



Research Article

Occupational Hazards and Safety Practices of Cocoa Farmers in Obokun Local Government of Osun State

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ABSTRACT

This study focused on the occupational hazards and safety practices of cocoa farmers in Obokun Local Government of Osun State. A well-structured questionnaire was used to obtain information from the study area. Five (5) villages were randomly selected because they are predominantly cocoa producing area in the state and twenty-four (24) respondents were selected from each village resulting to a total of One hundred and twenty respondents. Majority (80%) of the respondents' falls between 36-65 years, 77.5% are male and married (78.5%). In addition, majority (50.8%) of the respondents preferred radio as their source of information and chemical toxicity/poisoning was the major hazards facing cocoa farmers in the state. Majority (87.5%) agreed that timing of farm operations is an important safety measure and inadequate capital as a severe constraint. The test of hypotheses revealed that there was no significant relationship between the personal characteristics (age, sex, marital status, religion, household size, primary and secondary occupations) and safety practices of cocoa farmers. In contrary, there was a significant relationship between the level of education of cocoa farmers and their safety practices. The correlation result showed that there was no significant relationship between the knowledge of cocoa farmers and their safety practices. It was recommended that extension agents should collaborate with ministry of health to educate cocoa farmers on safety measures to improve their health, production, standard of living and hence, good returns to the farmers.

INTRODUCTION

Agriculture being the largest and oldest in the world today has been the main source of both food supply and some other basic necessities of life to majority of people in the world. All the people in the world depend on agriculture for their food and it plays a vital role in our economic development though it is generally acknowledged that Nigeria's agriculture is largely peasant in nature. Agriculture particularly farming provides bulk of employment opportunities for various categories of people irrespective of their sexes in the rural areas. It serves as a source of income to farmers and other people in the society who depend one way or the other on agriculture as their source of livelihood. Agriculture is also very important in its role as a foreign exchange earner. This earning actually enhanced the economic development of this country before the oil boom era by providing basic social infrastructures to the populace.

Cocoa tree (*Theobroma cacao*) belongs to the family Sterculiaceae. It is the first major economic tree crop in Nigeria and significant in terms of foreign earning generation of internal revenue as well as employment at level of farmers and traders (Titilola, 1997). Cocoa as plantation crop was the dominant foreign exchange earner for Nigeria in the early sixties through seventies after which the discover and exploration of petroleum oil in increasing large quantities gradually led to a shift of the country's focus from its agrarian economy base. According to Mark (2000), it is regrettable to learn that cocoa contributions to Nigeria external earning is presently insignificant due to advent of crude oil, which has taken its position as the mainstay of the nation's economy. The decrease in the production level of cocoa is due to the abandonment or neglect of cocoa plantations in the country and posited that cocoa production like other aspects of agriculture has become handicapped (Wood and Lass, 1989).

Occupational hazards can be described as a condition surrounding a work environment that

increases the probability of death, illness or disability to a worker while hazard is defined as the inherent property of a substance or process that could cause injury or damage (WHO, 1987). According to International Labour Office, ILO (1994), a farm can be source of life-threatening hazards. The most important indicator for safety and health is workload per worker-both physical labour and decision-making or mental workload. Many serious injuries happen to experienced farmers, working with familiar equipment in familiar fields, while doing tasks that they have been performing for years and even decades. Hazardous agricultural materials include pesticides, fertilizers, flammable liquids and other solvents are responsible for acute and chronic illness in farm workers and family members. Tractors and other mechanized equipments have permitted a dramatic increase in the land but mechanization has contributed to severe injuries in agriculture (ILO, 1994).

Over the centuries, man has employed agricultural practices including crop production and animal husbandry to meet the basic needs of adequate nutrition, as a means of livelihood to generate employment and as an export potential. Agriculture is no doubt the most important economic activity in the world today (Onakerhoraye, 1985). Since the early 1980, food demand in Sub-Saharan Africa has been growing faster than food production resulting in a decrease in the per capital food availability (Okpako, 2000). However, it is regrettable to note that this vital role of cocoa farmers and the nation is no more tenable; more so in a country ranked as the largest producer and with high export potentials in cocoa.

Apart from the customary hazards that come from the use of cutlasses, hoes and other implements. There specific hazards peculiar to cocoa production and these hazards affect both the health of the cocoa farmers, their productivity and at times resulting in loss of life and properties. Thus, they can account for dwindling human investments in cocoa production. Hence, the following research questions are hereby poised.

1. What are the personal characteristics of cocoa farmers in the study area?
2. What are the sources of information of cocoa farmers on safety practices used in the study area?
3. What is the knowledge of cocoa farmers on hazards and safety practices in the study area?
4. What are the safety practices employed by the cocoa farmers in the study area?
5. What are the constraints faced in ensuring safety practices in the study area?

Hypotheses

The following null hypotheses will be tested:

Ho₁: There is no significant relationship between the personal characteristics of cocoa farmers and their safety practices.

Ho₂: There is no significant relationship between the knowledge on hazards of cocoa farmers and their safety practices.

Area of Study

The study area is Obokun Local Government in Osun State. The local government has its headquarter in

Ibokun. It has an area of 527 km² and has a total population of 116,511 (National Population Census, 2006). It is bounded in the south by Atakumosa local government area, in the north by Ifedayo local

government area, in the west by Boripe local government area, and in the East by Oriade local government area.

The area is located on latitude 7° 47'N and 7° 30'N of the equator and between longitude 4° 46' and 4° 15'E of the Greenwich meridian. The local government area is in the tropical rain forest zone which experiences two major seasons, dry and wet seasons. In this area, farming is their main occupation, although there exist some subsidiary occupation like weaving and dyeing.

Sampling Procedure and sample size

The population involved in this study consisted of cocoa farmers in Obokun Local Government Area of Osun State. The choice of Obokun LGA for this research was due to its well known as cocoa producing area in the state. For this study, proportionate sampling method was used to select the sample size. 30 percent of the 15 villages in this Local Government Area were randomly selected to give an approximate of five (5) villages, the villages sampled are Otan-Ile, Ilawun, Ilare, Ipetu-Ile and Ilase and these villages consist an average of 80 cocoa farmers. 30 percent of the cocoa farmers in each of the five villages were randomly selected to give a total sample size of 120 respondents.

Data Collection and analysis

Data were collected from the primary sources with the aid of a structured interview schedule. The data collected were analyzed with the aid of the descriptive statistical tools of frequency counts and percentage. An inferential tool, Chi-square (X^2) and Pearson Product Moment Correlation (PPMC) were used to analyze the study hypotheses. The hypotheses were stated in null form (H_0):

RESULTS AND DISCUSSION

Demographic characteristics of the respondents

Table 1 shows that (80%) of cocoa farmers fall within 36-65 years while youth comprised only 5.8%, implying that weak labour and probable laggards dominate cocoa production. On the other hand, the productive activities of males and females in agriculture are very important and must be taken into consideration. The result of the analysis shows that majority (77.5%) of the respondents are males while 25.5% are females, corroborating Akinori (2000) that women in the rural area in Nigeria are being naturally denied access to land for cultivation of cash crops. The marital status shows that the majority of the respondents (78.5%) are married, 12.5% are single while 4.2 % are divorced and 5% are widowed. The implication is that cocoa farmers depend on family labour as an immediate source of labour therefore, the more the number of a family, the more available the labour force and consequently, the more the productivity. However,

Adegeye (1993) confirmed that family labour is very important in the maintenance and establishment of cash crop.

Moreover, education is an important factor influencing the adoption of agricultural innovations including measures to ensure safety on the farm. The result shows that majority (79.2%) of the respondents had some form of formal education, while only 20.8% had no formal education. This indicates that most of the respondents are literates, which facilitates the rate of adoption of an innovation. In addition, the result reveals that more than half (52.3%) of the respondents are Christians. Household size implies the total number of people staying under a roof and being fed. Children are an added labour advantage for increased agricultural productivity because they do the bulk of the farm work, more than half (51.7%) of the respondents have between 7-10 household. Higher number of children is an indication of family wealth in rural areas. This is expected to result in increased cocoa production. Also, the majority (80.8%) of the respondents practice farming as their primary occupation, implying that majority of rural areas are farmers.

Respondents' sources of preferred information on safety practices

Table 2 shows that more than half (50.8%) of the respondents preferred radio as their preferred source of information on safety practices when compared to other sources of information such as contact farmers (15.8%), Television/Video (12.5%), Extension (11.7%), Newspaper/Magazine, postal and billboards are 3.3%, 3.3% and 2.5% respectively. This corroborate *Oladeji et.al* (2011) that radio stands as the most preferred information source in rural communities and the best way extension can remain relevant to rural dwellers is by adopting radio as the major channel of information.

Respondents' knowledge on hazards

It can be seen from table 3 that majority (75.8%) of the respondents accepted that chemical toxicity occurred in a regular basis, while 24.2% agreed that it was not regular, corroborating implying that cocoa farmers are more exposed to chemical hazards without proper training or personal protective equipment. This is in line with Regoeng (2001) who described exposure to pesticides and other agro-chemicals as one of the major occupation injuries in the agricultural sector, and unless safety interventions occur, there are potential long term adverse health consequences. This finding also corroborated previous finding by *Sosan et.al* (2009) that cocoa farmers in Nigeria are occupationally exposed to the toxic nature of insecticide application for mirid control in their cocoa plantations.

Safety practices employed by the cocoa farmers

The result of the analysis in table 4 reveals that most (87.5%) of the respondents take cognizance of the timing of farm operations, majority of them do not use

safety gears apart from protective clothing/overall (62.5%) while spraying and training of farmers and workers on pesticide safety was weak or non-existent. The implication of the findings was that that cocoa farmers in this area used hazardous chemicals with little attention to the safety measures, which may have adverse effect on their health and farmers were not exposed to knowledge of precautionary measures because of the low contact with extension agent. This was supported by *Sesan et.al* (2009) that cocoa farmers used agro-chemicals which are toxic in nature but with little attention to the precautionary measures.

Constraints facing cocoa farmers

The table below shows that majority (76.7%) of the respondents accepted that inadequate capital was a severe constraint, while 42.5% and 36.7% of the respondents agreed that low contact with extension agents and types of implements used respectively were severe constraints. The implication is that cocoa farming is characterized with low contact with extension agents and traditional types of implements. This means that these farmers would have produce more with low risk of chemical exposure if they were opportuned to get enough capital with high contact with extension agents.

Testing of hypotheses

Hypothesis one (H₀₁): There is no significant relationship between personal characteristics of cocoa farmers and their safety practices. Result in table 6 shows that there is no significant relationship between personal characteristics (age, sex, marital status, religion, household size, primary and secondary occupations) and the safety practices of the respondents. Therefore, the hypothesis which states that there is no significant relationship between the age, sex, marital status, religion, household size, primary and secondary occupations is thereby accepted. However, level of education has significant relationship with the safety practices of the respondents. The implication is that the rate of adoption of an innovation will be faster in the study area. The null hypothesis which states that there is no significant between the level of education and safety practices is thereby rejected.

Hypothesis one (H₀₂): The result of the analysis in table 7 shows that there is no significant relationship between the knowledge of the respondents and their safety practices. The null hypothesis which states that there is no significant relationship between the knowledge on hazards and their safety practices is thereby accepted.

CONCLUSION

It can be concluded that cocoa is one of the major cash crops produced in Obokun Local Government Area of Osun State. Majority of the respondents are males thus confirming the fact that cocoa farmers are usually bequeathed to male children in the family. Most of the respondents are married, which shows the importance of family labour in cocoa production especially during harvesting period. Moreover, most of the respondents had no contact with extension agents; this shows the weak link between the cocoa farmers and agricultural extension agents. The study also revealed that majority of the respondent preferred radio as their source of information and finally, most of the respondents had experienced accidents or injuries in one way or the other on the farm.

RECOMMENDATIONS

It is recommended that youth especially the females should be motivated to go into cocoa production since they have the capability of going into large commercial farming. This could be made possible through government initiation of agricultural policy which can motivate the youth. There is need for extension agents in collaboration with ministry of health to educate cocoa farmers on safety measures to improve their health, production standard of living and hence, good returns to the farmers. Government should provide credit facilities in all its various forms to cocoa farmers as this is expected to encourage more farmers to engage in cocoa production. Finally, cocoa farmers should be improved upon to update their knowledge, skills and attitudes towards the adoption of modern technology.

Table I: Distribution of cocoa farmers according to personal characteristics (N=120)

Variables	Frequency	Percentage
Age		
≤25	7	5.8
26-35	9	7.5
36-45	23	19.2
46-55	31	25.8
56-65	42	35.0
≥ 65	8	6.7
Sex		
Male	93	77.5
Female	27	22.5
Marital status		
Single	15	12.5
Married	94	78.5
Divorced	5	4.2
Widowed	6	5.0
Educational status		
No formal education	25	20.8
Primary education	42	35.0
Secondary education	41	34.2
Tertiary education	12	10.0
Religion		
Christian	63	52.3
Muslim	54	45.0
Traditional	3	2.7
Household size		
< 3	2	1.7
3-6	25	20.8
7-10	62	51.7
11-14	22	18.3
≥15	9	7.5
Primary occupation		
Farming	97	80.8
Others	23	19.2

Field survey, 2012

Table II: Distribution of respondents' preferred sources of information on safety practices (N=120)

Sources	Frequency	Percentage
Radio	61	50.8
Extension agent	14	11.7
Television/Video	15	12.5
Newspaper/Magazine	4	3.3
Contact farmers/ Farmers association	19	15.8
Postal/Handbill	4	3.3
Billboard	3	2.5

Field survey, 2012

Table III: Distribution of respondents according to their knowledge on hazards (N=120)

Hazards	Regular	Percentage	Not regular	Percentage
Incidence of fire outbreak	35	29.2	85	70.8
Chemical toxicity	91	75.8	29	42.5
Food contamination/poisoning	32	26.7	88	73.3
Falling dead trees	30	25.0	90	75.0
Attack from stray bullet	22	18.3	98	81.7
Stepping on setting traps	57	47.5	63	52.5
Stepping on sharp objects	59	49.2	61	50.8
Vermin attacks	69	57.5	51	42.5
Slip and fall when climbing	14	11.7	106	88.3

Source: Field survey, 2012

Table IV: Distribution of respondents showing the safety practices employed by the cocoa farmers

Safety measures	Yes		No	
	Frequency	Percentage	Frequency	Percentage
Spraying against wind direction	31	25.8	89	74.2
Washing and cleaning of spraying equipments after use	59	49.2	61	50.8
Washing of contaminated clothes immediately after spraying	23	19.2	97	80.8
Bathing immediately after spraying of chemicals	74	61.7	46	38.3
Disposal of contaminated food during spraying	30	25.0	90	75.0
Staying away from farm for 24 hours after	76	63.3	44	36.7

spraying				
Burying or burning of empty chemical containers after use	2	1.7	118	98.3
Timing of farm operations	105	87.5	15	12.5
Training in proper safety practices	7	5.8	113	94.2
Safety gears				
Protective clothing/overall	75	62.5	25	20.8
Rubber boots	54	45.0	66	55.0
Head gear	33	27.5	87	72.5
Hand gloves	19	15.8	101	84.2
Nose cover	41	34.2	79	65.8
Eye glass	1	0.8	119	99.2

Field survey, 2012

Table V: Distribution of respondents according to constraints faced by cocoa farmers (N=120)

Constraints	Severe constraint	%	Low constraint	%	No constraint	%
Inadequate capital	92	76.7	2	1.7	26	21.6
Low level of adoption	37	30.8	43	35.8	40	33.4
Lack of awareness	15	12.5	47	39.2	58	48.3
Types of implements used	44	36.7	68	56.7	8	6.6
Low level of education	40	33.3	42	35.0	38	31.7
Low contact with extension agents	51	42.5	41	34.2	28	23.3
Cultural belief	19	15.8	75	62.5	26	21.7
Lack of good drinking water	16	13.3	54	45.0	50	41.7

Field survey, 2012

Table VI: Testing of relationship between personal characteristics of cocoa farmers and their safety practices.

Variables	X ² Cal	X ² Tab	Remarks	Decision
Age	0.51	1.14	NS	Accept
Sex	0.97	0.10	NS	Accept
Marital status	0.51	0.71	NS	Accept
Level of education	0.84	0.35	S	Reject
Religion	0.33	0.35	NS	Accept
Household size	0.63	0.71	NS	Accept
Primary occupation	0.64	2.17	NS	Accept
Secondary occupation	0.74	2.73	NS	Accept

Field survey, 2012

Table 7: PPMC results of correlation

Variable	r-value	p-value	Remark	Decision
Knowledge of hazards/safety practices	0.039	0.677	NS	Accept

Field survey, 2012

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