Assessment of the Perception of Senior Secondary School Students on Climate Change in Osun State[1]

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Abstract

This study examine the knowledge and awareness of the climate change among students in secondary schools in Osun state with the aim of determining the perception of students on climate change to create awareness, educate and inspire young people, particularly the students to do something about climate change. A total number of three hundred students were used for this study. The students were selected through a multi-stage sampling procedure. The quantitative data obtained was subjected to both descriptive and inferential analysis. The results from the data showed that there was a significant association between the sex of the respondents and their perception on climate change. Also, there was a significant association between the knowledge of the respondents and their perception on climate change. There is no significant correlation between the students' awareness about the impacts of climate change and their perception of climate change. It was therefore concluded that there is correlation between the perception of the students and climate change. Creating more awareness on the impacts of climate change should be created among students, formation of climate change clubs among schools and incorporation of climate change education in subjects taught in schools were recommended.

Keywords: students, awareness, knowledge, climate change, perception

Osun Eyaletindeki Ortaöğretim Öğrencilerinin İklim Değişikliği Algılarının Değerlendirilmesi

Özet

Bu çalışma, Osun eyaletindeki ortaöğretim öğrencilerinin iklim değişikliği hakkındaki bilgi ve farkındalıklarını incelemekte ve öğrencilerin iklim değişikliği algılarını belirleyerek, özellikle öğrencilerin iklim değişikliği konusunda bir şeyler yapmaları için farkındalık yaratmak, eğitmek ve gençleri ilham vermek amacıyla yapılmaktadır. Bu çalışma için toplam 300 öğrenci kullanılmıştır. Öğrenciler çok aşamalı bir örneklem yöntemiyle seçilmiştir. Elde edilen nicel veriler hem tanımlayıcı hem de çıkarımsal analize tabi tutulmuştur. Verilerden elde edilen sonuçlar, katılımcıların cinsiyeti ile iklim değişikliği algıları arasında önemli bir ilişki olduğunu göstermiştir. Ayrıca, katılımcıların bilgileri ile iklim değişikliği algıları arasında da önemli bir ilişki olduğu tespit edilmiştir. Öğrencilerin iklim değişikliğinin etkileri hakkındaki farkındalıkları ile iklim değişikliği algıları arasında önemli bir ilişki yoktur. Sonuç olarak, öğrencilerin algıları ve iklim değişikliği arasında bir ilişki olduğu belirlenmiştir. Öğrenciler arasında iklim değişikliğinin etkileri hakkında daha fazla farkındalık yaratılması, okullar arasında iklim değişikliği kulüpleri oluşturulması ve okullarda öğretilen derslere iklim değişikliği eğitimi dahil edilmesi önerilmiştir.

Anahtar Kelimeler: öğrenciler, farkındalık, bilgi, iklim değişikliği, algı

Introduction

Africa is one of the most vulnerable continents to climate change impacts (IPCC, 1996) especially Nigeria given its southern location along the coast and Northern boundaries with the drier Sahel. Africa is particularly vulnerable to the effects of climate change due to its high dependence on rain-fed Agriculture, widespread poverty, weak mitigation and response capacity (Igwebuike et al., 2009). The adverse effect of climate change on the socio-economic life of the people is exacerbated by the ignorance of people on the issue of climate change which as a result link to the lack of adapting strategies. Climate change refers to a change which is attributed directly or indirectly to human activities that alter the composition of the global atmosphere and which are in addition to natural climate variability observed over comparable time periods (United Nations Framework Convention on Climate Change, 1992). The lack of specific literature on public knowledge, views and attitudes about climate change communication in the country and the fragmented nature of research in the field have created

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gaps that need to be filled. Widespread poor perception of the individual ability to mitigate and adapt to changing anthropogenic climatic conditions, linked to poor understanding of connection between human behaviour and lack of knowledge of the causes of climate changes are some of the cognitive challenges facing communicators and educators on climate change (Pruneau et al., 2010). It is a continuous rapid and prolonged alteration of climate in one direction; it is the variation in global or regional climates over time. It reflects changes in the variability or average state of the atmosphere over time scales ranging from decades to millions of years. These changes can be caused by processes internal to the earth such as volcanoes, or external forces like variation in sunlight intensity or, more recently in human activities. Understanding the views, attitudes, and beliefs of the public on climate change will be very instrumental in the climate adaptation and mitigation process (Shome and Marx, 2009).

Climate change is severely affecting livelihoods in Nigeria by altering seasonal rainfall patterns. Streams and springs are drying up, causing major crop yield reductions and food shortages. However, the level of awareness of climate change impacts is very low. Corporations and the transport sector, the major Perpetrators of this damage have not even begun to take the necessary actions to address these problems. According to the UNDP (2010), the level of awareness about climate change is rather low in Nigeria, and it is likely to continue if no intervention measures are taken. Climate change issues should be infused into the curricula of schools right from the elementary to the university level as a matter of urgency. There is increasing need for young people (students) to gain knowledge and understanding about climate change. Such knowledge and understanding will enable them to respond effectively to the global challenges posed by climate change on graduation. Educating those currently at school about climate change will help to shape and sustain future policy-making.

Statement of the problem

Recent experimental research has revealed that information such as the one of climate changes always and inevitably filtered through pre-existing cultural worldviews (beliefs about how nature works, what constitutes a 'good' and fair society, what roles governments and individuals play respectively in bringing about such a society and how humans should interact with nature, etc.). The challenges call for improved environmental management strategies through policies for mitigation and adaptation. Hence to be able to adapt to the problem of climate change effectively, there is need to understand the level of the youth's knowledge and perception of climate change, especially the causes, effects and possible adaptation and mitigation measures.

In order to achieve the objectives of this study, the following research questions were raised

1. What are the socio-economic characteristics of the respondents (secondary school students) in the studied area?

2. What are the demographic characteristics of secondary school students?

3. What is the perception of secondary school students about climate change in the studied area?

4. What is their level of awareness about the impacts of climate change?

5. What is their understanding, preferences and attitude to climate change?

Objectives of the study

The main objective is to determine the perception of climate change among secondary school students in Osun State. The specific objectives are:

1. To determine the socio-economic characteristics of secondary school students in Osun State

2. To describe the demographics characteristics of secondary school students in the studied area

3. To determine their level of awareness on the impacts of climate change

4. To determine their understanding, preferences and attitudes to climate change.

Method

This research is a review study.

The Study Area

The study was carried out in Osun state, Nigeria. The state was carved out of old Oyo state on the 27th day of August, 1991 with the capital in Oshogbo. The state is bonded in the north by Kwara state, in the south by Ogun state, in the east by Ondo and Ekiti states and in the west by Oyo state. It covers an area of approximately 14,875 square kilometres. It is on the Latitude 4o101North and Latitude 6o51 south. It is on the longitude 4o101 west and longitude 50o21 east. According to National Population Commission (2006), Osun state has 3,423,535 people with 30 local government areas and an area office. Osun state indigenes belong to Yoruba ethnic group and they are composed of Ife, Ijesha, Igbo-mina and Oyo. Non-indigenes from every part of the country and outsider also reside in the state. Traditionally, agriculture is the main occupation and people engage in sufficient production of food and cash crops such as yam, cassava, maize, plantain, kola-nut and rice. Reasonable numbers of people are also artisans and traders. Other occupations people engage in are soap making, weaving, dyeing, wood carving, mat making and many others. The official languages people use for business transaction and interaction are Yoruba and English languages. It has an average rainfall of 152mm per annum. The vegetation runs through secondary forest and derived savannah with low land tropical rain forest vegetation.

Data Collection

Primary data was collected through a field survey using a well-structured questionnaire. A total number of three hundred validated data instrument were administered on pupils in the selected schools. The administration of interview schedule was randomly done to ensure every student had equal chance of being selected. Data was collected with the aid of interview schedule were carefully drawn using simple meaningful terms with the determination of two variables. The dependent variable in this study was the perception of secondary school students on climate change and the independent variables include demographic characteristics of secondary school students, awareness about the impact of climate change,

knowledge of the causes of climate change and the extent to which causes, consequences and cure of climate change.

Method of Data Analysis

The quantitative data obtained was subjected to both descriptive and inferential analysis. The descriptive statistics used were means, standard deviation, frequency and percentages while the inferential statistics used was Pearson product moment correlation.

Results and Discussion

Data in Table 1 revealed that 2.0 percent of the respondents are between the age range of 11-13years while 77 percent are between the age range of 14-16 years and 21 percent are 17 years and above. It could then be inferred that most of the respondents are still adolescents. It was also revealed that 41.0 percent of the respondents in the study area are males while 59.0percent of the respondents are females, which implies that majority of the respondents in the study area are females.

Table 1. Distribution of respondents by age, sex, religion, family size, family type and source of information, N=300

Variables	f	%
Age		
11-13	6	2.0
14-16	231	77.0
17 and above	63	21.0
Sex		
Male	123	41.0
Female	177	59.0

Source: Field Survey, 2013

Data in Table 2 revealed that 24.3 percent of the respondents received information on climate change through media, 22.0 percent through family and friends, 50.0 percent got information in school, 1.7percent got information through all (media, friends and family and school) while 2.0 percent got information through other means. It is therefore concluded that half of the respondents get information on climate change in school.

Table 2. Distribution of respondents based on source of information, N=300

Variables	f	%
Source of information		
Media	73	24.3
Friends and family	66	22.0
School	150	50.0
All	5	1.7
Others	6	2.0

Source: Field survey, 2013

The results in Table 3 showed that 53.3 percent of the respondents are not aware that the decrease in food quality as a result of climate change. It was also revealed that majority

of the students are not aware that yearly rainfall begins late than expected due to climate change.

Table 3. Distribution of respondents based on their awareness about impact of climate change

	Have you heard		Have you seen		Have you experience	
	f	%	f	%	f	%
Decrease in food quality						
Yes	140	46.7	127	42.3	95	31.7
No	160	53.3	173	57.6	205	41.1
Pest attack and outbreak of disease						
Yes	153	51.0	95	31.7	82	27.3
No	147	49.0	205	68.3	218	72.7
Unpredicted harmattan onset and offset						
Yes	122	40.7	121	40.3	113	37.7
No	178	59.3	179	59.7	187	62.3
Yearly rainfall begins late than expected						
Yes	111	37.0	108	36	100	33.3
No	189	63.0	192	64	200	66.7

Source: field survey, 2013

Results in table 4 showed that 34.7 percent of the respondents did not accept the fact that flood, drought and storm are usually caused by climate change while 65.3 percent of the respondents agreed with the statement. It then means that most of the respondents know that flood, drought and storm are usually caused by climate change. Item two showed that 55.0 percent of the respondents accepted that problem of climate change can be solved through prayer while 45.0 percent did not agree with the statement. It is therefore concluded that less than half of the respondents know that climate change problem cannot be solved by prayer. Also, the results in table showed that 64.0 percent of the respondents admitted that flood, drought and storm are just natural process while 36.0 percent did not admit with the statement. It is therefore concluded that very few respondents are aware that flood, drought and storm are not natural process.

Table 4. Distribution of respondents based on their knowledge of the cause of climate change

	True		False	
	f	%	f	%
Flood, drought and storm are usually caused by climate change	196	65.3	104	34.7
Climate change problem can be solved by prayer	165	55.0	135	45
Flood, drought and storm are just natural process	192	64.0	108	36

Source: Field survey, 2013

Data in table 5 revealed that 51.0 percent of the respondents strongly agreed that there visible changes in weather condition in their environments, 43.3 agreed with the statement, 2.3 strongly disagreed, 3.0 disagreed and very few are undecided (0.3 percent). It could then be inferred that changes in weather conditions have been experienced in the study

area. From the result, it is revealed that 25.3 percent of the respondents strongly agreed that temperature intensity has increased over time in their environment, 31.7 percent agreed with the fact that temperature intensity has increased, 20.3 percent strongly disagreed, 19.7 percent disagreed and 3.0 percent are undecided about the statement. It could be inferred that temperature has increased over time in the study area. 26.3 percent of the respondents strongly agreed that there are changes in vegetation cover in their environment, 44.7 percent agreed with the statement, 10.7 strongly disagreed, 15.3 percent disagreed with the statement and 3.0 are undecided about it. It is therefore concluded that there are changes in vegetation cover in the study area. Data in table 5 also showed that 33.7 percent of the respondents strongly agreed that flood, drought and storm are no longer new to them, 38.0 percent agreed with the statement, 13.7 strongly disagreed, 11.7 percent disagreed and 3.0 are undecided about it. It is then concluded that flood, drought and windstorm are no longer new in the study area. 42.0 percent of the respondents agreed that rainfall pattern and duration has reduced over the years, 22.7 strongly agreed with the statement, 12.7 percent strongly disagreed, 19.7 percent disagreed and 3.0 percent are undecided about the statement. It could then be inferred that rainfall pattern and duration has changed over years in the study area. Data in table revealed that 24.3 percent of the respondents strongly agreed that amount of rainfall has increased in their environment, 28.0 percent agreed that amount of rainfall has increased, 21.0percent strongly disagreed with the statement, 22.7 percent disagreed to the statement and 4.0percent are undecided about the statement. It could then be inferred that amount of rainfall has increased in the study area. Data in table 5 shows that 43.0 percent of the respondents agreed that some insects have disappeared n their environment, 18.3 percent agreed that some insects have disappeared in their environment,20.0 percent strongly disagreed with the statement, 15.0 disagreed to the statement while 3.7 percent are undecided about it. It could then be inferred that some insects have disappeared in the study area. Item xviii in table 5 revealed that 31.3 percent of the respondents agreed that some plants and flowers are no longer found in their environment, 12.7 percent of the respondents strongly agreed to the statement, 28.7 percent strongly disagreed with the statement, 25.0 percent disagreed to the statement while 2.3 percent are undecided about it. It is then inferred that some plants and flowers can no longer be found in the environment. Last item in the table revealed that 31.3 percent of the respondents strongly disagreed that soil erosion is now rampant in their environment, 23.7 percent disagreed with the statement, 26.3 percent agreed to the statement, 15.3 percent strongly agreed to the statement while 3.3 percent of the respondents are undecided about it. It could then be inferred that soil erosion is not rampant in the study area.

Table 5. Distribution of respondents based on their perception of climate change

	SA		A		SD		D		UD	
	f	%	f	%	f	%	f	%	f	%
i. there are visible changes in the weather conditions	153	51.0	130	43.3	7	2.3	9	3.0	1	0.3
ii. temperature intensity has increased	76	25.3	95	31.7	61	20.3	59	19.7	9	3.0
iii. vegetation cover has changed	79	26.3	134	44.7	32	10.7	46	15.3	9	3.0
iv. flood, drought and windstorm are no longer news	101	33.7	114	38.0	41	13.7	35	11.7	9	3.0
v. Rainfall intensity and pattern has reduced	68	22.7	126	42.0	38	12.7	59	19.7	9	3.0
vi. amount of rainfall has increased	73	24.3	84	28.0	63	21.0	68	22.7	12	4.0
vii. some insects have disappeared somehow in my environment	55	18.3	129	43.0	60	20.0	45	15.0	11	3.7
viii. some plants and flowers are no longer found.	38	12.7	94	31.3	86	28.7	75	25.0	7	2.3
ix. soil erosion is now rampant	46	15.3	79	26.3	94	31.3	71	23.7	10	3.3

Source: field Survey, 2013

Conclusion

It is concluded that there is correlation between the perception of the students and climate change. This agrees with the findings of Oruonye (2011). Creating more awareness on the impacts of climate change should be encouraged for better understanding of the impacts of climate change (Mba, 2009) among students. It is therefore important we take the climate change awareness campaign to our youths especially the young growing ones in our secondary schools as every Nigerian has to be involved, from individuals, to communities, local government and the federal government (Igwebuike et al., 2009) by setting up of climate change awareness clubs among schools which can be challenged to provide ways of identifying the problems and provide solution to overcome the effects and ways of mitigating it as well as incorporation of climate change education in subjects taught in schools were recommended.

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This study was conducted by a single author.

Conflict of Interest

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