



Arable Crops Farmers' Knowledge of Indegenious Weather Forecast in Yewa North Local Government Area of Ogun State

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Abstract

The study assessed arable crop farmers' knowledge of indigenous weather forecast in Yewa North Local Government area of Ogun state. The population of the study comprised arable crop farmers in Yewa north local government. A two- stage sampling procedure was used to select one hundred and twenty arable crop farmers. Data were obtained using structure interview schedule. Results revealed that majority (87.4%) of arable crop farmers were male, 75% were married with the mean age of 53 years. Cessation of raining is likely to be early when it rains heavily at the onset of rain was ranked first (wms=46.9). Regular rain is expected when scorching rain is observed was ranked second. Onset of raining season is expected to be late when there is a lot of dew at the beginning of the raining season was adjudged third position. The study recommended that indigenous weather forecast knowledge among arable crop farmers should be further strengthened through sensitization and harmonization of experience acquired by farmers by both government and non-governmental organizations This swill go a long way to boost farmers' production activities.

Key words: Indigenous knowledge, Weather, forecast, Arable crop farmers

Introduction

Climate change constitutes a serious threat to sustainable agricultural production and food security in many parts of the developing world and it is one of the unprecedented threats of our time (Nicholas et al., 2012). Chang'a, Yanda and Ngana (2010) also observed that, in East Africa generally, the increase in climate change and variability in most parts of the region has led to increased uncertainty in forecasting seasonal rainfall. As a result of this uncertainty, farmers tends to use indigenous technology (ICT) in making decision on the farms. This is particularly true of environments where there is a lack of reliable, timely, accessible and appropriate weather information. This situation highlights the critical challenge which scientists face in seeking to forecast weather patterns reliably. The provision of relevant, accessible and timely information to farmers, especially those dependent on subsistence farming, is needed to boost their farming activities. Gbangou, T., et.al. (2018) hinted that One of the major issues of concern in weather forecast dissemination to farmers, especially arable crop farmers is their inability to properly decode disseminated weather information for best farm decision making. Thus, this study seeks to assess arable crop farmers' knowledge of indigenous weather forecast in Yewa North Local Government of Ogun State. While the

specific objectives are to: describe the socioeconomic characteristics of the arable crop farmers in the study area, assess arable crop farmers' knowledge of indigenous weather forecast and examine farmers' Indigenous Weather Forecast indicators in the Study Area.

Methodology

This Study was carried out in Yewa North Local Government Area in Ogun State and has its headquarters in Ayetoro. The Local Government is essentially a semi-savannah vegetation area endowed with conducive climatic conditions for agricultural pursuits throughout the year. The population of the study comprised all arable crop farmers in the study area. A two- stage sampling procedure was employed for the purpose of this research work. The first stage involved random selection of Six out of eleven wards in the local government. In the second stage, the list of farmers which was four hundred and eighty (480) registered farmers was collected from the farmers' association in the local government. From the list, 25% of the arable crop farmers was randomly selected. Thus, one hundred and twenty arable crop farmers were sampled. The needed information was collected from the arable crop farmers through interview guide. Data collected was subjected to both Descriptive Analysis such as percentages, table,



mean, frequency etc. while inferential statistics such as t-test was used to test the stated hypothesis.

Results and discussion

Socio-economic Characteristics of the Arable Crop Farmers in the study Area

Result from Table 1 shows the socio-economic Characteristics of arable crop farmers in Yewa North Local Government of Ogun State. Nigeria. From the results majority (87.4%) of the farmers sampled were male while 12.6% of the respondents were female, with mean age of 53 years. Most (75%) of the farmers were married, with average household size of 6 peoples per household. Furthermore, Arable crop farmers cultivate an average farm size of 10 ha per farmer and on average had 20 years of farming experience.

Table1: Distribution of arable crop farmers on socio-economics characteristics (n=120)

Socio-economic characteristics	Frequency	Percentage	Mean
Sex			
Male	104	86.7	
Female	16	13.3	
Age(years):			
>30	7	5.8	
31-40	32	26.7	
41-50	33	27.5	
51-60	29	24.2	
Above 60	19	15.8	53
Marital status:			
Single	15	12.5	
Married	90	75.0	
Divorced	05	4.2	
Widow	10	8.3	
Household size:			
1-5	78	65.0	
6-10	42	35.0	6
Farming experience:			
5-20	56	46.7	
21-30	32	26.6	
31-40	08	6.7	
41-50	24	20.0	18

Farm Size(ha)

5-10	13	10.8	
11-20	90	75.0	
Above 21	17	14.2	20

Source: Field survey, 2023

Farmers' knowledge of indigenous weather forecast

Table 1 presented farmers knowledge of indigenous weather forecast. Majority (70.8%) indicated that they are aware of indigenous weather forecast information

Table 2: Distribution of arable crop farmers' on their knowledge of indigenous weather forecast

Farmers knowledge of indigenous weather forecast	YES	NO
I have knowledge of indigenous weather forecast	85(70.8)	35((29.2)

Source: Field survey, 2023

Farmers' knowledge of indigenous weather forecast indicators in the study area.

As presented in table 2, cessation of raining is likely to be early when it rains heavily at the outset of rain around march and April was ranked first by the respondents (wms= 4.0) followed by Regular rain is expected when scorching rain is observed (wms=3.9) and ranked second, Also, onset of raining season is expected to be late when there is a lot of dew at the beginning of the raining season; was ranked third (wms = 3.6). Rain is expected within a day, during raining season when goat are gathering in the evening was adjudged fourth position with the wms of 3.5. Also, the respondents ranked Rain is expected during the next two days when ants carry their food and eggs to their holes as fourth position. While rain is expected within 1-3 days at the raining season when frog start croaking at night was ranked 4th.

Table 3: Distribution of farmers by indigenous weather forecast knowledge

Indigenous weather forecast indicator	SA	A	U	D	SD	WMS	RANK
1.Regular rain is expected when scorching rain is observed	24(20.0)	69(57.5)	19(15.8)	8(6.7)	0	2.91	2nd
2. Cessation of raining is likely to be early when it rains heavily at the onset of rain around March and April	41(34.2)	40(33.3)	35(29.2)	4(3.3)	0	2.98	1st
3. Onset of raining season is expected to be late when there is a lot of dew at the beginning of the raining season	13(10.8)	50(41.7)	50(41.7)	7(5.8)	0	2.61	3rd
4. Rain is expected within a day, during raining season when goat are gathering in the evening and r together	16(13.3)	50(41.7)	32(26.7)	22(18.3)	0	2.52	4th
5. Rain is expected during the next two days when ants carry their food oe eggs to their holes	33(27.5)	31(25.8)	19(15.8)	37(30.9)	0	2.52	4th
6. Rain is expected within 1-3 days at the raining season when frog start croaking at night.	26(21.7)	36(30.0)	27(22.5)	31(25.8)	0	2.52	4th

Source: Field survey, 2023

T-test Analysis Showing the Difference between Socio-economic Characteristics of Arable Crop Farmers and Knowledge of Indigenous Weather Forecast

The result presented in table 3 revealed that, sex of the respondents ($\chi^2 = 66.563$, p – value = 0.000), marital status ($\chi^2 = 164.731$, p – value = 0.000), and level of education ($\chi^2 = 17.168$, p – value = 0.001) was statistically significant on t- test analysis. Furthermore, farm size (R-value = -0.260(**), p – value = 0.004), and farming experience (R-value = -0.359(**), p – value = 0.000) of the farmers was statistically significant to farmer's indigenous weather forecast knowledge. Therefore, we reject the null hypothesis for variables such as Household Size, Farm Size, Farming Experience, Educational Status, Marital Status, and Sex of the respondents and accept the null hypothesis for variable such as religion, age and income of the respondents as revealed from the results.

Table 4: Distribution of respondents according to T-test analysis showing the difference between socio-economic characteristics of arable crop farmers and knowledge of indigenous weather forecast

Characteristics	R-value	X ²	Df	P-value	Remark
Sex	-	66.563	1	0.000	S
Marital status	-	164.731	3	0.000	S
Age	- 0.055	-	-	0.55	NS
Farming experience	-0.359(**)	-	-	0.000	S
Farm size	- 0.260(*)	-	-	0.004	S
Educational level	-	17.168	3	0.001	S

Source: Field survey, 2023

Conclusion and Recommendation

The study established the awareness of Indigenous weather forecast information in the study area. The study also identified local indicators used by farmers for weather prediction in the area. Majority of the farmers in the study area were male, married and of aged with good farming experience and have adequate knowledge of indigenous weather forecast. The study therefore recommended that both government and non-governmental organization should further strengthen indigenous weather forecast knowledge among arable crop farmers through sensitization and

harmonization of experience acquired by farmers and this will go a long way to boost farmers' production activities. There is also the need to incorporate farmers' indigenous knowledge with scientific knowledge in developing and disseminating forecast for effective adaptation.

Reference

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