EFFECT OF CLIMATE CHANGE ON THE HEALTH OF RURAL FARMERS IN OFFA, KWARA STATE, NIGERIA

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Abstract

The study examined the effect of climate change on the health of rural farmers in Offa, Kwara State. Nigeria. For the purpose of achieving the objectives of the study Ninety-eight (98) respondents were randomly sampled from ten wards. Data were collected through interview scheduled couple with a well structured questionnaire. The data were analysed through the use of frequency count, simple percentages and Pearson product moment correlation (PPMC). The result of the study indicated that the mean age is 45.5%. 68.4% are male. 53.1% were married. 72.4% were literate with only 14.3% non-literate. The study further revealed a significant relationship between socio-economic characteristics of the respondents and their present health status (r=0.344, p=0.001 α=0.05) The study also revealed a significant relationship between socio-economic characteristics of the respondents and their perceived effect of climate change on their health status (r=0.381,p=0.001,α=0.05). More so the major source of information of the respondents on climate change were through radio/television (mean=61.3) while only few (mean=36.3) heard from research institute, majority of the respondents health status were good (49.0%) they usually have deviation from normal health status as consequence of climate change. The common ailment they experienced is malaria (31.6%) while only few had headache and cholera (3.1%). It was concluded that their major source of information on climate change was through radio. More so it was deduced from the study that malaria is the most common and severe disease affecting the respondents with tuberculosis which is less severe. It was recommended that government should educate farmers through the mass media such as use of radio, newspaper and television on the need to plant trees to combat the effect of the ozone layers depletion which is also associated to climate change.

Introduction

Climate is an average atmospheric condition of a place for a long period of time usually 35years and above. Climate change refer to any change in climate over time whether due to natural variability or as a result of human activities. This usage differs from that in the United Nation Framework Convention on Climate Change (UNFCCC, 2007) which defines climate change as change of climate which attributed directly or indirectly to human activity that alter the composition of the global atmosphere and which is in addition to natural variability observed over a comparable time (IPCC, 2007). Climate change is defined as a thirty or more years of persistence pattern of revolving changes in weather characteristics, these are in relation to temperature, pressure, wind system and direction, humidity, cloud cover and precipitation (Ebong, 2010).

In Nigeria just as in many developing countries in the sub-tropical region the agricultural sector is more vulnerable to climate change, landless farmers, livestock keepers, people on poor health, those with low level of education are more expose to risk of climate change (Barber,2003). The climate change patterns play a fundamental role in shaping natural ecosystems and the human economies and cultures that depends on them. Because so many systems are tied to climate, a change in climate can affect many related aspect

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of where and how people and animal live, such as food production, availability and use of water and health risks, climate change is projected to increase threats to human health. The effect of climate change on health will impact on most population in the coming decades and put the lives and well being of billion of people at increase risks. Rural farmers will be more affected since they constitute the group of people who depend solely on nature. As reported by Ikeme (2009) Nigeria is currently experiencing increasing incident of disease, declining agricultural productivity, increasing number of heat waves, unreliable or erratic weather pattern , flooding ,decline rainfall in already desert-prone area in the north causing increasing desertification, decrease food production in central region.

The effect of climate change on the health of rural people cannot be over-emphasized and there is no doubt that this study requires the full participation of researchers. The result of climate change on the health of rural people need to be carefully examined so as to proffer solution to those problems since the health of the rural people will determine agricultural output as well. In lieu of these, the general objective of the study is to determine the effect of climate change on the health of rural farmers in Offa, Kwara State. The specific objectives are to: describe the socio-economic characteristics of the rural farmers, examine the source of information about climate change by rural farmers, and determine the common disease associated with climate in the study area, determines the perceived effects of climate change on the health of rural farmers.

Hypotheses
Ho1= There is no significant relationship between some selected socio-economic characteristics of the rural farmers and their present health status.
Ho2= There is no significant relationship between some selected socio-economic characteristics of rural farmer and perceived effects of climate change on their health.

Methodology
The study was conducted in Offa. Offa local Government of Kwara State. It is located in the eastern part of state within the coordinate of $8^o 9'N$ and $4^o 43'E$ and has Savannah vegetation. The major crops grown in the area are sweet potatoes and maize. It has a total population of 115,000 people (Census, 2006).

Sampling/Data Collection
To achieve the objective of the study, the method of random sampling techniques was employed to get the required sample size of 98 from registered farmers. Data were collected through the use of structure questionnaire couple with interview scheduled the questionnaire was validated by colleagues.

Data Analysis
Data were analysed using frequencies, mean, percentages, standard deviation while Pearson Product Moment Correlation (PPMC) was used to examine the relationship between the test variables of the generated hypotheses.

Result and Discussion
The socio-economic variables analysed includes the age, gender, marital status, level of education. The study revealed that the mean age of the respondents was 45.5 years. Majority (68.4%) of them were male and (53.1%) married. This is inline with the finding of Ojo and Mohammed (2008) who in their studies revealed that more than 96 per cent of their respondents were married. The implication is that the respondents are more likely to have children that might been affected by climate change, while (72.4%) were literate. This is in contrast with the finding of Ndanitsa (2005) and Tsoho (2005) who in their separate study reported that rural farmers are characterised with low level of literacy.

Sources of information on climate change
Table 2: The study revealed that majority (77.6%) of the respondents never got information through research institute this may be so because most of the extension agent do not discharge their duty diligently, majority (79.2%) revealed that they always got information on climate change through the use of radio this might probably because of easy access to those electronics with a mean of 61.3

Common ailment usually experience by the respondents
Table 3 revealed that common ailment usually experience by the respondent is malaria, this may so because malaria is one of the commonest disease in Nigeria which is caused by Mosquito while tuberculosis is the least disease (2%)

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Table 1 Socio-economic distribution of respondents (n=98)

Age	Frequency	Percentage
21-30	14	14.3
31-40	26	26.5
41-50	27	27.6
51-60	16	16.3
61-70	8	8.2
71 and above	7	7.1
Mean age=45.5		
Gender		
Male	67	68.4
Female	31	31.6
Marital status		
Single	28	28.6
Married	52	53.1
Divorce	5	5.1
Widowed	13	13.3
Level of education		
Non-formal	14	14.3
Adult education	7	7.1
Qur'anic education	6	6.1
Primary education	11	11.2
Secondary education	21	21.4
Tertiary education	39	39.8

Table 2 Distribution of respondents based on sources of information on climate change (n=98)

Sources	Always	Occasionally	Never	Mean
Extension agent	17 (17.3)	27 (27.6)	54 (55.1)	40.0
Research institute	9 (9.2)	13 (13.3)	76 (77.6)	36.3
Non-governmental org.	55 (56.1)	27 (27.6)	16 (16.3)	37.7
Radio/Television	84 (79.2)	21 (19.8)	1 (0.9)	61.3
Newspaper	38 (38.8)	28 (28.6)	32 (32.7)	51.6
Friends/Neighbour	46 (46.9)	32 (32.7)	20 (20.4)	57.7
Farmers association	45 (45.9)	19 (19.4)	34 (34.7)	51.6

Table 3 Distribution of respondents on the common ailment usually experience (n=98)

Ailments	Frequencies	Percentages
Headaches	18	18.4
Malaria	31	31.6
Cholera	5	5.1
Typhoid	7	7.1
Headache, Malaria& cholera	3	3.1
Malaria, cholera& typhoid	11	11.2
Headache and Malaria	10	10.2
Malaria &cholera	11	11.2
Tuberculosis	2	2.0

Test of hypotheses

The correlation coefficient is 0.334 which signifies that there a positive and significant relationship between the respondent's age and their present health status (p=0.001. r=0.0344). This can be verify from the significant value (p=0.001) which is lower than the critical p-value 0.05. Furthermore there is positive and significant relationship between the respondents educational level and their present health status p=0.001.r=0.344 thus null hypothesis is rejected.

Hypothesis 1: The relationship between some selected socio-economic characteristic of rural farmers and their present health status.

Variable	N	X	SD	R	P	Decision
Age	98	1.16	0.37	0.344	0.001	Rejected
Education	98	1.62	0.49	0.344	0.001	Rejected

The correlation coefficient is 0.381. This signifies that there is a positive and significant relationship between respondent's age and their perception of the effect of climate on their health (p=0.0001 which is lower than the critical p-value 0.005.

Furthermore there is positive and significant relationship between the respondents educational level and their perception of the effect of climate change on their health status (p=0.001.r=0.381 thus null hypothesis is rejected.

Hypothesis 2: The relationship between some selected socio-economic characteristic of rural farmers and the perceive effect of climate change

Variable	N	X	SD	R	P	Decision
Age	98	1.16	0.37	0.381	0.001	Rejected
Education	98	1.62	0.49	0.344	0.001	Rejected

Conclusion and recommendations

The study revealed the socio-economic characteristics of the respondents on climate change as it affect the health of rural farmers; their major source of information on climate change was through radio / Television. More so, it was deduced from the study that malaria is the most common and severe disease affecting the respondents with tuberculosis which is less severe. It was recommended thus: Government at all level should educate the farmer through mass media and the use of extension agent on the to plant trees to combat the effect of ozone layer depletion which is associated with climate change. Provision of basic medical facilities to combat the action of mosquito which is the carrier of malaria. There is need for green economy, greater corporation for sustainability and the urgency of ensuring food security for the growing population by developing methods of controlling climate. Climate change adaptation policies and strategies need to be considered as integral components of economic growth strategy transformation agenda of the Federal Republic of Nigeria. The Scientific community should be involved in the studying climate change and forecasting weather and then transmitting this information to all sectors of the society.

References

Barber, (2003), Indigenous people's perception on climate change adaptation strategies in Jema;a local Government Area of Kaduna State. Nigeria. Ishaya,S. And Abaje,I.B. available online at http:www.academic journal IGRP ISSN 2070-1845

Ebong, V.O. (2010), Climate change and the threats to Nigeria food security. Proceedings of 11th Annual National Conference of National Association of Agricultural Economics (NAAE) Pp 361-365

Ikeme, J. (2009), Assessing the future of Nigeria's economy: Ignore threat from the global climate change debacle. *African Economic Analysis,* 1(2), 6-9.

IPCC (2007), Summary for policy makers. In climate change 2007: Inpact Adaptation and Vulnerability. Contribution of working group II to the Fourth Assessment Report of the intergovernmental panel on climate Change, M.L,Parry.O.F,Canziana,J.P. Palutiko,P.J van der Linden and C.E. Hanson,Eds Cambridge University press, Cambridge, U.K 7-22

Ndanitsa, M.A. (2005), Economics analysis of Fadama crop production in Niger State. Unpublished M.Sc Thesis, Department of Agricultural Economics and Farm Management University of Ilorin, Ilorin. Nigeria.p.67

Ojo, M.A. and Muhammed, U.S. (2008), Resource used efficiency in maize production among small scale farmers in Lavun Local Government Area of Niger State, *International Journal of Tropical Agriculture and Food System* 2(1),170-174,

Tsoho, B.A. (2005). Economic of tomato based cropping system under small scale irrigation system in Sokoto State, Nigeria. Unpublished M.Sc Thesis Department of Agricultural Economics and farm Management, University of Ilorin, 105pp

UNFCCC, (2007), Indigenous agricultural adaption to climate change. A case of study of Imo and Enugu State in south Nigeria.