

ATTITUDE OF COCOA FARMERS ON GOOD AGRICULTURAL PRACTICES (GAP) IN ONDO STATE, NIGERIA

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ABSTRACT

Cocoa cultivation is a major activity in Nigeria agriculture, supporting the livelihood of millions of households in Nigeria. The study was conducted to determine the attitude of cocoa farmers on Good Agricultural Practices (GAP) in Ondo state, Nigeria. A total of 294 cocoa farmers were selected through the use of multistage sampling procedure. Interview schedule was used to elicit information on source of information gadgets possessed by cocoa farmers, sources of information on GAP, the attitude of farmers towards GAP in cocoa production and the challenges faced by respondents/. Data were analysed using mean, standard deviation, percentages, and Chi square. The study revealed that 74.1% of the farmers assessed information on GAP through radio. Majority (87.1%) possessed radio and mobile phone (86.4%) communication gadgets. Inadequate funding ($\bar{x}=1.98$), high costs of inputs and working materials ($\bar{x}=1.93$) and poor weather conditions ($\bar{x}=1.92$) were the major challenges encountered by farmers with GAP. The study revealed a positive association between cocoa farmers' attitude and sources of information on GAP ($\chi^2= 24.468$, $p \leq 0.000$). The study concluded that cocoa farmers had favourable attitude towards GAP and radio was the most prominent source of information on GAP and therefore recommends, radio as source of information should be more explored to disseminate information on GAP.

Keywords: Cocoa farmers, Source of information, Attitude, Good Agricultural Practices

INTRODUCTION

Cocoa is one of the most economically important agricultural commodities in Africa, contributing to Gross Domestic Product (GDP), National Income (NI) and foreign exchange earnings of many African producing countries. The global export value of dried beans is between USD 8 – 10 billion per annum and there has been increasing demand for chocolate in the developing economies of Brazil, China, Eastern Europe, and India (ICCO, 2018 in Olasupo and Aikpokpodion, 2018). Cocoa is an important generator of income for most rural farmers in Nigeria especially in the South-west and serves as a backbone for their livelihood (Adeniyi and Ogunsola 2014), with about 70% farmers involved in cocoa farming. Nkang, Ajah, Abang and Edet (2009), reported that no single agricultural export commodity has earned more than cocoa in terms of foreign exchange earnings. In the present situation of economic downturn in Nigeria, when there is no certainty that crude oil production can sustain the development needed in the country and majority of oil producing countries are looking for a sustainable means of generating income, Nigeria should also look for means of generating more revenue by looking at other means of generating more income than totally relying on crude oil.

Cocoa is the major raw material for chocolate production in the world. Statista Research Department (2015) posited that about 7.3 million tons of retail chocolate confectionery were consumed worldwide in 2015/2016 with consumption expected to reach approximately 7.7 million tons by 2018/2019. The consumption of

chocolate is on the rise each year which made the global market competition to be more selective. According to Amao, Oni and Adeoye (2014) Nigeria ranked third in Africa and fourth in the world in cocoa production behind Cote d'Ivoire, Ghana and Indonesia. To improve the quality and quantity of cocoa beans produced in Nigeria, stakeholders such as Cocoa Research Institute of Nigeria (CRIN), International Institute of Tropical Agriculture (IITA), Cocoa Farmers Association of Nigeria (CFAN) and state governments had to adopt the best management practices introduced by Food and Agricultural Organisation (FAO) called Good Agricultural Practices (GAP). FAO (2003) defines Good Agricultural Practices (GAP) as practices that address environmental, economic and social sustainability for on-farm processes which result in safe and quality food and non-food agricultural products. These practices were designed to increase the quality and quantity of cocoa beans produced in Nigeria.

GAP is expected to guide farmers in sustainable farming to produce high quality products that command high prices guarantee more income, healthy environment surrounding them, thus, a better living condition for them and their families (ASEAN GAP, 2018). ASEAN further identified GAP for cacao production to involve site listing, and management for new establishment; planting materials; soils and substrates; fertilizer and soil additives; water; pests and disease management; pesticides synthetic and bio-pesticides; harvesting and handling procedures; waste and energy efficiency; biodiversity; transportation and record keeping.



Development and adoption of good practices in cocoa production is a necessity for sustainable cocoa production and this is subject to ability of the farmers to have favourable attitude towards GAP. Understanding farmers' attitude of GAP in cocoa production to enhance livelihood sustainability remains a challenge for its adoption. Variations in farmers' attitude of agricultural technologies can be attributed to differences in education, farming experience, environment, and culture (Halbrendt, Gray, Chas-Halbrendt, Shariq, and Tamang 2019). Evidence has shown that new practices introduced by government, extension agents, NGOs or other research institutions are often abandoned for traditional practices after a while (Cocbran, 2003 in Halbrendt *et al.* 2019). Concerted efforts must be put in place to address this by focusing on the understanding of the target beneficiaries' attitude and willingness to try and/or eventually adopt good agricultural practices. By developing shared knowledge of stakeholders' attitudes and motivation; shared value can be created within multi-stakeholder engagements (Halbrendt *et al.* 2019). This study was therefore carried out to examine the attitude of farmers towards Good Agricultural Practices in cocoa production in Ondo State.

The main objective of the study was to examine the attitude of farmers towards Good Agricultural Practices in cocoa production in Ondo state, Nigeria.

Specifically, the study;

- i. identified source of information gadgets possessed by cocoa farmers;
- ii. identified sources of information on Good Agricultural Practices in the study area;
- iii. determined the attitude of farmers towards Good Agricultural Practices in cocoa production; and
- iv. examined the challenges faced by farmers in cocoa production.

The hypothesis was stated that there is no significant relationship between attitude of cocoa farmers towards Good Agricultural Practices and their source of information.

METHODOLOGY

This study was carried out in Ondo State, Nigeria. The State is the largest cocoa producing state in the country. It has 18 Local Government Areas (LGAs) which were divided into four zones by the Ondo State Agricultural Development Project (ODSADEP). The zones are Ondo zone (5 LGAs), Owo zone (4LGAs), Okitipupa zone (5 LGAs) and Ikare zone (4 LGAs) out of which 14 LGAs from all the zones are major producers of cocoa. A multi-stage sampling procedure was adopted to select the

respondents for the study. At the first stage, purposive sampling technique was used to select 14 cocoa producing LGAs out of the 18 LGAs in the state. At the second stage, a proportionate sampling technique was used to select 57% to give eight LGAs. At the third stage, purposive sampling technique was used to select three communities that mainly produce cocoa from each of the selected LGAs to give a total of 24 communities. At the fourth stage, simple random sampling technique was employed to select 12 cocoa farmers' household to give a total sample of 294 respondents.

Interview schedule was used to obtain quantitative data. The research instrument that was used for the study contained relevant questions on each of the objectives. Content and face validity were done to ensure that the instrument collected the data it was designed to collect. Focus Group Discussion (FGD) was used to confirm information gathered during the survey. Farmers' attitude was determined using a 5-point Likert scale and labelled as 5 = Strongly agreed, 4 = Agreed, 3 = Undecided, 2 = Disagree and 1 = Strongly disagreed (this was reversed for negative questions). Level of attitude was measured using maximum score obtainable (85) minus minimum score obtainable (17). Therefore, any score less than the grand mean score (63.37) is tagged unfavourable attitude while any score above the mean score is favourable attitude. The challenges faced by cocoa farmers in adopting GAP was measured using a 3-point Likert type scale (3 = Serious challenge, 2 = mild challenge and 1 = not a challenge). This was later categorised as not serious challenge ($\bar{x} \leq 1$) while mean score $\bar{x} \geq 1$ is a serious challenge. The hypothesis was tested using Chi square.

RESULTS AND DISCUSSIONS

Source of information gadgets possessed by cocoa farmers

Table 1 indicates that most of the cocoa farmers (87.1%) possessed transistor radio, G.S.M phone (86.4%), television (58.2%) and internet (2.7%). This implies that transistor radio was the most possessed communication gadget available to the farmers. This supported the findings of Akinagbe, Adeniran & Adeniran (2018) who submitted that sourcing information through radio is attributed to the capability of extending messages to the audience irrespective of their location. The FGD report also supported the finding that:

We (farmers) received information mostly through transistor radio because its mobility made it a desired gadget with low financial implication in its usage.

Table 1: Distribution of cocoa farmers by their source of information gadgets possessed

Variable	Frequency*	Percentage
Transistor radio	256	87.1
GSM phone	254	86.4
Television	171	58.2
Internet	8	2.7

* Multiple responses

Source of information on GAP

The results in Figure 1 indicates that 74.1% of the cocoa farmers received information on GAP from transistor radio, extension /ADP Agents (62.9%), television (33.3%), friends (11.9%) and seminar /workshop (0.3%). These results revealed that there were various sources of information available to the respondents on GAP, but the

prominent of them all was radio. This indicated that radio, extension agents and television can serve as medium of information from experts on GAP to cocoa farmers and in turn aid use of GAP in the study area This is in line with Adeogun *et al.*, (2010) and Akinnagbe *et al.*, (2018) that majority of cocoa farmers in Ondo State depend mainly on radio as source of information on cocoa production.

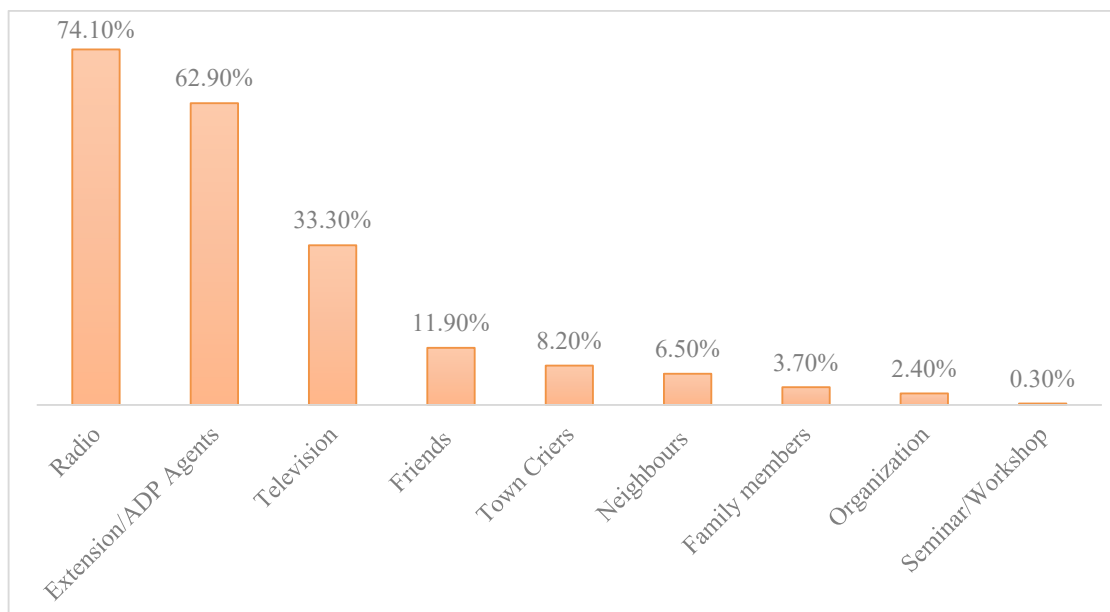


Figure 1: Bar chart showing respondents' source of information on GAP.
Source: Field survey 2015

Cocoa farmers' attitude on GAP

Results in Table 2 revealed the scores in percentage of the attitudinal statements on GAP. Cocoa farmers strongly agreed (68.4%) that there is problem with cocoa production in Nigeria while 26.2% agreed with this statement. On thorough drying of cocoa beans improves its quality 53.1% strongly agreed while 41.5% agreed. Also from the table, the respondents agreed (54.4%) and 43.5% strongly agreed that fertilizer application can improve cocoa production. On Government should organise trainings on GAP Cocoa farmers agreed (50.7%) and 40.1% strongly agreed with this statement. However, it could be noted from the farmers' attitude that some negative statements were strongly disagreed with. These statements were; fermentation of cocoa beans is not all that necessary strongly disagreed (48.0%) and disagreed (47.3%), training is not needed by farmers on cocoa

production strongly disagreed (48.6%) and disagreed (35.4%) and keeping of farm record is not necessary was strongly disagreed (44.9%) and disagreed (31.3%) which implies that farmers understand the importance of these practices and making negative statements about them did not change their views. Cocoa pod can be broken with cutlass had strongly disagreed (33.7%), disagreed (26.9%), strongly agreed (11.9%) and agreed (27.6%) this implies that farmers had different attitude towards this practice. Also, Farmers have enough skills that can sustain cocoa production had different view too, strongly disagreed (23.5%), disagreed (27.9%), undecided (5.8%), agreed (28.6%) and strongly agreed (14.3%). Another statement with different attitude was the supply of cocoa farm inputs is appropriate had strongly disagreed (19.7%), disagreed (36.4%), undecided (8.8%), agreed (21.8%) and strongly agreed (13.3%)



which implies that farmers had different attitudes about the statement.

Table 2: Distribution of farmers on cocoa production by their attitude towards Good Agricultural Practices

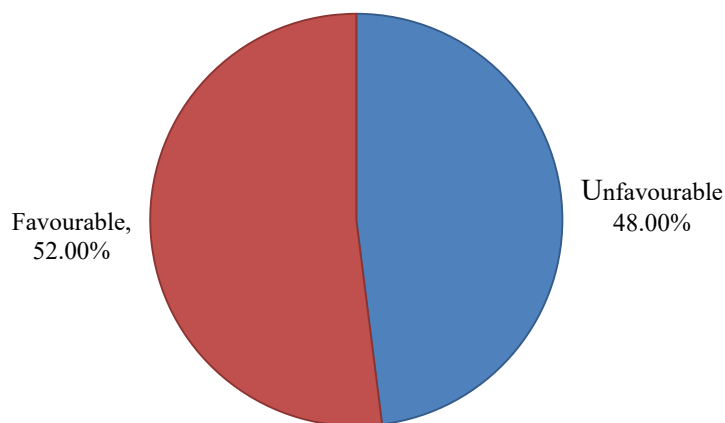
Statement	SD %	D %	U %	A %	SA %
There are problems with practices adopted by farmers on cocoa production in Nigeria	1.7	0	3.7	26.2	68.4
Thorough drying of cocoa beans improves its quality	0.7	1.0	3.7	41.5	53.1
Fertilizer application can improve cocoa production	0	0	2.0	54.4	43.5
Fermentation of cocoa beans is not all that necessary	48.0	47.3	0.3	0.7	3.7
Government should organise trainings on GAP	1.7	2.7	4.8	50.7	40.1
Training is not needed by farmers on cocoa production	48.6	35.4	4.8	8.2	3.1
Keeping of farm record is not compulsory	44.9	31.3	12.2	9.5	2.0
Types of land use has no effect on cocoa production	5.8	9.5	4.1	46.6	34.0
Diseases and pests' effects are not much on cocoa production	25.2	53.4	9.5	7.5	4.4
Where I stored my dried cocoa beans has no effect on cocoa quality	21.4	52.7	9.5	13.3	3.1
Farmers can handle cocoa diseases and pests without assistance	22.1	45.2	6.8	23.5	2.4
There is nothing wrong with old method of producing cocoa	25.5	25.5	26.2	20.7	2.0
Cocoa pod can be broken with cutlass	33.7	26.9	0	27.6	11.9
Farmers have enough skills that can sustain cocoa production	23.5	27.9	5.8	28.6	14.3
The quality of cocoa beans in Nigeria is the best in the world	20.7	29.9	16.3	18.0	15.0
The supply of cocoa farm inputs is appropriate	19.7	36.4	8.8	21.8	13.3
Farmers have clear understanding on appropriate chemical usage	21.4	37.8	5.8	28.2	6.8

Level of attitude towards Good Agricultural Practices

Figure 2 reveals that about half (48.0%) of cocoa farmers in the study area had unfavourable attitude, while 52.0% had favourable attitude towards Good Agricultural Practices. Thus, this result implied that the number of cocoa farmers that

needed to be more knowledgeable about GAP were still many and there is need to sensitize them more about the importance and advantages of adopting GAP for cocoa production in the study area.

Therefore, attitude of cocoa farmers on GAP was adjudged favourable.



Mean Score = 63.37±4.48

Source: Field Survey, 2015

Figure 2: Pie chart showing respondents by their level of attitude towards Good Agricultural Practices

Challenges faced by farmers on cocoa production

Table 3 reveals that inadequate funding of cocoa farming ranked highest with a mean score of $\bar{x}=1.98$, followed by high cost of inputs and working

materials ($\bar{x}=1.93$), poor weather condition ($\bar{x}=1.92$), scarcity of labour ($\bar{x}=1.92$), subsidized inputs get to wrong hands ($\bar{x}=1.90$), inadequate government support ($\bar{x}=1.86$), poor road network

(\bar{x} =1.85) and not enough land for planting cocoa (\bar{x} =1.84). This implies that these challenges were serious and will be affecting adoption of GAP by cocoa farmers. This supports the findings of Sekumade (2014), who listed scarcity and high cost

of agricultural labour, limited access to agricultural inputs, limited access to farmer credit facility and climate change among many others as the major challenges facing Cocoa production in Nigeria.

Table 3: Challenges faced by farmers on Good Agricultural Practices

Challenges	Never	Mild	Serious	Mean	Rank
Inadequate funding	2	2	290	1.98	1 st
High cost of inputs and working materials	2	16	276	1.93	2 nd
Poor weather Condition	2	19	273	1.92	3 rd
Scarcity of Labour	6	13	275	1.92	3 rd
Subsidized inputs get to wrong hands	8	14	272	1.90	5 th
Inadequate Government support	16	9	269	1.86	6 th
Poor road network	6	31	257	1.85	7 th
Not enough land for planting cocoa	7	34	253	1.84	8 th
Unavailability of high yield seeds	40	66	188	1.75	9 th
Lack of experience in cocoa production	40	82	172	1.45	10 th
Policy change on chemicals to be used	53	75	166	1.38	11 th
Unavailability of Farmer field school	126	50	118	0.97	12 th
Unavailability of extension workers	126	61	107	0.94	13 th

Hypothesis Testing

There is no significant relationship between attitude of cocoa farmers towards Good Agricultural Practices and their source of information

Results of Chi square in table 4 showed that there was a significant association between attitude of cocoa farmers towards GAP in cocoa production and their source of information ($\chi^2 = 24.468$, $p \leq 0.000$). This could be explained that the attitude of

the farmers towards Good Agricultural Practices has much to do with their sources of information. That is, whichever attitude cocoa farmers had towards GAP in cocoa production either favourably or unfavourably was largely due to the influence of the sources of information because Information is power, and the more farmers are exposed to information the more their interest in GAP.

Table 4: Chi square result between Attitude score and sources of information

Variable	χ^2	df	p-value	Decision
Sources of information**	24.468 ^a	4	0.000	Significant

Source: Field survey, 2015.

**implies positive association at 0.05 level (2-tailed)

CONCLUSION AND RECOMMENDATIONS

Radio was the major gadget possessed by respondents and the most available source of information to farmers on GAP. Inadequate funding, high costs of inputs, poor weather conditions among others were the major challenges facing the farmers on GAP. Farmers had favourable attitude to GAP.

Therefore, agricultural agencies, non-governmental organisations and stakeholders should note the information sources available to the farmers (especially radio) and utilise them adequately for agricultural information dissemination on GAP. In addition, identified challenges of cocoa farmers should be alleviated by the concern government agencies, while government and multinational companies e.g., Nestle, Cadbury and extension agents should partner in educating farmers on GAP which will help the farmers to have favourable attitude towards the practices.

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