

Economic analysis of cocoa production in Ghana: the case of eastern region

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Abstract

Cocoa (*Theobroma cacao* Lineus) has remained a valuable crop and major foreign exchange earner among other agricultural commodity export of the Ghanaian economy. The main purpose of this study is to examine the economics production of cocoa in Eastern Region. Eastern Region (East Akim, Aboakwa North, New Juaben, Suhum Kraboa Coatal and Akwapim North districts) being the study area was particularly chosen for this study because of its prime place in cocoa production in Ghana. Data used for the study were collected from 80 cocoa farmers using a well-structured questionnaire for the 2013-2014 farming season. Descriptive statistics, farm budget analysis, profitability and ordinary least square regression were the major analytical tools employed for the study. Results of the analysis showed that the average production cost of cocoa was GHC 1.34 per kg and profit margin was GHC1.80 per kg in cocoa producer enterprises. The gross margin and net profit were calculated as GHC 956.78 and GHC 621.24 per hectare respectively. Relative profit was calculated as 1.49 which indicates that cocoa production in the study area is profitable. Farm size, farmer's age, farming experience and other cost less labour cost were identified as the significant factors affecting the output of cocoa production in the study area. The price of the cocoa is the most pressing problem the cocoa farmer faced. The study therefore recommends that cocoa farmers should be provided with credit facilities from formal credit institutions at affordable interest rates in order to boost cocoa production in the country and government through the Ministry of Food and Agriculture should establish large scale of cocoa farm to employ the youth in order to ease the unemployment rate which is a big problem in the country.

Keywords: Cocoa (*Theobroma cacao*). Economic Analysis. Farm Budget. Eastern Region.

1. Introduction

The cocoa tree known as *Theobroma Cacao* belongs to the family *stericuliniacea*. Cocoa has its gene centre in the upper Amazon region of the South America from where it spread to different parts of the world (Osun, 2001). It is generally believed that cocoa cultivation in Ghana started about 1876 when a Ghanaian named Tetteh Quarshie brought some cocoa pods to Ghana from Equatorial Guinea. Tetteh Quarshie cultivated the beans on his farm in Ghana and was able to grow several seedlings. The British colonial governor Sir William B. Griffith encouraged Tetteh. Griffith started a botanical garden and distributed seedlings to farmers. From the 1900s cocoa growing spread in Ghana.

In West Africa, agriculture has continued to play a dominant role in the provision of food, raw material for industries, employment for the majority and foreign earnings which are used in financing development activities. Industrial tree crops, notably cocoa, coffee, oil palm, and rubber have dominated the export agriculture. Among the perennial tree crops, cocoa sector is of particular interest for some parts of West Africa and for the global chocolate industry. In Africa, cocoa production is dominated by four West-African countries. Côte d'Ivoire and Ghana produce approximately 41 percent and 17 percent of the world output respectively. The other two important producers are Cameroon and Nigeria each contributing approximately five percent of the world cocoa production (Binam et.al, 2008).

Ghana is the only cocoa producing country which has a controlled marketing system. The gradual reform process of the cocoa sub-sector started in the early 90s which has led to the liberalization of internal marketing, privatization of input market and reform of extension services. However, external marketing is controlled by the state owned Cocoa Marketing Board (Laven, 2007). In terms of employment, the livelihood of about six million people (25-30 percent of the population) depends on the cocoa sector (Anthonio and Aikins, 2009). In most cocoa-producing households, cocoa accounts for over 67 percent of household income (Kolavalli and Vigneri, 2011). In 1999, it was estimated that there are around 3.2 million Ghanaians involved in cocoa production in Ghana out of total population of almost 19 million people (World Fact Book, 1999).

Ghana's cocoa beans are richer in Theobromine and Flavonoids which render the beans a unique, mild and rounded flavour and has become the world's standard against which all cocoa is measured (GAIN, 2012).

Eastern Region is currently the second after Western Region in terms of cocoa production in Ghana and the first point of cocoa introduction in 1879 (Okali, 1983). Eastern region accounting for about 19 percent of total cocoa production in Ghana. Besides cocoa, oil palm, coffee, yams, maize, cassava, livestock and fisheries are important agricultural enterprises that are produced in the region. The inhabitants are mainly farmers, fishermen and traders and the proximity to Accra the national capital enhancing trade links.

The study is carried out to; determine the factors affecting the output of cocoa production in the study area; describe the socio-economic characteristics of cocoa farmers; measure cocoa production performance in the study area; determine the cost and returns of cocoa production in the study area; determine some of the major problems the cocoa farmers are facing.

2. Materials and Methods

2.1. Study Area

The study was carried out in Easter Region of Ghana. The region covers approximately 19,323 square kilometres in land area which is about 8.1 per cent of the total land area of Ghana and a population of 2,633,154 representing 11.1 per cent of Ghana's total population. It is the third most populous region after the Ashanti and Greater Accra. The population is made up of 49.2 per cent males and 50.8 per cent females (GSS, 2010).

Easter Region is the sixth largest region in terms of land area and it is located between latitudes 6° and 7° North and between longitudes 1°30' West and 0°30' East. Agriculture is the major source of income for the majority number of the people in the Region. The region shares common boundaries with Greater Accra Region to the south-east, Central Region to the south, Ashanti Region to the west, Brong Ahafo and Volta Regions to the north and east respectively. The region is rich in minerals such as gold, diamond, bauxite-tantalite, limestone, kaolin and clay. Gold and diamond are however the only minerals that are mined commercially. The region lies within the wet semi-equatorial zone which is characterized by double maxima rainfall in June and October. The first rainy season is from May to June with the heaviest rainfall occurring in June while the second season is from September to October

with little variations between the districts. Temperatures in the region are high and range between 26°C in August and 30°C in March. The relative humidity which is high throughout the year varies between 70 to 80 percent. The forest and savannah type of soils are suitable for the cultivation of a variety of crops including cocoa, cola-nuts, citrus, oil palm and staple food crops such as cassava, yam, cocoyam, maize, rice and vegetables. The region contributes significantly to the production of industrial crops such as cocoa, pineapple, pawpaw, cola nut and oil palm and also has a substantial share in the national production of maize, cassava and citrus. Available also in the region are exotic crops such as black and sweet pepper, ginger, cashew nuts, Irish potatoes, rubber and mangoes which are all gaining importance as export commodities.

2.2. Sample and sampling techniques

A two stage random sampling technique was used to select respondents for the study. The first stage was a purposive selection of ten (10) villages from five (5) districts of Eastern Region. Asiakwa (East Akim), Osiem (Aboakwa North), New Tafo (Aboakwa North), Akwadum (New Juaben), Nankese (Suhum Kraboa Coatal), Amanhia (Suhum Kraboa Coatal), Suhum (Suhum Kraboa Coatal), Ayisaa (Suhum Kraboa Coatal), Sokwenya (Akwapim North) and Taiko (Akwapim North). The second and the final stage was a random selection of 8 farmers from each selected villages. In all, a total of 80 cocoa famers were interviewed and Primary data were collected using a well-structured questionnaire. Data were collected on the following variables viz:

- Age measured in years;
- Farm size in hectares;
- Educational status measured by the number of years spent in school;
- Years of experience;
- Sex;
- Labour in man days;
- Output of cocoa in kg;
- Input costs in Ghana Cedis.

Some of the secondary data were obtained from Ministry of Food and Agriculture (MoFA), Cocobod, Ghana Statistical Service, FAO and other written documents such as thesis, journal and reports.

2.3. Method of data analysis

Cocoa farm enterprises were grouped according to their sizes with group I ranges between 0.00-2.00ha, 2.01-6.00ha beign the group II and group III 6.01ha and above. Descriptive statistics such percentages, mean, frequency distribution, and tabulation were used to analyse socio-economic and farm characteristics of the respondents using various statistical package programmes. A single Farm Budget Analysis was used to determine the net farm income of the cocoa farmers whiles profitability and efficiency ratios were used to measure the production performance of the cocoa farmers. The multiple regression analysis was used to determine the factors influencing the output of cocoa production in the study area.

In an agricultural enterprise, production activities which are carry out through the use of various inputs and services constitute the expenditure which is termed as production costs. The general administrative cost is obtained by taking 3 percent of the total variable costs. The interest rates charged varies per production activity which is the reflection of the opportunity cost of the capital invested. Establishment cost is calculated by applying half (6%) of the interest rates charged by Agricultural Development Bank of the Republic of Ghana as applied to the Agricultural and Forest production loans (12 percent in 2014). The interest rate of a bare land in the study area was taking to be 5 percent of the current trading value (Açıl ve Demirci, 1984; KHGM, 1988).

As it is widely known, the yield of perennial plant indicates costs spent several years until harvest which serves as the total production costs of the farm. The entire cost of the perennial plants is held within a year, others several years whereas some of them every year until yield are produced. The depreciation cost is obtained by dividing the establishment costs (4 years) to the economic life of cocoa (30 years) during production costs and this depreciation cost is added to production costs. During the establishment period (4 years), the total costs incurred each year is obtained by taking 6 percent (interest rate) of the preceding year's total production costs which is included in the actual costs of the next years.

2.4. Farm budget analysis

Profitability indicators were calculated such as Gross Margin, Net Profit and Relative Profit using the given formulas below.

Total Production Cost = Variable cost (VC) + Fixed cost (FC)

Gross Margin (GM) = Gross Production Value (GPV) - Variable cost (VC)

Net Profit (NP) = Gross Margin (GM) - Fixed Cost (FC)

Relative Profit (RP) = Gross Production Value (GPV) / Total Production Cost (TPC)

Variable Costs consist of the following which were all calculated in GHC:

- Labour (both hired and permanent);
- Pesticides;
- Herbicides;
- Maintenance Costs (pruning, weeding etc.);
- Pro harvest (pod plucking, pod breaking);
- Post-harvest (Fermentation, drying);
- Marketing (Transportation);
- Working capital rate (6% of the variable costs).

Fixed Costs

- General Administrative income;
- Depreciation costs;
- Establishment costs;
- Land rent.

2.5. Regression analysis

Regression Analysis: According to Gujarati (2006) and Greene (2008) the primary objective of regression analysis is to determine the various factors which cause variations of the dependent variable. Statistical packet software defined it as the estimation of the linear relationship between a dependent variable and one or more independent variables or covariates.

The multiple regression analysis was used to identify the factors that affect cocoa production in the study area.

The regression model in its implicit form is given as:

$$Y = F(x_1, x_2, x_3, x_4, u) \quad (1).$$

Where Y = Output of cocoa in kilogram (kg)

X1 = Farm size in hectares

X2 = Farmers age in years

X3 = Farmers level of education in years

X4 = other total costs less labour

U = Error term.

Linear regression model was used for analysis and the model is given below:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + U \quad (2)$$

3. Findings and Discussion

3.1. Socio-economic characteristics of the respondents

It is important to understand the socio-economic characteristics of cocoa farmers in the study area. This was done with the hope of identifying those characteristics that may impact and also help to explain the farming activities of the area. The characteristics considered are sex, age, educational attainment, household size, land acquisition type, marital status, farming experience and farm output sizes.

Results showed that majority (about 93 percent) of the respondents were males whilst the ratio of female respondents was 8 percent. Group II and III had the highest percentage. This signifies that males dominate in cocoa farming as an occupational business in the study area. Danso, (2010) noted in his study, 91 percent of the respondents were males whilst the proportion of female respondents was 9 percent.

The results revealed that the age of the respondents range between 10 and 60+ years. The mean age was 50.4 while group II had the modal age class of 52.3 years. One can infer from this result that the cocoa farmers in the study area are at their economic active age. This result corroborates with the following findings;

Danso, (2010) reported in his study, the mean age was 48 while the modal age class was 51-60 years age bracket. Most cocoa farmers being relatively young (about 60.67 percent are between 20-50 years) implies that there is quality of labour which may positively affect

productivity of the farm business since it will be very easy for the young to adopt new innovations.

Fransis et al. (2011) in their study had 51.5 years as the mean age of the farmers in their study area.

Fadipe et al. (2012) in their study had the mean age of the respondents to be 59.4 years and more than 65 percent of the respondents are above 40 years of age. This implies that more old people are involved in the production of cocoa in the study area.

Marital status of the respondents in the study area revealed that 90.0 percent were married, 3.8 percent were single whereas 1.3 percent and 5.0 percent were widow and widower respectively. The result of this study agrees with the following findings;

Fadipe et al., (2012) in their study had about 95.3 percent of the respondents being married, 2.0 percent and 2.7 percent were widow and widower respectively.

Danso, (2010) in his study also shows that high proportions (86.7 percent) out of the total respondents were married whilst 10.3 percent were single and 3.0 percent were widowed.

About 11.3 percent had no formal education, 15.0 percent had primary education whilst 17.5 percent had junior high school education. Furthermore, 47.5 percent of the respondents had senior high/ vocational school education while 6.3 percent and 1.3 percent had their formal education up to college and university respectively. Group I had the highest of educational attainment 48.9 percent in senior high / vocation school but no one had education at the university level. Group III had the highest education at the university level 12.5 percent more than the other group.

The mean of farming experience is amounted to 19.4 but group III had the highest farming experience 21.0 and group I had the modal percentage (58.8%) of farming experience which correspond with the mean 19.9. This results corroborates with;

Fransis et al. (2011) in their study showed the mean working experience was 19.6 years

Averagely, 66.3 percent of the farms are sole proprietors whilst partnership is 33.8 percent. Group III had the highest share in sole proprietorship (87.5%) and group II has the highest percentage (48.0) in partnership.

The mean of household size is 7 persons per house which indicates the study area is an extended family dominated. Group III is the modal populated group with about 8 persons per family. This agrees with;

Fadipe et al. (2012) in their study also revealed that the modal household size is 6 to 10 members and the average household size is 9 members with more than 60 percent of the respondents having household size of at least 8 members. This implies that the respondents have a relatively large household sizes which they utilize as a source of family labour.

The average farm size in the study area is 2.75 ha with group III having the largest farm size of about 10.1 ha. This study corroborate with the following writers;

Fransis et al. (2011) had the mean farm size as 3.0 ha, implying that cocoa cultivation is dominated by small-scale.

Majority (about 47.5%) of the land in the study area is inherited. Group I has the highest percentage 55.3 of inheritance while group II on the other hand, had the highest leased of land with 64.0 percent.

Fadipe et al. (2012) stated that about 55 percent inherited their farm land from their fore-fathers.

Averagely, 56.3 percent employed both family and hired labour. Group II got the highest of family and hired labour 64.0 percent. Only 13.8 percent employed hired labour while 30.0 percent employed family labour. This implies that majority of the farmers in the study area employed both labour in their various farmers.

The mean output of cocoa in the study area which is recorded to be 345.26kg/ha in the 2013-2014 production season. Group I recorded the modal output of about 369.84kg/ha of cocoa per year followed by group II with 336.41kg/ha.

Fransis et al. (2011): Revealed that the average cocoa yield in Ghana was 370 kg/ha.

3.2. Production costs

A specific amount of inputs and services are required in order to produce a good or service. Cost can be defined as the amount and value of the altruistic behaviours in order to produce goods and services. Cocoa production is an agricultural production activity which provides a high level of income in the unit field. Concordantly, the amount of capital invested by the producers is also high compared to the other agricultural production because the demand for labour force is high and intense.

Cocoa production is a labour absorbing activity, a person day of labour is defined as six hours on the farm site. A wage of GHC6.00 was considered in our research.

Production costs can be defined as the monetary value of the inputs required for the cocoa production. Accordingly, the production cost per hectare for cocoa is given in Table 1.

Table 1: Cocoa Production Costs in Ghana Cedis per hectare (GHCha⁻¹)

Activities	I	II	III	Total
Weeding	233.92	436.70	559.51	428.00
Fertilizer	16.99	18.07	72.18	37.69
Fertilizer application	8.64	9.27	28.04	16.01
Pruning	60.00	60.00	60.00	60.00
Herbicides	15.81	11.95	27.33	18.63
Herbicide application	14.39	11.59	25.72	17.54
Pesticides	12.26	9.60	17.04	13.04
Pesticide application	13.80	15.41	24.00	18.14
Pod plucking	96.00	96.00	96.00	96.00
Pod breaking	78.00	76.84	78.00	77.57
Drying	84.00	84.00	84.00	84.00
Transportation	12.00	12.00	12.00	12.00
Labour (hired and permanent)	600.75	801.81	967.28	809.26
Working capital rate	38.75	50.49	65.03	52.72
Total variable cost	684.56	891.92	1148.85	931.34
Land rent	113.90	115.08	116.78	115.39

US\$1.0 =GHC3.5

The production costs per hectare in cocoa were identified to range between GHC 1011.21 to GHC 1492.31 with GHC 1266.89 being the mean average of production cost per hectare in the study area.

The cost items were examined under variable and fixed cost of which variable cost had the highest modal production cost with GHC 931.34, while fixed cost was amounted to GHC335.54. The average cost of 1kg of cocoa in the study area was calculated to be GHC1.34.

3.3. Production cost share

The variable cost items in the cocoa production were weeding, fertilizer, pesticide, herbicide, pruning, pre-harvesting (pod plucking), post-harvest (pod breaking and drying), labour and marketing (transportation). The variable costs are those which increase or decrease depending on the production size. Labour cost constitutes the highest modal with 63.88

percent of the total variable cost followed by working capital rate with 4.16 percent and fertilizer which amounted to 2.97 percent of the variable cost (Table 2).

The fixed cost in the cocoa production were administrative cost, land renting, establishment cost and depreciation cost.

Establishment cost is calculated as the highest share of the total fixed cost with 9.75 percent followed by 9.11 and 5.42 percent as land and depreciation cost respectively (Table 2).

Table 2: Percentage Share of Cocoa Production Costs per hectare

Activities	I	II	III	Total
Weeding	23.13	35.62	37.49	33.78
Fertilizer	1.68	1.47	4.84	2.97
Fertilizer application	0.85	0.76	1.88	1.26
Pruning	5.93	4.89	4.02	4.74
Herbicides	1.56	0.97	1.83	1.47
Herbicide application	1.42	0.95	1.72	1.38
pesticides	1.21	0.78	1.14	1.03
Pesticide application	1.36	1.26	1.61	1.43
Pod plucking	9.49	7.83	6.43	7.58
Pod breaking	7.71	6.27	5.23	6.12
Drying	8.31	6.85	5.63	6.63
Transportation	1.19	0.98	0.80	0.95
Labour (hired and permanent)	59.41	65.40	64.82	63.88
Working capital rate	3.83	4.12	4.36	4.16
Total variable cost	67.70	72.75	76.98	73.51
Land rent	11.26	9.39	7.83	9.11
General Administrative cost	2.03	2.18	2.31	2.21
Establishment cost	12.22	10.08	8.28	9.75
Depreciation cost	6.79	5.60	4.60	5.42
Total Fixed cost	32.30	27.25	23.02	26.49
Total production cost	100.00	100.00	100.00	100.00

3.4. Cocoa profitability

The price of 1kg of cocoa set by the Ghana cocoa board (Cocobod) is GH¢5.469.

The gross production value, gross margin, net profit relative profit and efficiency ratio was given in table 4.19 above. The gross production value (GPV) in the study area ranges from GH¢1839.23 to GH¢2022.58. The mean average gross production value was amounted to GH¢1888.13. Gross Margin (GM) also varies from GH¢690.38 to GH¢1338.01 with GH¢956.78 being the average mean of the gross margin. The variation of net profit (NP) ranges from GH¢346.92 to GH¢1011.37 while the net profit mean average was calculated to be GH¢621.24. The relative profit also varies from 1.23 to 2.00 with 1.49 as the average mean of the relative profit. The efficiency ratio also varies from 0.23 to 1.00 with 0.49 being the average in the study area. Group I had the highest modal share in all the return indicators.

The relative profit is 1.49 in the average of the enterprises. It means that the surveyed enterprises obtained 149 units GPV for the 100 unit production cost. In other words, the enterprises involved in the cocoa production obtained GH¢1.49 GPV for their GH¢1.00 cost and therefore achieved GH¢0.49 profit.

The condition for the above measure is that Relative profit must be greater than one (1) and from the above result, relative profit is 1.49 which indicates that cocoa production in the study area is profitable. This study corroborate with;

Danso, (2010) reported that cocoa farmers were not fully economically efficient in the allocation of their resources and the efficiency level ranged between 0.03 and 0.93 with a mean technical efficiency of 0.49.

Fadipe et al. (2012): the profitability ratio (PR) was 2.33 while efficiency ratio (ER) was 3.33. This indicates that cocoa production is profitable and efficient in Oyo State, Nigeria.

Table 3: Gross production value, gross margin, net profit, relative profit and efficiency ratio in Ghana Cedis per hectare (GH¢ha⁻¹).

Return indicators	I	II	III	Total
Gross Production Value(GPV)	2022.58	1839.72	1839.23	1888.13
Gross Margin(GM)	1338.01	947.79	690.38	956.78
Net Profit (NP)	1011.37	613.75	346.92	621.24
Relative profit	2.00	1.50	1.23	1.49

US\$1.0 =GH¢3.5

3.5. Important problems

Some of the problems the cocoa farmers are experiencing are presented in the Table 4. It was observed from the table above that cocoa price is the most pressing problem the cocoa farmers are encountering with 25 percent. High cost of inputs with 17.5 percent being the second problem after cocoa prices. Insufficiency supply of credits by the government and banks was recorded be as next problem. The problems with planting material, disease and pest and lack of technical know-how are of 11.3 percent, 10.0 percent and 8.8 percent respectively. Climatic condition, supply of labour (quality, wages etc), transportation and marketing are the other problems that famers always encounter.

Table 4: Depicting the distribution of problems faced by the farmers

Problems	N	Percentage (%)
cocoa price	20	25.0
high cost of inputs (pesticides, fertilizers etc.	14	17.5
insufficiencies supply of credit	10	12.5
planting material	9	11.3
disease and pests	8	10.0
lack of technical know-how	7	8.8
climatic condition	5	6.3
supply of labour (quality, wages etc)	3	3.8
Transportation	2	2.5
Marketing	2	2.5
Total	80	100.0

3.6. Regression analysis

Regression analysis was carried out to determine the factors that affect output of cocoa production in the study area. The model specified quantity of cocoa production Y (Kg) as a function of farm size (X_1), farmers age (X_2), farming experience (X_3) and other total cost other than labour (X_4). The summary of the linear form of production function result is given in Table 5 below.

The result of the estimated parameter can be written thus:

$$Y = 152.694 + 436.599X_1 - 55.209X_2 + 4.732X_3 - 0.196X_4$$

The value of co-efficient of determination R^2 of 0.978 (97.8%) indicates that about 98 percent of variation in cocoa output could be explained by the explanatory variables in the stated regression model.

The F-test was statistically significant at the 1% level, meaning that the production function existed; that is, all the explanatory variables jointly explained the variations in the output. There is no autocorrelation in the data as shown by the Durbin-Watson statistic of 2.348.

Farm size, farmer's age, farming experience and total costs without labour costs were identified as the significant factors affecting the output of cocoa production in the study area. The positive coefficient of farm size (X_1) and farming experience (X_3) indicates increase in these parameters to their cocoa farm increases the output of cocoa.

Table 5: Regression analysis of cocoa output

Constant	Regression Coefficient				F test	R^2	Durbin-Watson
152.694	X1	X2	X3	X4			
	436.599	-55.209	4.732	-0.196			
Standard error	39.466	14.508	1.415	0.074	867.332	0.978	2.348
t-values	11.063	-3.805	3.344	-2.648			

4. Results

In conclusion, the main purpose of this study was to analyse the performance of cocoa farmers in Eastern Region, Ghana. The findings of the study has shown that cocoa production in the study area is a profitable enterprise and farm size, farmers educational level, farmer age, farm age and farming experience of the farmer were identified as the significant factors affecting the output of cocoa production in the study area.

The descriptive statistics used to analyse the results showed that majority (68.7%) of cocoa farmers in the study area are in their economic active age (< 60) while the majority of cocoa farmers (88.7%) have formal education. Generally, majority of the farmers operate on small scale less than 5 hectares producing less than 20 bags of cocoa per annum. 7 person is

the mean average of household in the study area which indicates that the study area is an extended family dominated area.

Mean average total cost per hectare was GHC 1266.89. The mean average gross production value was amounted to GHC1888.13, Gross margin was GHC956.78, the mean average net profit was tantamount to GHC621.24 relative profit was calculated to be 1.49.

5. Recommendations

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

- Cocoa farmers should be provided with credit facilities from formal credit institutions at affordable interest rates in order to boost cocoa production in the country as a whole.
- The training of more extension agents who will provide the farmers with needed technology improvements and facilities should be given appropriate attention and consideration by the government.
- The government should ensure effective dissemination of scientific and social information to encourage the usage of modern techniques by the farmers in cocoa production.
- The government through the Ministry of Food and Agriculture should establish large scale cocoa farm to employ the youth in order to ease or reduce the unemployment rate which is another big problem in the country.

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