



An Assessment of Environmental Awareness among Secondary School Teachers in Dutse Town, Nigeria

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Received November, 2017, Accepted and published March, 2018

Abstract

The research was conducted on the assessment of environmental awareness among Secondary School teachers within Dutse town, Jigawa State. Data was collected using a structured questionnaire. 10 schools with 12 teachers from each school (6 male and 6 female teachers) were sampled, making a total of 120 teachers, and it was designed based on varying aspects of environmental issues and information that could improve the level of awareness. Both primary and secondary data were utilized and analyzed using simple descriptive statistics such as frequency table, mean tables, Bar charts and Graphs. A Computer software, Statistical Package for Social Scientists (SPSS) was employed using the Environmental Awareness Test (EAT) tool developed by Shabina Jinarajin (1999). Results revealed that there are no significant differences between the male and female teachers in relation to their level of environmental awareness. It was also noted that knowledge on environmental phenomenon was mostly proficient with regards to environmental erosion followed by soil degradation with the percentage of 56.7% and 35.8% respectively. The result also shows that majority of the respondent are not conversant with environmental terms like sustainable forestry practice, aridity, and biodiversity lost and many more. In addition, the result shows that a lot of the respondents have knowledge on greenhouse effect, ecosystem and this may be as a result of global concerns on the terms. These responses clearly show that some of the teachers in Dutse, Jigawa State are not fully engage in environmental issues. Therefore the research recommended that there should be formal training of special/regular teachers; workshops, conferences and other training programmes should be organized for the teachers to improve their knowledge on environmental awareness.

Key words: Environmental awareness, Secondary school teachers, environmental challenges

Introduction

The needs of human beings in the desire of using the environment have brought about many changes within the environment. The unconsciousness and unlimited use of natural resources by man leads to many environmental destructions. The issues of environmental problems is so pronounced in developing countries such as Nigeria as every community face problems which include pollution, flooding, depletion of natural resources as a result of indiscriminate cutting down of trees and many more (Sam, 2012). Most developing countries continue struggling to achieve environmental sustainability; this can only be achieved by paying more attention to educate the indigenous people about consciousness of the environment. Politics in the Nigerian environment plays a vital role that leads to low level of environmental regulation which attributed to poor environmental qualities which is often caused by the low levels of public awareness about environment (Somanthan, 2010)

Environmental problems faced in developing countries can be reduced to greater level through providing information way of awareness initiatives. The knowledge gained through the information could lead to significant changes in people's environmental behavior (Ogunleye, 2004). In the past decades, both the public and Government have become more sensitive and aware of environmental problems, for that, many effort were made towards environmental protection and natural resources conservation. Among these efforts is environmental education (ROC, 1992). It is widely believe that Nigeria has abundance of natural resources that if carefully explored and harnessed could truly make the country among the greatest in the world. The major failure of the country is leadership. Policy control, legal frame works and Environmental Education have not achieved much in promoting sustainable development.

An assessment of the existing situation in a particular area is the first to consider in the planning process as suggested by (Rocchio, 1974). Therefore basic information can be provided in assessing environmental knowledge and attitude of a targeted population especially in determining contents in the program. Such an assessment can also provide an evaluation on how effective the existing program have been in educating the public. Environmental Education must therefore be taught to every Nigerian at all levels through formal education in order to have protective healthy environment and to create good relationship between man and the physical as well as human environment (Ogunleye, 2004). The teacher is one of the significant factors which are bound to affect the teaching of Environmental Education. Teachers who are properly trained with environmental concepts can provide vital link in the delivery of environmental knowledge and its associated problems with their respective solutions.

The aim of this research is to assess environmental awareness among Secondary School teachers in Dutse metropolis. Thus, the objectives of the study will be to:

- i.To assess the level of environmental knowledge among secondary school teachers in Dutse metropolis.
- ii.To identify the level of environmental education awareness among male and female teachers in secondary schools.

Environmental Education

All over the world, environmentally related issues that are facing globalization and modernization become a critical stage as many examples are sighted in different location in the world, such as the Tsunami, issues of ozone layer, deforestation, environmental pollution and global warming. Students and teachers gradually abandoned the significance of environment that should be under preservation and conservation (Habibah and Punitha, 2010).

The environmental education (EE) matters was given a focus during the United Nation conference on Environment and Development held in Stockholm 1972, and during the Tbilisi convention in 1977, the Environmental Education came up with suitable definition that coincide with that of Ajitoni (2005). EE as a process aim at developing the population of the world that is concerned with and aware about the total environment and its associated problems, and which has the knowledge, attitude, motivation, commitment and skills to work individually and collectively towards the solution of current problems and the prevention of new ones.

Teachers Education Division, Malaysia (TED), (1997) has the opinion that EE is a process of learning to understand the interaction of humans and the environment and how human need to manage the environment as smart with full responsibilities towards a harmonious and peaceful life.

Environmental Problems in Nigeria

Environmental problem in Nigeria is growing drastically due to partially increasing human population which currently outstrips the available resources. This has a strong relationship with the low level and lack of consciousness about environment by most of the citizens (Ibrahim, 2014). Developmental processes which includes local, regional and global effects leads to environmental problem generally. These effects are seen as consequences of human activities, and are most often harmful on human beings, livelihoods, animals and plant

lives presently (Hungerford and Volk, 2005). Nigerian Environmental Study Action team (NEST) (1992), revealed that the unwise use of the natural environment by Nigerians due to overpopulation, ignorance, poverty and many other problems has led to the environmental degradation. All these environmental degradation occurs as a result of desires and wants for food, shelter, infrastructural facilities, recreation and many more to the land and other gifts from nature.

Despite a lot of campaigns to shed light on the problems of environmental degradation, it's still continue to be a perennial problem in developing countries, there seems to be no tangible environmental health improvement in the majority of those countries including Nigeria. Somanathan (2010), one of the academic researchers on environment, pointed out that low level of environmental regulations has attributed to poor environmental quality in developing countries. The author further argues that, the low levels of public awareness about the environment is due to political process which leads to lack of environmental regulation within the societies. The author also writes: "If people are not aware of environmental risks, they will be less willing to pay to reduce them. Thus, providing people with information about environmental hazards may increase welfare by rising environmental quality to a more appropriate level".

Materials and methods

Dutse is an ancient town in the North-Western geopolitical zone of Nigeria. It is the capital city of Jigawa State which is one of 36 States that constitute the Federal Republic of Nigeria. It is situated between latitudes 11.00°N to 13.00°N and longitudes 8.00°E to 10.15°E. Currently, Dutse is the largest city in Jigawa State with an estimated population of 153,000 persons (2006), the town Dutse derives its name from the rocky topography peculiar to the area. Different forms of rocks can be seen widely spread across the town mostly igneous in nature. Dutse and its environs are well known for Date Trees of different variety. The area is characterized by undulating topography and hilly walls. The populations of Dutse are predominantly Hausa and Fulani. With availability of agrarian land, the inhabitants of Dutse are predominantly farmers; other occupations typical to rural area are also available among the populace. Life expectancy is about 52 years with a total fertility rate of about 6.2 children per woman of childbearing age (a little above the national average). Although population of the State is predominantly rural (90%), the distribution in terms of sex is almost equal between male (50.8%) and female (49.2%). This pattern of population distribution is same across various constituencies in the State and between urban and rural areas. The state has a total land area of approximately 22,410 square kilometers (Ayuba 2015).

Jigawa State is one of the educationally backward States in Nigeria. It has one of the lowest teacher/pupil ratios and one of the lowest school enrolment figures, compared to its neighbors in the North-west region. According to recent statistics on education parameters/surveys, by Ministry of Education Jigawa State less than 70% of boys in the state of school age attend schools. While less than 50% of girls of school age attend school. The state also has one of the poorest numbers of classrooms, compared to other states in the North-west. With less than 10,000 classrooms in 2015, the ratio of classes versus pupils is so poor that 67 pupils use a class at primary level, with 61 per class at senior secondary school level.

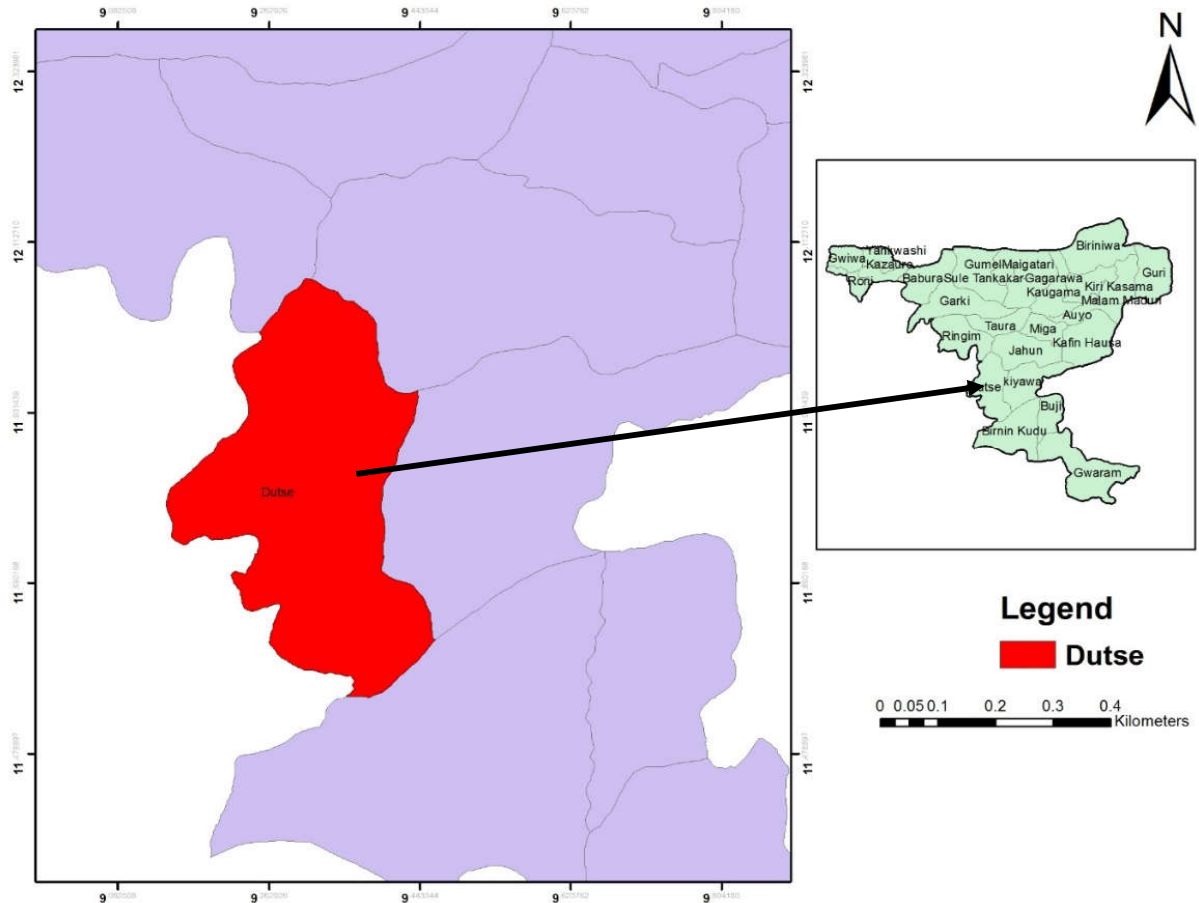


Fig.1: Map of Jigawa State Showing Dutse Local Government

Method of Data Collection

This study utilized both primary and secondary data. The tool used in the present research was the Environmental Awareness Test (EAT) developed by Shabina Jinarajin (1999). Data was collected using a structured questionnaire. The questionnaire was designed based on various aspects of environmental issues and information that could improve level of awareness. The questionnaires were distributed randomly among selected secondary school teachers, among the secondary are Government commercial secondary School, Fatima private School, Government Arabic School, Government Girls Junior secondary school, Government Secondary School, Model International School, Salim Academy, Madani Senior Secondary School, and Gateway International School in Dutse Town.

In order to avoid bias and have accurate and reliable data, stratified random sampling was adopted. The Jigawa State Secondary schools are divided into different categories such as private, public, boarding and day schools, boys and girls only schools. This research was conducted in all the categories of schools mentioned. The teachers were selected randomly in all the schools using simple random sampling. The study adopted the quantitative method of data analysis. Data collected from this study was analyzed using simple descriptive statistics such as frequency table, mean tables, bar diagram, graphs etc. Computer software Statistical Package for Social Scientists (SPSS) was employed using a man Whitney test.

Results and Discussion

Table 1: Distribution of respondents by Gender

Gender	N=120	Percentages (%)
Male	74	61.7
Female	46	38.3
Total	120	100

Source: Field Survey, 2017

According to demographic analysis of the respondents, out of 120 teachers polled, 61.7 were male while 38.3 were female.

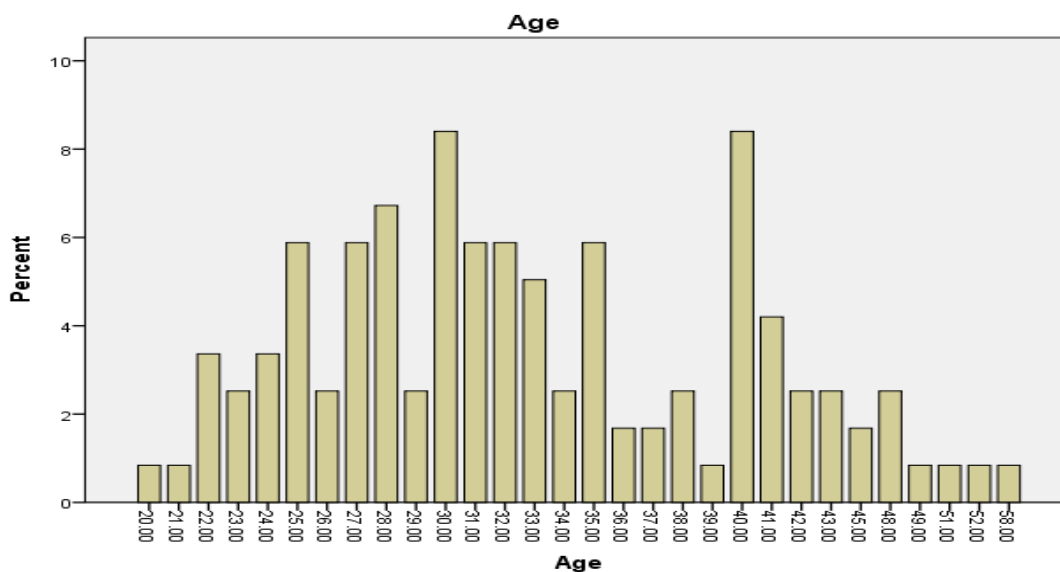


Fig. 2: Age of the respondents

Figure two shows the different ages, the least age are 48-59 and the age of 20-21 are least, which have a percent of less than 20%, while those with the between 30-41 are the highest and other with age between 26-29 are average.

Table 2: Incorporation of Environmental Education and Awareness in the Lesson

Respondents	Frequency N=120	Percentage (%)
YES	91	75.8
NO	29	24.2
Total	120	100

Source: Field Survey, 2017

explain how environmental education is been part of the lessons in most of the subject taught in Secondary schools in Dutse. 75.8% of the respondents agreed that they incorporate environmental aspects in their lesson in order to make the student more conscious about environmental issues while only 24.2 are not.

Table 3: Knowledge about the term environment

Respondents	Frequency N=120	Percentage (%)
YES	109	90.8
NO	10	8.3
No response	1	0.8
Total	120	100

Source: Field Survey, 2017

The table three shows the level of knowledge about the term environment; the teachers that have the knowledge about the term environment are 90.8% which is the highest, while 8.3% have no idea about the term environment which has lowest percent.

Table 4: Showing the result of the level of awareness using Likert scale

Basic terms	Never heard of the term		Heard of but could not explain		Have some knowledge		Know a lot	
	frequency	(%)	frequency	(%)	frequency	(%)	frequency	(%)
Deforestation	30	25.0%	25	20.8%	34	28.3%	31	25.8%
Sustainable forestry practice	31	25.8%	42	35.0%	31	25.8%	16	13.3%
Biodiversity loss	39	32.5%	42	35.0%	25	20.8%	14	11.7%
Aridity	40	33.3%	38	31.7%	26	21.7%	16	13.3%
Desertification	14	11.7%	29	24.2%	38	31.7%	39	32.5%
Global warming	24	20.0%	23	19.2%	38	31.7%	35	29.2%
Greenhouse effect	28	23.3%	33	27.5%	42	35.0%	17	14.2%
Ecosystem	12	10.0%	26	21.7%	31	25.8%	51	42.5%
Soil degradation	15	12.5%	29	24.2%	33	27.5%	43	35.8%
Erosion	06	5.0%	12	10.0%	34	28.3%	68	56.7%

Source: Field Survey, 2017

The table above explain some perception of teachers on the environment, some basic terms were asked based on the likert scale which are Never heard of, Heard but could not explain, have some knowledge, and Know a lot. The answers given by the respondents elaborated more on how teachers within the study area perceived and have knowledge about environment. Based on the responses by the teachers, 25% never heard of the term deforestation, 20.8% heard of the term but could not explain, 28.3% indicate that they have some knowledge while 25.8% know a lot about the term. Regarding all the responses on this basic terms that are related to the environment, erosion has the highest scores which shows that the teachers know a lot, followed by soil degradation with the percentage of 56.7% and 35.8% respectively. Also the results from the table shows that majority of the respondent never heard of the terms sustainable forestry practice, aridity, and biodiversity loss. This response clearly shows that some of the teachers are not fully engage in environmental issues. The table also

revealed that a lot of the respondents have some knowledge on greenhouse effects; ecosystem and this may be as a result of global concerns on the terms.

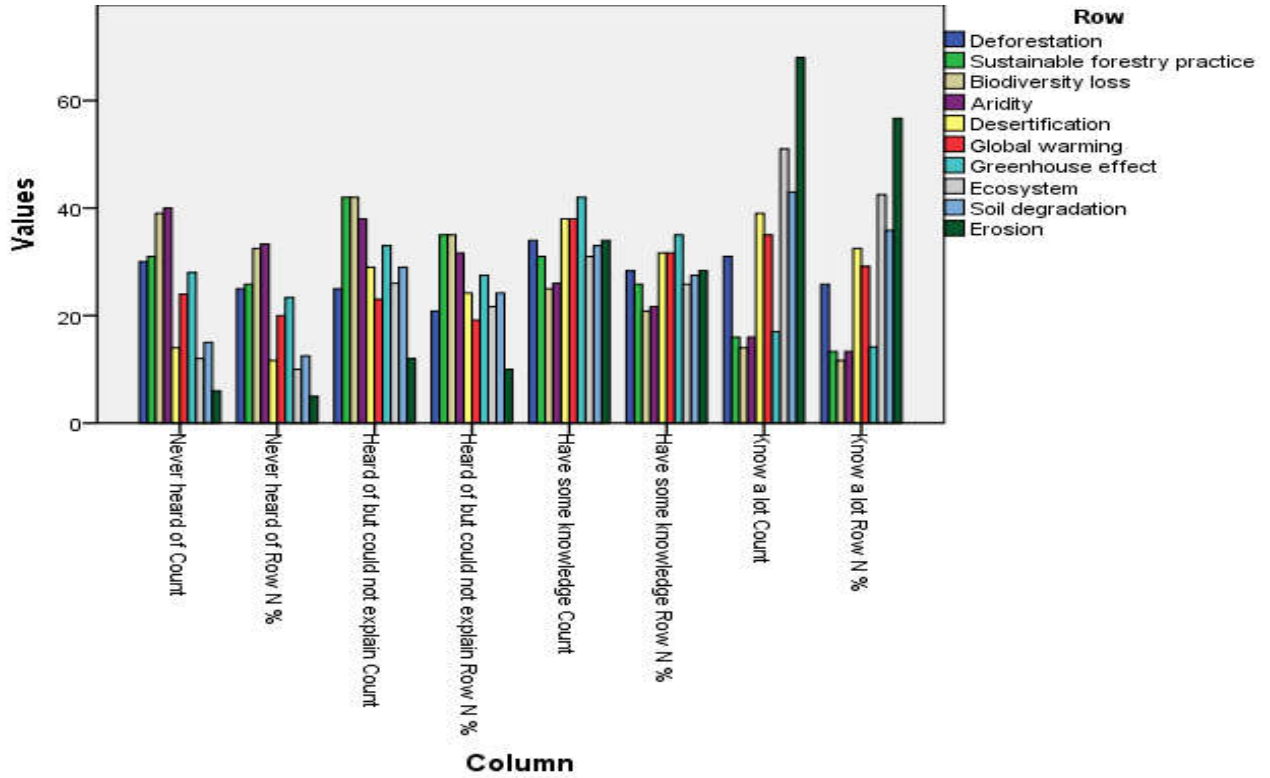


Fig.3: Level of awareness among Secondary School teachers in Dutse Town.

The figure 3 above shows the bar chart of the respondents, which indicates that more than 70 teachers out of 120 know a lot about erosion, while less than 10 teachers are know the term sustainable forestry practice. More than 30 teachers never heard of the term aridity which to some extent is worrisome as the term is one of the major environmental problems in the area.

To determine whether there is significant difference between male and female in terms of the awareness of the environment a Mann Whitney U test were performed. This was an appropriate produce because the dependent variable were ordinal and variance were unequal. The P value refers to the statistically no significant difference in the mean rank of male and female teachers due to the fact that P value is greater than 0.05.

Table 5: Mann Whitney U test result for male and female teachers

Questions	Gender	N	Mean rank	Sum of rank	U	Z	P
Are you aware of the term environment	Male	74	60.63	4486.50	1692.50	-.103	0.918
	Female	46	60.29	2773.50			

Source: Field Survey, 2017

Considering the teachers responses to the question on the term environment, it was observed that 60.63 (n=74) of the teacher are male and they have the highest number while 60.29(n=46) are female. This shows that there no significant difference between male and female on the awareness of the environment.

Conclusion

Assessment of environmental awareness among secondary school teachers in Dutse metropolis, data was collected using a structured questionnaire. Questionnaire was designed based on various aspects of environmental issues and information that could improve teacher's level of awareness. The questionnaires were distributed randomly among selected secondary school teachers in Dutse metropolis. Research was conducted in all the categories of schools in Dutse, where we identified the level of environmental education awareness among private and public teachers and among male and female teachers. Considering the teachers responses to the question on the term environment, it was observed that 60.63 (n=74) of the teacher are male and they have the highest number while 60.29(n=46) are female. This shows that there are no significant difference between male and female on the awareness of the environment. Data collected from this study was analyzed using simple descriptive statistics such as frequency table, mean tables, bar diagram, graphs etc. Computer software Statistical Package for Social Scientists (SPSS) was employed, using the Environmental Awareness Test (EAT) tool developed by (Shabina, 1999).

Recommendations

- ✓ There should be formal training of special/regular teachers; workshops, conferences and other training programmes should be organized for the teachers to improve their knowledge on environmental awareness. Such programmes could be organized at the national, state, local government and school levels.
- ✓ There should be network for interactions between student groups, teachers and non-governmental organizations, tertiary institutions, and agency on environmental sustainability.
- ✓ More emphasis shall be given especially to the subjects that are related to environmental aspects this would help not only the teachers but also the students in putting more concern about environment.
- ✓ Subjects like geography, history, biology should be compulsory subjects and there should be expert teachers to teach the subject in the secondary schools. This would give the students courage to be more conscious and aware about environment.

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