level. This corroborates with the assertions of (Boucher,2015) which affirms that environmental awareness encompasses knowledge of contemporary issues affecting nature locally and beyond and rising environmental awareness involves translating the technical language of a natural science or related field into terms and ideas that a non - scientist can readily

understand and the assertion of (Schmidt, 2009) who asserted that effective environmental education programs and materials needs to present information and ideas in a way that is relevant to the people.

The respondents affirmed that teaching environmental awareness in all areas such as food and nutrition, clothing and textile, home management, child development, and so on, including the concept of environmental awareness in Home Economics textbooks, excursion to dumpsites, gas-flaring plants, markets and other forms of pollution sites, fieldwork to erosion sites and use of resource persons are some of the ways of teaching environmental awareness. This is in line with the opinion of (Smith, 2010) who asserted that environmental awareness is to understand the fragility of our environment and the importance of its protection and that promoting environmental awareness is an easy way to become an environmental steward and participate in creating a brighter future for our children and the society at large. Also by, teaching our friends and family that the physical environment is fragile and

indispensable we can begin fixing the problems that threaten it.

Findings also revealed that the rigid nature of curriculum review and update, environmental awareness concept not contained in the curriculum, lack of compliance on environmental protection by the general populace, lack of encouragement on proper waste disposal at home and schools, not promoting jingles on radio and television concerning the importance of safe environment, not promoting workshops and seminars on the need to keep our environment safe, lack of provision of projectors in schools to promote and make environmental awareness class interesting and religious bodies not participating in campaign for safe environment are some of the challenges to enhancing environmental awareness at Junior Secondary School Home Economics programs while lack of adequate use of radio jingles as a source of promoting environmental awareness campaign and newspapers not adequately used for promoting environmental awareness were disagreed upon by respondents as challenges to enhancing environmental awareness at Junior Secondary School Home Economics programs. This agrees with the work of Schmidt, 2009, who reported that environmental education should lead to gathering mass awareness which should bring environmentally wiser policies and consequently, to preserve and conserve the environment and for people to live a quality life, special attention needs to be given to environmental issues and awareness needs to be created in Lagos state to prevent the consequences of environmental degradation. NCF, 2014, also mentioned that the central focus of

Home Economics (HE) is the well-being of individuals and families in their everyday living. Home Economics education adopts an action-oriented approach in enabling individuals to actively meet ever-changing and ever-challenging environments. This also corroborates with Miller and Spolman (2009) that population growth, wasteful and unsustainable resource use, poverty, as well as insufficient knowledge of how nature works as the major causes of environmental problems.

Results of the findings on table 4 revealed that all the listed items were agreed upon as some of the ways of removing challenges to enhancing environmental awareness at Junior Secondary School Home Economics Programs. This corroborates with the work of Santos, 2009, who reported that major solutions to the environmental challenges in Nigeria are environmental education which has to be embedded into Home Economics curricula and must be aggressively taught by Home Economics teachers at all levels, governance of nature by individuals, formulation and implementation of stronger laws or and penalties for those who violate the law as well as the use of environmentally sound technology for the monitoring of the environment as some of the ways of removing challenges to environmental.

Conclusion

This study examined strategies for enhancing environmental awareness through home economics education at junior secondary school level in Lagos state. Findings revealed that physical components of the environment, environmental resources, environmental management, importance of the

environment and importance of proper environmental management, ways in which the environment can be abused and so on are some of concept that can be taught in Home Economics at Junior Secondary School Level.

Also, teaching environmental awareness in all areas of Home Economics, such as food and nutrition, clothing and textile, Home management, child development and so on, Including the concept of environmental awareness in Home Economics textbooks and excursion to dumpsite, gas - flaring plant market and other forms of pollution sites are ways some of the way of teaching environmental awareness.

Findings also revealed that the rigid nature of curriculum review and update, not promoting jingles on radio and television concerning the importance of safe environment, not promoting workshops and seminars on the need to keep our environment safe, lack of excursions to dumpsites by schools and so on are ways of teaching environmental awareness and finally regular curriculum review, curriculum flexibility and active involvement of important stake holders in curriculum review, use of related examples and teaching methods to emphasize environmental awareness, and so on are some ways of removing challenges to environmental awareness at Junior Secondary School Home Economics Programs.

Recommendations

Based on the findings of this study, the following recommendations were made.

1.Home Economics Students and curriculum planners should research more on measures to put in place in

other to achieve environmental sustainability.

2. Awareness should be created on the need for Home Economics Education at all level.
3. There is need to train and re-train teacher on the current environmental challenges, since the knowledge of Home Economics strengthens an individual's ability to become an advocates of good health.
4. Curriculum reform and judicious implementation is very necessary especially at all levels of education.
5. Ecological funds should also be judiciously allocated to equate with environmental challenges.

References

- Alagbe, O.A. (2006). Combating the Challenges of Rise in Urban Slums in Cities in Developing World: A case Study of Lagos State
- Anyakoha, E. U (2015) *Home Management for Schools and Colleges*. Africana First Publisher PLC, Onitsha-Nigeria.
- Aja, J. O. (2005). "Environmental Education as a panacea for a sustainable development in Nigeria: Schools environment in focus". Pp. 114 - 127, In the *African Journal of Environmental Laws and Development Studies*, Vol. One, Part 1. of the National environmental education curricula at Ogoja, in October, 1999.
- Cristina, J (2017) What is the importance of environment in points <https://www.quora.com/careers>. Retrieved on 29th April, 2019.
- Ashley, P. (2018) 8 Simple Ways to Help the Environment. Every little thing YOU do really makes a difference.
- Eger, E. D. & Smith, B. F. (2010). *Environmental Science: A Study of interrelationships (12th ed.)* Boston: McGraw-

- Hill. Fatunbarin, A. (2009). Man and his environment. Ilesha: Keynotes
- European Public Health Alliance (EPHA) (1991). *Guidelines to Standards for Environmental Pollution Control in Nigeria*. Lagos, Nigeria
- Gray, I.L. (2008). Environmental Pollution, Its Sources and Effects. Retrieved from: <http://www.environmental/pollution/tropical/rain/forest.htm> on 3rd August, 2018
- Hyde, P. & Reeve, P. (2011). *Essentials of environmental management (3rd ed)* Leicestershire: IOSH Services Ltd.
- Jande, G. G. (2005). "Legal Mechanisms for the control of Pollution on the high seas", Pp.1 - 13, in the *African Journal of Environmental Law and Development Studies, Vol 1. Part 1*.
- Jay, W., Scott, B. & Wright, M. E (2011). *Essential environmental (3rd ed.)*. San Francisco: Pearson.
- Joseph B. (2009). *Environmental studies (2nd ed.)* New Delhi: McGraw-Hill.
- Khan, A. (2007). The new Environment Paradigm: A Proposed Measuring Instrument and Preliminary Results. *Journal of environmental Education*. 9 (1) 10 - 19
- Khan, A. (2010). Air Pollution in Lahore. Retrieved from: <https://news.dawn.com./wps/wcm/connect/dawn/contet-library/dawn/the-newspaper/letters-to-the-editor/air-pollution-in-lahore-070> on 20/2/2013.
- Kimani, N.G. (2007). Environmental Pollution and Impacts on Public Health: Implications of the Dandora Dumping Site Municipal in Nairobi, Kenya, United Nations Environment Programme. Retrieved from: <http://www.korogocho.org/English/index.php?option=com-docman&task=doc>
- Mary, B. A. (1995). Vulnerability to disaster and sustainable development: A general framework for assessing vulnerability. In M. Mohan & C. Caroline (Eds.), *Disaster prevention for sustainable development: Economic and policy issues*. Washington, D. C.: The IBRD/World Bank.
- Miller, T. G. Jr. & Spoolman, S. E. (2011). *Living in the Environment: Concepts, Connections and Solutions (16th ed.)*. Belmont, C. A.: Brooks/Cole.
- Mintzberg, H (2011) Strategy <https://creativecommons.org/licenses/by-sa/3.0/> Retrieved 29th April, 2019.
- Mishra, V. (2003). Health Effects of Air Pollution, Background Paper for Population Environment Research Network (PERN). Cyber seminar, December 1 - 15. Retrieved from: **Error! Hyperlink reference not valid.** On 3rd February
- Okechukwu, N. (2013), *The Punch Newspaper*, Tuesday November, 19th 2013
- Okpara, Ignatius. (2011) *New Nigerian*, Wednesday September', 28th 2011
- Oworu, Oloyede, (2012), Africa independence television news; an unpublished article on environmental challenges and degradation in Nigeria; the way forward.
- Ibimilua, F. O & Ibimilua .A (2014). Environmental Challenges in Nigeria: Typology, Spatial Distribution, Repercussions and Way Forward. *American International Journal of Social Science Vol. 3 No. 2*. on 3rd March, 2013
- Santos, R. P. (2009). *Environmental Pollution and Control*. Woburn, USA: Butterworth and Heinemann Publisher.
- Santra, S. C. (2011). *Environmental science (2nd ed.)* Kalkata: New Central Book Agency.
- Scipeeps, C. (2009). Effects of Water Pollution on Human. *Journal of physiological Anthropology*. 25 (1) 103 -112
- Seriki-Mosadolohun, J.S., Abiamuwe, N.O., Ogbonna, K.P & Otobo,V.O (2017). Towards Enhancing Enviromental Awareness of Urban Slums Households in Lagos State. *Journal of Home Economics Research Vol. 24 No.1*.
- Smith, A.K. (2010). The Environment as a Cornerstone of Public Health. *Environmental Health Journal*. 111 (7) 376 - 378
- Wright, R. T. & Boorse, D. F. (2011). *Environmental science: Toward a sustainable future (11ed)*. New Delhi: PHI Learning Private Downloaded on 20th August 2018.