



## Assessment of Extension Officers Contribution to Cocoa Production in Nigeria

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**ABSTRACT:** This study was carried out to evaluate the extension officer contribution to cocoa production in Nigeria. Multistage sampling technique was used, where two hundred and sixteen questionnaires were distributed in Osun and Ondo state, the information gathered were analyzed using descriptive statistic such as; frequency and percentage, while chi-square analysis was used to analyze the data obtained. From the results, married (77.6%), male (84.0%), secondary school holders (52.0%), between 40-49 (34.4%) years old farmers were seen as the highest cocoa producers. Extension training (64.0%), commercial agents (64.0%), fellowship (52.8%), self observation (76.0%) were the best source of information on extension service of cocoa farming, most respondents (65.0%); get extension training programme at regular basis, identified Constraints facing cocoa production in the study area includes deficient credit facilities, high cost of labour, bad road, poor marketing/storage facilities, lack of technical knowledge / assess to technical tools and so on. in view of afore mentioned result it is therefore recommended that the government should make loan available to the cocoa farmers at very low interest rate and urge cocoa farmers to form cooperative society, strengthen their agricultural extension agents so that they will be able to rain cocoa farmers on the basic things they should know about primary processing such as fermentation and drying of cocoa beans in improving the quality in Nigeria to meet international market.

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Cocoa is a bean that is in high demanded all over the world especially by developed countries due to it several uses and benefits to an economy. Africa is the largest producer of cocoa to the international market, which are normally in Europe and America. Ivory Coast, Ghana and Nigeria share the largest contribution to the world market and with Ivory Coast as the highest produce, producing up to 39% of world output (UNCTAD, 2004). While the contribution of Nigeria and Ghana is 19% and 6% respectively (UNCTAD, 2004). Factually speaking, Nigeria produces a little more than half of what she used to produce in the 1970s (CBN, 2004). The production of cocoa (*Theobroma cacao* L.) in Nigeria, which generate foreign exchange earnings for financing capital projects, has declined. Cocoa, a plantation crop, was the prevailing foreign exchange earner from the mid 1960s through the 1970s, after which the discovery and exploitation of oil prompted a shift away from the nation's agrarian economy base. Cocoa remains, however, significant regarding internal revenue generation, and at the production level is significant as far as employment and income

generation (Ayorinde, 1996). It is also remains a significant export crop, an income of 7459.3million naira (US\$ 53,280 at 140 for every US\$) was gotten from dried cocoa beans (half of the income credited to the total export of major agricultural products) (CBN, 1998). Its exportation has declined in economic significance, Mark (2000), its contribution to Nigeria's external earnings is currently irrelevant contrasted with that of crude oil (which has taken the crop's position as the pillar of the economy). Financial, Socio-economic and basic components related to fluctuating performance of cocoa production in Nigeria includes; the civil war of the late 1960s, the oil boom of the 1970s, and the severe dry seasons of the 1970s and 1980s. The pest, diseases and parasites of cocoa trees are plague in extent and represent significant economic and environmental problems. The issues of weed control and of processing activity, for example, fermentation and storage, have likewise influenced the nature of cocoa, decreasing its reasonable market value. Unfortunately, few farmers appear to be adopting farm hygiene and management strategies to minimize these problems.

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The role of agricultural extension agents in sustaining cocoa farms or farm intended for cocoa production with the end goal of assessing the specialized limit of the farmer to deal with the matter of cocoa production. The cocoa specialist monitors the progress and does a continuous for adherence to goods agricultural practices; training , seminars ,workshop and field exercises are all use for training cocoa farmers ,monthly meeting are kept by cocoa farmers associations during which valuable cocoa information sharing takes place. a series of training exercises called farmer' field school is being conducted to increase quality and quantity of the cocoa beans and to add value to the farmers toil and sweet (Malaysian cocoa monitor,2011). As indicated by Okwu and Ejembi (2001), the conventional ministry of Agriculture extension system operated by the past colonial national government was located in a division or department of the regional, and later state ministry of agriculture. Alongside, the ministry of agriculture system, faculties of agriculture using research finding from the various academic departments of the faculties and extension staff, attempted to improve the agricultural practices of close by rural areas models incorporate the Okpuje undertaking of college of Nigeria Nsukka and Zaria Rural Change Project of A.B.U. Zaria.

During the 1970s the Agricultural Development Project Extension System presented by Agricultural Development Projects (ADPs) replaced the ministry of Agriculture Extension System. The ADPsystem utilizes the Training and Visit expansion delivery approach.Extension services, as a connection among Government and farmers incorporates broad information system, extension services subsequently has a significant influence in helping farmers in executing the programmes (AL-Suaieet *al.*,2005). With the information, pests and diseases control strategy, financial assistance, innovative methods, treated seeds and improve cultivating methods introduced by the extension agent, there can be sustainability in the production of cocoa.

Nevertheless, for extension services to have the option to help farmers with sustainable cocoa farming, they should comprehend the idea and have position attitude towards the perception of the program. Result of study led by Minarovic and Mueller; (2000) suggested that extension agent attitude towards sustainable farming mirror their insight and the significance of the concept for them.

Therefore, it is basic to understand the degree of extension agents' knowledge and attitude towards the concept so as to push the program ahead, most

particularly in Nigeria. This study is required by the persistent low agricultural output in Nigeria. To say the fact, expanding populace need be met with sustainable agricultural production so as to turn away starvation and this can be accomplished distinctly through successful extension service. It is along these lines important to discover the effect of extension service on agricultural output among the farmers in Nigeria. This will include how the service have impacted the adoption of innovations, the role played by extension agents in the presentation of new variety of crop into the zone and how farmers have really profited by the new crops introduced.(AL-Subaiee*etal.*, 2005). It is anyway hopped that this study will give a foundation of information about variables affecting extension service delivery and pull together government strategy on useful subtleties required for fruitful usage of extension service programme. (Bne, 1990). After basic appraisal of the role extension agent in sustainability of cocoa farming, recommendation will at that point be made to the government either to re-orientate extension service programme or/and to increase its finance.

## MATERIALS AND METHODS

*Study area:* The study was conducted in South west Nigeria, consisting of cocoa farmers in Ondo and Osun States, Nigeria. Ondo state lies between 5° 45<sup>1</sup> and 80° 15<sup>1</sup> North of the equator and longitude 4° 30<sup>1</sup> and 6° 00<sup>1</sup> East of the Greenwich Meridian. The farmers in the State grow food and other crops for domestic consumption and export, these include Cocoa, Cashew, Cassava, Rice, and Palm produce, Coffee, Yam, Timber, Citrus, Plantain, Soyabeans, Cowpea and Kolanut. Osun state is located also in the South West part of the country and lies within latitude 7° and 9° North of Equator and longitude 2.75° and 6.75° East of Greenwich Meridian, it falls within the tropical humid climate that is characterized by wet and dry seasons.The people of the state are mostly traders, artisans and farmers. The farmers produce food crops such as yam, maize, cassava, cocoyam and beans, also produced are cash crops such as cocoa, tobacco and palm produce.

*Sampling procedure and sample size:* Multistage sampling techniques was used for the study. Ondo and Osun states were randomly selected among the states in South Western Nigeria. Three local government areas where Cocoa production were prominent were purposively selected from each state. Ife Central, Oriade and Ila Local government areas were selected from Osun State while Akure North, Ose and Owo local government areas were chosen from Ondo State. Two communities from each local government area were randomly selected. Each community was divided

into three wards out of which one was randomly selected. From each ward eighteen Cocoa farmers were randomly selected and interviewed, resulting to a total of 36 respondents from each local government area and a total of 216 for the two states. However, only 200 questionnaires were retrieved for the analysis.

*Methods of data analysis:* Descriptive and inferential statistics were used to analyze the data. This includes the use of frequency and percentage, chi square and regression analysis. Likert scale was also used to measure the perception of respondents concerning Cocoa production.

*Method of Data Analysis:* Descriptive statistical tools such as frequency tables and percentages were used in analyzing the data collected from the area of the study and inferential statistics such as chi square analysis, Pearson product moment correlation (PPMC) was used to analyze the data obtained.

The model:

$$X^2 = \frac{\sum(O - E)^2}{E}$$

Where;  $X^2$  = Chi-square;  $\sum$  = Summation value;  $O$  = the Observed value;  $E$  = the theoretical expected value

Pearson product moment correlation model

$$P = \frac{\sum(x)(y)}{\sqrt{\sum(x)^2 \sum(y)^2}}$$

Where;  $P$  = Pearson product moment correlation;  $\sum$  = Summation of the frequency;  $X = X - \bar{X}$ ;  $Y = Y - \bar{Y}$ ;  $\bar{X}$  = Mean of the frequency;  $\bar{Y}$  = Mean of the frequency

## RESULT AND DISCUSSION

The table 1 above shows the percentage distribution of the respondents; 84% of them were males while 16% were female. This can be attributed to certainty that men consistently have right to land as produce plan of action than woman. Mudashiru, (2013) revealed that there has been an incredible difference among women and men in the size of the land holding for cocoa production in the study area. The table shows that 8% of the respondents were between ages 20-29; 32.8% were between age 30-39; 34.4% were between age 40-49; 21.6% were between ages 50-59; while 3.2% were ages 60-69. This demonstrates a large portion of the respondents were within their active state of life. Assumption of Delman (1991) 98% of cocoa farmers fall within 18-50 years. It can likewise be seen from the table that 77.6% were married; 16.0% were single and 0.8% were separate while 5.6% were widow. These show that married, Muslim respondents

engaged with cocoa production and marriage was not a barrier to cocoa production in the study area. The table shows that 5.6% don't have formal education at all, 12% have primary education, 52% have secondary school education while 30.4% have tertiary education. A research conducted by Mudashiru, (2013) contradicted to this in light of the fact that the majority of the farmer had tertiary education. This demonstrates that most of the respondents had secondary school education. Additionally 16% of the respondents cultivate less than one hectare, 62.4% cultivated 1-2 hectares while 21.6% cultivated over 2 hectares. This shows the greater part of the farmer (respondents) cultivated 1-2 hectares. Acres of land or hectares of land cultivated by cocoa farmers demonstrate that they are subsistence farmers, (CBN, 1998). Finally, 35.2% of the respondents have between 1-5 years of farming experience, 40% have 6-10 years farming experience and 24.8% have 10 years farming experience. This outcome suggests that greater part of the farmers has 6-10 years of experience.

**Table 1:** Socio-Economics Characteristic of the Cocoa Farmers

Variables	Frequency	Percentage
<b>Sex</b>		
Male	105	84.0
Female	20	16.0
<b>Total</b>	<b>125</b>	<b>100</b>
<b>Age</b>		
20-29 years	10	8.0
30-39 years	41	32.8
40-49 years	43	34.4
50-59 years	27	21.6
60-69 years	4.0	3.2
<b>Total</b>	<b>125</b>	<b>100</b>
<b>Marital status</b>		
Single	20	16.0
Married	97	77.6
Divorced	1.0	0.8
Widow	7.0	5.6
<b>Total</b>	<b>125</b>	<b>100</b>
<b>Level of education</b>		
No formal education	7.0	5.6
Primary education	15	12.0
Secondary education	65	52.0
Tertiary education	38	30.4
<b>Total</b>	<b>125</b>	<b>100</b>
<b>Tribe</b>		
Yoruba	108	86.4
Igbo	15	12.0
Irobo	2.0	1.6
<b>Total</b>	<b>125</b>	<b>100</b>
<b>Farm size</b>		
Less than an hectare	20	16.0
1-2 hectares	78	62.4
Above 2 hectares	27	21.6
<b>Total</b>	<b>125</b>	<b>100</b>
<b>Years of experience</b>		
1-5 years	44	35.2
6-10 years	50	40.0
Above 10 years	31	24.8
<b>Total</b>	<b>125</b>	<b>100</b>

Source; field survey, 2019.

Table 2 shows that most of the respondents (62.4%) normally utilized productive service, (45.6%) of the respondents regularly used the improved varieties provided by the extension services, (63.2%) of the respondents don't use the improved farm implement provided by the extension workers, New cropping system were consistently used by (47.2%) of the respondents, additionally the outcome shows that (66.4%) occasionally utilize the better farm produce and processing methods presented by the extension workers The improved marketing system are been used regularly by (44.0%) of the respondents, Oyelami (1991) says the economic conditions where marketing system work are rarely static and judgment on the productivity should give space for the dynamic nature.

The outcome shows that (49.6%) of the respondents clarify that there is a superior storage of their items all the time, (44.0%) of the respondents said there is a regular supply of fertilizer While (53.6%) had access to pesticide and insecticides consistently, (65.6%) of the respondents don't get the credit facilities provided through the extension agents,. The new irrigation system isn't used by 65.6% of the respondents, 16.8% of the respondents use it once in a while, the above data was upheld by Meitei and Devi,(2009) that said information requirements for farmers vary and range from how and where to buy agricultural equipment, information on improved seeds or seedlings, fertilizers, pesticides and insecticides.

**Table 2.** Respondents Access to Extension Information

Variables	No	Rarely	Occasionally	Regularly
Productive service	7(5.6%)	18(14.4%)	22(17.6%)	78(62.4%)
Improved seeds/seedlings	3(2.4%)	18(14.4%)	47(37.6%)	57(45.6%)
Improve farm implement	79(63.2%)	16(12.8%)	16(12.8%)	14(11.2%)
New cropping system	3(2.4%)	17(13.6%)	46(36.8%)	59(47.2%)
Better farm produce and processing method	4(3.2%)	18(14.4%)	20(16.0%)	83(66.4%)
Improve marketing system	12(9.6%)	21(16.8%)	37(29.6%)	55(44.0%)
Better storage system	25(20.0%)	20(18.0%)	18(14.4%)	62(49.6%)
Fertilizer supply	4(3.2%)	17(13.6%)	49(39.2%)	55(44.0%)
Pesticides and insecticides	6(4.5%)	10(8.0%)	42(33.6%)	67(53.6%)
Credit facilities	82(65.6%)	14(11.2%)	18(14.4%)	11(8.8%)
New irrigation systems	82(65.6%)	21(16.8)	14(11.2%)	8(6.4%)

Source; Field survey, 2019.

**Table 3.** Respondents Source of Information

Variables	No	Rarely	Occasionally	Regularly
Extension training	7(5.6%)	18(14.4%)	20(16.0%)	80(64.0%)
Commercial agents	12(9.6%)	17(13.6%)	16(12.8%)	80(64.0%)
Research institutes	87(69.6%)	17(13.6%)	15(12.0%)	6(4.8%)
Agricultural radio programme	10(8.0%)	17(13.6%)	60(48.0%)	38(30.4%)
Agricultural television programme	79(63.2%)	20(16.0%)	15(12.0%)	11(8.8%)
Leaflets	37(29.6%)	18(14.4%)	60(48.0%)	10(8.0%)
Fellow farmer	8(6.4%)	12(9.6%)	39(31.2%)	66(52.8%)
Family and relative	4(3.2%)	20(16.0%)	62(49.6%)	39(31.2%)
Agricultural bulleting	89(71.2%)	12(9.6%)	17(13.6%)	7(5.6%)
News papers	84(67.2%)	15(12.0%)	15(12.0%)	11(8.8%)
Posters	61(48.8%)	45(36.0%)	12(9.6%)	7(5.6%)
Community library	90(72.0%)	16(12.8%)	16(12.8%)	3(2.4%)
Self observation	7(5.6%)	7(5.6%)	16(12.8%)	95(76.0%)

Source: Field Survey, 2019.

The result in the table above shows the respondents sources of information on cocoa, It was revealed that (64.0%) of the respondents affirmed that extension training on cocoa were regular, zipp and Byerlee (2001) confirmed that the degree of awareness of cocoa farmers to extension and training improved the production. Most respondents (64.0%) got their information from commercial agent consistently, while 4.8% of the respondents get information from research institutes occasionally. The greater part of the respondents 48.0% get information from agricultural radio programme occasionally, 13.6% seldom get information from agricultural radio program, while

8.0% didn't get information from radio program. As indicated by Mark (2000) Radio is the least expensive method for passing information to farmers, an effective medium of disseminating agricultural information in Nigeria. In table 4 above, the outcome demonstrates the limitations to cocoa production, majority of the respondents identified high cost of labour (72.8%), procuring agriculture credit (70.4%), the issue of pest and diseases (51.2%), A range of pests and diseases affect cocoa with some estimates putting losses at high as 30% to 40% of global production and control with the use of chemicals (ICO, 2011). Poor road (57.6%), identified storage facility (76.0%),

access to technological tools (74.4%), Technical knowledge (72.8%), Poor marketing (72.0%), the marketing of cocoa is grossly inefficient because it

lacks viable and strong organizational foundation (Mudashiru, 2013), (72.8%) identified land tenure system as a major constraint.

**Table 4:** Constraints to Cocoa Production in the Study Area

Constraints	Not A Constraint	Minor Constraint	Major Constraint
High cost of Labour	9(7.2%)	25(20.0%)	91(72.8%)
High cost of improved seed/seedlings	38(28.8%)	73(58.4%)	16(12.8%)
Problems of Agricultural credit	19(15.2%)	18(14.4%)	88(70.4%)
High cost of fertilizer	34(27.2%)	78(62.4%)	13(10.4%)
Problem of pests and diseases	12(9.6%)	64(51.2%)	64(51.2%)
Poor roads	7(5.6%)	46(36.8%)	72(57.6%)
Lack of storage facilities	10(8.0%)	20(8.0%)	95(76.0%)
Lack of access to technological tools	12(9.6%)	20(16.0%)	93(74.4%)
Lack of technological knowledge	14(11.2%)	20(16.0%)	91(72.8%)
Environmental degradation	5(4.0%)	96(76.8%)	24(19.2%)
Poor marketing system	8(6.4%)	27(21.6%)	90(72.0%)
Land tenure system	10(8.0%)	24(19.2%)	91(72.8%)

Source: field survey, 2019.

**Table 5:** Chi-Square showing the relationship between socio-characteristics of the respondents and information needs

Variable	X <sup>2</sup> Value	P-Value	Decision
Sex	21.529	0.001	S
Marital status	21.529	0.001	S
Age	49.429	0.000	S
Education	8.605	0.197	NS
Tribe	0.992	0.911	NS
Religion	2.786	0.594	NS
Household size	4.092	0.394	NS
Farm size	13.374	0.000	S
Years of experience	5.315	0.504	NS

Source: field survey, 2019

**Table 6:** Pearson product moment correlation showing the relationship between constraint and access to extension information of the respondents

Variable	R-Value	P-Value	Decision
Constraints and access to extension information	0.505	0.000	S

Source: field survey, 2019

The above demonstrated that there was significant relationship between sex, marital status, age, farm size and access to extension information at 5% level of significance. This infers that sex, marital status, age and farm size have significant relationship with access to information. More so, it was discovered that there was no significant contrast between education, tribe, religion, household size, and years of farming experience and access to information at 5% level of significance. Therefore  $H_{01}$  is accepted. The table indicated that there was significant relationship among constraints and access to extension information ( $p < 0.01$ ) at % level of significance. This implies constraints faced by the respondent in the study area has significant relationship or impact on the access to information.

**Conclusion:** Result revealed that male at their active stages of life are more effectively associated with cocoa production. The major problems faced by cocoa farmers in the study area are; inadequate capital,

problem of agriculture credit, bad road, high cost of transportation, ineffective information system and access to the internet and poor marketing. If all the above problem could be solve by the Government, It will encourage all citizen, even the young female to put more in cocoa production and it will positively affect their livelihood and total national output of our nation.

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