ADOLESCENT GIRLS AWARENESS OF CLIMATE CHANGE IN SOUTHWEST NIGERIA

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ABSTRACT

The study examined the adolescent girl child's awareness of climate change in Southwest Nigeria. A multistage sampling procedure was used to select respondents. Data were gathered through structured interview schedule from 240 adolescent girls. Data collected were analysed using frequency counts, percentages, mean ranking and inferential statistical tools such as chi-square and correlation analysis. The result showed that the respondents had a mean age of 15.6. Majority (82.1%) of the adolescent girls had secondary education and the mean household size was 8. All the respondents had never travelled outside their country (Nigeria) but majority of them had travelled outside their villages. The major manifestation of climate change identified by the adolescent girls were high temperature (97.9%) followed by irregular rainfall (97.1%). All respondents (100%) reported that cyclone, earthquake and hurricane did not occur in their area. Radio ($\bar{X}$=2.36) came first in ranking as the major source of information that was frequently used on climate change, followed by television ($\bar{X}$=2.35) and school ($\bar{X}$=2.29). Majority (64.6%) of the adolescent girls were moderately aware of climate change. The study found that age ($r=0.201$; $p\leq0.002$) had a significant relationship with the adolescent girls awareness level on climate change. The study also found that extension agent ($r=0.886$; $p\leq0.117$) did not have a significant relationship with the adolescent girls level of awareness on climate change. The study confirms that adolescent girls were aware of climate change in their areas. Therefore, the adolescent girls must be regarded as agents of adaptation on climate change and they should be empowered and assisted through the government institutions by taking their involvement in policy formulation on climate change seriously.

Keywords: Adolescent Girls, Climate Change, Level of Awareness.

This study aimed at identifying the sources of information on climate change which were available to the adolescents and also their level of awareness on climate change. This will help policy makers to provide more means of informing adolescent girls on climate change issues and thus increasing their adaptive capacity. Therefore this study was carried out to:

1. Describe the socio- economic characteristics of the adolescent girls.
2. Identify climate change phenomena known or experienced by the respondents;
3. Examine the sources of information on climate change issues that were available to the adolescent girls.
4. Determine the level of awareness of adolescent girls on climate change issues

METHODOLOGY

The study was carried out in Southwest Nigeria. There are two basic seasons; wet season which last from April to October; and the dry season which last from November till March. A multi stage sampling procedure was used. At first stage, three (3) states (i.e. Osun Ogun and Ekiti) were randomly selected. The second stage involved random selection of two Local Governments Areas (LGAs) from each of the states. The third stage also involved a random selection of two communities from each LGA. At the final stage, twenty (20) adolescent girls were randomly selected from each community. Thus, a total of 240 respondents were selected for the study. Descriptive statistics such as frequency counts, percentages, means, and standard deviation, tables and mean ranking were used to describe the socio-economic characteristics of the respondents. The data were analysed using Chi-squares (x^2) and Pearson Product Moment Correlation (PPMC) (r). To use PPMC, summated rating scale was used to generate scores for the variables being tested. Also Spearman rank order correlation coefficient (Rho) was used to test the relationship between sources of information and the level of awareness of the adolescent girls.

RESULTS AND DISCUSSION

Socio -economic characteristics

The results revealed that 15.4% of the adolescent girls were at the early adolescent age (10-13), 52.4% in middle adolescent age (14-16), and 32.0% in their late adolescent age (17-20). The mean age of the respondents was 15.6 and the standard deviation was 2.16. Most of the girls (82.1%) were in secondary school or completed secondary education. Only a few (0.8%) were without formal education while 3.3% had primary education. About 81.7% of the adolescent girls were associated with atleast one social organization such as cultural, occupation and community groups while 18.3% did not belong to any

organisation. The implication of this is that the adolescent girls feel more informed about climate change concept through their social and religious organisations.

Majority (86.2 %) of the adolescent girls were Christians, 13.8 percent Muslims and none of them belonged to Traditional religion. Thus, the study area is dominated by Christians. Mean household size was 8. This was in line with Balogun (2011) who asserted that the average size of farming households is between seven and eight.

As regard parental background of the adolescents' girls, 78.8% of the adolescent parents were married, 12.5% were living separately from their spouses, 2.9 % were divorced, and 5.8% were widowed. Among the respondents' parents (father) about half (48.8%) were farmers. This is in line with Balogun (2011) who found that the major occupation of rural people is farming. Also 18.3% were traders; selling farm produce and other materials, others were artisans and craftsmen. This finding corroborates the findings of Readon et al, (2001) who reported that a significant number of households in Africa are engaged in non-agricultural activities. Data also show that 46.2% of the adolescents' parents had secondary education while only 15 % had tertiary education.

Respondents' cosmo-politeness.

The results in Table 1 show that only a few (12.1%) of the adolescent girls had never travelled away from their community to other communities. All of the respondents (100.0%) also indicated that they had never travelled outside Nigeria. However, more than 50 per cent travelled outside their villages and this probably helped them to gather more information on climate change.

Table 1 Adolescent Girls Cosmopolitan Exposure

External Exposure	Not at all	Less frequent	Mean ranking
Within the LGAs	(10.0)	(40.0)	2nd
Outside the LGAs	(12.1)	(51.2)	1st
To other States	(15.8)	(40.4)	3rd
Outside the country	240(100.0)	(0.0)	4th
Total	**240**	**240**	

Source: Field survey, 2017

Manifestations of climate change

The results in Table 2 show that the major manifestations of climate change identified by the adolescent girls were high temperature (97.9%) followed by irregular rainfall (97.1%), storm (88.3%), too much rainfall

(87.5%), and whirlwind (54.2%).Hailstones and thunderstorm mentioned by 38.3% indicated that these phenomena were not common in the their area. Similarly, respondents reported that cyclone, earthquake and hurricane did not occur in their locality. High temperature was identified by most of the respondents (97.9%) as the most common phenomenon of climate change in the study area. This confirms the predictions made by IPCC (2007, 2012) that Africa instead will experience the effects of climate change such as drought, flood, rise in temperature, and incidence of fire outbreak which will trigger the natural disasters.

Table 2 Manifestations of climate change.

Manifestation of climate change	Yes	No
High temperature	97.9	2.1
Irregular rainfall	97.1	2.9
Storm	88.3	11.7
Too much rainfall	70.8	29.2
Whirlwind	54.2	45.8
Cyclone	0	100
Hurricane	0	0
Earthquake	0	0
Others(hailstone, thunder storm)	38.3	61.7

Source: Field survey, 2017

Sources of information on climate change.

The results in Table 3 reveal that the major sources of information on climate change that were available to the adolescent girls were radio (82.1%), television (80.8%), and school (74.6%). Television came second in the ranking. This is in tandem with Achariya (2010) who reported that television is possessed by almost all the households in this age, even in slums. He advised that the mass media can be used as source of information to promote positive and effective practices on climate change and adaptation strategies. The result also agreed with Kandlinkar and Risbey (2000) findings who reported that mass media played an important role in informing people about climate change and thus increase their tendencies to adapt. Thus, mass media can play an important role in informing adolescent girls about climate change issues thereby enhancing their ability to adapt effectively. Although radio, television and school were the major sources of information on climate change, extension agents and NGOS (Non- Governmental Organisations) were 7th and 8th respectively indicating that adolescents do not get information or have contacts with extension agents and NGOs on climate change issues.

Table 3 Respondents' distribution by access to sources of information on climate change

Sources	Yes	No
Radio	82.1	17.9
Television	80.8	19.2
School	74.6	25.4
Religious institutions	57.5	42.5
Peer groups/friends	55.4	44.6
Social organisations	46.2	53.8
Extension agents (through their parents)	38.8	61.7
NGOs	31.2	68.8

Sources: Field survey, 2017 Multiple responses were given

Level of awareness on climate change

The results in Table 4 show that majority of the respondents (61.2%) were aware of high temperature while 32.1% were slightly aware. For irregular rainfall 32.9% were slightly aware and more than (55.4%) were aware. Furthermore, 30.8% of the respondents were slightly aware of drought/prolonged rain break while 44.6% were aware of it. Their level of awareness might be due to their educational status and exposure to some sources of information like mass media. As indicated by their mean, high temperature($\bar{X}$=2.546), irregular rainfall ($\bar{X}$=2.438), drought ($\bar{X}$=2.200), storm ($\bar{X}$=2.200) and too much rainfall ($\bar{X}$=2.125) were relevant, because their means were above the bench mark which was two. The implication is that, high temperature, irregular rainfall, drought/prolonged rain break storm and too much rainfall were the major signs and effects of climate change in their area. Majority of them were not aware of cyclone (86.2%), hurricane (81.7%) and earthquake (81.2%). This might be due to the fact that climatic conditions of Southwest Nigeria do not support the occurrences of these effects on climate change.

Table 4 Awareness on climate change

Manifestation and effects of climate change	Not Aware	Slightly aware	Aware	Mean	Mean ranking	Decision
Storm	23.8	32.5	43.8	2.200	3rd	relevant
High temperature	6.7	32.1	61.2	2.546	1st	relevant
Irregular rainfall	11.7	32.9	55.4	2.438	2nd	relevant
Too much rainfall	28.8	30.0	41.2	2.125	5th	relevant
Drought (prolonged rains)	24.6	30.8	44.6	2.200	3rd	relevant
Flood	52.5	24.2	23.3	1.708	6th	Not relevant
Hurricane	81.7	13.3	5.0	1.233	7th	Not relevant
Cyclone	86.2	9.6	4.2	1.200	8th	Not relevant
Earthquake	81.2	18.8	0	1.179	9th	Not relevant

Sources: Field survey, 2017. Multiple responses were given

Table 5 shows the result of Pearson Product Moment Correlation (r) that there is a significant relationship between age (r = 0.201; P≤0.0.002) and awareness level of adolescent girls on climate change. This means that age of the adolescent girls influences their awareness level. It also showed negative correlation between parents' occupation of the adolescent girls and their awareness level. Adisa (2005) in his study found that age of the children also influences the use of agricultural innovation. More the age around adulthood greater is the influence on innovation use. He further reported that Parents occupation is also found positive and significant correlation with innovation use. This is in contradiction with the findings of the present study. Here, parents occupation has nothing to do with the Level of climate change awareness. It is on the contrary Negative in existence.

Table 5 Pearson Product Moment Correlation of Adolescent girls Socio-economic characteristics and awareness level of climate change.

Variable tested	Correlation coefficient	p-value	Decision
Marital status	0.091	0.160	NS
Age	0.201	0.002***	S
Education	-0.005	0.937	NS
Household size	0.106	0.102	NS
Membership of association	0.097	0.134	NS
Organisation	0.026	0.690	NS
Own a phone	-0.052	0.422	NS
Religion	0.046	0.476	NS
Parental marital status	0.037	0.568	NS
Parental occupation	-0.143	0.027**	S
Parental education	0.084	0.195	NS

Source: Field survey, 2017

There is no significance relationship between the adolescent girl's source of information and their awareness level of climate change. The results of the spearman rank order correlation co-efficient (Rho)in Table 6 indicate that sources of information such as Radio (r=0.010, P≤0.0.000), Television (r=0.229, P≤0.0.000) / Friends r = 0.749, (P≤0.002), Non–government organisation(r = 0.878, P≤0.0.000), Religious leader (r= 0.630, P≤0.0.002) had significant relationship with the level of awareness of adolescent girls on climate change. Banarsi Lal (2012) supported this finding but in different domain. He found that 83.33 per cent farmers in India had favourable Attitude towards tv farm programs. Olugbenga Jelil Ladebo et al (1997) studied the effect of Radio on Nigerian farmers. They found that only 48.7 per cent farmers use Radio

for farm information. They further reported that age has nothing to do with the use of Radio. They, however, suggested that Radio should be complemented with other Media for obtaining optimum benefits.

Table 6: Relationship between the adolescent girls' source of information and their level of awareness of climate change

Variable tested	Correlation coefficient	p-value	Decision
School	0.840	0.194	NS
Television	0.229	0.000***	S
Radio	0.010	0.000***	S
Extension agents	0.886	0.117	NS
Friends	0.749	0.002***	S
Non–governmental organisation	0.878	0.000**	S
Religious leader	0.630	0.002***	S
Social organisation	0.023	0.004***	S
Others	0.790	0.374	NS

Source: Field survey, 2017
NS=Not significant, **S**=significant, ***=significant at 5%,
**= significant at 1%

CONCLUSION AND RECOMMENDATIONS

Emerging evidences from the study reveal that adolescent girls were moderately aware of some common climate change phenomena in their area. Such phenomena include high temperature whose effect resulted in intense heat, irregular rainfall, storms and drought. The respondents experienced some of these phenomena and got information through radio, television, religious institutions, peer groups and other media. The socio- economic variables which were significantly related to the awareness of the adolescent girls on climate change were age , membership of social organisation and sources of information. It is, therefore, recommended that the characteristics of adolescent girls be given preference whenever policies are to be drawn concerning climate change adaptation strategies in the nation. If the issue of climate change adaptation is to be strengthened, the various sources of information through which these adolescent girls received information should be given assistance by the government. Government should also take the responsibility of funding various institutions concerned with climate change.

REFERENCES:

1. Achariya A. (2010). Access and utilization of health care services in urban low income settlements in Surat. *Journal of Humanities and Social Sciences*, 1 (2): 64-87

2. Adisa, R. S (2005). Use of Agricultural Innovations in Children's Separate Farm Plots in Kwara State of Nigeria. Journal of Extension Systems, Vol-21 (1).

3. Balogun O.L. (2011): Determinants of Managerial Abilities of Small Scale Cocoa Farmers; Akinleye LGA of Oyo State of Nigeria .*ARPN Journal of Agriculture and Biological Science.* Vol. 6(10):17-25.

4. Banarsi Lal (2012). Attitude of Farmers Towards Different Farm TV Programs. Journal of Extension Systems, Vol-21 (1).

5. IPC 2007. WGII TAR Summary for Policymakers, Intergovernmental Panel on Climate Change (IPCC), p-92.

6. IPCC (2012). Managing the risks of extreme Events and Disasters to Advance Climate Change Adaptation. A special report of working group I and II of the intergovernmental panel on climate. Cambridge University Press, Cambridge, UK and New York, NY, USA, 582 pp.

7. Kandlinkar, M and Risbey, J. (2000). Agricultural impacts of climate change: If adaptation is the answer, what is the question? Climatic Change, Vol.45(10):529-539.

8. Readon, T. Berdageu, J. S. Escobar, G. (2001). Rural Non-farm employment and incomes in Latin America: Overview and Policy Implication. *World development*. 29, 395-409. Reilly, J., 1999. Climate change-can agriculture adapt? Choices. First Quarter, pp.4-8.

9. Olugbenga Jelil Ladebo, Bolawle Idowu Kassal, and Collins Banjoko (2017). Effect of Radio Farm Broadcasts on Farmers Knowledge of Improved Farm Practices. Journal of Extension Systems, Vol-13 (2).