An Assessment of Agricultural Extension Activities to Cocoa Farmers in Ekiti West Local Government Area of Ekiti State

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Abstract: Cocoa is an important cash crop that contributes significantly to agriculture's earning in Nigerian economy. Agricultural extension programmes have been targeted at the cocoa farmers to develop the enterprise since the importance of the cash crop. This study assessed the agricultural extension activities to the targeted farmers to identify the institutions that render the services, the farmers' assessment of the services, extent of use of cocoa production technologies (CPTs) and the constraints they have to effective extension services. The study was carried out in Ekiti West local government area of Ekiti State using a multistage random sapling procedure to select 120 cocoa farmers. The findings of the study revealed that the Ekiti State Agricultural Development Programme (ADP) is the dominant source of extension service to the cocoa farmers. Most of the farmers perceived the benefits derived in terms of more profi Table cocoa enterprise based on beneficial advice from the extension services. The constraints perceived by most of the farmers included frequency of visit and inadequate input supply. Chi square was used to establish that farm size, land ownership status, cocoa farm ownership and contact with extension agents influence the extent of use of CPTs. It was recommended that institutional facilitation issues such as efficient input delivery system and adequate personnel:client ratio should be focused to improve extension services to the cocoa farmers; and that cocoa enterprise development projects can be easily implemented through the ADP, which is the dominant source of extension service to the farmers in the study area.

Keywords: Cocoa farmers, extension services and cocoa production technologies

INTRODUCTION

Cocoa is one of the major cash crops through which agriculture contribute to Nigerian economy. The contributions of cocoa to the nation's economic development are vast and have been reported by many authors [Olayide (1969); Olayemi (1973); Abang (1984); Folayan *et al* (2006)]. Cocoa industry in Nigeria had presented a chequered history since it was introduced. This is in term of total production, its foreign exchange earning capacity and income generating ability. In the early 40's, the cocoa industries contributed on the average 21.50% of all foreign exchange earned by Nigeria in the world market. Akande (1994) reported that 154, 275 tonnes of Cocoa were exported in 1993 at the rate of 926 per tonnes thereby contributing a total amount of 71.4297 million naira to the Nigeria economy.

In terms of foreign exchange earnings, no single agricultural export commodity has earned

more than cocoa. With respect to employment, the cocoa sub-sector still provides employment to a sizeable number of people both directly and indirectly. In addition, it is an important source of raw materials, as well as source of revenue to governments of cocoa producing states. Ogunfiditimi (1986) stated that the financial benefit in term of earned income accruing to Cocoa farmer have grown only moderately over the years, the income of farmers has risen at an average amount rate of 9.9 in 1981.

The Federal Government's concern at diversifying the nation's export base has placed cocoa in the centre-stage as the most important export tree crop. Evidence has shown that cocoa production has been declining, which has given rise to a fall in the fortunes of the sub-sector (Nkang *et al*, 2006). Folayan *et al* (2006) also noted that cocoa production in Nigeria witnessed a downward trend after 1971 season, when its export declined to 216,000 metric tons in 1976, and 150,000 metric tons in 1986, therefore reducing the country's market share to about 6% thus placing it at fifth largest producer to date.

Prior to the Structural Adjustment Programme (SAP) in Nigeria, cocoa marketing was carried out by the erstwhile highly regulated Commodity Marketing Board, which was accused of paying farmers far less than the export price of cocoa. This situation affected cocoa production and export in the past as it served as a disincentive to investment in cocoa production. Even after the abolition of the Marketing Boards structure, cocoa production has not faired better as evident in the declining production trend.

Generally, if investment in cocoa production were attractive, farmers/investors would allocate scarce resources to the enterprise. However, the problem is that most people have vague ideas of the potential of the industry and as such are sometimes slow in committing investment funds into the sub-sector. Beyond this, information on how the different management systems affect costs and returns has scarcely been documented (Nkang *et al*, 2007). This thereby emphasises the importance of information on cocoa management systems to the farmers and other categories of stakeholders.

Modern day agriculture is characterised by lots of innovation and improved practices. The practices were mostly generated from agricultural research institutions and to be disseminated through the agricultural extension institutions. However, most of the agricultural practices in use by most farmers remain largely primitive and underdeveloped. This indicates a situation of information gap between the generators and the prospective users of these practices. This is because two essential elements drive human development; people's will to change and the relevant information, in this instance – through extension service, in support of change process (Budelman, 1996).

Extension service constitutes the process whereby the extension worker tries to motivate the clientele to give him the capability to solve his problems. It can also be seen as a process of finding ways of making the encounter between the extension worker and the farmer meaningful such that they will be capable of creating solutions by their own efforts (Bolliger *et al*, 1994). The relationship between the extension workers and the clienteles that is necessary to achieve this goal should be reciprocal; the extension worker must be committed to the welfare

of the clientele and the clienteles must, in turn, appreciate the situation of the extension agents.

Extension service for the cocoa sector is basically an informal education process; an action-oriented programme targeted towards promoting the cash crop farmers and overall agricultural development in the country. The process focuses on the identification of individual, group and community needs and the development and implementation of education programmes to help to satisfy these needs. The needs are concerned with teaching farmers to adopt more effective farming methods and technologies so as to improve production. According to Janny *et al* (2003), a successful extension programme will involve the farmers and will depend on;

- Farmers' sound knowledge of the agro-ecosystem and how this relates to pests;
- A practical approach to manipulating the cropping system to manage pests on a cost-effective and sustainable basis;
- Willingness and ability on the part of both farmers and support systems (extension, research, others) to experiment, modify and innovate;
- Participatory training approaches in cocoa extension services;
- Promotion of cost-effective and environmentally sound methods in cocoa management.

Interaction with the clienteles will let the extension personnel know how to help them in deciding which solution will be preferred by the farmers to a particular problem. This will also provide opportunity to pass across information to the farmers about government policy decisions and the roles they are expected to play. Dissemination of extension information may be affected by some issues such as; the size of the audience, the nature of the message to be disseminated, literacy level among other circumstantial factors of the audience. These factors will determine the communication methods that will be used. The nature of the audience will determine the extent to which a receiver is involved in the communication activities and in essence, who controls the pace of communication and the effectiveness of the message passed across. The communication method used will inform the extent to which the farmers will be influenced by the message(s).

Given the foregoing, this study provides answers for the following research questions:

1. Which extension institutions are involved in the dissemination of cocoa production technologies to farmers in the study area?
2. How do the farmers perceive the extension services to them?
3. To what extent do the farmers use the disseminated cocoa production technologies?
4. What are the constraints associated with extension services to the farmers?

Objectives of the Study

The general objective of the study is to assess the extension services to cocoa farmers in the study area while the specific objectives are to:

1. Identify the extension institutions that disseminate cocoa production technologies to the farmers in the study area
2. Determine the farmers' perception of the extension services to them.
3. Ascertain the extent to which the cocoa farmers use the disseminated technologies.

4. Determine farmers' constraints to extension services.

Hypothesis of the Study

The hypothesis of the study, in null form, states that there is no significant relationship between the enterprise characteristics of cocoa farmers and their use of technologies disseminated through extension service.

METHODOLOGY

The study was carried out in Ekiti-West Local Government area of Ekiti State. It is located within the deciduous forest zone with heavy rainfall almost all year round and an appreciable harmattan yearly. Ekiti West Local Government Area is situated on latitude 7^0 36' North and longitude 5^0 13' East. The vegetation of the Ekiti is rain forest with average rainfall of 1700mm annually. The local government consists of 11 wards and the major occupation of the inhabitants is agriculture, with much emphasis on cocoa farming. The Local Government Area has a land area of 62,413 square kilometres with population of 120,114 according to the 2006 census.

A multistage random sampling procedure was used to select the respondents for this study. The local government was divided on the basis of the political ward. Out of 11 wards, four (4) were randomly selected. In each of the selected wards two (2) communities were randomly selected. From the list of cocoa farmers in the selected communities, 20% of them which amount to 120 farmers were surveyed for the study.

The study used primary data, which was collected with the aid of structured questionnaire, with open and close-ended questions. The instrument was administered as interview schedule to the farmers to circumvent illiteracy constraint and to ensure 100% response rate.

RESULT AND DISCUSSION

Institutions involved in extension services

Table 1 revealed that 71.7% of the respondents have cocoa extension information from the state's ADP, then 13.3% of the respondents have extension information from agrochemical companies, 11.7% of them have information from IITA extension services while only 1.7% have information from some unspecified sources. This shows that most of the respondents got information about cocoa production technologies from the Agricultural Development Programme of the State. This implies that the extension service of Ekiti state ADP is the one that reach out most effectively to the majority of the respondents to fulfil their information needs; this is probably because of the interests of the governments at promoting the enterprise. This finding is supported by the opinion of Arokoyo (2003) that the nation's agricultural research and extension system (NARES) is the most important single determinant of the level of its agricultural development and hence the yard-stick of the quality of life of its people.

Table 1: Distribution of Respondents by Sources of Extension Service

Extension Service Institution	Frequency	Percentage
ADP	86	71.7
Agrochemical companies	16	13.3
IITA	14	11.7
Others	2	1.7
No response	2	1.7
Total	**120**	**100.0**

Source: Field Survey (2007)

Farmers' perception of the extension services to them

Results from Table 2 show the perceptions of the cocoa farmers to cocoa production enterprise on account of extension services to them. Most (94.1%) of them agreed that cocoa production has been more profitable, 73.7% of them are of the opinion that there has been considerable reduction in cocoa production problems while 22.5% are undecided about this; 60.8% of them equally agreed that production input has been easier to acquire while 22.5% of them are undecided about the statement; 65% of them agreed that produce marketing has been easier and more profi Table as a result of the extension service activities while 20.8% are undecided about this; 93% of them also agreed that beneficial advice has enabled increased cocoa production and 94.2% of them believed that quality of produce are better on the basis of extension services to them. This finding highlighted the benefits the respondents derived from the extension services in the study area. It implies that the extension service has assisted majority of the cocoa farmers in their enterprises.

Table 2: Distribution of Respondents by their Perceptions of Extension Services on Cocoa Production Enterprise

Statements on Effect of Extension Services on Cocoa production	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Cocoa production has been more profitable	13 (10.8)	100 (83.3)	6 (5.0)	1 (0.8)	0 (0.0)
There has been considerable reduction in production problems	35 (29.2)	53 (44.5)	27 (22.5)	5 (4.2)	0 (0.0)
Production input has been easier to acquire	13 (10.8)	60 (50.0)	27 (22.5)	19 (15.8)	1 (0.8)
Produce marketing has been easier and more profitable	7 (5.8)	71 (59.2)	25 (20.8)	16 (13.3)	1 (0.8)
Beneficial advice has enabled increased cocoa production	54 (45.5)	57 (47.5)	8 (6.7)	1 (0.8)	0 (0.0)
Quality of produce are better	29 (24.2)	84 (70.0)	6 (5.0)	1 (0.8)	0 (0.0)

Source: Field Survey (2007)

An index was created from these attitudinal responses and the statistics of the index shows that the mean, median and mode are 23.6, 24 and 23 respectively hence it was assumed that the responses were normally distributed. On the basis of this, the responses were categorised using the normal distribution principle ($\bar{x} \pm 1\sigma$) as given below;

Upper category	Between 30 and ($\bar{x} + 1\sigma$)	= 30 to 26.0145
Medium category	Between Upper and Lower category Limits	= 26.0144 to 21.2856
Lower category	Between ($\bar{x} - 1\sigma$) and 16	= 21.2855 to 16

The distribution of the respondents based on the categorisation as given in Table 3 shows that most (75%) of the cocoa farmers' benefit from extension service fall in the medium category, 15.8% of them fall in the low benefit category while only 9.2% of them fall in the high benefit category. This means that despite their favourable perceptions about the extension services, the derived benefits have been on the average level.

Table 3: Distribution of Respondents by Categories of Perception of Benefits derived from Extension Service

Categories of Perception of Benefits	Frequency	Percentage
Low benefit	19	15.8
Medium benefit	90	75.0
High benefit	11	9.2
Total	120	100.0

Source: Field Survey (2007)

Extent of Use of the Cocoa Production Technologies

The results of the analysis as given in Table 4 show that majority (61.7%) of the cocoa farmers use improved seeds sometimes, while 30.0% of them use it all the time. It also shows that 57.5% of the respondents use nursery technology sometime while 20.8% of them rarely use it. Tree pruning/maintenance technique is used all the time by 45.8% of the farmers while 23.3% use the technology sometimes. The result also shows that tree regeneration technology is rarely used by 38.3% of the farmers while 30.8% of them used it all the time. It also shows that majority (88.3%) of the farmers used pest and disease management techniques all the time; 84.2% used cocoa bean processing techniques all the time and 59.2% of them used cocoa bean storage technology all the time. This shows that the technologies that are used substantially are pests and disease management techniques, cocoa bean processing and cocoa storage techniques. This is probably due to the fact that these activities are critical to cocoa production enterprise among the farmers.

Table 4: Distribution of Respondents by Extent of Use of Cocoa production technologies

Cocoa production technologies	All the time	Sometimes	Rarely	Never
Improved seeds	36 (30.0)	74 (61.7)	7 (5.8)	3 (2.5)
Nursery	23 (19.2)	69 (57.5)	25 (20.8)	3 (2.5)
Tree pruning/maintenance	55 (45.8)	28 (23.3)	26 (21.7)	11 (9.2)
Tree regeneration	37 (30.8)	25 (20.8)	46 (38.3)	12 (10.0)
Pest and disease management	106 (88.3)	10 (8.3)	3 (2.5)	1 (0.8)
Cocoa bean processing	101 (84.2)	12 (10.0)	6 (5.0)	1 (0.8)
Cocoa bean storage	71 (59.2)	30 (25.0)	12 (10.0)	7 (5.8)

Cocoa Farmers' Constraints to Extension Services

Information on cocoa farmers' constraints to extension services was elicited and presented in Table 5. The results on the Table show that 64.2% of the farmers deemed frequency of extension agents' visit a mild constraint, 27.5 held it as a serious constraint while 8.3% of them did not see it as a constraint. Adequacy of input supply through the extension institutions was seen as a mild constraint by 80.0% of the cocoa farmers, 15.0% saw it as a serious constraint while 5.0% of them did not see it as a constraint.

Competence of the extension agents was not deemed as any constraint by 69.2% of the cocoa

farmers, 30.0% saw it as a mild constraint while 0.8% of them perceived it as a serious constraint. Fluency of the extension agent was not seen as a constraint by 72.5% of the farmers, 26.7% saw it as a mild constraint and 0.8% of them felt it is a serious constraint. Equally, 74.2% of the farmers do not see dependability of the extension as a constraint, 4.2% saw it as a mild constraint and 21.7% of them perceived it as a serious constraint.

This shows that constraint issues that border on extension agents personality were not perceived by majority of the cocoa farmers while the ones they perceive were external to extension agents' characteristics.

Table 5: Distribution of Respondents by Constraints to Extension Services

Constraints to Extension Services	Serious Constant	Mild Constraint	Not a Constraint
Frequency of visit	33 (27.5)	77 (64.2)	10 (8.3)
Adequacy of input supply	18 (15.0)	96 (80.0)	6 (5.0)
Competence of extension agent	1 (0.8)	36 (30.0)	83 (69.2)
Fluency of extension agent	1 (0.8)	32 (26.7)	87 (72.5)
Dependability of extension agent	26 (21.7)	5 (4.2)	89 (74.2)

Source: Field Survey (2007)

Hypothesis testing between Enterprise Characteristics and Use of Cocoa production technologies

The hypothesis was tested using Chi square to establish whether there is relationship or not between the enterprise characteristics of the farmers and extent of use of the disseminated cocoa production technologies by the extension agents. The aim is to ascertain the characteristics that favourably influence the respondents to use the disseminated technologies.

The result of the analysis, as given in Table 6 revealed that the farm size, land ownership status, cocoa farm ownership status, other occupation apart from farming and contact with extension agents have significant relationship with the level of use of the disseminated technologies. This means that apart from having information about the technologies, size of a farmers' farm, land ownership status, ownership status of the cocoa farm, the other occupation farmers are involved in and whether there is contact with extension agents, do influence the extent of use of the disseminated technologies.

Table 6: Chi-Square analysis between Enterprise Characteristics and Use of Cocoa production technologies

Enterprise characteristics	Chi-value	df	p-value	Decision
Farm size	1186.7	9	0.000	Significant
Land ownership status	3749.0	4	0.000	Significant
Cocoa farm ownership	2884.9	4	0.000	Significant
Other occupation	525.4	5	0.000	Significant
Contact with extension agents	6675.5	2	0.000	Significant

CONCLUSION

The study established that the ADP is the dominant source of extension services to cocoa farmers and that the farmers generally have a favourable disposition to extension services in the study area. The constraints to extension services are those that have to do with issues outside the extension agents' characteristics and the constraints are significant enough to preclude those concerned from benefits of extension services.

RECOMMENDATION

Based on the findings of the study, the following recommendations are made;

1. Institutional facilitation of extension services, such as efficient input delivery and adequate personnel:client ratio, should be focused upon to improve the impact of the services to the target beneficiaries.
2. Any programme that would be targeted at cocoa enterprise development can safely be implemented through the State's ADP, being the dominant source of extension service to the cocoa farmers.

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