

Sources of Information on Climate Change among Crop Farmers in Enugu North Agricultural Zone, Nigeria

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ABSTRACT

The study ascertained the sources of information on climate change among crop farmers in Enugu north agricultural zone of Enugu State, Nigeria. A multi-stage sampling technique was employed in selection of 120 crop farmers. Data for this study were collected through the use of structured interview schedule. Percentage, charts and mean statistic were used in data analysis and presentation of results. Findings revealed that majority of the respondents were female, married, and literate, with mean age of 38.98 years. The major sources of information on climate change were from neighbour (98.3%), fellow farmers (98.3%) and family members (98.3%). Among these sources, the major sources where crop farmers received information on climate change regularly were through fellow farmers (M=2.15) and neighbour (M=2.12). Since small scale crop farmers received and accessed climate change information from fellow farmers, neighbour and family members, there is need for extension agents working directly with contact farmers to improve on their service delivering since regular and timely information on farmers farm activities like the issue of climate change is of paramount important to farmers for enhance productivity

Keywords: Information sources, climate change, crop farmers.

INTRODUCTION

Agriculture is the economic mainstay in most sub-Saharan African countries, contributing 20-30% of gross domestic product (GDP) and 55% of the total value of African exports. In most African countries like Nigeria, farming depends entirely on the quality of the rainy season; a situation that makes Africa particularly vulnerable to climate change (Odiugo 2010). Climate change as defined by Intergovernmental Panel on Climate Change (IPCC) (2001) is any change or shift in the average weather condition over time, has become a global issue in recent times. It manifested in variations of different climatic parameters including cloud cover, precipitation, temperature ranges, sea levels and vapour pressure (FGN 2003). According to Akinngbe and Irohibe (2014), in most African countries, crop farming is mainly subsistence and rain-fed, but due to climate change frequent and untimely raining affects harvest of produce and thus, food production. This makes Africa particularly vulnerable to the impacts of climate change. The vulnerability of the region is further worsened by the fact that the climate is already too hot as it is tropical in nature.

Nigeria is experiencing increasing incidence of climate change in the form of increasing incidence of disease, declining agricultural productivity, increasing number of heat waves, unreliable or erratic weather patterns, flooding and destruction of livelihoods by rising waters in coastal areas where people depend on fishing and farming. In some parts of Northern Nigeria, especially in Sokoto, Katsina, Kano, Jigawa, Zamfara and Kebbi states, whole villages and farmlands were submerged. BNRCC (2009) reported that in Enugu state, Nigeria no fewer than 300 families have been rendered homeless in "Ameke Ngwo" and "Ngwo Uno" communities in Udi local government area of Enugu state, Nigeria following the destruction of their houses and economic trees worth millions of naira by

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a wind storm which wreaked havoc in the area. This represents one of the resultant effects of climate change in the state.

Olorunfemi (2009) is of the view that timely and useful information is necessary about consequences of climate change. However, for some years now, awareness campaign on climate change has been on the increase in the radio, television, one on one visit by different groups of people, extension agents contact to farmers among others. Based on the above scenario, the following questions become pertinent. What are the sources of information on climate change do small scale crop farmers used? What are the frequencies of receiving such information on climate change?

The purpose of this study was to ascertain the major sources of information on climate change by the crop farmers and the frequency of receiving information on climate change.

METHODOLOGY

The study was conducted in Enugu North agricultural zone of Enugu State, Nigeria in the year 2012. Enugu North Agricultural Zone comprises eight blocks namely Nsukka I, Nsukka II, Igbo-Etiti, Igbo-Eze North, Igbo-Eze South, Udeno, Isi-Uzo and Uzo- Uwani. The zone lies within latitude 6⁰ 45' and longitude 7⁰ 12.5'. Geographically, the agricultural zone is bounded in the Northwest by Kogi State and in the South by Anambra State. It is situated in the derived savannah climatic belt of Enugu State. The mean temperature lies between 27^oc and 28^oc with a distinct bi-modal climatic condition comprising of the rainy season (from April-October) and dry season (from November-March). The mean annual rainfall is about 1844.5mm and the vegetation is evergreen.

All crop farmers in the zone constituted the population for the study. A multi stage sampling technique was employed in the selection of respondents. In the first stage, three blocks (Nsukka I, Udeno and Igbo-Eze South) out of eight blocks in the zone were selected using simple random sampling technique. The second stage involved random selection of four circles out of eight circles in each block, using simple random sampling technique. The circles selected were Okpuje, Ozoanyinya, Obukpa, Ibagwa-ani, and Alor-ulo in Nsukka I block; Orba, Imilike, Igugu and Obollo-Afor in Udeno block; and Ibagwa aka, Itchi, Ovoko and Iheaka in Igbo-Eze South block. From each of the circles, a list of 20 crop farmers was procured through the help of the farmers' organisation. From the list of 20 farmers, 10 crop farmers were randomly selected using simple random sampling technique. Hence, 40 farmers were selected per block for a total of one hundred and twenty (120) farmers for the study. Data for the study was collected from the respondents through the use of structured interview schedule.

To identify the sources on climate change, the respondents were asked to indicate their sources of information from a list of information sources including: extension agents, radio, television, newspaper, family, neighbour, and fellow farmers. The frequency of receiving information from these sources was also ascertained using 3 point Likert-type scale of always, often and rarely with the value of 3, 2 and 1. These values were added up to 6 and divided by 3 to get a mean of 2.0. Any mean value greater than or equal to 2.0 implies that the crop farmers received information regularly on climate change from the source(s). Mean value of less than 2.0 implies that the crops farmers do not received information regularly from the source(s). Data were analysed using descriptive statistics that include frequencies, percentages, means and charts.

RESULTS AND DISCUSSION

Social economic characteristics of the respondents

Data in Table 1 show that majority (60.0%) of the respondents were female. The mean age of respondents was 38.9years. This implies that most of the respondents in the study area were in their

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active economic age and should be able to take rational decision concerning crop production. Also, majority (55.8%) of the respondents were married. This suggests that married people predominated in farming activities in the study area. Majority (96.7%) of the respondents were Christians, this may reduce the farmer’s attachment to traditional beliefs in crop production and hence significantly reduce their tradition bound practices.

Data in Table 1 further revealed that, the average household sizes of the respondents was 6 persons. This indicates that the farmers had fairly large household size which could probably supply farm labour and equally cheaper and more accessible than hired labour. Majority (87.5%) had attended formal school and they could be described as literates who could read and write while the average numbers of years spent in school by respondents was 10years. Majority (82.5%) of the respondents belongs to one form of social group or the other. The mean years of farming experience was 19.63years. These results further revealed that most of the farmers had engaged in crop farming for a long time.

Table1. *Socio-economic characteristics of the respondents*

Variables	Percentage (n=120)	Mean (M)
Sex		
Male	40.0	
Female	60.0	
Age		
Below 20 years	2.5	
20 – 29 years	33.3	
30 – 39 years	20.8	38.9
40 – 49 years	12.5	
50 – 59 years	17.5	
60 – 69 years	9.2	
70 years and above	4.2	
Marital status		
Single	29.2	
Married	55.8	
Divorced	1.7	
Widowed	13.3	
Religion		
Christianity	96.7	
Traditional	3.3	
Household size		
1 – 5 persons	36.8	
6 – 10 persons	57.5	6 persons
11 persons and above	5.7	
Level of education		
No formal education	12.5	
Primary school attempted	10.0	
Primary school completed	22.5	
Secondary school attempted	9.2	
Secondary school completed	33.3	
OND/NCE	3.3	
HND/first degree	8.3	
Higher degree	0.8	
Involvement in social organization		
Yes	82.5	
No	17.5	
Years of farming experience		
1 – 10 years	29.4	
11 – 20 years	37.8	19.6
21 – 30 years	16.8	
31 – 40 years	11.8	
41 years and above	4.2	

Types of social organization

Figure 1 revealed that, greater proportion (70.8%) of the respondents belonged to religious group, while about 13% of the respondents belonged to thrift society. The remaining 8.3% and 5.9% belonged to cooperative society and farmers’ group/organisation, respectively. This implies that the small scale crop farmers in the study area belonged to one form of social organisation or the other. These social organisations could serve as a medium for interaction for the farmers to share their experiences or even awareness on climate change issues. This agreed with Ekong (2003) assertion that rural inhabitants belong to groups which would help them to satisfy their innate need for belonging and affiliation and also in solving their problems through collective efforts.

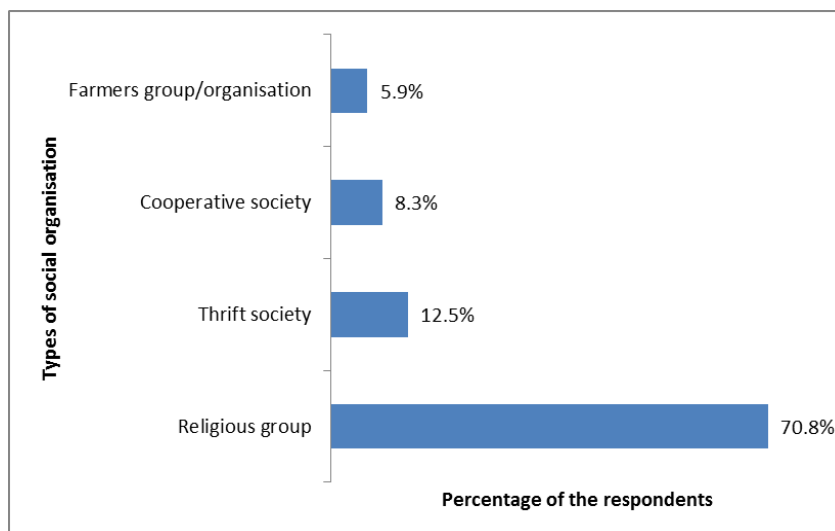


Figure1. Type of social organisation respondents belonged to

Sources of labour for farming activities

Figure 2 show that, majority (97.5%) of the respondents use family labour for their farming activities. About 82.5% of the respondents use hired labour while 16.7% use communal labour. The implication of farmers not using hired labour is that, it will result in reduction of cost of production; this additional cost could affect farmers’ profit. At the same time, relying on hired labour for farming activities sometimes could be dangerous due to shortage of manpower at the time of need. This could result in delaying or abandoning some vital operations (such as weeding) and this could have a negative impact on productivity.

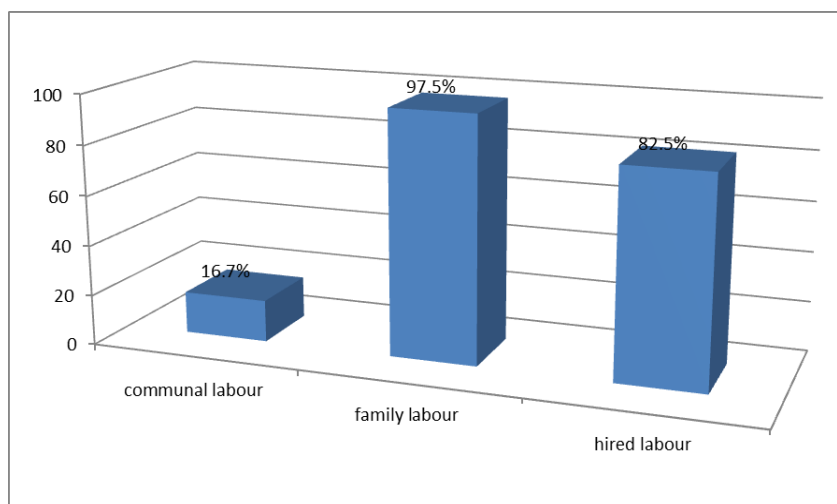


Figure2. Sources of farm labour

Sources of Information on Climate Change

Figure 3 revealed that, the major sources of information on climate change by the crop farmers were neighbour (98.3%), fellow farmers (98.3%) and family (98.3%). The fact that crop farmers got their information from these sources may not be unconnected with their level of interaction in the communities which promotes information dissemination and socialization. The closer the farmers are, the likely possibility of sharing information particular as it affects their productivity. About 39%, 11%, 8% and 5% of the respondents got their information on climate change from radio, television, newspaper and extension agents respectively. It is dishearten to know that the extension agents that suppose to be more involved in farmers information was not considered as the major sources of information on climate change. This is a serious signal to the extension services to improve on their service delivery. The fact that the majority of the rural areas are characterized by inadequate infrastructure like power supply, the tendency that farmers will not listen to radio and television is bound to happened.

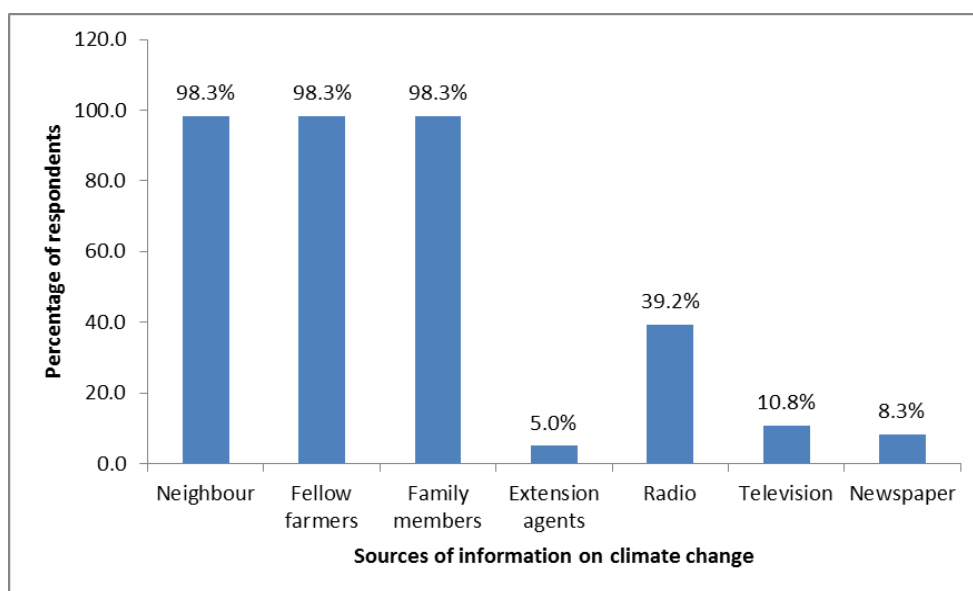


Figure 3. Sources of information on climate change

Frequency of Receiving Climate Change information

To ascertain the frequency of receiving information from the sources stated above is very vital. From the result on Table 2, the major sources where crop farmers received information on climate change regularly were through fellow farmers (M=2.15) and neighbour (M=2.12). This finding is in line with the initial results on sources of information on climate change as indicated above. Not only that they got information from they but the information is timely and regular. Regularity and timely information is very vital on any agricultural issues. It could affect farming decisions in number of ways. The fact that the respondents got their information on climate change from their fellow farmers and neighbour suggest that they have a good relationship with one another. Very few farmers received climate change information through radio (M=2.05) and family members (M=2.05) regularly. The fact that television (M=1.98) and extension agents (M=1.00) were not considered as regular sources of information on climate change could be that the respondents are more at home with face to face interaction among themselves (neighbours, fellow farmers and family members) than mass media. The few, probably with high education level could be the one that had access to newspapers where climate information is published.

Table2. Mean distribution of respondents on the basis of frequency of receiving climate change information

Sources of information	Mean (M)	Standard deviation
Neighbour	2.12*	0.33
Fellow farmer	2.15*	0.38
Extension agents	1.00	0.00
Family members	2.05*	0.22
Television	1.98	0.71
Radio	2.05*	0.32
Newspaper	1.00	0.70

*received information regularly

CONCLUSION

The study has shown that neighbour, fellow farmer and family members were the major sources of information on climate change. The most frequent sources where crop farmers received information on climate change regularly were through fellow farmers and neighbour. Timely reception of climate change information will enable farmers take necessary measures to avert or cope with impending effects of climate change. Therefore, Extension services need to include climate change information relevant to the need of the farmers in their information packages since extension agents delivered agricultural messages and technology through contact farmers.

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