

## COCOA FARMERS ACCESS TO AGRICULTURAL INFORMATION ON CULTURAL PRACTICES IN EDO STATE, NIGERIA

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### ABSTRACT

Based on the concept of technology adoption, a logit regression model was used to analyze cocoa farmers access to agro-information's on cultural practices in Edo State, Nigeria. Four hundred and sixty seven farmers were randomly selected and studied with the use of structured questionnaire/interview schedule. Frequency distribution, percentages and logit regression model were used to analyze the primary data collected. The results of the study revealed that majority of the farmers were males (85.87%) and the farmer's age ranged from 20 – 60 years. The cocoa farmer main access to agro-information were through extension training programme (73.23%) like farmer field school, participatory extension methods, from fellow cocoa farmers (63.81%) and personal observations (43.04%) while very few farmers had access to weeding (3.64%) and marketing (3.85%). It was therefore recommended that other sources of agro-information to farmers should be enhanced and extension systems should be strengthened, since this will significantly influence the accessibility by cocoa farmers to agro- information on cultural practice.

**Keywords:** Agro-information, cultural practices, farmers, cocoa

### INTRODUCTION

Tree crop especially cocoa has the main stay of Nigerian economy before the advent of crude oil (Obatolu et al. 2000). The National planning commission (2006) observed that the Agricultural sector accounted for 42.1% of Gross domestic product (GDP) in Nigeria while the National Bureau of Statistics (2005) indicated that it employed about 70 % of the working population. Agriculture has remained the largest non – oil export earner, employer of labour, a key contributor to wealth creation and poverty alleviation in Nigeria. Agriculture is also the sole determinant of the income and welfare of the rural majority. Thus, it holds the key to the socio-economic development of the rural areas (National population Commission, 2006).

In spite of the large labour force engaged in Agriculture in Nigeria, there is food deficit in the country. Most countries in Africa, including

Nigeria imports food and with flood in most parts of Nigeria food crises are imminent. A prominent factor identified as being responsible for this ugly situation is unavailability of timely and appropriate information to users of agricultural information such as Research scientist, policy makers, planners, extension personnel and farmers (Aina, 1985).

The vast store of information on agriculture has been built in the world over many years with the ultimate aim of increasing agricultural productivity (Kaaya, 1999). Thus, improved information flows to, from and within the agricultural sector is a prerequisite for development. Agricultural development which involves improved land use techniques, mechanisation of production process, crops and animal improvements, better pest and diseases of crops and animal control techniques, crops and animal nutrition, conservation of natural resources, and modern methods of agro-information delivery are part of the broad process of socio-economic changes which take place at farm levels and other levels of the society (Agbamu, 2006).

For crops such as cocoa, this has been grown in West Africa (including Nigeria) since the early 1900s. Nigeria produces about 250 thousand metric tonnes of cocoa (Adesina, 2012). Cocoa serves as a source of foreign exchange and employment (Olayemi, 1973; Abang, 1984; Folayan et al, 2006). Cocoa is used for drinks such as chocolate, for candies, cosmetics, soap and pharmaceuticals. Cocoa and its processed product like chocolate contain flavanol, which has a cardiovascular health benefit (Schroeter et al., 2006; Taubert et al., 2007). Similarly, Davison et al. (2010) reported that flavanol rich cocoa lowers human blood pressure.

Cocoa is grown in fourteen states of Nigeria, which includes Abia, Akwa Ibom, Cross River, Delta, Edo, Ekiti, Ogun, Ondo, Osun, Oyo, Kogi, Kwara, Adamawa, and Taraba states. One of the major ways that cocoa farmers receive information is through extension services. However, in most cocoa producing countries, cocoa extension services/agents are inadequate (David et al, 2006). If, this is so, the question now arises: are there other sources where cocoa

farmers can seek information in cocoa cultivation from?. This information is important in generating and disseminating agricultural technologies (Kaaya, 1999). Adequate information is an integral part of agricultural development. Thus, the quality of information of the required has the potentials of improving efficiency in all the spheres of Agriculture.

According to Kaaya (1999), the need for information on agriculture is derived from the following crucial factors: the crucial role of agriculture in economic and social development in most developing countries, the associated issue of food security, the need to increase yield, the need to improve quality and the need to avoid costly mistakes

Various categories of users or clients require information so as to carry out their services effectively. These clients range from senior government Officials to small holder farmer or from the chief Executive of a Cooperative Society to a group of NGOs (Landon, 1991). The main users of agricultural information include the followings: researchers, and research managers, extension workers, farmers, policy makers, trainers, consultants, bankers, and the business community as a whole.

In Edo state, Cocoa cultivation has been carried out for a very long time. The farmers like other farmers, need agro-information to furnish them-selves with knowledge to carry out their farming activities. Farmers take decision based on some socio-economic characteristics. Ofuoku et al. (2005) and Ofuoku et al. (2008) posited that farmer decision to adopt innovation are determined by age, farm size, extension contact, level of formal education and farm income. However, there is a dearth of information by applicators of agricultural technology for development especially for cocoa farmers in Edo state. Hence, the broad objective of this study was to examine the access of cocoa farmers to agro-information. While information is very vital and paramount, what is lacking is the effective dissemination to cocoa farmers, contacts by extension workers, their socio-economic characteristics, which can be translated into higher productivity.

The specific objectives are to:

\*Identify and analyze the demographic characteristics of the Coca farmers in the study area.

\*Identify the various sources of information and determine the number of farmers that accesses this information in the study area.

## RESEARCH METHODOLOGY

### Description of study area, sampling technique and data collection

Edo State was which created from the defunct Bendel state, is one of the thirty six states of the Federal Republic of Nigeria. Edo state is located between latitude  $05^{\circ} 44^{\prime}N$  and  $07^{\circ} 34^{\prime}N$  and longitude  $05^{\circ} 04^{\prime}E$  and  $06^{\circ} 00^{\prime}E$  of the equator. The state was chosen for the study due to its potential for profitable cocoa farming. The crops grown include: cereals (maize and rice), root and tuber crops (cassava, yam and cocoyam), tree crops (cocoa, oil palm, kola nut and rubber) and a variety of vegetables.

The population of the study comprised all registered cocoa farmers (10,000) in Edo state. This constituted the sample frame. Simple random sampling technique using the lottery method (Ladele 2004) was adopted to select 500 registered cocoa farmers and thus used for the study. Hence, a sample size of 500 farmers was used for the study. Structured and pre-tested questionnaire were used to collect information from the respondents. Out of the 500 copies of questionnaires administered, 467 copies were duly filled and returned; hence 467 samples size was used for this study. Frequency distribution, percentages and logit regression model which encompassed chi-square was used to analyze the primary data collected.

### RESULTS AND DISCUSSION

The results of the demographic characteristics of the farmers are shown in Table 1

**Gender:** The majority of the farmers were male (85.87%), while 14.13% were females. This may not be unconnected with the perennial nature of the cocoa crop which confers permanent holdings on the males. Females were mostly involved as helpers and suppliers of labour in planting, weeding, harvesting, processing and marketing operations in farming.

**Age:** The result from the socio-economic distribution revealed that the farmers' age ranged from 20 – 60 years and above. Majority of the farmers ranged from 50 – 59 years old (31.05%). The age distribution indicates that most of the farmers are within the economically active age group and this could have a positive effect on cocoa production while the age range was supported by Amedu et al. (2007), who reported that most farmers in Nigeria are above 50 years old.

**Marital Status:** The result of the study showed that majority (302 or 64.67%) of the respondents was married, while 10.284% were single, 10.71% were divorced and 14.35% were widow or widower. Wives are still used for supportive operations in farm operations

**Table 1.** Socioeconomic characteristics of the farmers in Edo State

<b>Variable Categories</b>	<b>Frequency (n = 467)</b>	<b>Percentages (100%)</b>
<b>Gender</b>		
Male	401	85.87
Female	66	14.13
<b>Age (years) 20 – 29</b>		
30 – 39	109	23.34
40 – 49	111	23.77
50 – 59	145	31.05
60 and above	22	4.71
<b>Marital Status</b>		
Single	48	10.28
Married	302	64.67
Divorced	50	10.71
Widow/Widower	67	14.34
<b>Educational level</b>		
No of formal Education	56	11.99
Primary Education	221	47.32
Secondary Education	131	28.05
Tertiary Education	59	12.64
<b>Farming Experience(years)</b>		
<10	100	21.41
11 –20	212	45.40
21 – 30	94	20.13
31 –40	61	13.06
<b>Farm size (Hectares)</b>		
< 5	294	62.96
6 – 10	138	29.55
>10	35	7.49
<b>Household size (number)</b>		
1 – 5	134	28.69
6 – 10	314	67.24
>10	19	4.07
<b>Total</b>	<b>467</b>	<b>100.00</b>

(Source: Field survey data, 2012)

Level of Education: Most of them (79.01%) had one form of education or the other. Only 11.99% of the respondents did not have any form of education. Literacy level among the farmers is a crucial factor in the adoption of innovation and technology (Ofuoku et al., 2005).

Farming Experience: The data showed that majority of the farmers (78.59%) had over experience of over ten years. Experience enhances greater knowledge cum output. Rahman et al., 2002 posited that farming experience enhanced better knowledge and information to improve farming.

Farm Size: The result showed that majority of the farmers farm size were less than five hectare (62.69%) while 29.66% had farm sizes of 5 - 10 hectare and 7.49% had greater than 10 hectares of farm. The data indicated that majority were small-scale farmers. The reason is that, they had farm size less than 6 hectares which were considered as small-scale (Federal Office of Statistics, 1999). Similarly, Ofuoku et al. (2008) posited that farmer decision to adopt innovation is determined by farm size.

Household size: The data showed that majority of the farmers household size was between 6 – 10 in number. This moderate household size could have a positive support in the farm

#### **Cocoa farmers access to agro-information**

The results of cocoa farmers to agro - information are indicated in Table 2.

The result showed that majority of the farmers had one form of access to agro-information or the other. The least sources of information were from Radio programme (3.85%), Newspaper and other print media (4.71%), ADP/Ministry of Agriculture (6.42%) and Television /visual aid programme (8.78%). This may be due to inadequate circulation of Newspaper and other prints media and their cost and also due to epileptic nature of electricity encountered. Majority of the farmers had access to Extension training programme (73.23%), information from other cocoa farmers (63.81%) and personal observation (43.04%) (Table 2). This depicts that the farmers access to agro-information

were practically based which could have enhanced cocoa productivity. the farmers' adoption of innovation for higher

**Table 2: Cocoa Farmers' Access to Agro-Information**

S/N	Sources of Agro-Information	Frequency of Accessors	Percentage of Accessors
1.	ADP/Ministry of Agriculture	30	6.42
2.	Agricultural Workshop	48	10.28
3.	Attending Field days	95	20.34
4.	Extension Agents visit	122	26.12
5.	Radio Programme	18	3.85
6.	Other cocoa farmer	298	63.81
7.	Television/visual aid programme	41	8.78
8.	Extension training programme (e.g. FFS)	342	73.23
9.	Reading newspaper and other print media	22	4.71
10.	Personal observation	201	43.04

**Source: Survey Data, 2012.**

#### Information accessed on cocoa farming practices

The information on farming practice accessed by Cocoa Farmers are presented in Table 3. The result showed that few farmers had information on weeding (3.64%) and marketing (3.85%). Conversely, the farmers had access to agro-information on: application of fertilizer (73.60%), control of black pod disease (72.59%), use of pesticide (66.60%) and rehabilitation (63.38%).

**Table 3: Information accessed on cocoa farming practices**

S/N	Farming Practice	Frequency	Percentage
1.	Control of black pod including canker	339	72.59
2.	Control of swollen shoot virus	208	44.54
3.	Mirids control	206	44.11
4.	Rational pesticide use	311	66.60
5.	Planting	202	43.25
6.	Weeding	17	3.64
7.	Pruning	232	49.68
8.	Farming sanitation	180	38.54
9.	Spraying pesticides	301	64.45
10.	Applying fertilizers	344	73.66
11.	Harvesting	171	36.62
12.	Marketing	18	3.85
13.	Reliability, regenerating and replanting	296	63.38
14.	Fermentation	304	65.10
15.	Child labour	221	47.32
16.	Crop physiology and nutrition	211	45.18
17.	Cocoa quality	250	53.53
18.	HIV/Aids	352	75.37
19.	Recognizing beneficial	312	66.81

**Source: Survey Data, 2012**

This result is in agreement with the findings of Ochi and Malumfashi (2005), who reported on similar adoption of improved farm practices.

#### Relationship between socio-economic Characteristics of Cocoa Farmers' and their Access to Agro - Information

The relationship between the respondents' socio-economic variables and their accessibility to agro-information are indicated in Table 4. The independent variables includes gender, age, marital status educational level, farming experience, farm size and household while the dependent variable which is access to agro-information was significant at 1.00% level of probability according to the models chi-square (199.721). This suggests that the model with explanatory variables is better in predicting the access to agro-information of the respondents than a model without the explanatory variables. The model classifies 93.1% of the responses correctly which confirms its usefulness.

**Table 4: Relationship between socio-economic Characteristics of Cocoa Farmers' and their Access to Agro-Information in Edo State**

Explanatory variable	Coefficient	t-value	Sig.	Odd ratio
Constant	-0.528	-0.113	0.624	0.610
Gender	0.124	0.762	0.892	0.997
Age	-0.042	-2.781	0.031*	4.721
Marital status	-0.171	-2.542	0.044*	3.124
Educational status	0.412	6.712	0.002*	7.422
Farming experience	0.446	1.046	0.721	0.776
Farm size	4.124	8.742	0.000*	181.231
Household size	-1.920	-1.621	0.741	2.108
Model chi-square ( $\chi^2$ )	199.721			

\* Significant at  $P < 0.05$

Negel kerke  $R^2 = 81.0$

Overall % correct classification 93.1%

Degree of freedom 7

The  $R^2$  value of 81.0% depicts that the explanatory or independent variables jointly account for about 81.0% variation in the respondent's likelihood to have access to agro-information. The result of the logit regression model indicates that four variables namely age, marital status, educational level and farm size had significant influence on the farmers having access to agro-information. The coefficients of age and marital status are negative (- 0.042 and - 0.171 respectively) which implies that farmers who are older and married are less likely to gain access to agro-information. Conversely, the coefficients of educational levels (0.412) and farm size (4.124) are positive indicating that farmers with higher levels of education and larger farm size are more likely to gain access to agro-information. This result is in agreement with the earlier findings Ochi and Malumfashi (2005), when they stated that educational level of farmers is one of the isolated variables related to the adoption of improved farm practices. This may be connected to education, since education exposes the respondents to better chances of obtaining agro-information. Moreover, farmers with large farms are more likely to exploit information sources to improve their farms.

#### CONCLUSION AND RECOMMENDATION

Cocoa is the single highest earner of agricultural foreign exchange in Nigeria and creates enough jobs for the populace. The study revealed that cocoa farmers main access to agro-information were extension training programme like farmer field school, participatory extension methods, fellow cocoa farmers and personal observations. This call for more efforts to be concentrated, in view of improving the awareness of other sources of Agro-information's especially on weeding and marketing. Against this background, intervention programme should be enhanced in the latter. Thus extension systems in the state should be

reinforced. This will increase the yield of cocoa which will be beneficial to the farmers and consequently, the living standard of these farmers would be positively enhanced and there will be improved food security.

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