

## Costly Mistakes, Declining Fortunes; At Whose Detriment: An Assessment of Cocoa Cultivation in Ghana

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### Abstract

The growth and capacity of the world's economy has been fueled by its resource forte. Within local economies, the variations in growth and development can be potted on the basis of a country's resource utilization and management skills; a common feature of resource crunch. This study explores the causes and the dimensions of the decline in cocoa cultivation in Ghana. The study also examines how national revenue and rural livelihoods in Ghana are dissipating as a result of the decline in cocoa cultivation. Purposive and Random sampling were applied in the selection of individuals, communities, cocoa farmers and cocoa farms for the study. Both primary and secondary data were collected. The study revealed that cocoa cultivation in Ghana is plagued with several problems to the extent that rural livelihoods and national economic wealth are dying out. Export volumes have dropped by 25.7% and government revenue from cocoa has also declined by 33.2%. The study also revealed that about four (4) million people are at the verge of losing their livelihood if current trends in cocoa cultivation continue. The study recommends the commercialisation of cocoa cultivation in Ghana as a way of managing loses and dealing with the problem of capital injection. Law enforcement, transportation, education, training and road infrastructure improvements are required in order to boost growth and cocoa cultivation in Ghana.

**Keywords:** Cocoa, Cultivation, Farmers, Livelihood, National Revenue

### 1. Introduction

West Africa produces over 70% of cocoa in the world with about 21% coming from Ghana (Acquaah, 1999; Appiah, 2004). Ghana was the world's leading cocoa producer of cocoa until 1977 when Ivory Coast assumed the first position (Adjinah & Opoku, 2010). Today, cocoa is a \$1.5 billion industry in Ghana. Despite the emergence of oil and gas, cocoa has remained the second largest foreign exchange earner for the country, contributing approximately 35% of Ghana's GDP. Combined with other agricultural activities, it employs 56% of the population (ILO, 2013). Globally, Ghana has maintained its status as the world's second largest producer of cocoa beans, for which it receives a premium price. In 2010/2011, the country reported its highest ever production of one million metric tonnes of cocoa, though industry insiders report that at least 10% of this production was derived from neighbouring Ivory Coast. The 2011/2012 season saw a decline in production at just over 850,000 tones. This figure is far below the projected output for 2011/2012 cocoa season. Thus, making stakeholders in the industry more worried and concerned about the declining average cocoa yields and national production levels (B&FT, 2013). For a sector which has predominantly relied upon an expansionist production strategy, and has significantly contributed to Ghana's economic growth and development any fall in production is detrimental to the economy and rural cocoa farmers.

Cocoa cultivation in Ghana was first introduced in the 17<sup>th</sup> century by the Basel Missionaries. However, the growth and development of the modern cocoa industry in Ghana is credited to Tetteh Quarshie, a blacksmith, who returned to the Gold Coast in 1879 with some cocoa beans from Fernando Po, an island off the coast of present day Gabon. During colonial rule, and in the early days of post-independence, the emerging classes of wealthy Ghanaians were engaged in cocoa cultivation. Again, most of the rising class of political elites who schooled outside Ghana were the children of cocoa farmers from rural Ghana. This new found wealth gained so much credence to the extent that many rural farmers in Southern Ghana abandoned food crop farming for cocoa cultivation. The cultivation of the crop has also attracted several people from other parts of the country especially from the Northern parts of the country into cocoa growing areas in the south as labourers or tenant farmers.

The crop is widely cultivated in Southern Ghana where favourable climatic conditions of 30<sup>o</sup> C to about 32<sup>o</sup> C for mean maximum temperatures and between 18<sup>o</sup>C to about 22<sup>o</sup> C mean minimum temperatures can be found, and where the rainfall is between 1,000 and 1,500 millimetres per year. The sector is predominantly dominated by rural folks who largely depend on cocoa cultivation as the main source of their livelihood. Apart from the provision of employment, the growth in the Ghanaian economy has for more than fifty years been stimulated by cocoa cultivation. However, for some time now, the cocoa sub sector in Ghana is in a tumultuous time and this is having negative implications on economic growth and employment. As a consequence, the thrust of this study is to explore the causes, dimensions and the effects of a decline in cocoa cultivation in Ghana.

## LITERATURE REVIEW

### **Trends and Contribution of Cocoa Cultivation to Ghana's Economy**

In 2001, cocoa cultivation accounted for a major part of Ghana's agriculture export, accounting for about 10% of total agricultural value (World Bank, 2007). Cocoa cultivation has been an important business since the crop was introduced into the country in the 1880's. In 2006, cocoa cultivation contributed about 30% of export revenues and about 8.1% to Ghana's GDP. In the same year, the sector contributed about 57% of total agriculture export in the country pushing employment levels in the industry to about two million people in 2006 alone (Kunateh, 2013). In terms of sector growth, cocoa cultivation contributed about 28% of total agriculture growth in 2006, an increase of 19% from the 2001 figure (World Bank, 2008).

According to Kunateh (2013), cocoa cultivation accounts for between 70-100% of the income of the families of cocoa farmers in Ghana. In 2008, cocoa cultivation contributed about 3.4% to the Ghanaian economy. In 2009 alone, the cocoa industry was valued at about \$1.87 billion. It is estimated that ninety percent (90%) of this amount constituting about \$ 1.68 billion went to cocoa farmers, labourers, taxes and to 6, 121 staffs of the Ghana Cocoa Board (COCOBOD) as salaries (GNA, 2013). In terms of level of employment, cocoa cultivation employs about 800,000 farmers in Ghana. Another 3.2 million Ghanaians are employed as farm labourers thus giving the number of people employed in the industry to be about four (4) million in 2008 alone (Ibid).

In 2010/2011, Ghana witnessed a record level of one million tonnes (1,024,600 metric tonnes) of cocoa production more than any other year in the history of the country. This was a percentage increase of cocoa output of 28.1% as compared to the 2009/2010 figure of 12.5% (ISSER, 2012). In terms of foreign earnings, cocoa contributed about 23% of total export earnings in 2011 alone (Ibid). According to the Ghanaian Times (2013), this "feat was attributed to the intensive policy interventions by government such as the increased provision of subsidised fertilizers, supply of early bearing and high yielding planting material and the timely payment of remunerative producer prices and bonuses to farmers" (p1). This however declined to 835,410 tonnes, in the 2012/2013 cocoa season. A difference of about 5% lower than in the 2011/2012 cocoa season of 850,000 tonnes, but industry regulators explained that cocoa production tends to usually drop a little after a bumper harvest (B&FT, 2013). Within the first twenty-nine (29) weeks, cocoa production for the 2011/2012 cocoa season was 796,394 tonnes as compared to 658, 663 tonnes of cocoa produced in the 2012/2013 cocoa season during the same time. This represented a significant drop of about 17.3% of the 2011/2012 cocoa season (B&FT, 2013). From 1990 to 2009 alone, the total amount of foreign exchange generated from cocoa was about \$13.9 billion as compared to an initial investment of about \$818 million thus representing an investment wealth of \$16.00 for \$1.00 (GNA, 2013).

At the national level, cocoa cultivation has made enormous contribution to the economy of Ghana. Due to the quality of the cocoa beans produced in Ghana, the country receives a premium price for its cocoa. "Revenue derived from cocoa is Ghana's second largest source of export earnings – accounting for 30% of its total exports. In other words, cocoa has been described as the backbone of the Ghanaian economy" (IMANI, 2013. p1). According to the Ministry of Finance, "cocoa has been the backbone of this country's economy for over a century" (Budget, 2014:p50). Cocoa cultivation in Ghana spans within two seasons that is the October to June main crop season and the July light crop season. Cocoa cultivation in the main crop season is mainly exported and cocoa cultivated in the light crop season is usually used locally. The country started the 2013/2014 cocoa main crop season on the 18<sup>th</sup> of October 2013 with an initial projected target of about 830,000 tonnes (B&FT, 2013).

### **Contribution of Cocoa Cultivation to Farmers and Rural Communities**

Cocoa cultivation has for a very long time been the spine of the economy of Ghana with its foot prints found in all aspects of Ghanaian life (Budget, 2014). Even though cocoa has played a very significant role in generating foreign exchange and boosting government revenues, its contribution to cocoa farmers and cocoa growing communities cannot also be over emphasised. Cocoa cultivation has significantly increased household income and the economies of most rural communities in cocoa growing areas in the south. The presents of the many cocoa buying companies with their spending power has significantly transformed the economies of cocoa growing communities (Gakpo, 2013). There are many private companies investing huge sums of money into the growth and development of cocoa growing communities. For instance, the government has gone into Public Private Partnership (PPP) arrangement with Cadbury Cocoa worth about £30 million for a period of ten years. It is estimated that this investment will significantly transform the lives as well as the livelihoods of several cocoa farmers. In terms of real figures, it is estimated that more than half a million cocoa farmers will benefit from this initiative (Gakpo, 2013). The government has initiated a scheme to provide houses for cocoa farmers under the Cocoa Farmers Housing Scheme. Government spent an amount of GH¢868,000.00 in 2012 and GH¢838,000.00 in 2013/2014 to provide houses for cocoa farmers (Budget, 2013; 2014).

Unemployment levels in cocoa growing communities are lowest as compared to other communities in the country. Cocoa cultivation employs and provides income to about 70% of the labour force in rural communities

(ILO, 2013). The government through COCOBOD has provided scholarships to children and relations of cocoa farmers. In the 2010/2011 cocoa season, GH¢2.4 million was set aside for the COCOBOD scholarship. An amount of GH¢5 million and GH¢2.0 million was also allocated to the COCOBOD scholarship fund in the 2009/2010 and 2011/2012 season respectively (Budget, 2011; 2012). In 2013 alone, 7,500 wards of cocoa farmers received scholarship grants to study at various levels (Budget, 2014). According to Gakpo (2013) COCOBOD has been investing an estimated “amount of 2 million cedis annually in cocoa scholarship for relatives of cocoa farmers with about 2,500 beneficiaries accessing the scheme annually” (Gakpo, 2013:p1).

COCOBOD/Armajaro Traceable Foundation among others have invested about two million dollars in several areas such as education, health care, agriculture, sanitation and water among others. Other private cocoa companies such as Kuapa Kokoo have also invested millions of cedis in the construction of boreholes, CHIPS compounds, school buildings, provision of mobile clinics and other health care deliveries such as drugs, beds among others in some cocoa growing communities (Gakpo, 2013). For instance, COCOBOD through the Cocoa Borehole Project has drilled 1,120 boreholes for cocoa growing communities with 972 of these boreholes fitted with solar hand pumps (Budget, 2013).

Roads in some cocoa growing communities have been improved in order to aid the evacuation of cocoa (Budget, 2011; 2012; 2013). According to Gakpo (2013) under the Cocoa Roads Improvement Project, COCOBOD has constructed and maintained road infrastructure in cocoa growing communities in the country. For instance, a total of “63.6km length of feeder roads have been completed in cocoa producing areas under the Cocoa Road Improvement Project (CRIP)” (Budget, 2011. p71).

This has made some cocoa growing communities accessible by government staffs that are posted to these communities as well as the sitting of private organisations and institutions. The cumulative effect is that, the economy of these communities has been drastically improved thus upping living standards. Household surveys in cocoa growing communities shows that the level of poverty among cocoa cultivation households in Ghana fell to 23.9% in the year 2005, from about 60.1% in 1990 (World Bank, 2007). For instance, in 2011, the government paid an amount of GH¢50,793,724.00 as bonus to cocoa farmers for the 2009/2010 main cocoa season. The bonus payment works out to GH¢40.00 per tonne (Budget, 2012).

The cultivation of cocoa has and it's still benefiting many rural communities and farmers in Ghana. Many of the interventions have come from government and private cocoa buying companies operating in cocoa growing communities. Money from the crop has been used in building health infrastructure in cocoa growing areas and even in big places like Kumasi and Accra (Gakpo, 2013).

### **Problems Associated with Cocoa Cultivation in Ghana**

Over the past years, there have been several problems confronting cocoa cultivation in Ghana. In fact, one of the greatest problems confronting cocoa cultivation has been the issue of ageing cocoa trees. The Business and Financial Times reports that majority of the cocoa tree stocks on cocoa farms in the country are over sixty (60) to hundred (100) years old (B&FT, 2013). According to the government's 2012 financial statement, about 23% of the countries cocoa tree stocks nationwide are more than 30 years old (Budget 2012). This is affecting productivity and farm yields as well as national production outputs and revenues. The nature of the cocoa trees has also predisposed the cocoa trees to attacks from diseases and pest such as blackpod, swollen shoot, African mistletoe (Nkrampa) and asukuo. In 2013 alone, the government spend more than GH¢9.7 million (\$ 19.4 million) to deal with disease and pest in the sector. To tackle the problem of ageing cocoa trees, the government of Ghana has decided to supply about 20 million drought resistant and high yielding cocoa seedlings to farmers free of charge in the 2013/2014 crop season (Budget, 2013; 2014).

Considering the age of cocoa trees on most cocoa farms, improving the cultivation of cocoa in the country will require the continues support by governments for the adoption and application of intensive and new methods of cocoa cultivation with greater emphasis on new technology, financing, as well as environmental interventions (Ghanaian Times, 2013). Cocoa farmers must also be encouraged “to replant in old denuded areas with improved planting materials instead of extensive expansion to virgin forests” (Ghanaian Times, 2013:p1). Another very important point is the issue of logging in cocoa farms. According to the Business and Financial Times, about 90% of the countries cocoa farms have been leased out to chain saw operators on concessionary basis for logging by the Lands Commission of Ghana (B&FT, 2013).

In 2007, the government introduced a mass cocoa spraying programme as a new strategy to boost cocoa production in the country. After the introduction of the programme, cocoa production in the country increased by 49.41% (B&FT, 2013). However, the Ghana Agribusiness Report Fourth Quarter 2013 reported that, “COCOBOD recently announced it has abrogated the free mass cocoa spraying exercise as a first step towards phasing out the programme entirely in three years” (Joy online, 2013:p1). The activities of small scale miners/illegal mining are yet another big issue that confronts cocoa cultivation in Ghana. The activities of illegal miners have resulted in a depletion of between 1.6 million and 1.8 million hectares of cocoa farms (GNA, 2013).

Climate change and disease control have resulted in the sudden death of trees in many cocoa farms and the loss of soil fertility. The quality of pod formation, the small size and sometimes poor quality of cocoa beans have all been attributed to climate change and its associated factors. According to “climate scientists at the Colombia-based International Centre for Tropical Agriculture (CIAT), expected increasing temperatures will lead to massive declines in cocoa production by 2030 in Ghana” (Kunateh, 2013. p1).

### **Governments Support for Cocoa Cultivation in Ghana**

The contribution of governments to improving cocoa cultivation in Ghana has been very significant in sustaining and promoting the growth of the industry. But the drop in productivity in recent years has been a great cause for concern. In order to boost production levels, government in 2012 through COCOBOD decided to support cocoa farmers with about 20 million cocoa hybrid seedlings towards what the government termed as the “replanting and rehabilitation of cocoa farms project”. These hybrid seedlings were supposed to be distributed free of charge to cocoa farmers in cocoa farming communities (Budget, 2011; 2012; 2013). The government intends to allocate GH¢5.65 of net F.O.B per tonne to fund the project. This initiative is supposed to help eliminate the problem of ageing cocoa trees. Similarly, in 2013, COCOBOD through its Seed Production Unit “supplied early maturing and certified high yielding planting materials to cocoa farmers to ensure high productivity” (Budget, 2013).

According to the ILO (2013), the government through COCOBOD has been providing financial support and training to cocoa farmers to enable them fight diseases and pest invasion on cocoa farms. The 2011, 2012, 2013 and 2014 budget statements have also revealed that the government has been carrying out the Cocoa Hi-Tech and CODAPEC programme to educate cocoa farmers on the right application of fertilizer in order to mitigate and deal with the risk and incidence of diseases and pests on cocoa farms. In 2011 alone, the government spent GH¢100,190,825 to finance the programme. In the 2012/2013 crop year, GH¢50 million was allocated for the project. The government also spent GH¢2,456,817.00 in order to deal with the Swollen Shoot Virus (Budget, 2011). In 2013, an estimated amount of GH¢9.7 million was assigned for the programme (Budget, 2013).

In order to boost the morale of cocoa farmers, the government has introduced a housing scheme for cocoa farmers but problems with implementation have impeded the success of the scheme (Budget, 2012). Closely related to this point is the fact that, the government in 2012 introduced a pension scheme for cocoa farmers with an initial capital of GH¢9.3 million (Budget, 2011). Road network and transportation is a critical spine to the growth and expansion of every enterprise. Under the Cocoa Roads Improvement Project (CRIP), the government of Ghana has been rehabilitating and tarring roads in cocoa growing communities as a strategy to boost the cultivation and evacuation of cocoa from farm lands and cocoa growing communities (Budget, 2011). Under Tranche 1 (CRIP) of this project a “total length of 658km was programmed and 308km had been completed. Under Tranche 2 (C-FRIP), a total of 580km was programmed for minor improvements and the works are at various stages of completion” (Budget, 2013). Some of the cocoa rehabilitated roads include surface dressing of Wuruyie Junction road to Kotwea, surface dressing of the Adoagyiri to Coaltar–Owuram road (km 0.00 - 10.30), spot improvement of the Sawaba-Abrumase No.1 to Akamade road and spot improvement of the Ablekuma to Bokorbokor to Nsakina road among others (Budget, 2013).

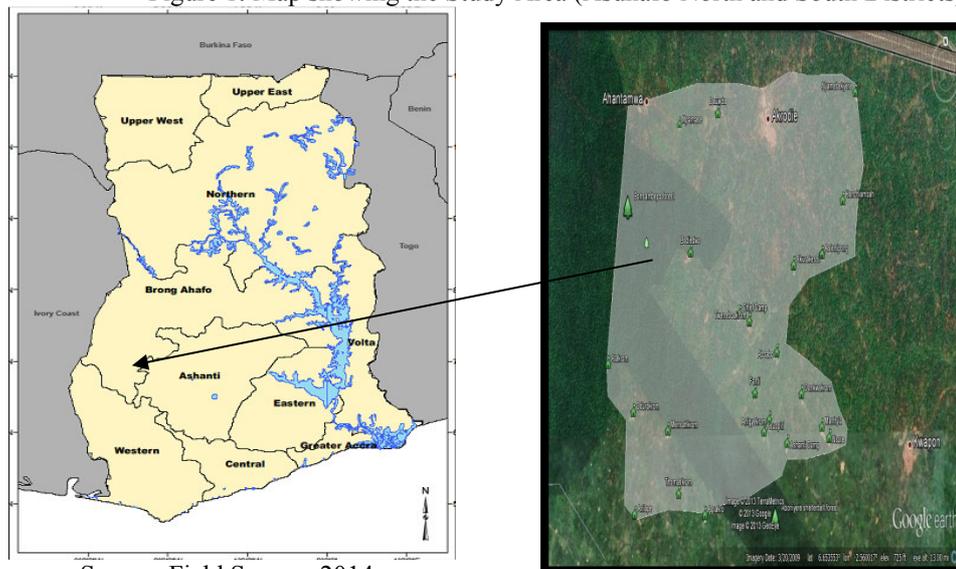
In order to increase the demand and market for cocoa, government has been undertaking promotional programmes to boost the consumption of cocoa locally. These promotional programmes include public sensitisation on the health as well as the nutritional benefits of cocoa. The introduction of the Cocoa Producers Alliance (COPAL) cocoa day and the national Chocolate Day are very significant events that are helping to boost the consumption of cocoa (Budget, 2012). In the same vein, the government has reviewed all existing supply arrangements in orders to ensure that cocoa processing companies have ready access to cocoa beans for processing (Budget, 2011). These initiatives are supposed to help boost the demand for cocoa thus leading to an increase in the cultivation of cocoa in the country. Government has also been providing funding and technical support to boost research into cocoa. In 2012, the CRIG was provided with financial support to help improve the cultivation of cocoa through the adoption of new technologies and innovations (Budget, 2012).

### **METHODOLOGY**

#### ***Study area***

The study was conducted in the Asunafo North and South Districts of the Brong-Ahafo Region of Ghana. The vegetation lies within what is termed as the moist semi-deciduous forest zone. The area receives an annual rainfall of between 1,200-1,500 mm and annual temperature ranges between 19 °C and 33 °C. A map of the study area is shown in the figure (1) below.

Figure 1: Map showing the Study Area (Asunafo North and South Districts)



Source: Field Survey, 2014.

### **Data collection**

Triangulation was used in order to enable the researchers gain a deeper understanding of the data collected (Mack et al, 2005; Silverman 2006). Random sampling was applied in the selection of twenty-one (21) communities, three hundred and twenty-two (322) cocoa farmers and twenty-one (21) farms. Both primary and secondary data were collected from 2013 to 2014. Primary data was collected using techniques such as face to face in-depth interviews, observation and questionnaire administration. Secondary data was also collected from the District Assemblies of Asunafo North and South Districts. Purposive sampling was used to select some key respondents who were connected to the study. These individuals included;

- The District Agriculture Officers in Asunafo North and South Districts
- Private Nursery Operators
- Agriculture Extension Officers
- Cocoa Spraying Guards
- Officials from some Civil Society Organizations and Non-Governmental Organizations.

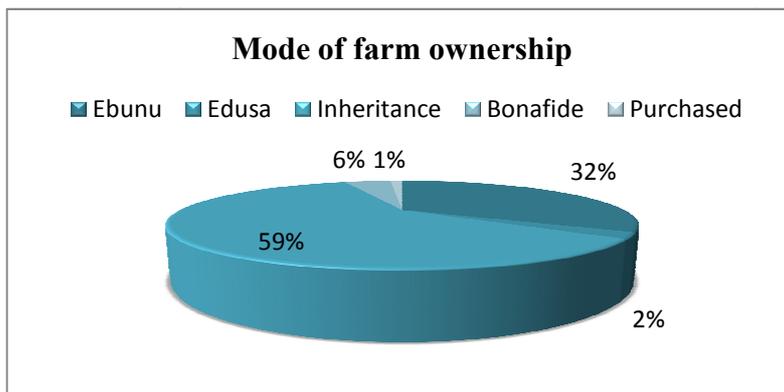
A Focus Group Discussions (FGD) was held with some selected farmers. The number of farmers who were engaged in the FGD was from nine (9) to eleven (11). The researchers took notes during the FGDs and this was analyzed long side the data collected from the in-depth interview, questionnaire and secondary data. Separate FGDs were held with farmers from both Asunafo North and South Districts. We analyzed data using SPSS and data presentation was done using tables and graphs.

## **RESULTS**

### **Cocoa Farm Acquisition/Ownership**

The results of the study revealed that the mode of farm acquisition and ownership in the cocoa industry was largely based on traditional rudimentary systems and practices such as inheritance, Ebonu and Ebusan. These practices are mainly found in the southern parts of the country. Ebusan is a farm ownership system where migrant farmers who rent a parcel of land for farming later share the land on a ratio of 2:1 agreement with the land owner and subsequently, claim greater control depending on the life of the cocoa farm. In the case of Ebonu the land is shared evenly between the landowner and the migrant farmer. The study revealed that inheritance and “Ebonu” constituted the largest mode of cocoa farm acquisition and ownership. The figure (2) presented below shows the mode of cocoa farm acquisition and ownership.

Figure 2: Figure showing the mode of cocoa farm acquisition and ownership.



Source: Field Survey, 2014

The cocoa farms were individual or family owned with farm sizes not more than three acres. In terms of yields, each farm could produce about 19 bags of cocoa which was valued at GhC 230.00 (\$ 115.00) per bag. The highest mode of farm acquisition and ownership was mainly by inheritance (59%). What this means is that, cocoa cultivation in Ghana is not done on commercial basis but is largely a family business which is usually passed on from one relation to another. Knowledge, systems, procedures, skills and practices of cultivation are also passed on in a similar manner.

#### Varieties of Cocoa Cultivated on Cocoa Farms

There were several varieties of cocoa cultivated. The most widely grown varieties were the Agric and Tetteh Quarshie varieties of cocoa. The Agric variety is a hybrid variety obtained from cocoa research stations in the country whereas the Tetteh Quarshie variety is a variety introduced into the country by Tetteh Quarshie. The choice of variety for cultivation largely depended on the performance of the variety. However, since the highest mode of farm ownership and acquisition was by inheritance, the varieties of cocoa cultivated on most farms were directly based on the variety of cocoa on inherited farms. The table (1) presented below shows the varieties of cocoa cultivated, the sources and the reasons for the choice of varieties by cocoa farmers in the study area.

Table 1: Table showing the varieties of cocoa cultivated, source and choice of preference

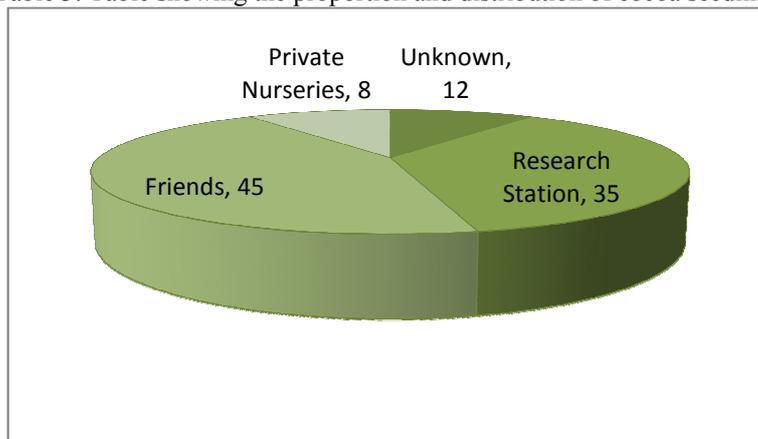
Variety of Cocoa	Sources of Cocoa Seedlings	Reason for Preference
Tetteh Quarshie Variety	Not Known- believed to be inherited.	“That was what I inherited” “Do not know”
Agric Variety	1000 Acre, Sankore Friends Cocoa Research Station, Goaso Cocoa Research Station, Bunso Cocoa Research Station, Tapa Private Nurseries, Bibiani Open Market Sales	Grows faster Better fruits Better pods development Produce quality seeds Fruits throughout the year Produce weighty fruits “It’s the only breed” “That’s was what I inherited” “Only breed available” “That’s what everybody is planting” Doesn’t rot easily

Source: Field Survey, 2014.

#### Sources of Cocoa Seedlings for Cultivation

The sources of seedlings for cocoa cultivation are an important mainstay in the cocoa production chain. The study revealed that 45% of seeds/seedlings for planting were obtained from friends, 35% from cocoa research stations in Goaso, Sankore, Bibiani and Bunsu, and 8% from private nurseries in the communities. On the other hand, an estimated number of about 12% of the respondents could not identify the sources of their seedlings. This was very common with respondents who inherited the farms from their parents and relations. The figure (3) presented below shows the distribution of the sources of cocoa seedlings for cultivation.

Table 3: Table showing the proportion and distribution of cocoa seedlings



Source: Field Survey, 2014

About 45% of the respondents who were involved in this study acquired their cocoa seedlings from friends. This figure (45%) exceeds the respondents who acquired their seedlings from cocoa research stations (35%). The reason for this was based on a combination of several factors such as access, price, distance, trust and confidence that farmers had regarding the acquisition of seedlings from the various sources outlined in the figure (2) above.

#### Nature of Cocoa Trees and Sanitation on Farms

Most cocoa tree stocks on cocoa farms were very old and thus affecting farm yields and productivity levels in the industry. The average age of the cocoa trees on most farms was 30 years. The figure (4) presented below shows the nature of cocoa trees and sanitation on cocoa farms.

Figure 4: Figure showing ageing cocoa trees and sanitation in cocoa farms



Source: Field Survey, 2014

Sanitation on some cocoa farms was very poor. Most of the cocoa farms visited were littered with rubbish containing plastic bags, dry leaves from trees, used agrochemical containers and cracked cocoa pods among others. Majority of the cocoa farms did not have proper drainage and channeling systems to allow rain water to flow any time it rains. Water usually collected any time it rained making some farms very muddy and not easy to walk through. It was also common to see stagnant water on most farms, a clear sign of bad farming practices. The study revealed that these factors were negatively affecting production levels on cocoa farms.

#### Disease and Pest Control on Cocoa Farms

Cocoa farmers' knowledge in agro chemical usage and spraying was low. This has led to low crop yields in some cocoa growing communities. This was part of the reasons why 53% of cocoa farmers were not satisfied with the level of output from their cocoa farms. Farmers acquired skills and techniques in agrochemical usage from other farmers who in themselves had a very low knowledge of how agrochemicals were applied. The study revealed that 79% of cocoa farmers had never had any training in agro chemical usage and application, while 98.3% could not read or understand inscriptions and prescriptions on agrochemicals. These farmers relied on their friends or on Agricultural Extension Officers (AEO) who were not also enough and readily available. These factors had resulted in the death of several cocoa trees, disease and pest invasion had also increased and crop yields had significantly dropped. The figure (5) presented below shows a cocoa farmer trying to read an inscription on an agrochemical container

The study revealed that, the mass cocoa spraying exercise was abrogated more three years ago. Government officials who were contacted revealed that the decision to abrogate the free mass cocoa exercise was because of

pilfering of agrochemicals by some supervisors and persons contracted to undertake the spraying. This claim was however rejected by cocoa the farmers who believed that in the first place the government never supplied sufficient spraying chemicals and motor fuels for the exercise. Political considerations on the part of spraying gangs, delays in spraying time and low remuneration for spraying workers were also cited by cocoa farmers (97.5%) as the major problems that were associated with the mass cocoa spraying exercise.

Figure 5: Figure showing a cocoa farmer trying to read an inscription on a container.



Source: Field Survey, 2013

All the respondents in the sampled population believed that government's decision to stop the mass cocoa spraying exercise would lead to the collapse of the cocoa industry and would cost governments dearly. This is partly because, if cocoa farmers "were to be spraying their farms without assistance they would be using all their revenues to fight pest infestations" (Joy online, 2013). Majority of cocoa farmers did not have the means to acquire agrochemicals to spray their farms all year round, consequently, farm output and national production levels have also start to decline.

#### **Transportation and road networks in Cocoa Farming Communities**

Most roads linking cocoa farms and to major cocoa producing areas were not motor able. The situation became even worse during the raining seasons. Roads leading to cocoa growing areas were in very deplorable states thus making access to cocoa growing communities, cocoa farms, cocoa sheds, and cocoa marketing centres very difficult. The cumulative effect was that most of the cocoa beans met for export got locked up on farms. The figure (6) presented below shows the nature of some roads in some cocoa growing communities.

Figure 6: The nature of some roads in some cocoa growing communities



Source: Field Survey, 2014.

Roads leading to cocoa growing communities were not tired. This does not entirely confirm the fact that under the Cocoa Roads Improvement Project (CRIP), the government of Ghana has been rehabilitating and tarring roads in cocoa growing communities as a strategy to boost the cultivation and evacuation of cocoa from farm lands and cocoa growing communities (Budget, 2011). According to the 2013 budget statement, a total of 580km of roads in cocoa growing communities were targeted for minor improvements and the works are at various stages of completion (Budget, 2013). This is however not true in the study area. The table (2) presented below shows road types, mode of transport and the regularity of transport services

Table 2: Table showing the type of road, mode of transport and the regularity of transport services

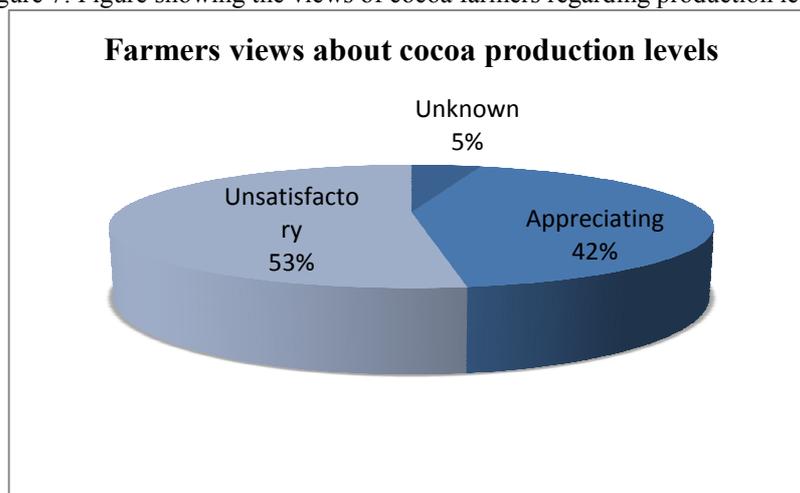
Community	Road Type	Mode of Transport
Aniape	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Bodiedwo	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Anigye/Asuopri	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Ashanti Camp	Dirt track	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Daudakrom	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Kenchiamuah	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Aseinpong	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Aboaboso	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Dankwakrom	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Attakrom	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Akurakesse	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Chief Camp	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Menhyira	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Mpamasi	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Ahantambo	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Agrago	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Mensakrom	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup
Fanti	Gravelled	Cargo Truck, Trotro, Taxi, Motorbike, Pickup

Source: Field Survey, 2013.

### Measuring Farmers Views about Cultivation Levels

About 53% of the respondents in the study were not happy with the level of cocoa production from their farms. On the other hand, respondents who were satisfied with the levels of output from their farms constituted about 42%. These respondents (42%) had very young cocoa trees and were able to afford the cost of fertilizer. Another 5% did not know whether they were satisfied or not. This was because that was the first time these farmers (5%) were harvesting cocoa from their farms. On the other hand, respondents who were not satisfied (53%) with the output levels on their farms associated the problem to the inability to spray their farms of pest and diseases. The inability of these respondents (53%) to apply fertilizer on their farms was also outlined as one of the main reasons for the low level of output from their farms. In terms of production levels by years, majority (99.6%) of the farmers believed that the period from 2007 to 2010 saw a drastic and general increase in the output levels of cocoa in the country. The increase was necessitated by the government's mass spraying exercise and the distribution of fertilizers to cocoa farmers across the country. The figure (7) presented below shows the views of cocoa farmers about cocoa production.

Figure 7: Figure showing the views of cocoa farmers regarding production levels.



Source: Field Survey, 2014

### Human Activities on Cocoa Farms

#### Logging

There was intensive and extensive logging going on in most cocoa farms. Trees in cocoa farms were being cut

by companies and individuals who had been licensed to cut timber. Some unscrupulous individuals had also taken advantage of this to engage in illegal logging on the cocoa farms. The figure (8) presented below shows logging in cocoa farms.

Figure 8: Figure showing logging in cocoa farms



Source: Field Survey, 2014

Logging on cocoa farms had resulted in the destruction of most cocoa trees thus reducing the number of trees on most cocoa farms. Logging on cocoa farms had also resulted in the depletion of the vegetation on most cocoa farms thus exposing the cocoa trees on the farms to the harsh climatic conditions.

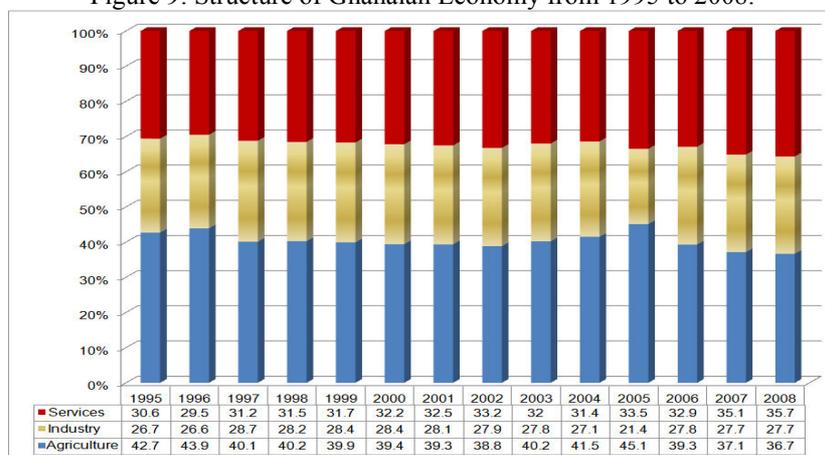
### Mining

The study revealed that illegal gold mining popularly known as “galamsey” was drastically affecting the cultivation of cocoa. Large acres of cocoa farms had been destroyed by illegal gold miners digging for gold. The activities of illegal gold miners had resulted in the creation of large trenches on cocoa farms which were often abandoned and not covered after the miners had excavated for gold.

### DISCUSSIONS

For a very long time, the growth and development of the Ghanaian economy has been fuelled by growth and developments in the Agriculture sector. The contribution of the sector to GDP and employment has been very significant in sustaining the economy of Ghana. From 1995 to 2008, the contribution of agriculture to the economy was phenomenal as compared to the industry and services sectors. Thus, for fourteen years (1995-2008), growth rates in the agriculture sector were consistently higher than the other sectors of the economy. As a result, investments in agriculture also increased over the years. Government policies and programmes such as the agriculture modernisation programme, agriculture financing, marketing, insurance and the infrastructure improvements project have significantly helped to boost growth rates in the sector. According to the Ministry of Finance “indeed, for the Agriculture sector, the growth rates were generally attributed to cocoa production and marketing” (GSGDA, 2010. p7). Thus, growth in the agriculture sector from 1995 to 2008 as shown in the figure (9) below was mainly as a result of growth in the cocoa and marketing sub sector. However, since 2009 to date, agriculture’s share and contribution to GDP growth has been declining with growth rates in the services and industry sectors increasing at significant rates.

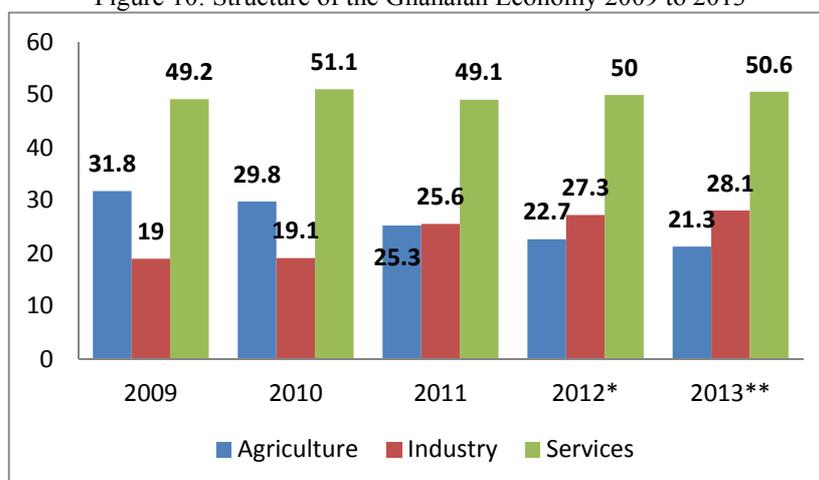
Figure 9: Structure of Ghanaian Economy from 1995 to 2008.



Source: Ghana Share Growth and Development Agenda (GSGDA) (2010)

The decline in the agriculture sector is mainly due to the significant growth in the industry and services sectors of the economy thus pushing the growth rates in the agriculture sector down. Figure 10 below shows the structure of the Ghanaian economy from 2009 to 2013.

Figure 10: Structure of the Ghanaian Economy 2009 to 2013



Source: 2014 Government Budget Statement. \*Revised \*\*Provisional

Apart from the fact that the declining growth rates in the agriculture sector is due to the fact that the industry and services sectors of the economy are increasingly rising; the main reason for the decline of the agriculture sector is essentially due to the fact that growth in the cocoa sub sector is declining. Cocoa has been the main stay of the Ghanaian economy since the crop was introduced into the country. Indeed, the Ghanaian economy has been termed as a Guggisburge economy mainly because of its over reliance on cocoa cultivation. In 2011, the country recorded a very significant growth of 14% in cocoa production more than any other year. This supports the claim by the Business and Financial Times report regarding the fact that in the 2010/2011 cocoa season, Ghana witnessed a record level of one million tonnes of cocoa production more than any other year in the history of the country (B&FT, 2013). This significant growth was attributed mainly to good weather and improved farming techniques (B&FT, 2013). In the 2011/2012 crop year, the growth target of 4.3% in the cocoa sub sector was not achieved thus pushing the overall growth in the agriculture sector to decline from 4.8% to 2.6% outturn. This confirms the claim by the Business and Financial Times that cocoa production declined to about 850, 000 tonnes in the 2011/2012 cocoa season (B&FT, 2013). Despite this shortfall, the Business and Financial Times reports that, industry regulators have explained that cocoa production tends to usually drop a little after a bumper harvest (B&FT, 2013). Table 3 shows the growth in the agriculture sector in 2011 and 2012.

Table 3: Agriculture Sector Growth (percent)

Item	2011*	2012	
		Target	Outturn**
<b>Agriculture</b>	<b>0.8</b>	<b>4.8</b>	<b>2.6</b>
Crops	3.7	5.0	5.0
o/w Cocoa	14.0	4.3	3.0
Livestock	5.1	4.5	5.5
Forestry and Logging	-14.0	5.0	-18.0
Fishing	-8.7	3.0	2.3

Source: 2013 Government Budget Statement.

\* Revised on April 11, 2012 \*\* Provisional estimate as at September 26, 2012

The actual growth in the cocoa sub sector in 2012 was about -6.9 percent. This is far below the projected target of 4.3%. This is not surprising because the Business and Financial Times (2013) reported that, within the first twenty-nine (29) weeks, cocoa production for the 2011/2012 cocoa season was 796,394 tonnes as compared to 658, 663 tonnes of cocoa produced in the 2012/2013 cocoa season during the same time. This represents a significant drop of about 17.3% of the 2011/2012 cocoa season.

According to the Business and Financial Times Report (B&FT, 2013), the 2012/2013 cocoa season saw a decline of cocoa to about 835,410 tonnes. That is a difference of about 5% lower than in the 2011/2012 cocoa season of 850,000 tonnes (B&FT, 2013). The table (4) presented below shows the agriculture and cocoa growth rates in the 2011/2012 and 2012/2013 cocoa seasons.

Table 4: Agriculture Sector Growth

Activity	2011	2012*	Target	2013
		Percent		Outturn**
<b>Agriculture</b>	<b>0.8</b>	<b>1.3</b>	<b>4.9</b>	<b>3.4</b>
Crops	3.7	1.0	5.0	3.0
o.w Cocoa	14.0	-6.9	5.0	3.7
Livestock	5.1	5.0	5.0	5.3
Forestry and Logging	-14.0	-1.4	6.0	0.8
Fishing	-8.7	4.7	2.3	8.9

Source: 2014 Government Budget Statement. \*Revised \*\*Provisional

In terms of domestic revenue and earnings, it is estimated that the “performance in exports was driven mainly by receipts from the export of oil, timber and other non-traditional exports. Low commodity prices, coupled with a reduction in export volumes of our key commodities, notably cocoa affected export earnings” (Budget, 2014. p24). Similarly, the 2014 financial statement of government shows that “earnings from the exports of cocoa beans and cocoa products totalled US\$1,730.7 million in 2013, representing a decrease of 25.7 percent compared to US\$2,328.6 million in 2012. Earnings from cocoa beans in particular amounted to US\$1,247.81 million, showing a decline of 33.2 percent compared to the outturn recorded in 2012” (Budget, 2014. p25).

Despite all these, the Ghana News Agency (2013) reported that, cocoa still remains the mainstay of the Ghanaian economy, accounting up to 40% of all agricultural exports in 2013 and contributing about 12 % to the Gross Domestic Product (GDP) of the country (GNA, 2013). But the fact that rural livelihoods, production levels, and national economic revenues are drastically declining must be a great cause of concern to governments.

The constant decline in cocoa cultivation and earnings from cocoa does not support the claim by industry regulators that cocoa production tends to usually drop a little after a bumper harvest. The study revealed that the decline in the cocoa sub sector of the agricultural sector is largely due to some mistakes on the part of government. First, the decision by the Lands Commission to allow logging in cocoa farms and the threat of climate change have led to low yields and poor pod formation in some communities. According to the Business and Financial Times, about 90% of the countries cocoa farms have been leased out to chain saw operators on concessionary basis for logging by the Lands Commission of Ghana (B&FT, 2013). This has serious implications on the quality of cocoa beans that will be produced in future. In the long run, this may mean Ghana will lose the premium price it attracts for its cocoa beans on the international market.

Even though the government in its 2012 financial statement reported that it had distributed 20 million cocoa hybrid seedlings to cocoa farmers free of charge in order to eliminate the problem of ageing cocoa trees under the cocoa “replanting and rehabilitation project” (Budget, 2012). The study revealed that the average age of most cocoa trees was forty (40) years thus confirming the report by the Business and Financial Times that majority of the cocoa tree stocks on cocoa farms in the country are over sixty (60) to hundred (100) years old (B&FT, 2013). The problem of ageing cocoa trees exist largely because farmers do not have the means to acquire new and high yielding improved hybrid seedlings for planting. The fact that 59% of cocoa farm lands owned are by inheritance also clearly confirms the point that majority of the cocoa trees on cocoa farms are very old. This situation has had and is having serious effects on the levels of cocoa cultivation in the country.

Similarly, in 2013, the government’s budget reported that COCOBOD through its Seed Production Unit supplied “early maturing and certified high yielding planting materials to cocoa farmers to ensure high productivity” (Budget, 2013: p89). However, the study revealed that; there are some cocoa farmers who prefer the old varieties to the hybrid seedlings because according to them, the output level and productivity of the hybrid seedlings turn to decline after ten (10) to fifteen (15) years. If this claim is true, then what it means is that proper trial of the new and hybrid seedlings were not done before distribution to farms. This situation is very disturbing, considering the fact that in the 2012 budget statement, the government revealed that CRIG was provided with financial support to help improve the cultivation of cocoa through the adoption of new technologies and innovations (Budget, 2012). This has also exposed the gap in the level of extension services and availability of extension officers in cocoa growing communities.

The decline in cocoa cultivation and national revenue has also been as a result of the issue of illegal gold mining in cocoa farms. According to the Ghana News Agency (2013), about 1.6 million and 1.8 million hectares of cocoa farms have been depleted because of illegal gold mining (GNA, 2013). Low commodity prices in recent times have also pushed most cocoa farmers to give out their farm lands to miners on concessionary basis. There are many farmers who have also out rightly sold out their cocoa farms to miners in order to engage in other business ventures. This situation has negatively affected national production levels and national economic revenues in Ghana. This claim has however been disputed by some government officials as one of the causes for the decline in cocoa cultivation. But ironically, the Minister of Finance on the 21th of January 2014 in inaugurating a new board for COCOBOD “tasked the new Board to deal with the threat of illegal surface mining, which is

undermining the sustainability of cocoa production in several cocoa districts, in the Western, Brong Ahafo, Central, Ashanti and Eastern regions, as large tracts of cocoa lands and plantations had been destroyed due to the illegal mining activities” (p1) (GNA, 2014). According to one of the cocoa farmers;

*“The government is not telling the true about the cause of the decline in cocoa cultivation in the country. The issue is mainly about the illegal mining in cocoa farms. Several acreages of cocoa farms have been destroyed just because of illegal mining, and the government is aware of this but yet, keeps on pretending that the problem is about cocoa farmers smuggling cocoa to neighbouring Côte d’Ivoire”.*

According to this respondent, the main reason why the government could not meet its target for cocoa cultivation in the 2013 budget was mainly because of the problem of illegal gold mining in cocoa farms. Apart from the destruction of cocoa farms, chemicals from the illegal gold mining activities have adversely affected the productivity of the lands in cocoa growing communities thus reducing farm yields. Majority of the cocoa farms are small, individual or family owned farms with plots that rarely exceed three acres of land size, thus cocoa farmers easily give out their farms on concessionary basis or out rightly trade off their farms to companies and individuals prospecting for gold. This usually happens any time the farmers experience persistent crop failure or low yields. In order to deal with the problem of mining in cocoa farms, the Minister of Finance, Mr Seth Terkper has urged the new board of COCOBOD “to liaise closely with the national security system to address the menace” (GNA, 2014. p1).

Poor road networks to cocoa growing communities and poor roads linking cocoa farms are a major problem in cocoa cultivation and in the cocoa marketing chain. Road networks and transportation are very critical factors in the cocoa industry. Transportation and road networks have hampered cocoa cultivation in Ghana for a very long time now. Governments’ inability to improve the nature of roads in most cocoa growing communities has drastically affected the levels of cocoa cultivation. It is expected that improvements in road networks and road transportation will bring a major boost to cocoa cultivation in Ghana. But until then, the country will continue to experience a decline in cocoa production.

Ever since the government stopped the mass cocoa spraying exercise that was introduced in 2007, the output levels of cocoa have since declined. Most cocoa farmers lack the knowledge and skills in disease and pest control which was hitherto done for them by spraying guards contracted by the government. The cost of buying agro chemicals and spraying of farms by farmers themselves has also directly increased the cost of cocoa cultivation and thus leading to a fall in farm output levels. This confirms a report by Joy online (2013) that, even when cocoa farmers “were spraying the farms six times a year, they could barely fight the pest infestations, emphasising the need to immediately reverse the decision to discontinue the spraying exercise” (p1).

The producer price of cocoa is currently GH¢3,392 per tonne, this figure represents GH¢212 per bag of 64 kgms gross weight and translates into 79.17 of the Free-On-Board (FOB) price (Budget, 2014). Cocoa farmers claim this amount is low considering the cost of inputs such as fertilizer, pesticides and labour among others. Similarly, the fact that farm yields are declining because of ageing cocoa trees and climate change has made cocoa cultivation not lucrative and attractive to many cocoa farmers. As a result, majority of the cocoa farmers have abandoned cocoa cultivation for other crops or business ventures.

Large chunks of Ghana’s cocoa beans are usually smuggled to neighbouring countries in the sub region especially Côte d’Ivoire and Togo. For instance, in 2003/2004 the amount of smuggled cocoa from Ghana to Côte d’Ivoire was estimated to be between 120,000 and 150,000 tonnes of cocoa (Brooks, Croppenstedt & Aggrey-Fynn, 2007). The direct implication of this is a shortfall in government domestic revenue. The issue of cocoa smuggling is increasing largely because of the fact that government is not doing enough to police the porous borders where cocoa smuggling takes place. Another issue has been the issue of price differentials. Cocoa farmers in Ghana receive a lower price for cocoa as compared to what farmers in Côte d’Ivoire receive for cocoa. Again, higher prices paid by the government of Ghana are constantly affected by the drop of the cedi thus creating exchange rate differentials which makes cocoa smuggling to Côte d’Ivoire very lucrative. It is estimated that between 30, 000 and over 40, 000 tonnes of cocoa have been smuggled from Ghana to Côte d’Ivoire in 2013 alone and this is expected to increase in 2014 (Bavier, 2014). According to Bavier (2014) “Ghana risks losing millions of dollars in cocoa revenues if it fails to stabilise its struggling currency”. Significantly, even though the smuggling business favours the farmers who earn very high for smuggling their cocoa, the government is the eventual loser, primarily, due to the fact that national production levels and revenues are declining.

To suffice, the study revealed that government earnings from cocoa will decline to 35% in the next two years is nothing is done to reverse these disturbing trends. Again, Ghana is likely to lose its competitiveness and comparative advantage in the high quality of cocoa beans that the country produces if the issue of mining, logging and smuggling are not immediately addressed.

## CONCLUSION

The decline in cocoa cultivation in Ghana is mainly as a result of some terrible mistakes on the part of government which cocoa farmers have no control over. These mistakes stem from the inability of national

governments to improve farmer's skills, techniques and knowledge in cocoa cultivation as well as the lack of adequate infrastructure such as improved transportation, enhanced road networks and proper information channeling systems among others to drive the industry. At the moment, many cocoa farmers are losing out in terms of cost and livelihood but the effect on the other side is much greater with long term consequences on the country.

The study revealed that cocoa cultivation in Ghana will drastically decline by 35% in the next coming years if urgent steps are not taken to address the numerous challenges facing the cultivation of cocoa in the country. The first prescription may be to move the cultivation of cocoa from the smallholder peasant level to a commercialised one. Commercialising cocoa farming will eliminate the many bottlenecks associated with the cultivation of the crop. The problems of low yields, cost of production and invasion by pest and diseases among others have had a direct effect on the morale of farmers to stay or engage in cocoa cultivation. If these trends continue, the livelihood of about four million cocoa farmers and labourers will be lost. That is about 16% of the country's population will lose their livelihood. But this is only a small fraction of what the country will lose in terms of its economic growth and revenue. On the employment side, it will be a big nuisance relocating these people with new skills since majority of cocoa farmers acquired their skills based on inheritance.

Inadequate funding is directly affecting farm production levels since the cost of farm labour, production inputs such as fertiliser, knapsack sprayers and seedlings are constantly on the increase. Farmers lack access to credit facilities to finance cocoa cultivation. Information dissemination to farmers and among farmers is also very low in the industry. The study revealed that about 92.7% of cocoa farmers adopted new techniques and innovations from their friends instead of from extension officers.

## RECOMMENDATIONS

There must be massive investment aimed at commercialising cocoa cultivation in Ghana. This will enable synergy and the pulling of resources together to develop and improve transportation systems, information sharing and resource utilisation in cocoa cultivation. Again, this will make it very easy to manage farm losses since individual farmers do not always have enough funds to invest on their farms. The introduction and acquisition of new skills, techniques and innovations will also be enhanced in this manner.

For a sector that contributes a great chunk of the nation's revenue it is very critical that the government invests much into the training of farmers as well as information dissemination among and between farmers in cocoa growing areas. This will enhance their skills and techniques in cocoa cultivation.

There must be tougher laws and sanctions to deal with the problem of mining in cocoa farms. The Lands Commission of Ghana must with immediate effect withdraw all licenses to timber companies and individuals logging in cocoa farms.

In order to improve infrastructure, reduce cost and promote community driven initiatives, governments must focus on local incentives to drive the industry, boost growth and create more employment in order to reduce poverty and stimulate rural growth.

There must be strict and tougher laws to deal with cocoa smuggling and mining in cocoa farms. An increase in the price of cocoa to farmers to equal or higher than the price being offered by neighbouring countries can also significantly help stem and discourage the smuggling of cocoa.

## REFERENCES

- Silverman, D., (2006). *Interpreting Qualitative Data: Methods for Analyzing Talk, Text and Interaction*. London: Sage Publications Ltd.
- Acquaah, B., (1999). *Cocoa Development in West Africa (The Early Period with particular reference to Ghana)*, Ghana Universities Press, Accra, Ghana.
- Adjinah, K.O., & Opoku, I.Y., (2010). *The National Cocoa Diseases and Pest Control (CODAPEC): Achievements and Challenges* myjoyonline - Myjoyonline.com Feature Article Retrieved; Wed, Apr. 28 2010.
- Appiah, M. R., (2004). *Impact of Cocoa Research Innovations on Poverty Alleviation in Ghana*. Ghana Academy of Arts and Sciences Publication. pp1, 17-19.
- B&FT, (2013a). *Most of Our Cocoa Trees are 60 years Old*. Business and Financial Times Ghanaweb. Ghanaweb Featured Article Retrieved; Wed. October 30<sup>th</sup>, 2013.
- B&FT, (2013b). *Cocoa Production is threatened*. Business and Financial Times, Ghanaweb. Ghanaweb Featured Article Retrieved; Fri. November 01<sup>st</sup>, 2013.
- Bavier, J., (2014). *Drop in Ghana's currency spurs cocoa smuggling to Ivory Coast*. Bloomberg Ghanaweb. Ghanaweb Featured Article Retrieved. Fri. January, 01th, 2014.
- Brooks, J., Croppenstedt, A., & Aggrey-Fynn, E., (2007). "Distortions to Agricultural Incentives in Ghana." *Agricultural Distortions Working Paper 47*, World Bank, Washington, DC.
- Budget, (2011). *The 2011 Budget Statement and Economic Policy of the Government of Ghana*. Ministry of

- Finance and Economic Planning Ghana.  
Budget, (2012). The 2012 Budget Statement and Economic Policy of the Government of Ghana. Ministry of Finance and Economic Planning Ghana.  
Budget, (2013). The 2013 Budget Statement and Economic Policy of the Government of Ghana. Ministry of Finance and Economic Planning Ghana.  
Budget, (2014). The 2014 Budget Statement and Economic Policy of the Government of Ghana. Ministry of Finance and Economic Planning Ghana;  
Gakpo, J.O., (2013). Why Ghana is Cocoa.....and Cocoa is Ghana. Ghanaweb. Retrieved; Thu. December 19<sup>th</sup>, 2013.  
Ghanaian Times, (2013), More Investment in Cocoa Sector. Ghanaian Times. Retrieved; Thu. 3<sup>rd</sup> January 2013.  
GNA, (2011). Cocoa is Ghana's Largest Foreign Exchange Earner. Ghana News Agency. Ghanaweb. Retrieved; Fri. December 20<sup>th</sup>, 2013.  
GNA, (2013a). Illegal miners' takeover large cocoa farms in Ghana – COCOBOD. Ghana News Agency. Ghanaweb. Retrieved; Fri. October 25<sup>th</sup>, 2013.  
GNA, (2013b). Government Committed to Efficiency of Cocoa Sector. Ghana News Agency. Ministry of Finance. Retrieved; Fri. January 3<sup>rd</sup>, 2014.  
GNA, (2014). Ten Member board inaugurated for COCOBOD. Ghana News Agency, Ghanaweb. Retrieved; Tue, January 21<sup>th</sup>, 2014.  
GSGDA, (2010). Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda, Volume I: Policy Framework. Government of Ghana. National Development Planning Commission (NDPC)  
ILO, (2013). Enhancement the Capacity of Cocoa and Agriculture Extension Services and Other Key Partners on Child Labour. Workshop Report. International Programme on the Elimination of Child Labour (IPEC).  
IMANI, (2013). IMANI Summer Interns Advice Government: Make More of Ghana's Cocoa Industry. Ghanaweb. Ghanaweb Featured Article Retrieved; Tue, September 17<sup>th</sup>, 2013.  
ISSER, (2012). The State of the Ghanaian Economy in 2011. Institute of Statistical, Social and Economic Research. University of Ghana, Legon.  
Joynews, (2013). Farmers hint of decline in cocoa production. Ghanaweb. Ghanaweb Feature Article Retrieved; Sat, August 31<sup>st</sup>, 2013. [myjoyonline.com/pages/news/201308/112341.php](http://myjoyonline.com/pages/news/201308/112341.php)  
Kunateh. M. A., (2013). Ghana's Cocoa Production to Decline in 20 Years. The Chronicle <http://thechronicle.com.gh/?p=35080>. Retrieved; Thu. November 07<sup>th</sup>, 2013.  
Mack, N., Woodsong, C., Macqueen, KM., Guest, G., Namey, E., (2005). Qualitative Research Methods: A Data Collector's Field Guide. Research Triangle Park, NC: Family Health International.  
Silverman. D., (2006). Interpreting Qualitative Data: Methods for Analyzing Talk, Text and Interaction. London: Sage Publications Ltd.  
World Bank, (2007a). World Development Report: Agriculture for Development. Washington, DC: World Bank.  
World Bank, (2007b). "Ghana: Meeting the Challenge of Accelerated and Shared Growth."Country economic Memorandum, World Bank, Washington, DC.  
World Bank, (2008). "Country Brief: Ghana."World Bank, Washington DC.

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