

Constraints to Cocoa Farmers Participation in Farmer Field School (FFS) in Abia state, Nigeria

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Abstract

The study analyzed constraints to cocoa farmers' participation in Farmer Field School approach in the three cocoa producing Local Government Areas of Abia State namely; Bende, Ikwuano and Umuahia North. Purposive and multistage random sampling techniques were used to select 120 cocoa farmers that participated in the programme. Instrument for data collection was through a structured questionnaire. Data were analyzed with descriptive statistics like frequencies, percentages, mean and standard deviation. Results indicate that farmers were actively involved in the training of cocoa technologies in agrochemical application ($\bar{x}=3.77$), pruning techniques ($\bar{x}=3.75$), fertilizer application ($\bar{x}=3.60$), cocoa marketing ($\bar{x}=3.58$), plantation establishment ($\bar{x}=3.50$), cocoa bean storage ($\bar{x}=3.40$), nursery establishment, and nursery establishment and cocoa bean processing ($\bar{x}=3.20$) respectively. Bad road network ($\bar{x}=3.59$), price fluctuation of dried cocoa beans ($\bar{x}=3.47$), inadequate land ($\bar{x}=3.31$), inadequate incentives ($\bar{x}=3.22$) and location of school ($\bar{x}=3.13$), were identified constraints to farmers participation in the programme. Policies aimed at providing rural infrastructures, subsidy on farm inputs, easy access to schools and group formation were advocated for effective farmers' participation and increased cocoa production.

Keywords: Constraints, Participation, Cocoa farmers, Farmer Field School

INTRODUCTION

A number of agricultural extension approaches have been used in Nigeria. The major differences in their characteristics are based on how the extension service systems are structured and organized. The relationship and linkage mechanisms amongst the extension service actors, particularly farmers, extension agents and researchers, the range of agricultural services contained in the technical package, types of extension methods that are used and the way the extension services are financed are constrained due to bureaucratic bottlenecks of the system (Ministry of Agriculture, 2008). In the early seventies, Nigeria operated many agricultural programmes. Despite all these programmes, the performance of agricultural sector has continually fallen below expectation, and the output from agricultural sector especially cocoa, is not making a significant impact on the nation's economy. Low productivity in cocoa has been blamed on

poor farmer maintenance practices, planting low yielding varieties and incidence of pest and diseases (Anon and Abekoe, 1999).

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. Prior to the oil boom of the mid 70's cocoa was one of the highest foreign exchange earners in Nigeria and for a long time the crop has been generating substantial foreign earnings for the country (Onwumere and Alimba, 2010). The cocoa sector still offers a large sizable number of people employments both directly and

indirectly (Oluwale, 2004). 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). Agriculture is also the sole determinant of the income and welfare of the rural majority. Thus, it holds the key to the socioeconomic development of the rural areas (NPC, 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. In Nigeria cocoa production has been hampered by the incidence of pest and diseases. Others are socioeconomic problem of poor extension services, weak farmer networks and low producer price in cocoa industry (Dormon, 2004). A prominent factor identified as being responsible for this ugly situation is unavailability of timely and appropriate information to users of agricultural information from 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. Various categories of users or clients require information so as to carry out their services effectively. The end users are small holder farmers who depend on farming as a source of livelihood (Ebewore and Emuh, 2013). If, this is so, the question now arises: are there other sources where cocoa farmers can seek information in cocoa cultivation from research? The main users of agricultural information include the followings: researchers, and research managers, extension workers, farmers, policy makers, trainers, consultants and bankers. In cocoa producing countries, institutions specializing in cocoa have typically been responsible for cocoa extension. However, with decline of many of these institutions, cocoa extension has turned to national extension systems that are overburdened with providing extension services for wide range of crops. The result is that, in most cocoa producing countries, cocoa extension is inadequate at two levels. On the other hand, there are too few extension agents to take on the task of providing extension advice

and moreover, few have specialized training on cocoa farming techniques Adesina (2012).

Farmers' participation is considered necessary to get community support for agricultural development projects (Cole, 2007). Aref (2010) identified lack of effective and strong government institutions as some barriers to participation by farmers. Active participation is often constrained by lack of information and knowledge. Knowledge of the decision making process is important if farmers are to take active part in agricultural planning (Cole, 2007). The World Bank recognized lack of participation in donor sponsored programmes as a reason to the failure of many development and poverty reduction strategies in developing countries (World Bank, 2012). Most of these programmes centre on community development approach rather than agricultural oriented strategies which have marginalized resource poor farmers thus causing them to be eluded from active participation in the programmes (Nwaobiala, 2013). Farshid (2010) observed that most farmers in developing countries have limitation to extension programmes for farm productivity and income. In addition, they do not have enough motivation for continuing their activities through support from relevant agencies, leading to poor participation. According to Ivanoic (2009), poor funding to this sector leaves farmers in the rural areas unable to sustain their production, coupled with and also neglect protecting these activities, farmers' participation becomes elusive. This has lead to weak knowledge based subsistence agricultural production systems, inadequate agricultural inputs and poor market infrastructure, weak backward and forward linkages between agriculture and other sectors, increased food insecurity, natural resources and environmental degradation, poor management of water resources and low irrigation infrastructure (ECA, 2006b). Cocoa production and foreign exchange earnings from its sales has suffered serious decline in Nigeria since the 1980s and this has affected effective participation of farmers, especially Abia State (STCP, 2006).

To revamp cocoa and stop declining trend in production, the country has taken bold step by setting up the National Cocoa Development Committee (NCDC) on 2nd December, 1999. The committee was to promote cocoa production through designing and implementation of programmes involving new planting stocks and rehabilitation of old plantation (STCP, 2006) Government through the National Cocoa Development Committee has adopted the Farmer Field School Approach as a vehicle for farm

extension delivery. Farmer Field School Approach (FFSA) is a participatory training approach that can be considered both as an extension tool and a form of adult education. It focuses on building farmers capacity to make well-informed crop management decision through increased knowledge and understanding of the agro-ecosystem (David *et al.*, 2006). Farmers participation in Farmer Field School Approach in Abia State has not been properly documented due to the constraints faced by cocoa farmers in the programme. In view of the above stated facts this paper examined constraints to cocoa farmers' participation in Farmer Field School Approach in Abia State, Nigeria.

The specific objectives were to;

1. describe socio-economic characteristics of cocoa farmers' in the study area.
2. ascertain levels of cocoa farmers' participation in Farmer Field School.
3. ascertain farmers constraints to participating in the programme.

METHODOLOGY

Multistage random sampling technique was used in selecting participating cocoa farmers.. First, Bende, Ikwuano and Umuahia North and Ikwuano Local Government Areas (LGA's) were purposively chosen because they were the major cocoa producing areas in the state. Two (2) Farmer Field Schools each were randomly selected out of the four (4) schools that make up the LGA's; Bende- (Okpooenyi and Isiala schools), Ikwuano- (Iberenta and Itunta schools) and Umuahia North- (Okweyi and Azueke schools). This gave a total of six (6) Farmer Field Schools. Finally, twenty (20) participating cocoa farmers each were randomly selected from the selected schools to give a total of one hundred and twenty (120) farmers. Data were collected on farmers' socioeconomic characteristics, participation in Farmer Field Schools and constraints they faced in their participation in Farmer Field Schools. Participation in Farmer Field School was measured on eight – item scale comprising types of training conducted amongst cocoa farmers in Farmer Field School in Abia State. Occasionally, Seldom, Never and were scored as 4, 3, 2 and 1 respectively. Constraints to farmers' participation in Farmer Field School were also measured in eight – item statement comprising list of possible constraints. It was operationalised; high, moderate, low and no constraint as scores of 4, 3, 2 and 1 were assigned respectively.

RESULTS AND DISCUSSION

Socio-economic characteristics of cocoa farmers' in the study area

Table 1 shows the socio economic characteristics of cocoa farmers in the study area. The result shows that the mean ages of Farmer Field School Cocoa farmers were 49.50years with a standard deviation of 10.41. Also, the cocoa farmers had mean farming experience of 18.50 years with a standard deviation of 4.17. Farming experience had been shown to enhance the participation and adoption of improved farming techniques, thereby increasing output (Nwaobiala *et al.*, 2009). The Table also reveals that the mean farm size of Farmer Field School Cocoa farmers was 4.5 hectares with a standard deviation of 0.97. This result conforms to the findings of (Onwumere and Alimba, 2010). The mean farm income of FFSC farmers was N1.556m with a standard deviation of 231.02.

Table 1: Mean and Standard Deviation of Selected Socio-economic Characteristics of Farmer Field School Cocoa Farmers and Non Farmer Field School Cocoa in the Study Area.

Variables	Mean	Standard Deviation
Age (years)	49.50	10.41
Farming Experience (years)	18.50	4.17
Farm Size (Hectares)	4.5	0.97
Annual Farm Income (N)	1.556 (M)	231.02

Ascertaining levels of farmers' participation in farmer field school approach

The result in Table 2 shows the levels of farmers' participation in the programme technologies in the study area. The Table indicates that a moderate proportion of cocoa farmers ascribed training in chemical application (fungicide, herbicide among others) (29.12%) with mean rating of 3.77 as technology they occasionally participated. Also, training in pruning techniques (34.83%) and fertilizer application (23.33%) with mean ratings of 3.75 and 3.60 respectively were technologies farmers were actively involved. Williams *et al.*, (1998) affirmed that application of fertilizer and Diuron against black pod infestation has proved to be effective. Pruning of cocoa branches and fertilizer application are important techniques in cocoa production that enhances cocoa output (Obatunde *et al.*, 2003). Furthermore, the cocoa farmers participated in training on marketing (28.33%), plantation establishment (35.83%) and storage technologies (25.83%) with mean ratings of 3.58,

3.50 and 3.40 respectively. Finally, a moderate proportion of cocoa farmers 26.67 % and 21.67% always participated in processing and nursery technologies with mean ratings of 3.0. This implies that the farmers were actively involved in

the technology, since the mean is greater than 3.0. This result confirms that all the technologies disseminated by Farmer Field School facilitators were yield enhancing which increases cocoa production in the study area.

Table 2: Levels of Cocoa Farmers' Participation in Farmer Field School in Abia State, Nigeria

FFS Training Cocoa Technologies	Always	Often	Occasionally	Seldom	Never	TFFS	Mean
Training in Nursery Establishment/Techniques	85(17)	128(26.67)	132(36.67)	28(11.67)	13(10.83)	386	3.20
Training in Plantation Establishment	130(21.67)	140(35)	129(35.83)	20(8.33)	6(5)	425	3.50
Training in Agro Chemical Application	165(27.50)	164(34.17)	105(29.17)	16(6.67)	3(2.5)	453	3.77
Training in Pruning Techniques	165(27.50)	172(35.83)	90(25)	20(8.33)	4(3.33)	451	3.75
Training in Fertilizer Application	180(30)	112(23.33)	99(27.50)	32(13.33)	7(5.83)	430	3.60
Training in Cocoa Bean Storage	155(25.83)	116(24.17)	90(25)	36(15)	12(10)	409	3.40
Training in Cocoa Bean Processing	160(26.67)	92(19.17)	66(27.50)	50(20.83)	18(15)	386	3.20
Training in Cocoa Marketing	170(28.33)	128(26.67)	93(25.83)	32(13.33)	7(5.83)	430	3.58

Constraints to participation of cocoa farmers in the FFS programme in Abia State

The constraints to participation of cocoa farmers in the FFS programme are shown in Table 3. The results indicate that 77.50% of cocoa farmers complained of bad road network with mean of 3.59 as a major constraint. Asiabaka (2008) identified inadequate land and rural infrastructure (roads) as major constraints to farmers' participation in Nigeria agricultural programmes. Also, a good proportion of farmers (70.83%) and 53.33% claimed that price

fluctuation of processed cocoa bean and inadequate land with mean ratings of 3.47 and 3.31 respectively were constraints. Inadequate incentives (57.50%) such as defraying transportation costs to training venues, fertilizers and agrochemicals and among others and location of school (52.50%), with mean ratings of 3.22 and 3.13 respectively were also perceived constraints to effective participation of farmers in Farmer Field School Approach in the State. Eremie (2006) assert incentives to farmers' increases participation and ownership of their investments.

Table 3: Constraints to cocoa farmers' participation in Farmer Field School in Abia state, Nigeria

Constraint Items	High Constraint	Medium Constraint	Low Constraint	No Constraint	Total	Mean
Bad Road Network	372(77.50)	15(4.17)	44(36.67)	--(--)	431	3.59*3.
Location of School	252(52.50)	33(9.17)	90(37.50)	1(0.83)	376	13*
Infrequent Visits by Facilitators	136(28.33)	120(33.33)	45(12.50)	20(16.67)	321	2.67
Inadequate Incentives	276(57.50)	54(15)	6(13.33)	10(8.33)	386	3.22*
Poor Awareness of the Programme	176(36.67)	69(19.17)	84(35)	11(9.17)	340	2.83
Non Follow-up of Recommended Practices	84(17.50)	96(26.67)	48(20)	68(56.67)	296	2.46
Bad Perception on Past/ Similar Programme	196(40.83)	57(15.83)	68(28.33)	18(15)	339	2.82
Price Fluctuation	340(70.83)	27(7.5)	46(19.17)	3(2.5)	416	3.47*
Inadequate Land	256(53.33)	69(19.17)	58(24.17)	14(11.67)	397	3.31*

Values in parentheses are percentages.

CONCLUSION AND RECOMMENDATIONS

Despite the high level of participation in Farmer Field School activities by cocoa farmers in the study area, the study had shown that there are constraints hindering cocoa farmers in participating in the programme. Bad road network, price variation of cocoa bean and poor incentives were the major constraints identified in the study.

The study therefore recommends that;

1. The programme should subsidize farm inputs such as fertilizer, improved cocoa seedlings and herbicides and ensure timely supply of these inputs taking cognizance of the fact that farming is time bound.
2. Rural infrastructural facilities such as good feeder roads, electricity and pipe borne water, among others need to be provided by relevant agencies to curb youth rural-urban migration. These facilities would help to adding value to cocoa processing and in turn increased pricing.
3. Cocoa farmers should be encouraged to form groups in order to access credit and cocoa enhancing strategies such as value addition. This will help improve the quality of the product and increase in price.
4. Schools should be located close to participating farmers' residence. This is informed by the bad road network experienced in the area.

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