Original Research Article

Involvement of farm youth in cocoa plantation resources management practices in Ondo State, Nigeria: a factor analysis

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Abstract

The study identified the factors associated with farm youth's involvement in Cocoa Plantation Resources Management Practices (CPRMPs) in Nigeria. A multi-stage sampling procedure was used to select a total of two hundred and four respondents for the study. The data were collected using a structured interview schedule and analysed using appropriate descriptive and inferential statistics. The results revealed that the average age of the respondents was 33.67 ± 6.50 years and that most (76.0%) of the respondents were male. The CPRMPs respondents were involved and were categorised into soil, water, cocoa beans, cocoa tree, cocoa seedlings, and financial management practices. The majority (76.0%) of the respondents were moderately involved in the CPRMPs in the study area. The factors associated with farm youth involvement in CPRMPs were economic pull (λ = 2.208), economic push (λ = 1.962), personal (λ = 1.785) and community-related (λ = 0.927) factors. The factors identified explained 83.314% of the variance in farm youth's involvement in CPRMPs. The study, therefore, recommends that there is a need to organise training on CPRMPs to farm youth to be able to optimise the potentials inherent in them for improving their livelihood.

Keywords: Agricultural activities; rural youth; farm resources.

INTRODUCTION

The reliance on farm youth for enough food production and security at the community level to even international level cannot be overemphasised. Proctor and Lucchese (2012) submitted that the youthful generation is expected to rise in the future, foreseeing that with them there will be enough food production and food security. Youth are characterised by features such as minimal risk aversion, innovativeness, reduced fear of failure, less conservativeness, great physical strength, and great knowledge acquisition rate that endeared them to agricultural and rural development (Umeh et al., 2011).

Globally, the population of young people age 15 to 24 years is more than a billion, and about eighty-five percent of them dwell in developing countries (World Program of Action for Youth, WPAY, 2012). Youths in Nigeria include people between the ages of 15 and 35 years, older youth especially in the poor rural households are matured enough to make major contributions to development in their various communities (Oladeji et al., 2017). Daudu (2009) reported that in so many nations, youth's involvement in agro-related activities is crucial for the development of agricultural sector in the nation. This is simply because young people have the needed ability to overcome some

of the major challenges in the agriculture development as they are more open to innovative ideas and new practices than adult or aged farmers.

According to Ruta (2012), the participation of youth in agricultural activities became a challenge in the country since the time the Structural Adjustment Programme (SAP) was introduced in the 1980s. Though youth have desirable qualities that can promote agriculture, most of them lack enthusiasm for agriculture. This has been reported to be one of the reasons for mass unemployment and lack of sustainable livelihood among youth (Ruta, 2012). Youth living in rural communities are forced to move to cities as they do not find enough incentives, profitable economic opportunities, and good infrastructures in rural areas. Having a small percentage of youth engaging in agriculture, the long-term future of the agriculture sector in a nation is in question (Chikezie et al., 2012). Despite the available awesome opportunities in agriculture, poor policies and recent poor performance of the sector itself among other reasons have led to the lack of interest in it amongst many youths. Also, Akpan (2010) reported that rural poverty, lack of rural credit, weak profitability of the sector amongst others are the factors that hinder youth participation in agricultural activities like cocoa plantation resources management practices in rural areas.

Cocoa (*Theobroma cacao*) with the family name *Steruliacaea* was found in the eighteenth century in the Amazon bowl and later spread to other tropical regions of Central and South America, and even West Africa (Opeke, 1982). After the conclusion of the First World War, West Africa has been known as the most astounding cocoa producer. Cocoa was later brought also into Nigeria in 1887 (Ayorinde, 1966). During the 1960s, Nigeria was appraised as the second biggest world cocoa producer (Adegbola et al., 1983), and, for a decent number of years, cocoa produced considerable outside trade profit for the nation. Nonetheless, the generation of this cool money crop for remote trade profit has endured an extraordinary decline as of late in the nation. Oduwole (2004) distinguished a portion of these components as low yield, pests, and disease occurrence, bug assault, and utilisation of straightforward homestead apparatuses. Villalobos (1989) identified maturing cocoa cultivates as one of the variables in charge of the decrease in cocoa establishment in southwestern Nigeria. The study noticed that numerous plantations were more than 40 years of age and such homesteads establish as much as 60% of the cocoa cultivates in Nigeria. An examination led by Daramola et al. (2003), discovered that most cocoa cultivates in Ondo and the Osun States are old with low efficiency. All these will undoubtedly be because of the wasteful utilisation of assets.

In Africa, accessible proof proposes a maturing cultivating populace and high joblessness rate of adolescents, with for example a mean age of 47 years and 75% separately in Nigeria (Akpan, 2010). Most aged farmers have been seen not to be able to manage their cocoa plantation resources effectively. According to Milton (2017), numerous ranchers cannot peruse the headings on a sack of manure, to compose an application for a generation advance, or to figure their benefit and misfortune. This and some other suffering activities on aged crop farmers' farms have shown that management of resources on their farms needs capable helping hands.

Though several studies (Koledoye and Olagunju, 2018; Adeniran et al., 2018; Adebisi et al., 2015) have been carried out as regard youth involvement in agriculture, yet no research best known to the authors has been carried out on the factors that limit/drive youths' involvement in cocoa plantation resources management practices (CPRMPs). Therefore, this study arose to bridge the gap by giving a good reflection on the factors associated with farm youth's involvement in cocoa plantation resources management practices. Specifically, the study described the socio-economic characteristics of farm youth who are involved in cocoa plantation resources management practices; identified the cocoa plantation resources management practices in which the youth are involved and determined their levels of involvement; and isolate the factors associated with farm youth's involvement in cocoa plantation resources management practices.

MATERIAL AND METHODS

The study area

The study was carried out in rural communities of Ondo State, Nigeria. The state is located in the southwestern zone of Nigeria, has eighteen local governments, and covers a land area of 14,793 square kilometres. The state lies between longitudes 4°30′ and 6° East of the Greenwich Meridian, 5°45′ and 8° 15′ North of the Equator. This means that the state lies entirely in the tropics. As at general household survey in 2016, the population is 3,441,024 (National Bureau of Statistics, NBS, 2016). Ondo state is bounded in the North by Ekiti and Kogi States, in the East by Edo State, in the west by Osun, and Ogun states and in the south by the Atlantic Ocean. Ondo State is the largest producer of Cocoa in Nigeria with an

output capacity estimated at 77,000 tons per annum (NBS, 2013). Other cash crops grown in the state include rubber, cashew, kola nut, and palm oil among others.

The sample selection

The population of the study comprises all farm youth involved in cocoa plantation resources management practices in Nigeria. Ondo State comprises three agricultural zones, namely: Ondo North, Ondo Central, and Ondo South, with six Local Government Areas (LGAs) in each of the zones. A multi-stage sampling procedure was used in selecting the respondents for the study. At the first stage, two LGAs were purposively selected from each of the three Agricultural zones in the State based on the high rate of cocoa production in the LGAs, Ondo State Bureau of Statistics (2018); that is, Owo and Osein in Ondo North zone, Ondo West and Ondo East in Ondo Central zone, Ile-Oluji/Okeigbo and Odigbo in Ondo South zone. This made a total of six LGAs for the study. At the second stage, based on the high prevalence of cocoa production activities within communities in the selected LGAs, two Communities were purposively selected from each of the LGAs which gave a total of twelve communities. At the final stage, the snowball sampling technique was used to select seventeen (17) farm youths from each community. In all, a total number of two hundred and four (204) farm youths were selected for the study.

Data collection and analysis

Data were collected with the use of a well-structured interview schedule on farm youth's socio-economic characteristics, cocoa plantation resources management practices, the attitude of farm youth towards the practices, and the factors associated with farm youth's involvement in cocoa resources management practices. Data collected were subjected to appropriate descriptive and inferential statistics with Statistical Package for Social Sciences (SPSS) 20th Edition.

Measurement of variables

Involvement was measured by listing all the identified cocoa plantation resources management practices (soil, water, cocoa beans, cocoa tree, cocoa seedling, and finance management practices) against a 3-point rating scale of: Not involved (0), Rarely involved (1), and Frequently involved (2). The list of CPRMPs was adapted and modified from Asare et al. (2009) and Anang et al. (2011). The total involvement score was obtained from the summation of values obtained from each separate score. The involvement was further classified into high, medium, and low involvement using mean plus/minus standard deviation. The level of involvement was classified as low when the total usage score fell below the difference between the mean score and one unit of standard deviation. The involvement was at a high level when the score was above the sum of the mean score and one unit of standard deviation while at the medium level, the involvement score fell in between the two extremes. The factor analysis was carried out to isolate the crucial and unique factors associated with farm youth involvement in cocoa plantation resources management practices. The names and photographs of the respondents were not taken to protect their privacy and anonymity right.

The factors in each group were named based on the following criteria as employed by Adisa and Adeloye (2013):

i) picking synonyms of the higher loaded variables on each factor;
ii) joint explanation or interpretation of the highly loaded variables on each factor; and
iii) retaining the name based on the similarity of the factors reposed in the variables contributive to the factors.

In deciding which factor to exclude, Kaiser's criterion was employed which according to Koutosoyianus (1977) was to select those factors which have an Eigenvalue of greater than 0.3. The variables used for factor analysis had first undergone correlation analysis and confirmation made that there are relationships between them and the dependent variable.

RESULTS AND DISCUSSION

Personal and socio-economic characteristics of respondents

Results in Table 1 revealed that most (76.0%) of the respondents were male, which implies that cocoa resources management practices are mostly carried out by males. This is an indication of the farm youths' that are male can cope with the strenuous demand of CPRMPs. This finding is in tandem with that of Taiwo et al. (2015) who stated that the majority of people who participated in CPRMPs in the South-west and South-south Zones of Nigeria were male. The results further revealed that the mean age of the farm youth selected for the study was 33.67 ± 6.50 years, this is expected because older youths are common in poor rural households. This was in line with the definition of youth by Children and Youth in Agriculture Programme Network, CYIAP-Network (2006) that categorised people below 40 years of age as a youth in Nigeria due to their dependence on others, especially parents. Most of the respondents were from *Yorubas* (93.6%) tribe extraction and married (73.0%). This implies that the youths were matured,

Table 1. Distribution of respondents by selected socio-economic characteristics

Variables	Frequency	Percentages (%)	Central Tendency
Age(years)			
≤ 20	6	2.9	Mean = 33.67 SD = 6.50
21–30	66	32.4	
31–40	132	64.7	
Sex			
Male	155	76.0	
Female	49	24.0	
Marital Status			
Single	51	25.0	
Married	149	73.0	
Divorced	2	1.0	
Separated	2	1.0	
Ethnicity			
Yoruba	191	93.6	
Igbo	8	3.9	
Hausa	3	1.5	
Others	2	1.0	
Years of Education			
≤ 10	41	20.1	Mean = 11.73 SD = 3.50
11–14	118	57.8	
15+	45	22.1	
Years of Farming Experience			
≤ 10	74	36.3	Mean = 14.87 SD = 6.94
11–23	100	49.0	
24+	30	14.7	
Farm Size (Acres)			
≤ 4	87	42.6	Mean = 4.73 SD = 1.94
5–7	99	48.5	
8+	18	8.8	
Other Occupation Aside Farming	135	66.2	
Monthly Income(₦)			
≤ 25000	63	30.9	Mean = 35,700.98 SD = 15,093.84
25,100–50,000	125	61.3	
50,100–75,000	13	6.4	
75,100+	3	1.5	
Members of association	134	65.7	

Source: Field Survey, 2018

and responsible for taking care of their family, this is similar to the finding of Adedeji et al. (2017) that reported that farm youth are older, matured and married, especially those from poor rural households in Oyo State. Their meantime of formal education and farming experience was 14.87 ± 3.50 and 14.87 ± 6.94 years, respectively. This implies that most of the farm youth were literate and most likely able to determine the type of CPRMPs needed to meet their production capacity. The average farm size was 4.73 ± 1.94 acres, this shows that most of them are merely subsistence cocoa farmers. Many (66.2%) of the respondents engaged in other occupations aside from cocoa farming, this implies that the income from other occupations will complement that from CPRMPs. The mean monthly income from cocoa plantation resources management practices was ₦35,700.98 ± 15,093.84 and many (65.7%) of the respondents were into one or more associations.

Identification of cocoa plantation resources management practices in which the youth are involved and their levels of involvement

Soil management practices: Many of the respondents were involved in each of the identified soil management practices on their farms as follows: construction of

Table 2. Identification of cocoa plantation resources management practices

Cocoa plantation resources management practices	Frequency (F)	Percentages (%)
Soil management practices		
Construction of drainage system	125	61.3
Mulching	125	61.3
Intercrops with nitrogenous crops	125	61.3
Fertiliser application	59	28.9
Removal of cocoa pod husks	125	61.3
Water management practices		
Making water available	204	100.0
Transportation of water	204	100.0
Storage of water	105	51.5
Keeping water safe from pollutants	194	95.1
Environmental protection from overuse/ misuse of water	110	53.9
Cocoa bean management practices		
Pod harvesting	204	100
Pod breaking	204	100
Fermentation of cocoa beans	204	100
Sun-drying the beans	204	100
Packing of dried beans into jute bags for storage	204	100
Transportation of beans to cocoa store	204	100
Cocoa tree management practices		
Slashing of weeds	204	100
Pruning of unwanted branches	204	100
Supplying new seedlings to replace missing ones	204	100
Spraying chemical to control diseases and pests	166	81.4
Removal of diseased pods	204	100
Cocoa seedling management practices		
Site selection for nursery	78	38.7
Making of nursery bed	70	34.3
Filling of polythene bags with top soil and line in rows	67	32.8
Irrigating/ wetting of seedlings	67	32.8
Weeding of nursery beds	70	34.3
Spraying of prescribed insecticides and fungicides	76	37.3
Transplanting of seedlings	111	54.4
Financial management practices		
Sourcing for loans/credit	127	62.3
Accessing and purchasing farm inputs	146	71.6
Sales of cocoa beans/seedlings	204	100.0
Sales of cut down cocoa trees/branches for firewood	87	42.6
Negotiating labour cost/ payment	20	100.0
Keeping financial records	183	89.7

Source: Field Survey, 2018

drainage system to reduce flooding (61.3 %); mulching to reduce the loss of soil moisture (61.3 %); planting of nitrogenous crops as intercrops (61.3 %); removal of heaps of cocoa pod husk from the farm (61.3 %); and application of fertiliser (28.9 %) in this descending order. This implies that more than half of the farm youth identified removal of heaps of cocoa pod husk from the farm, planting of nitrogenous crops as intercrops among others as the most practiced activities in managing soil under CPRMPs. This is in agreement with the results of Asare and David (2013) who stated that many rural youths were involved in mulching, planting of cover crops, and removal of cocoa pod husk from the farm.

Water management practices: The majority of the respondents were involved in each of the identified water management practices on their farms as follows: making water available on the farm (100%); keeping available water sources safe from pollutants (94.1%); transporting water (100%); protecting the environment from overuse or misuse of water (53.9%), and storage of water (51.5%). This shows that most of the farm youths identified making water available on the farm, transporting water, and keeping water sources safe from pollutants as the most practiced activities in managing water under CPRMPs. This is in tandem with the finding of Dohmen (2018) that observed that many rural youths were involved in making water available and water transportation activities.

Cocoa bean management practices: All (100%) the respondents attested that they practiced all the identified cocoa bean management practices on their farms, such as pod harvesting; pod breaking; covering of heaps for quick fermentation; sun-drying the beans; packing of dried beans into jute bags for storage; and transportation of cocoa beans to cocoa store. This is so, because efficient cocoa bean management practices are an essential ingredient in the production of quality cocoa beans that could have a positive impact on the price it attracts. This finding validates the submissions of Olujide and Adeogun (2006) and Arowolo et al. (2016) that reported that the majority of rural youths were involved in cocoa pod harvesting and breaking, fermentation, and sun-drying among others in Ondo and Ogun States Nigeria.

Cocoa tree management practices: All (100%) of the respondents attested that they practiced each of the following cocoa tree management practices: weeds control; structural pruning of unwanted branches/ dressing; spraying chemicals for disease/pest control; removal of diseased pods; and replanting of cocoa seedlings (supplying new seedlings to replace missing stands). This implies that the farm youths affirmed the importance of proper cocoa tree management practices to the productivity of the tree. This validates the finding of Taiwo et al. (2015) that reported that the majority of farm youths were involved in cocoa tree management practice in the South-west and South-south Zones of Nigeria.

Cocoa seedling management practices: Few of the respondents that practiced each of the identified cocoa seedling management practices on their farms are as follows: site selection for nursery (38.7%); making of the nursery beds (34.3%); filling the polythene bags with topsoil and line in rows (32.8%); irrigating/wetting of seedlings (32.8%); weeding of nursery beds (34.3%); spraying of prescribed insecticides and fungicides (37.3%), and proper transplanting of seedlings (54.4%). This implies that farm youths are not fully involved in cocoa seedling management practices; this could be due to the non/less-strenuous nature of the practices. This finding is in line with that of Asare et al. (2010) that stated that small numbers of youth are involved in polythene bag filling, wetting of seedlings, and weeding of the nursery beds among others.

Financial management practices: The majority of respondents that practiced each of the identified financial management practices on their farms are as follows: sourcing for loans/credits (62.3%); accessing and buying of subsidised farm inputs (71.6%); keeping of financial records (89.7%); sales of cocoa beans/seedlings (100%); sales of cut-down cocoa trees/branches as firewood (42.6%), and negotiating labour cost/ payment (100%). This could be so because many of the farm youth are from poor rural households that are not financially buoyant.

Involvement in cocoa plantation resources management practices

Results in Table 3 revealed that the removal of cocoa pod husks (mean = 1.39) got the highest involvement of the youths in soil management practices. This implies that the removal of cocoa pod husks is an important management practice that might give the youth economic gain because the husks are one of the raw materials used in producing items like soap among others. This aligns with the submission of FAO (2017) that stated that activities with economic value will attract the patronage of the youth. Besides, keeping available water sources safe from pollutants (mean = 1.55) got the highest involvement of the youths in water management practices. This implies that water is an important resource which is not readily accessible at all seasons and will need the involvement of able-bodied youth for its management. Furthermore, pod harvesting, breaking, and fermentation (mean = 1.81) got the highest involvement of youth in cocoa pod management practices. The implication of this is that they require energy and technical know-how in carrying out effectively and efficiently. Also, weed control (mean = 1.96) got the highest involvement of the youth in cocoa tree management practices. This implies that weed control is energy-consuming so that it needs the involvement of youth. This is in line with the submission of Adebo (2017) that reported that aged farmers were not very much involved in farming activities that expend their energy such as weed control amongst others. Site selection (mean = 1.96) and,

accessing and purchasing farm inputs (mean = 1.82) got the highest involvement in cocoa seedling and finance management practices, respectively. The cocoa plantation management practice with the highest youth involvement was cocoa tree management practices (grand mean = 1.77) followed by cocoa beans management practices (grand mean = 1.73), water management practices (1.33) in that order.

The overall level of involvement

More than half of the respondents (76%) had a moderate level of involvement in cocoa plantation resources management practices, very few of them (5.4%) were

Table 3. Involvement of respondents in cocoa plantation resources management practices

Cocoa plantation resources management practices	NI F(%)	RI F(%)	FI F(%)	Mean	Grand mean
Soil management practices					
Construction of drainage system	38(18.6)	75(36.8)	12(5.9)	0.79	
Mulching	0(0.0)	119(58.3)	6(2.9)	1.04	
Intercrops with nitrogenous crops	38(18.6)	77(37.7)	10(4.9)	0.78	1.05
Fertiliser application	0(0.0)	45(22.1)	14(6.9)	1.23	
Removal of cocoa pod husks	38(18.6)	0(0.0)	87(42.6)	1.39	
Water management practices					
Making water available	0(0.0)	96(47.1)	108(52.9)	1.53	
Transportation of water	38(18.6)	48(23.5)	118(57.8)	0.65	
Storage of water	0(0.0)	92(45.1)	102(50.0)	1.34	1.33
Keeping water safe from pollutants	0(0.0)	86(42.2)	106(52.0)	1.55	
Environmental protection from overuse/ misuse of water	0(0.0)	78(38.2)	32(15.7)	1.29	
Cocoa beans management practices					
Pod harvesting	38(18.6)	7(3.4)	159(77.9)	1.81	
Pod breaking	0(0.0)	39(19.1)	165(80.9)	1.81	
Fermentation of cocoa beans	0(0.0)	39(19.1)	165(80.9)	1.81	1.73
Sun drying the beans	12(5.9)	48(23.5)	144(70.6)	1.65	
Packing of dried beans into jute bags	38(18.6)	1(0.5)	165(80.6)	1.62	
Transportation of beans to cocoa store	38(18.6)	3(1.5)	163(79.9)	1.61	
Cocoa tree management practices					
Weed control	0(0.0)	8(3.9)	196(96.1)	1.96	
Pruning of unwanted branches	0(0.0)	121(59.3)	80(40.7)	1.41	
Supplying new seedlings to replace missing ones	0(0.0)	44(21.6)	160(78.4)	1.78	1.77
Spraying chemical to control diseases and pests	11(5.4)	29(14.2)	164(80.4)	1.75	
Removal of diseased pods	0(0.0)	48(22.5)	158(77.5)	1.77	
Cocoa seedling management practices					
Site selection for nursery	0(0.0)	3(1.5)	76(37.3)	1.96	
Making of nursery bed	0(0.0)	42(20.6)	28(13.7)	1.40	
Filling of polythene bags with top soil	0(0.0)	58(28.4)	9(4.4)	1.13	
Irrigating/ wetting of seedlings	39(19.1)	19(9.3)	9(4.4)	0.55	1.31
Weeding of nursery beds	0(0.0)	61(29.9)	18(8.8)	1.13	
Spraying of prescribed insecticides and fungicides	0(0.0)	58(28.4)	18(8.8)	1.24	
Transplanting of seedlings	0(0.0)	22(10.8)	89(43.6)	1.80	
Finance management practices					
Sourcing for loans/credit	0(0.0)	42(20.6)	85(47.7)	1.67	
Accessing and purchasing farm inputs	0(0.0)	26(12.7)	120(58.8)	1.82	
Sales of cocoa beans/seedlings	0(0.0)	39(19.1)	165(80.9)	1.80	1.20
Sales of cut down cocoa trees/branches for firewood	0(0.0)	37(18.1)	50(24.5)	1.57	
Negotiating labour cost/ payment	47(23.0)	13(6.4)	144(70.6)	1.48	
Keeping financial records	38(28.6)	61(29.9)	84(41.2)	1.25	

NI-Not Involved, RI-Rarely Involved, FI- Fully Involved, F- Frequency
Source: Field Survey, 2018

highly involved in the practices, while 18.6% of the respondents had a low level of involvement in the practices.

This implies that the majority of the farm youth are not fully committed to carrying out resource management practices on the cocoa plantations. This validates the submission of Taiwo et al. (2015) that just very few, out of a large number of farm youth available, were moderately involved in managing cocoa plantation resources. This result also points out the fact that farm youth, though seen to be involved in many of the practices, may need to be motivated to increase their level of involvement.

Factors associated with involvement in CPRMPs

Results in Table 4 indicate that factors associated with involvement in CPRMPs in Nigeria were economic pull (λ = 2.208), this pointed to the fact that the better and higher the economic pull accrued to CPRMPs, the higher the likelihood of Nigerian farm youth involvement in the practices. The implication is that this factor serves as motivation to farm youth's involvement in CPRMPs. This is in tandem with the findings of Akpan (2010) who identified economic factors as one of the factors influencing rural youth involvement in agricultural production; economic push (λ = 1.962), this indicated that better job alternatives, inadequate credit facilities, and infrastructural facilities were impeding variables to farm youth's involvement in CPRMPs. This finding is in agreement with those of Adekunle et al. (2009), and Aphunu and Natoma (2010) who posited that economic-based constraints like poor returns to agricultural investment limit rural youth involvement in agricultural production in Nigeria; personal (λ = 1.785), this implied that age, sex, and household size could influence farm youth involvement in CPRMPs probably, to earn additional income. This is in line with the findings of Nnadi and Akwizu (2008)

Table 4. Factor analysis showing variables associated with involvement in CPRMPs

	Factors and contributing variables	L	L^2	Λ
1	**Economic pull factor**			
	High income/ profit	0.954	0.910	
	High price of cocoa plantation resources	0.852	0.726	2.208
	Social group membership	0.756	0.572	
2	**Economic push factor**			
	Better job alternatives	0.862	0.743	
	Inadequate credit facilities	0.713	0.503	1.962
	Inadequate infrastructural facilities	0.846	0.716	
3	**Personal factor**			
	Age	0.721	0.520	
	Sex	0.390	0.152	
	Years of formal education	0.637	0.406	1.785
	Household size	0.890	0.707	
4	**Community-related factor**			
	Community perception of cocoa	0.551	0.304	
	Community psychological characteristics	0.550	0.302	0.927
	Presence/absence of conflict	0.416	0.173	
	Community infrastructure	0.385	0.148	

Source: Field survey, 2018
Significantly contributing at 0.05%
L = Loading for factor,
L^2 = The square of loading factor
Λ = Latent root for the factor (Summation of the square loadings, ΣL^2)

Table 5. Factor names and percentage variation accounted for by each factor associated with involvement in CPRMPs

Factors	Name	% Variance	Comm. % var.
1	Personal	12.835	12.835
2	Community-related	19.846	32.781
3	Economic push	24.158	56.939
4	Economic pull	26.375	83.314

Source: Field survey, 2018

who revealed that age, household size, and level of education among others were some reasons behind farm youth's participation in agricultural activities; and community-related ($\lambda = 0.927$), this indicated that the more amiable are the communities to retain farm youths, the more the likelihood of their involvement in CPRMPs. The results in Table 5 reveal that the factors loaded explained 83.314% of the variance, while unknown factors explained the remaining 16.386% of the variance.

CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, it was concluded that the majority of the farm youth that was involved in CPRMPs were male. The cocoa plantation management practice with the highest youth involvement was the cocoa tree, followed by cocoa bean, water, cocoa seedling, finance, and soil management practices in that order, while the majority were found to be moderately involved. Factors associated with farm youth involvement in CPRMPs were economic pull, economic push, personal and community-related factors. The factors identified explained 83.31% of the variance in farm youth's involvement in CPRMPs. The study, therefore, recommended that there is an urgent need to organise training on CPRMPs to farm youth to be able to optimise the potentials inherent in them for improving their livelihood.

CONFLICT OF INTEREST

The authors declared that there are no conflicts of interest with respect to research, authorship and publication of this article.

ETHICAL COMPLIANCE

The authors have followed the ethical standards in conducting the research and preparing the manuscript.

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