

Mendel University of Agriculture and Forestry in Brno

Faculty of Business and Economics

Department of Business Economics



Economic Impact of Food Production in Ghana

Diploma thesis

Thesis supervisor
Ing Sam Darkwah

Thesis Author
Bc. Emmanuel K. Ankomah

Brno 2007

Declaration

I hereby testify with my signature, that this diploma thesis “Economic Impact of food production in Ghana” was elaborated by myself with literature applied and cited, which is listed in the chapter Reference at the end of this thesis.

In Brno June 25, 2007

Dedication

This Project Work is dedicated to my sister Mary Ankomah Boakye-Boateng who will never be far from me, Regina Baako, and the rest of my family not forgetting my Extra Ordinary Brother in Laws. May they live to rise where their fore fathers once fell.

Acknowledgement

I am very grateful to the people who help me with this project work in both writing of the proposal and the report. I have been the sole beneficiary of those helpful sentiments from my supervisor ‘SAM ANTWI DARKWAH, Research Fellow’ who have reviewed the manuscript of this project work at it various stages. I could not have done this work without his commentaries and his generous encouragement.

I would also like to thank and acknowledge all those who help me with their equipment and their financial support, more especially Ing. Edita Smelikova Ph.D, the Boakye-Boateng family and the Baako family. Perhaps the most remarkable is SAM ANTWI DARKWAH whose approval makes this project work complete.

ABSTRACT

This study is to determine the causes of insufficiency of food production in the Ghanaian Economy. The research is intended to find out the contributory factors of the low agricultural yield in the food crop production sector and to find ways and means by which it can be dealt with.

The study takes into account the concept of land tenure system and how it can be improved upon. The indigenous Ghanaian farmer, his family size and life style, is an interesting one but a contributing factor for low food crop production on the Ghanaian Economy.

The study takes into consideration Internal and External factors by the analysis of issue of Political, Economic, Developmental, and Social values that impact on food production. Here problems associated with traditions and culture, technology, deforestation, over dependence of physical conditions, and attitudes, and policies of Government to turn Ghana into an industrialised nation, heavy investment in arms and civil wars are variables that are studied.

The research also brings out recommendable ways of solving the problems outline by the study. Result of data compiled by various institutions in Ghana on agriculture production and consumer index from recent years show that there is little improvement in the growth of agriculture. Much has been said about the effort being made to improve the sector, yet food production in Ghana is far below the demand.

Contents

1. Introduction	8
1.1 Background	8
1.2 Rationale	10
1.3 Literature Review	12
2. Aims and Objectives	14
3. Methodology	15
3.1 Concept Variable and definitions	15
3.2 Source of Data and Collection process	16
3.3 Approaches	16
3.4 Hypothesis	17
3.5 Sample Characteristics	17
3.6 Statistical analysis	19
4. Review of Farming Activities	20
4.1 Findings, and Result	20
4.2 Occupation	23
4.3 Forest Depletion	27
4.4 The Effect of Forest depletion on food production	32
5. Discussion	44
6. Conclusions and Recommendations	55
7. List of abbreviation	62
8. List of literature	63
9. Annexes	64

1. Introduction

Ghana was formed from the merger of the British colony of the Gold Coast and the Togoland trust territory, in 1957 and it became the first sub-Saharan country in colonial Africa to gain its independence. After the independence Ghana went through various transition both political and economically. Agriculture has been the major employer of the greater part of the population since independence and food crop production being major part of agriculture in Ghana.

1.1 Background

Many of the countries all the world over are densely populated as a result the natural vegetation is being removed by man's varied activities. The 25,000 square miles of closed forest in Ghana contain a rich variety of products for export and consumption at home. Chief among these today is timber. It also provides fertile land for agricultural activities which is considered as the back bone of every economy. Food serves as the basic needs for the people of every economy. The production of food crops in Ghana has been the longest economic activity. In those early days agriculture was severely hampered by the poor transport and communications and the lack of satisfactory way of storage and conveying food crops from the forests and the hinterlands where food crops are mostly cultivated to the market normally along the coast. Farmers normally cart their produce to these markets by river transport using canoes and by foot, a practice which still exist due to lack of accessible roads to most of these farming communities. This methods of carting crops was both slow and wasteful, and In most cases leads to lost of life and properties through being stranded on land and in the middle of the rivers or along the banks.

From very primitive beginnings the agricultural industry has quickly expanded with some modern practices. It has been reported that in 1913 many rich Ghanaian rather invested in Timber product instead of agriculture and report shows that some 3 million cubic feet of timber valued at € 30,000. Recovery after this slowand in the 1940 export amounted to only 1 million cubic feet valued at € 109,000.

Since the end of Second World War, however the industry has made phenomenal strides. By 1951 the annual export had raised to some 10 million cubic feet valued at €5 million, and in 1962 the total of logs and the swan timber exported was 25.3 million cubic feet valued at €12, 22 million. Yet a new face of agriculture also emerges with some of these rich lumber business men investing into agriculture. They start first by cultivating large farms for the growing of food crops with the ultimate aim of turning the farms in cocoa farms which are more permanent with stable income. Several species of crops are cultivated, the most popular being Plantain, Banana, Cassava, Yam, Rice, Maize, Sorghum, and Millet.

Apart from the crops mention in the above paragraph, there are a number of other different species of food crops and vegetables produce in Ghana, and although not all of them have attained commercial importance, a large number of them are used locally that indeed, in recent times many of these crops are exported to Europe and America.

It is not only the export of crops that have increased recently, but its use within the country has grown very considerably. Ghanaians depend greatly on local crops and one can conveniently say that every Ghanaian household eat a locally prepared food each day. Foreign foods which are normally prepared and sold in the restaurants are popular only in the major cities, and is patronize by the upper and the middle social class people living in the cities.

Although heavy duty machine like caterpillar and tractors have greatly reduced the difficulties of agriculture in the high forest, transport problems still hamper the industry, making the exploitation of the more remote areas almost impossible.

After the crops has been cultivated and prepared for export it is sent by road or rail to the ports to wait shipment. Export of food crops is the responsibility of the Ghana Export promotion council which oversees the export of agriculture food produce and also provides farmers with information on quality and standards.

The high forest is rich in various products like Timber, wild growing rubber trees, palm tree from which most local drinks are produce kola and many others. The tree in Ghana grows in the same condition as cocoa.

The oil palm is one of the most useful trees in Ghana. From its fruit are obtained pericarp and kernel oil, while the stem yields a popular and potent drink called palm-wine, from which an even potent gin locally called akpeteshi can be distilled. The leaves and branches of the tree are used for variety of purposes. There are other associated trees like the raffia palm and the cane palm both of which found in the export commodities.

With these entire important products now declining with the depleting forest there is also the need to protect the forest on account of their great value as a source of economic products as well as a means of controlling desertification and protecting the soil against erosion. The forest of Ghana forms an important national asset, which needs to be carefully looked after and preserved.

It is my hoped that the result of this study will help policy makers in coming out with policy and laws that will protect environment as well as boosting the growth of the economy of Ghana. More over it is my intention to create the awareness among the people of Ghana of good agriculture practices that will be harmless to the environment and provide us stable income.

1.2 Rationale

The desire of Ghana for survival in a competitive world to contribute to the open activities that cover areas which perhaps has contributed to food production problems has been the behind this project.

The Ghanaian economy has suffered its worst growth performance for about a decade. In 2000 the real GDP growth slumped to 3.7 per cent. The 2000 performance continued four successive years of economic decline. The poor performance in 2000 was attributed to terms of trade deterioration as the prices of the country's main export earners

gold and cocoa as well as food a decrease in food crops production, while the price of crude oil rose rapidly. These developments led to a severe drop in foreign exchange earnings.

Poor domestic economic performance that created fiscal imbalances and excessive monetary growth compounded the external problems leading to serious reductions in production and consumption. Real GDP growth was projected at 5.8 percent in 2001 and 5.3 per cent in 2002 as the impact of the external shock is lessened with improvements in export performance and stable political environment bring about some positive changes in economic policy.

Realizing the effect of economic performance in response to external shocks it has become prudent for policy makers to develop system that will make Ghana self sufficient in food production.

Lumbering activities has been given special attention in recent times. The reason for this special attention is its effect on agricultural environment. The environment here includes the forest and soil erosion, rainfall pattern and farm yield. Until the creation of forest reserves by the Government in the late 1920's there was indiscriminate exploitation of the forest.

Even after the creation of the forest reserves the rate of destruction was alarming. Between 1947 and 1957 about 600 square miles of forest was destroyed annually and today out of the 15,000 to 30,000 square miles originally forming the closed forest zone less than 10,610 square miles of true forest remain. This is made up of 5,850 square miles of reserved forest and less than 4,760 miles unreserved forest in the 90's. This has reduced drastically due to increasing activities of mining industry.

Although the need to preserve certain portions of our forest is now generally realized, the desire of man to open up his activities in these areas is under a constant threat to the success of the conservation of the forest. This is perhaps one of the greatest problems facing the forest authorities, and it is necessary for them to keep constant check on the forest reserved in order to prevent unauthorized farming or timber extraction.

1.3 Literature Review

Considerable articles, publications and researches that bear some relationship with this problem has been publish overtime. In the article “The World Want Good Health[1] reported that more than 500 million work days were lost because of health problems. This resulted in reduced productivity, together with increased cost living created a financial burden that affect all. The hope of man living in a world without sickness is more appealing. The world wants good health which will go a long way to contribute to productivity. Good health comes as result of good diet which depends solely on the production of food crops.

In the article Food in Ghana, [2] it quoted (USAID report) to the effect that since independence, food donated or sold on concessionary terms by foreign countries—also known as food aid—has transformed both dietary and agricultural production patterns in Ghana. Various regimes of government in post-independence Ghana have willingly accepted food aid because it compensated for their own production shortfalls and ensured that cheap food supplies were available for politically important urban populations. It is estimated that 40 percent of Ghana's food import is in the form of food aid the article said.

In the “Policies and Options for Ghanaian Economic” [3] It was stated Food aid to Ghana has had four economic impacts: 1) it has served a leverage for donor countries to shape Ghana government's economic policies; 2) it provided the economy with additional imported resources; 3) it provided additional budgetary resources for development; and 4) conversely, it has created various disincentives as (a) it tends to drive down domestic prices of locally produced food, (b) it replaces food that would have been produced by Ghanaian farmers, (c) it creates import dependency as consumers develop a taste preference for imported commodities and switch away from locally produced food as is happening with poultry imports, and (d) it encourages the neglect of the development of domestic agriculture. Donated and imported rice, for example, has been shown to have some effect on domestic production. It has been found that a 10 percent increase in donated/imported rice supply

reduced domestic production by 7.5 percent despite food aid, Ghana suffers from food insecurity.

Other publications about the indiscriminate felling of trees by chain-saw operators and various ways by which their activities affect agriculture and how they may be controlled has been in the dailies.

In his article of the products of the forest^[4] it was observed that if the work of forest conservation is to be really successful in the face of the expanding pressure on the land, then it is equally necessary for re forestation to be introduced on a large scale than it is at present.

This will enable areas where indiscriminate destruction has gone on in the past to regain some of the many advantages to be derived from proper cover. It will also ensure that even more wood and fertile land than the vast amount at present available to meet the growing needs of the population.

2. Aims and Objectives

The aim of this project is to study the influence of food production on the economic environment of Ghana. The idea is to a document enumerating some procedures that can be to solve food production problems and it impact on the economy of Ghana. This document shall serve purpose of farmers who have not lay hands on information that will help them solve the problems this documents has enumerated.

Specifically the objectives are:

- a) To establish that crop production is major cause of forest depletion
- b) To verify that lumbering has contributed to the low productivity in farming
- c) To study the process of crop farming activities and recommendations towards it improvement
- d) To verify the validity of the cost and benefit to the society

A detail study of the food production problem on the bases of the above objective will provide adequate knowledge for farmer to improve on the yield in order to gain a better standard of living and for the growth of the Ghanaian economy

3. Methodology

This project is basically based on primary data collected in Ghana to show the effect of farming activities on the economy of Ghana. Other data from secondary sources was collected and use to confirm the validity and the quality of information that was produce by the primary. The larger part of the secondary data used are from the sources of the Ministry of Forestry and Agriculture of Ghana (MOFA) and the Statistical Service of Ghana. There are other data which was taken from other sources and their sources have been indicated.

Primary data that was used in this study was collected by the method of random sampling in the rural areas of Western region specifically the Wassa East District. The method of analysis involves the use of a number of statistical techniques such as tabulation, graphical presentation and determination of frequencies from data corrected.

3.1 Concept Variable and definitions

Farming in Ghana involves the owner of the farm being the person who works on the farm and receives extra hands from his immediate family. Under normal circumstances a family member who works in the farms does not receive any payment. One way or the other they are considered also as owners who will be fed on the farm produce.

Farming is also used in this report to mean food crop farming. Where owners have no family, friends who also have various farms will agree to work in each others farms in turns. They use hand tools like cutlasses, hoes and axes for slashing, weeding and felling of trees.

Lumbering as used in this study refers to the felling of trees preparing and sawing them into longs planks and plywood for export and for local consumption. The main purpose for lumbering is to provide means of living.

a) Ages of Population:

Ages of population in agriculture activities include ages from 16 years and above most of who are illiterates or partially illiterates. The few who are literates are normally gainfully employed in a white colored job. They only invest their money into farming and occasionally pays visit to the farm. They do not participate in the activities and so they are normally describe as absentee farmers by their colleagues.

b) Logs Preparation:

Log preparation is the cutting of tree into pieces of some specified length for exporting or selling them locally.

c) Planks:

Planks are the splitting of logs into long boards of about 9ft to 12ft for either export or for local consumption.

3.2 Source of Data and Collection process

The primary data that is use in this project was collected from one farming community. It does not represent the whole farming communities in Ghana. However situation in the Ghanaian farming communities are similar with a little variations in prices and crops that are cultivated.

3.3 Approaches

An interview guide was prepared and was sent to the enumerated area where interviews were conducted and the answers were compiled on the questionnaire by the researcher in the case of those who were illiterates. Those who were literates were given the questionnaires to complete by themselves with the help of the researcher. There were 100 respondents selected from 10 villages by the method of random sampling. At each village 10 people were chosen at random as respondent.

The secondary data was gathered from books, magazines, reports and other publications by Ministries, Statistical Service, websites of firms and organizations, and Media publications.

3.4 Hypothesis

Specifically, the hypothesis which was tested was:

- i. The forest is being depleted as a result of farming activities
- ii. The forest is being depleted as a result of lumbering
- iii. There has being a fall in farmers produce
- iv. The forest is not being replaced
- v. Rainfall pattern has change
- vi. Lumbering has been beneficial
- vii. Lack of educational statistical data regarding soil fertility

3.5 Sample Characteristics

Participants included 100 respondents from surrounding villages of Takoradi in the western region. These villages were farming community with Takoradi as the only city not involved. Ten respondents from ten villages were randomly selected for participation. Individual subjects were contacted and interviewed in person.

During the interview participants reported their knowledge about farming activities and what they think has been the adverse effect on the environment as a result of farming. They gave history in regards to what the environment used to be. They reported on the benefits the forest had offered them. Thirty-five respondents even though were farmers, they have had some experienced in of lumbering. Thirty-five respondents were farmers and thirty were absentee farmers.

Five measures were gathered representing farming activities as a result of forest depletion (e.g. Graphic 12 July, 1996) reported to an award ceremony which will be annual affair. The Ghana Government also schedules a farmer's day celebration to take place every first week in December and is expected to provide incentive to encourage people to invest in farming and tree planting.

The study of the climatic conditions of Ghana shows that the fall in farmers produce is partly caused by the removal of vegetative cover. As soon as the vegetation is reduced to low secondary forest and bushes, as happened in the older cocoa lands in the eastern region, the cocoa crops begin to die off.

Although almost all the food crops of the forest zone can be grown in the areas of low bushes, secondary forest, and the savanna regions of Ghana, some of them, like plantain, cocoyam banana and various types of yam, prefer the more humid condition of high forest proper.

The depletion of the forest has received greater attention in recent times. The Government has instituted laws that protect the forest as well as encouraging the people to plant trees. In the month of June, 1996 award was given to thirty people in the Ga district for their contribution in forestation programme. The rainfall pattern has been the major concern for farmers in these recent times. When in the olden days the rains were regular and reliable, the pattern has changed drastically. Responses indications, frequencies and percentages were compiled to determine the degree to which the subjects viewed the rainfall pattern.

Again, frequencies and percentages as well as cross-tabulation was the measure of the degree to which the respondents determine the benefits of farming.

Finally, tables and graphs is used to assess the general level of responses in relative sense between those respondents who were farmers and those who were not. In this study a lower level of responses means the disagreement of the effects of farming on the environment.

On the other hand a higher level of responses implies that there is an agreement to the fact that farming has got an adverse effect on the environment.

The foremost limitations are that the study was done in a farming community where the level of education was very low. More than fifty percent of the respondents were neither literates who could not read nor write. The issue of illiteracy brought in the complication of the translation of the questionnaire from English to the respondent's local language.

The other limitation is age misrepresentation and digit preference. Omission of some fact by respondents which can come from the fact that they may either have forgotten or they do not remember. This point to the fact that respondents are like to give facts that is not matching with date that is quoted with it. The number of men chosen for the study was higher than women. This was than to make the respondent representative of population because men are the custodian of land in Ghana and men are normally owners of farms with their wife and children use on the farms as family hands.

3.6 Statistical analysis

A number of statistical procedures have been used on the tabulation obtained from the data collected from primary sources. One such procedure which was descriptive in nature involves the calculation of averages, rate and the percentage. In addition, there is tabular and graphical presentation of the data.

Cross- tabulation is used for the study on the basis of the percentage of people who agree that farming is the major cause of forest depletion by sex and residential status as well as occupation. The percentage of subject who did not agree was also studied on the basis of occupation, age and sex.

Base on their response it can be deduced that farming is a major contributor of forest depletion. This in turn courses soil erosion as well as climate change leading low productivity in food crop production.

4. Review of Farming Activities

4.1 Findings, and Result

The following are findings and result of interviews conducted in Mpohor Wassa East District in the Western region of Ghana

Age Distribution

Among the respondents were teenagers who felt that what is being done to the forest will go a long way to affect their future. The teenagers who were 28 respondents in number represent about one-third of the total respondents of 100 who took part in the study. The tables bellow shows the age distribution of the respondents as well as the sex distribution.

The Frequency column shows the number of respondents in each age group where as the percentage column shows the influence each group had on the data.

Table 1: Age distribution of respondents

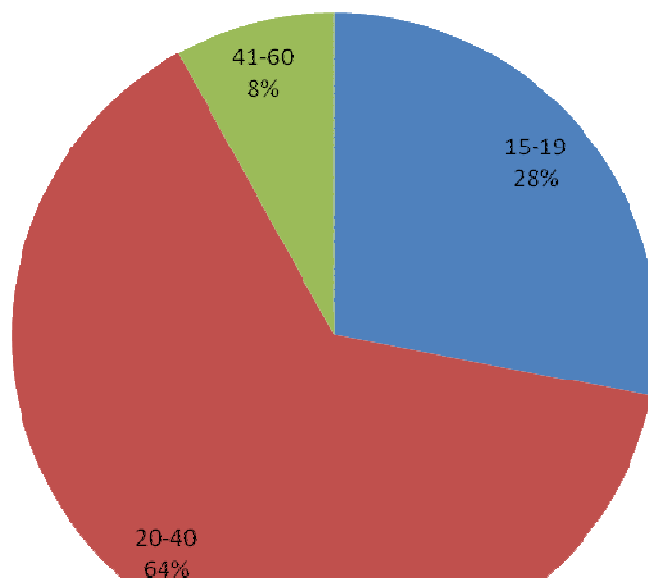
Age	Frequency	Percentage
15-19	28.0	28.0
20-40	64.0	64.0
41-60	8.0	8.0

Source: Interview, Mpohor Wassa East District, Western Region, Ghana

The Frequency column shows the number of respondents in each age group where as the percentage column shows the influence each group had on the data.

The pie chart below shows the percentage age distribution of respondents. It shows how the findings of the analyses have been influence by various groups of the respondents.

Figure 1: Age Distribution in percentages



Much in the same way the table below shows the frequency as well as their percentages of sex distribution of respondents.

Table 2: Sex distribution of respondents

Sex	frequency	percentage
Male	90.0	90.0
Female	10.0	10.0

Source: Interview Mpohor Wassa East District, Western Region, Ghana

From the distribution one can find out that the percentage number of female teenagers as compare to the percentage number of male teenagers is small indicating a good representation in the selection of respondents as men are usually the farm owners and that they form the majority in all the agriculture sectors.

The number of teenager's respondents is 28

The number of male respondents is 90

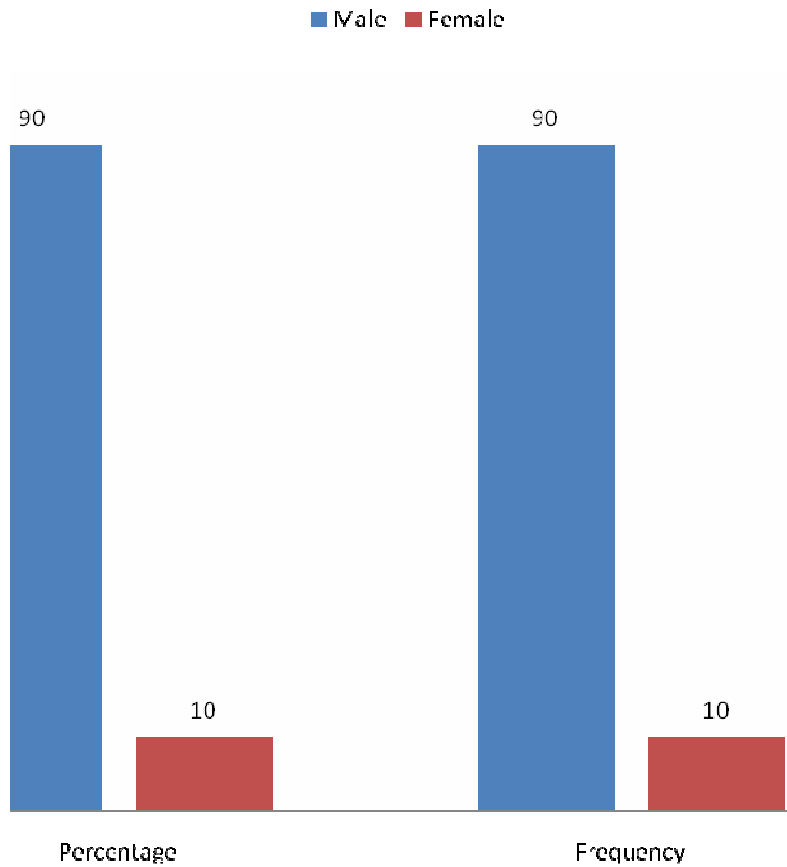
The number of female respondents is 10

It implies $90/100 * 28 = 25.2$ % male teenagers and

It implies $10/100 * 28 = 2.8$ % female teenagers.

The table above has been conveniently represented on bar chart. It shows the contributions of respondents by sex distribution.

Figure:2 Sex Distribution of Respondents



This has been made possible for us to know the view of both the male and females teenagers who were included in our study. Although their numbers are few their views represent the general views of teenagers in community. The occupation of the respondents was measured to determine whether the sought of job they do and also their usual place of residence had influence their responses.

4.2 Occupation

It can be find out that 50% of the respondents work in an office or as teachers.

Those who were involve in agribusiness commercial activities were 36% where as the farmers were 14% among these groups it was realized that those working in office and in the commercial sector which is in close connection with agriculture are well informed about the activities of the farmers than the farmers themselves, hence their number.

Residential status

In the same vein residential status did not show any influence on their responses since the report of farming activities are of common knowledge with no asymmetry information dissemination.

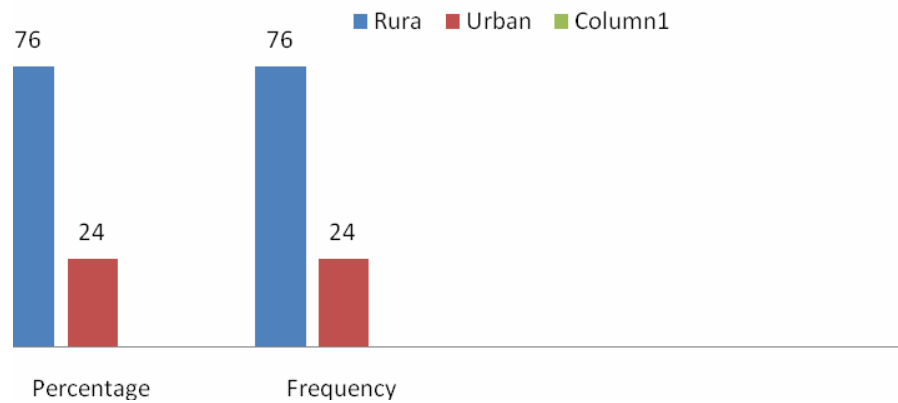
Table 3: **Residential Distribution of Respondents**

Residence	frequency	percent
Urban	24,0	24,0
Rural	76,0	24,0

Source: Interview, Mpohor Wassa East District, Western Region, Ghana

From the table a bar chart representation of the residential status of respondents is made to show the difference between urban and rural residence respondents.

Figure:3 Distribution of Residential Status



The tables below show the distributions of the occupation and residential status of respondents.

Table 4: Occupational distribution of Respondents

Occupation	frequency	percent
Office work	50, 0	50,0
Commerce	36, 0	36, 0
Farming	14, 0	14,0

Source: Interview, Mpohor Wassa East District, Western Region, Ghana.



The percentage values of the table above are represented on the pie chart below. On the pie chart one can easily determine the effect of respondents' contribution according to their occupation. Even though the respondents have diverse occupations, they are people who come from the community and have live in the community for most part of their life couple with the fact that they are mostly literates underscore the reasons for their inclusion as respondents. The findings of the project show no biasness towards any occupation and their contribution has been very effective.

Respondents who are office workers and those who are involve in commerce together one will realized from the Pie Chart that they are 76% of the total respondents.

4.3 Forest Depletion

In considering farming as a major cause of forest depletion, the respondents said that farmers employ the services of chain saw operators to fell hug trees. These trees normally falls be young the boundaries of the farm and causes serious damage to the forest. It was determine over here by fact that 22% of the respondents reported that chain saw operators, people in timber business and farmers work hand in hand, and have being operating for about 10 years in the District. Where as 40% are of the view that the collaborative action of farmers and timber men have been in existence for a period between 10 years to 30years which has been the reason for reduction of the forest. There were also about 28% of respondent who share the view that combined action of timber and farming have being in the community for over 30years resulting in the depletion of greater part of the forest. The Table below shows the detail distribution.

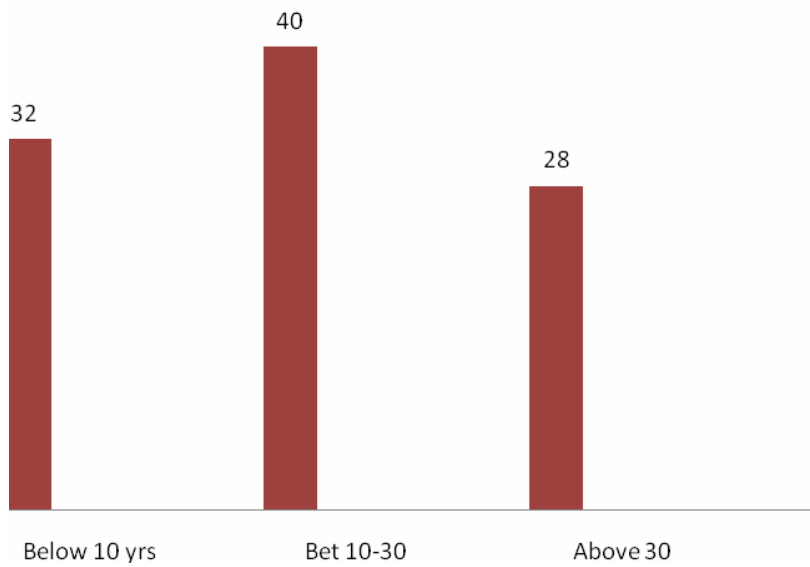
Table 5: **The Distribution of Responses to the period of Existence of Timber Activities**

Period of existence	frequency	percent
10 years and below	32,0	32,0
Between 10 yrs and 30yrs	40,0	40,0
Above 30 years	28,0	28,0

Source: Interview, Mpohor Wassa East District, Western Region, Ghana

The Bar graph blow shows the representation of respondents on the effect of timber activities within the district in percentages.

Figure:5 Effect of Timber activities



The respondents gave their views also on the number of people in the Timber business and described them as farmers who have turn themselves into tree hunters. This has been detail in the Table below

Table 6: **Distribution of Responses to the Number of People in the Timber Business**

Number of people in the Timber business	frequency	percent
Large number of people	20,0	20,0
Few number of people	42,0	42,0
Very few people	38,0	38,0

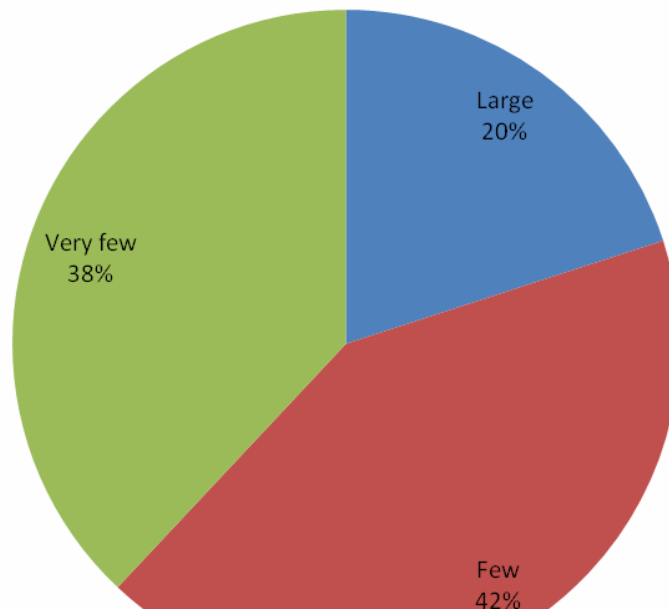
Source: Interview, Mpohor Wassa East District, Western Region, Ghana

The respondent's added companies are involved in the felling for timber in the community. 38% of the respondents however did not agree. They were of the opinion that who the people who are in the timber business are all private individuals who do so to earn their living. The respondents who agreed that companies are involve in the felling of timber logs also added that heavy duty machines like caterpillar and excavators are used in transporting to timber logs from the bush. By so doing they destroy a large portion of uncultivated land.

By their action farmers loses vast amount of land that would have been viable for crop production. Food production is therefore limited to areas that has been cultivated and had not been allow enough time to fallow.

Since farmers do not use chemical and fertilizers to support their farming activities, their farm yield is always low.

Number:6 of people in the timber Business



On the question of whether forest reserves are affected by farming, 20 respondents said there is no land which has been demarcated as forest reserve in the community, but 80 respondents said there is. Upon the investigation of the researcher it came out that there are two areas made up of some few square kilometers which are supposed to be forest reserves. But farmers have encroach these forest reserves.

The figure below shows the graphical representation of the view of respondents on number of people in timber business in the community

The respondents reported that farmer's farm in both the reserved and the unreserved forest because of lack of supervision. According to 88% of the respondents the forest reserve is very fertile so farmer who goes there to farm are sure of reaping a high amount of produce. However 12% of them argued that even if there is forest reserve and people enter it their

action will be insignificant. The table below shows the distribution of responses amount food products that are produced from the community.

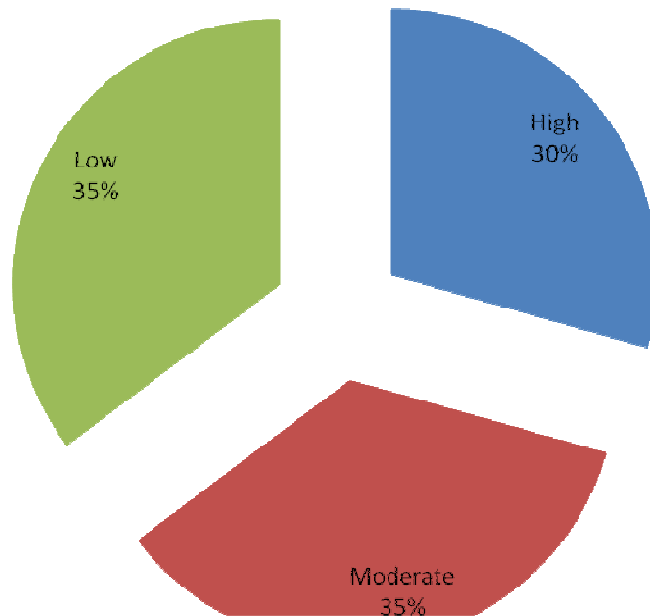
Table 7: The Distribution of Responses to the Quantity of food produce

Quantity of crops produces in the community percent	frequency	
High	40,0	40,0
Moderate	48,0	48,0
Low	12,0	12,0

Source: Interview, Mpohor Wassa East District, Western Region, Ghana

The responses show that as a matter of fact the amount of food produce in the community has been reduced considerably. The percentage representation is show on the pie chart below. Only 30% out of 100 respondents were of the view that amount of food produce is in the community is high. The other 70% either said it were low or moderate.

Figure:7 Amount of food Produced



4.4 The Effect of Forest depletion on food production

The respondents were given the chance to describe the nature of the forest about 30 years ago. 70 respondents out of the 100 people as indicated by their frequency said the forest was dense but 10 out of 100 respondents said that it was heavily depleted. Some of the teenagers who were not born at that time and have not been told of what the forest used to be are likely to give answer according to what they see today. Yet only 10 people out of the 28 teenagers might not know what was prevailing about 30 years ago if we should take it that the adults are all aware of the nature of the forest at that time. The details of the respondents contributions are presented on the Table below.

The figure below shows the distribution of responses on nature of forest about 30 years ago. The nature of forest shows the fertility of the land. The forest is deemed to be very fertile when it is at its primary stage, but it loses its fertility as the land is cultivated over and over again without the application of nutrients

Table 8: The Responses to the nature of forest about 30 years ago

The Nature of forest 30yrs ago	frequency	percent
Primary forest	70,0	70,0
secondary forest	20,0	20,0
Heavily depleted	10,0	10,0

Source: Interview, Mpohor Wassa East District, Western Region, Ghana

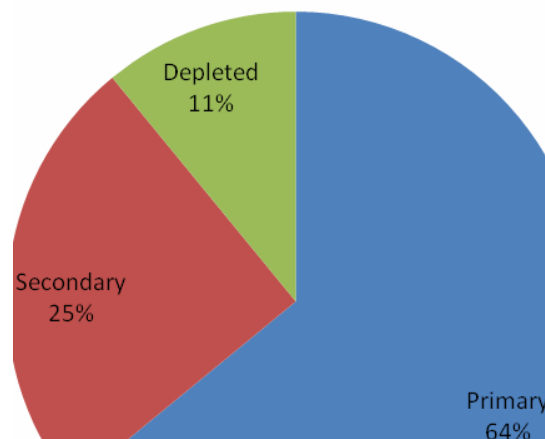
The effect of the forest on Agriculture

As already mentioned the protection of forest does not only provide a suitable environment for cocoa cultivation but also provides wood. It serves a variety of purposes. Wood is the country's principal source of fuel and it is used either directly or indirectly in the form of charcoal. Wood is an important building material in all the rural areas except in the northern Ghana where it is relatively scarce. A hut in any village in the

forest and along the coast normally consists of a framework of wood plastered over with swish or earth. The roofing may be of corrugated iron sheets but more commonly of split bamboo, straw or leaves of palm tree. Wood is used for boat building as props in the mines where they support the roofs of the tunnels and for other construction works. Furniture of all kinds is also made of wood.

Since 1956 about 849,500 cubic meters of timber have been exported annually. Western Region, Western Brong Ahafo and Ashante produce about 90% of the timber exported from the country as stated by K.B. Dickson and George Benneh. Western Region. Larger quantities of the logs are exported In order to curb the activities the timber business Government give concessions to recognize companies only. By this approach tree will be protect. This will go a long way to affect rainfall pattern and will affect agriculture positively.

Figure:8 Nature of Forest



On responses to the nature of farming in the community respondents were of the view that just about 6% of the farmers have access to primary forest which is deemed fertile for food cultivation. The 78% majority said farmers in the community depend on heavily depleted farm lands. A few were of the view that some farmers have access to forest lands that are still in either the primary stage or secondary. However, the respondents indicated that primary forest is heavily depleted and has contributed to the very low yield of farm production in present days but there was still a few who felt that forest depletion has not affected farming. The Table below shows the details of the responses.

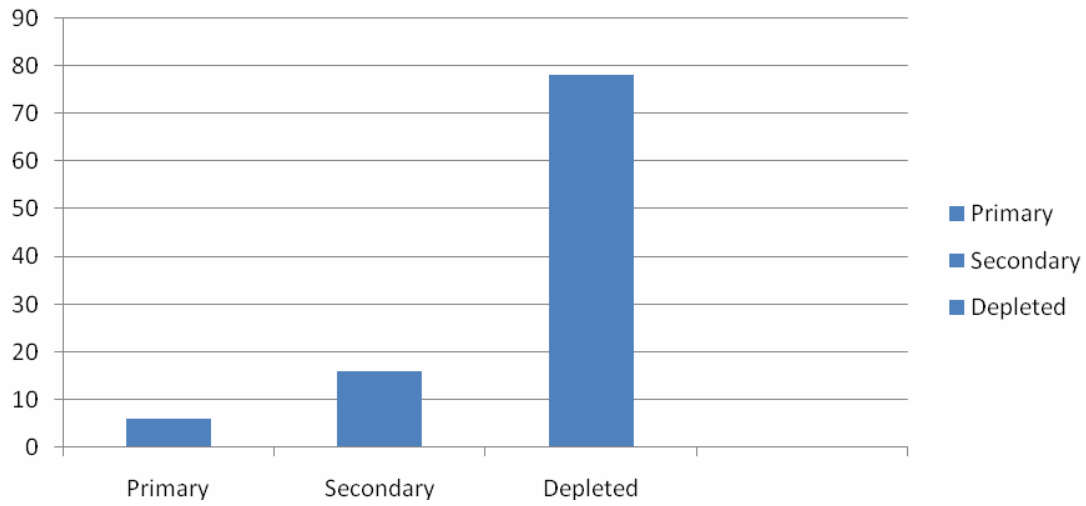
Table 9: Responses to the Nature of Farming at Present

Nature of farming at Present	Number of respondents	percentage
Primary Forest effect	6	6,0
Secondary Forest effect	16	16,0
Heavily Depleted Land effect	78	78,0

Source: Interview, Mpohor Wassa East District, Western Region, Ghana

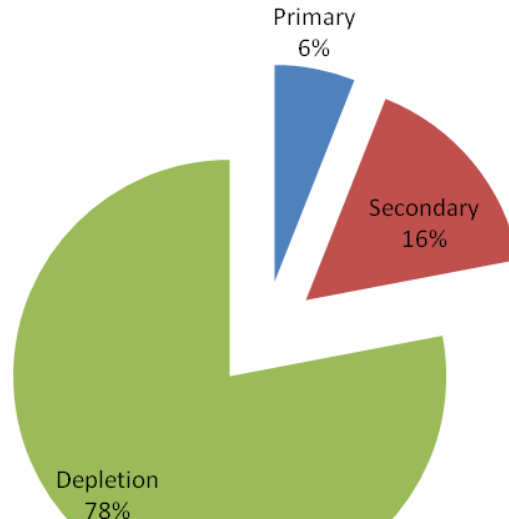
The graph below shows the distribution of the number of respondents as represented on the table above.

Figure:9 Number of Respondents



The Pie chart below shows the percentage distribution of the respondents.

Figure:10 Percentage Number of Respondent



Food Production 30 years ago and at Present

In confirmation to the nature of food production 30 years ago and at present the respondents were made to comment on size of the forest 30 years ago and what it has come to be at this present time.

Computations of frequencies and percentages revealed that about 30 years ago the size of the forest was very large which confirm the responses given to the nature of the forest. It can be said that since the size of the forest was large, Farm produce was higher since Ghanaian traditional farmers depends on fertile land and natural conditions rather than a chemicals and fertilizers.

The Table below shows the responses to the size of the forest 30 years ago and at the present time. Respondents were of the view that depletion of the forest affect amount of rainfall and the rains pattern as well.

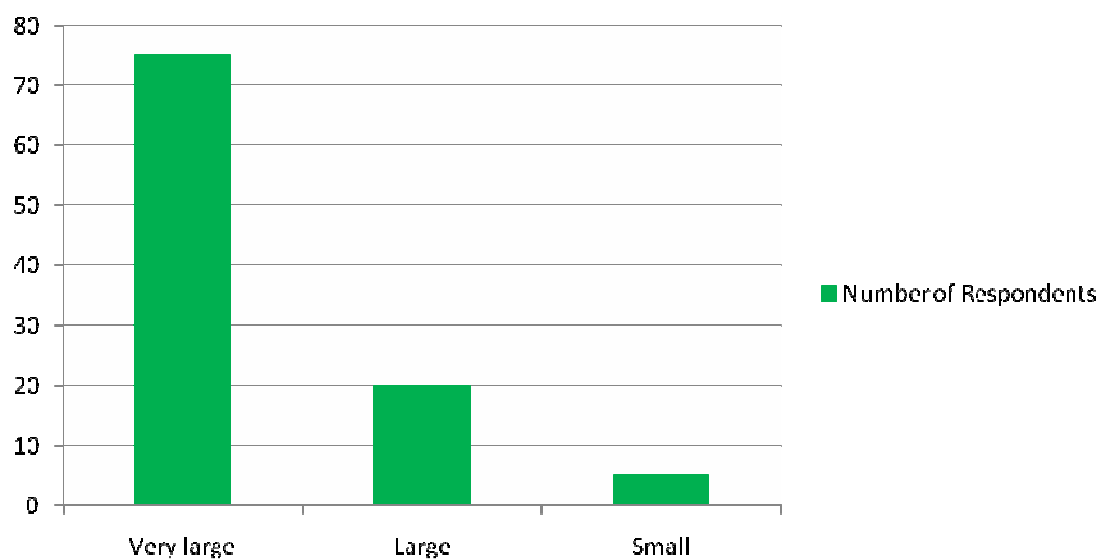
Table 10: Responses to the Size of the Forest 30 years ago

	No. of respondents	Percentages
Very large	75	75
Large	20	20
Small	5	5

Source: Interview, Mpohor Wassa East District, Western Region, Ghana

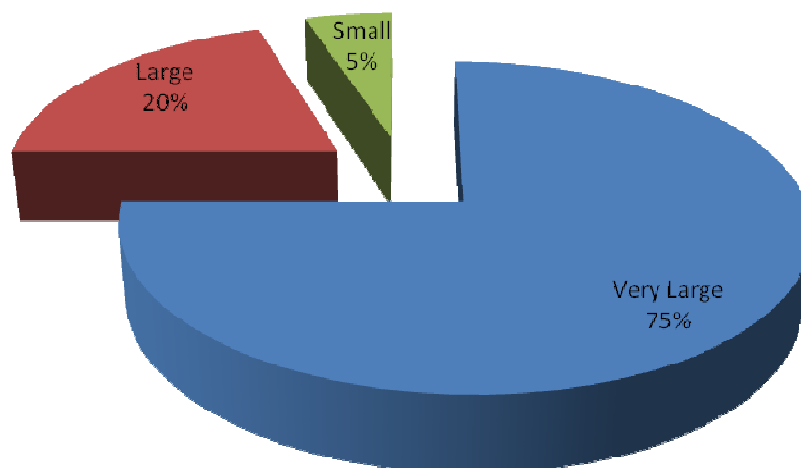
Below is the graph showing the no of respondents who gave their views on the size of the forest that exist in the community.

Figure:11 Size of the Forest 30 years ago



In the same vein the pie chart represent the percentage distribution of respondents for their views express on the size of the forest.

Size of the Forest 30 years ago



In another vein, some respondents reported that the size at the forest and fertile land at present time is very small and that it has become impossible for the growing population of farmers to allow a part of the forest to stand as primary forest. Their activities have now been extended into the Government Reserved Forest.

About 90% of farmers depend totally on rainfall for their farming activities. They are therefore seriously affected as the amount of rainfall and the pattern changes and become unpredictable. Their output is reducing drastically leading to a fall in the income and the living standard of farmers.

The Table below shows the responses to the size of the forest at the present time. Respondents were of the view that depletion of the forest affect amount of rainfall and the rains pattern as well.

Table 11: Responses to the Size of the Forest at Present time

Size of forest at present	frequency	percent
Very large	10	10,0
Large	15	15,0
Small	75	75,0

Source: Interview, Mpohor Wassa East District, Western Region, Ghana

Figure:12 Size of Forest at present

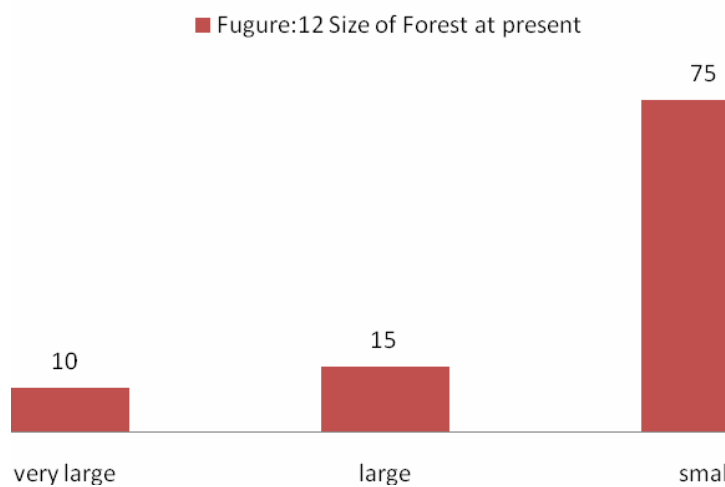
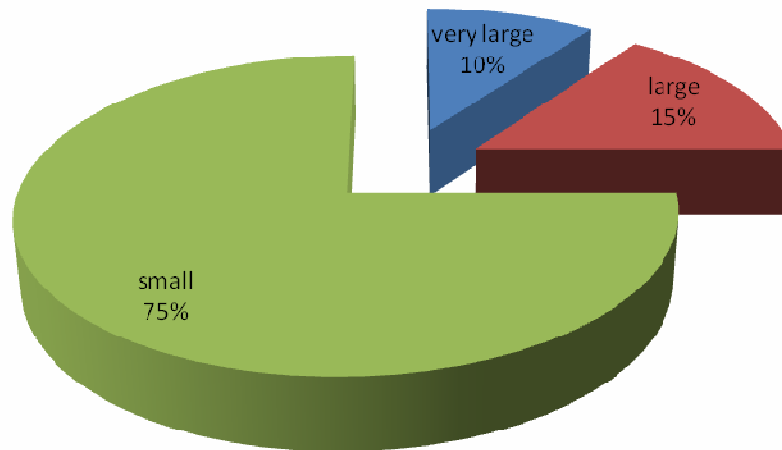


Figure:13 Size of at present



The number of people interviewed was hundred (100). Among these hundred respondents there were 30 females and 70 males. Out of these 30 females 25% agreed that farming is a major course of forest depletion. They confirmed their contributions with the argument that shifting cultivation, bush fires and indiscriminate felling of trees by charcoal burners and timber men or the people who exploit timber. Only 5% shared different views as some talked about in discriminatory mining by mining companies as well as the activities of illegal miners.

Out of the 90 males about 60% express views that confirmed that farming activities has been on the increase in recent times and that has been the reason of forest depletion, but 10% of the males thought that farmers themselves are either involve in exploitation or collaborate with the timber merchant which is the major cause of forest depletion since their activities has being the slash and burning of forest which causes bush fires and hauling of the trees that are timber species from the farms with heavy duty machines which also courses degradation of the forest.

On the other hand more than 40% of the respondent commented that the forest is rapidly disappearing mainly as a result of lumbering. They said that lumbering activities has existed in the community from 10 to 30 years and above with quite a moderate number of people operating in the lumbering business. These same majority of respondent said that there are companies that come into the community to do lumbering with machines like caterpillar, tractors and timber jack and so on. The numbers of people who agree on this point are about 80 percent but only 20 percent describing the logs and lumbering business in the area as insignificance.

These same majority went on to say that chain saw operators where there are reserved and unreserved forest, but these lumbering operate in the both forest, which proof the point that they operate in the places where farmers can not or are allowed to farm there by leaving the reserve forest depleted on the shoulders of lumber business leaving the size of the forest being reduced to a very small size.

On low agricultural productivity the respondent said that although there are laws that protect farmers and their crops from lumbering activities they are not being enforced and for that lapsed of law the lumbermen fell trees that are left growing in farms there-by destroying farm crops. The respondents went on to say that the trees felled are hauled through cultivated farms without given any protection to crops that are growing in the farms. The respondent added that the trees that are felled sometimes fall into their cultivated farms causing great damage to the crops which is associated with low yield.

On the forest and how to improve upon it the respondent had this to say. Almost all the respondents that is about 95 percent of them said there is nothing like afforestation programme in the community.

Even though they agreed that there are institution and programmes that the government must enforce, they argued that such are not enforced. They called for the need of the law enforcement agencies to institute measures that will make the institutions and programmes work to it maximum required level.

For the validity of Lumbering activities in the community the respondents said that they would not encourage any body to do lumbering in the community. All the 100 respondents shared the view that lumbering has got bad effect environmental as well as bad effect on agriculture.

The respondents said that the community do not receive any benefit from the lumber activities, instead they specified that they cause damage to the existing infrastructure, like road and bridges which the farmers depend on for the carting of their food crops to the market .

5. Discussion

Ghana lies in the Equatorial region which is made of evergreen trees that cover the guinea coast and the Congo basin. It would have been possible for the geographers, or institutions to have collected data about the fertility of soil, the structure, and the humidity of the various regions in Ghana. Using the data collected by the botanist, geographers, and other institutions the surface area of the land in the country could have been divided into regions in which plant communities including food crops can broadly be grown or identified.

In the report of the “Estimates of food production and food availability in Ghana: The case of Year 2000” [5]

The writers observed to the fact that food crop farming plays a vital role in the economic life of Ghana. The economy of Ghana is largely agrarian, and is dominated by primary commodities. Ghana has been the world’s leading exporter of cocoa until the early 1980s when Cote d’Ivoire took over as the leading exporter. Gold and Timber are two other major traditional primary exports from Ghana. More recently, non-traditional agricultural exports, particularly pineapples, have become important foreign exchange earners for the country. A competition between the cash crop and food crop subsectors for scarce resources has therefore been a common feature of Ghana’s agricultural sector over the years.

The agricultural sector, including crops, livestock, fisheries, and forestry. They accounts for about 40% of Ghana’s Gross Domestic Product (GDP), and employs in excess of 60% of the country’s working population It generates over 40% of the country’s foreign exchange annually earnings. This makes agriculture the most dominant sector of the economy of Ghana. The performance of agricultural sector therefore has serious implications for the entire economy. For example, a negative annual average growth rate of about -1.2% for agriculture between 1970 and 1980 translated into a -1% average annual growth rate for the entire economy during the same period. In 2002 when agriculture experienced a negative growth rate, GDP growth declined from 5.3% the previous year to only 3.9% in 1992. This is consistent with the general observation that for most developing

countries whose economies are largely agrarian, the overall GDP growth tends to be within 2% of agricultural growth rates (MOFA, 2004).

Ghana's agriculture is divided into four main sub-sectors. These include Crops and Livestock, Cocoa, Forestry and Logging, and Fisheries. Based on their contribution to Agricultural GDP, the Crops and Livestock sub-sector is the largest (28%), followed by the Cocoa sub-sector (7%), the Forestry and Logging sub-sector (4%), and the Fisheries sub-sector (1%), in that order, which together make up about 40% of Ghana's total GDP (MOFA, 2005). In terms of volume of production, food crop production dominates the agricultural sector.

Agricultural production in Ghana is primarily rain fed, making food crop production in particular subject to the uncertainties associated with weather conditions. Wide variations in food output which are largely a function of fluctuations in rainfall characterize food production patterns for all the major food crops and livestock. As a result, even though food production levels have improved since Ghana's Economic Recovery Programme (ERP) was launched in 1983, they have not been able to match food demand on yearly basis. Imports of food, including food aid, continue to be used to make up the shortfalls. Such food imports have included both commercial imports through official channels and those that occur across the countries borders with neighbouring states (cross border trade) most of which are usually not documented.

Production of major agricultural products has been on an increase since 2001. This is adequately illustrated below.

Figure:12 Production of Selected Food Crops

Food Item	2000	2001	2002	2003	2004	2005
Cassava	8,107	1	9,731	10,239	9,739	9,567
Yam	3,363	8,966	3,900	3,813	3,892	3,923
Plantain	1,932	3,547	2,279	2,329	2,381	2,792
Cocoyam	1,625	2,074	1,860	1,805	1,716	1,686
Maize	1,013	1,688	1,400	1,289	1,158	1,171
Sorghum	280	938	316	338	287	305
Millet	169	280	159	176	144	185
Rice (paddy)	215	134	280	39	242	237
Rice (milled)	129	253	168	143	145	142
		152				

Source: Ministry of Food and Agriculture (MOFA), Accra, Ghana

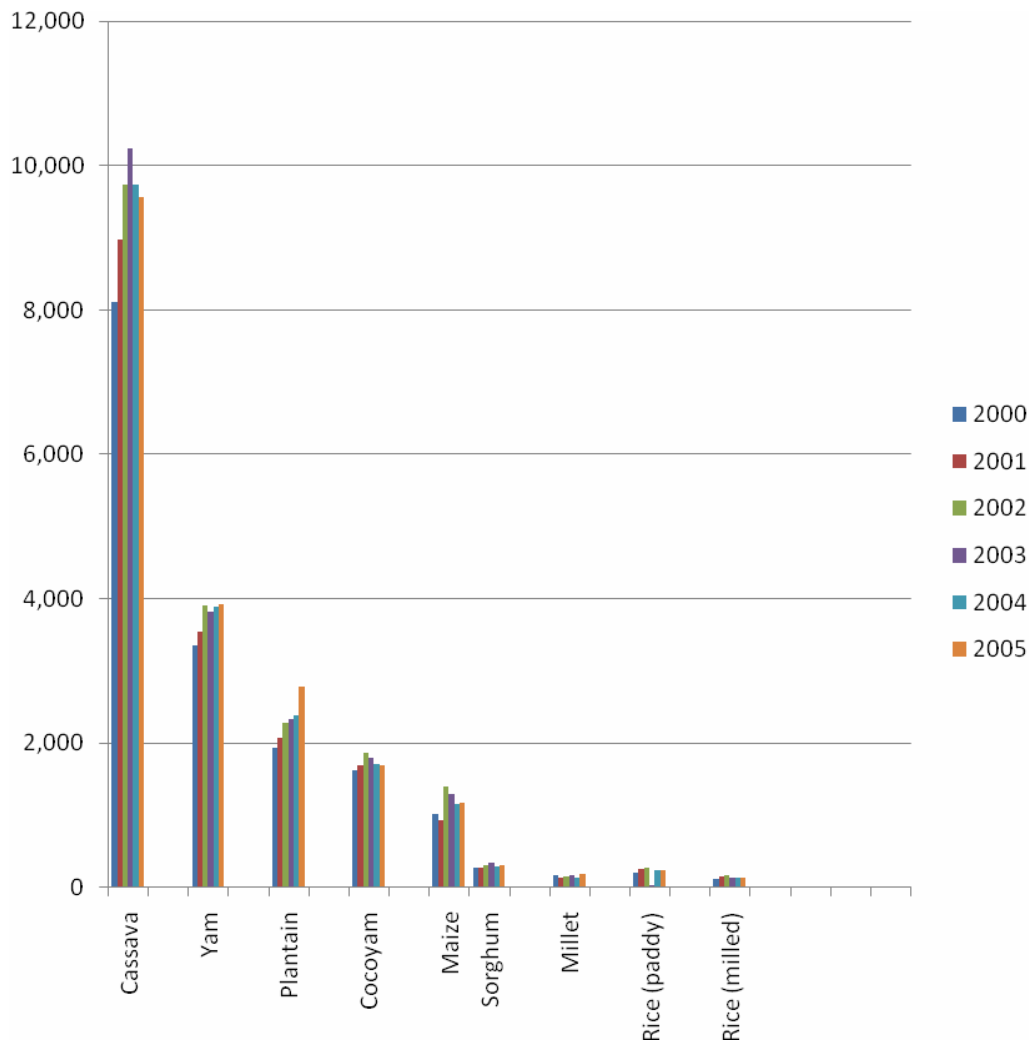
Below is the graphical representation of food production from 2000 to 2005

Each category shows the production trend of one particular crop during the six year period.

The major food crops produced in Ghana include cereals (maize, rice, sorghum and millet), roots and tubers (cassava, yams, cocoyam, and sweet potatoes), plantain/banana, and legumes (cowpea and soyabean). Cattle, sheep and goats, and poultry, on the other hand, constitute the major types of livestock produced in Ghana.

Food crop production in Ghana is mainly subsistence in nature, with only a small proportion large scale commercial enterprises. The subsistence nature of food crop production implies that total crop output and marketable surpluses are subject to

Figure: 14 Production of Selected Food Crops from 2000 - 2005



Variability and large fluctuations; usually patterned after the uncertainties associated with rainfall. Similarly, rainfed-agriculture makes the seasonality of crop production an important feature of agriculture in Ghana. Seasonality of crop production has implications also for output levels of different crops during different periods of the year, and how they affect food availability to rural and urban dwellers. Whereas most subsistence farmers are able to produce enough to feed their households and some amount left over as marketable surpluses, some of those who concentrate more on cash crops usually have to purchase most of their household food needs.

The country is not self-sufficient in cereal production. But in the case of roots and tubers such as cassava and yam, the domestic demand is generally met through domestic production alone, with surpluses in most normal years. The implication is that Ghana will continue to import some kind of food commodities most especially rice to make up for the gaps that exist between domestic supply and demand for those food items.

Furthermore, the seasonal nature of some food products (e.g. tomatoes) require their importation into Ghana during the lean periods when such commodities are in short supply. In the case of tomatoes in particular, recent field surveys have indicated that there exists some kind of reverse trade between Ghana and her neighbouring states. Tomatoes are observed to be exported from Ghana during Ghana's peak season, particularly to Togo and Burkina Faso, and then imported back into the country during the lean season.

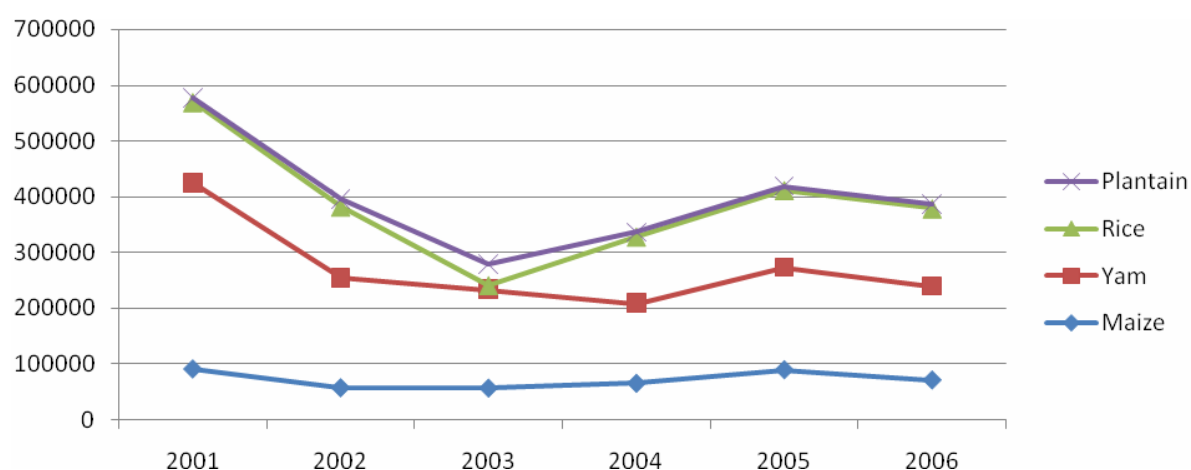
In addition, the seasonal nature of some food products (e.g. tomatoes) require their importation into Ghana during the lean periods when such commodities are in short supply. In the case of tomatoes in particular, recent field surveys have indicated that there exists some kind of reverse trade between Ghana and her neighbouring states. Tomatoes are observed to be exported from Ghana during Ghana's peak season, particularly to Togo and Burkina Faso, and then imported back into the country during the lean season.

Table: 13 Real Prices of Major Stable Food Crops

		2001	2002	2003	2004	2005	2006
Commodity	Unit of Sale	RP	RP	RP	RP	RP	RP
Maize	100 kg	91341	57793	57180	65725	90034	71697
Yam	250 kg	333212	196269	176733	142598	182516	167589
Rice	100 kg	144928	127899	120858	120042	139173	139673
Plantain	10 kg	7612	12369	36503	7402	6297	6606
Millet	73 kg	101490	94699	205553	94944	110330	42891
Cassava	91 kg	58092	28575	51995	19326	28630	29694
Sorghum	209 kg	89693	95101	195762	96226	116418	114485
Cocoyam	91 kg	69858	58260	43528	45515	56192	59520

Source: Ministry of Food and Agriculture (MOFA), Accra, Ghana

Figure: 15 Trend of Real Prices of 4 Major Food Staple Food Crops



Changing global markets are likely to continue to be a prime source of additional demand for goods produced and processed in Ghana. While demand for what Ghana can produce is high, making connections with these markets is an increasingly sophisticated business, requiring, for the most part, medium scale enterprises with professional management and technical expertise. The scarcest factors are risk capital, or equity, and the entrepreneurs willing and able to develop and manage such businesses in Ghana.

Government and donors will have to persuade venture capital companies to take Ghana seriously. Banks will need to be willing to lend to farmers which have adequate facilities for capital. The key sectors where investment makes sense are: agriculture, especially the development of food crop sector. Existing cooperative farmers and business associations have a key role to play in attracting businesses to these key sectors. Effective investment in irrigation also needs to play a key role in this strategy, and furthermore, will help in reducing vulnerability and broadening participation in growth.

Real prices of food products have consistently shown an upward trend over the years due to a combination of factors, including inflationary pressures and product scarcity particularly during off seasons. Figure above presents the real average prices for selected food commodities for the period 2001 and 2006. Prices of all food commodities show upward trends for the period under review, except the price of plantain which has been relatively stable until the mid-2005 when it started to drop slightly due to increase in production. The real prices of the other food crops declined during most of the period but after an initial decrease from the some part of the period it started to increase again only after period of bumper that comes with a decrease in price. This has adverse implications for farmer incentives to increase food production and the levels of imports of various food commodities that would be needed on an annual basis rather increases.

Table:14 Promising Agricultural Commodities Where There Is a Ready Market

Commodity	Location of production	Level of market development
A. Clear potential for success		
Yams	Growing production especially in South-eastern part of NR, and elsewhere.	Well organised 'Konkomba' market in Accra. Greater understanding of the nature and results of the success of this sub-sector would be useful in analysing prospects for other sub-sectors.
Cotton	Tumu area, large parts of Northern Region...	Production collapse since late 1990s. Companies being reorganised within a new framework. More attention to quality required for international market.
Guineafowl	Throughout	Large demand. No effective intermediary.
Shea nuts	Throughout	1 shea butter factory established. 1 regular purchaser of shea butter from limited number of women's groups. More such purchasers required.
Soybeans & groundnuts	Many areas. Growing production and yields.	2 companies purchasing; cannot get enough raw material. Several NGOs supporting farmer groups. Easier to produce for the market than in groundnuts.
B. Where market prospects are less certain		
Cowpeas	Many areas, especially good for degraded soils	Market prospects uncertain. Needs further research.
Mangoes	Near sources of irrigation – rivers	1 company purchasing from outgrowers
Other horticulture	Near sources of irrigation – generally rivers	Ready market: traders purchase large volumes of fruit and vegetables from far outside northern Ghana, including Sahel
Cashew nuts	NR and UW, but little production as yet	Reliance on purchasers from south; no steady market. A risky market to enter.
Rice	Valley bottoms, mainly NR; irrigated in UE and NR. Growing production and yields.	Production generally runs ahead of market. Need to develop market niche within sophisticated market for imports.
Small ruminants	UW, UE	Some purchasing for fattening for festivals. No systematic market. Needs further study.
Pigs	UW	Some purchasing for fattening for festivals. No systematic market

Source: Team members' interviews. Economic Growth in Northern Ghana

The firstly, farmers face the problem of input. It is it is very difficult for farmers to gain access to chemicals and fertilizers, tractor and other equipments. Such inputs are not within their reach since they do not have the money to buy them. Consequently, they depend on cutlasses and hoes to clear their farms and fell the trees.

Secondly, there are no credit facilities for the farmers and where a small credit facility is provided the cost of the credit is so high that farmers are not able to take advantage of it.

Thirdly, farmers have not got access to ready market. Whenever there is bumper harvest, farm produce are sold very cheap in order to clear the market. is increasing in those areas where it has become necessary to go a long distance away from the existing timber yards in order to fell trees. Thirdly, there are many insect pests like ambrosia beetles, which attack the logs soon after they are cut and render them unsuitable for export. Lastly, the equipment including the heavy caterpillar tractor deteriorates quickly.

The third and the last problems are not insoluble. Ultimately the continuing success of the timber industry will depend on the strict enforcement of the forestry laws which demand that new trees should be planted to replace those felled and immature laws trees should not be felled. It will also depend on the demand by local and overseas saw mills for a great amount and variety of timber. The dozen species of timber exported at present form only about 4% of the total species available in the forest.

Fourthly post harvest loses is one huge problem the Ghana farmer have been confronted with over the years. They have no means of storage for their food crops. When they are not able to sell their crops the only alternative left for them is to leave the crops to rot. This is a great disincentive for farmers to increase their product.

Other problems are lack of good agriculture policies and land issues. The success or otherwise of farming also depends on physical environment, economic conditions and land tenure system. The physical environment includes climate vegetations and soil.

Farming is by far the most important occupation among the people of Ghana. Two out of every three Ghanaians are engaged in farming either directly or indirectly. The number of people engaged in farming is present reduced to about 57%.

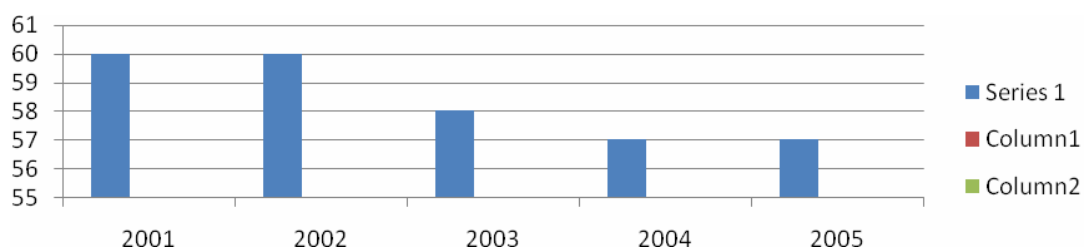
Table:15 Level of Employment in Agricultural Sector

Year	%
2001	60
2002	60
2003	58
2004	57
2005	57

Source: Ministry of Food and Agriculture (MOFA), Accra, Ghana

Below shows a graphical presentation of Percent of labor in agriculture shows a dropped to 57 percent as at last year, but sector continues to employ most Ghanaians.

Figure: 16 Level of Employment in Agricultural Sector



In Ghana relief does not affect agriculture very much since there is no part of the country that is high enough to make farming so difficult. Arable land in Ghana is general low lying with very few undulating and hilly areas. We can say in general that food crops are grown in every part of Ghana. The major climate factor that affects farming is lack rainfall.

The temperature distribution in the country is good enough to permit plant growth throughout the year.

In recent time irrigation, has become more important than natural rainfall as an aid to farmers but it is practiced in very few areas in Ghana. Most of the Ghanaian farmers still depends on a factor over which they have no control. He can only grow his crops when the rains come and when they fail he faces a lean harvest or total crop failure.

The seasonal distribution of rainfall also determines the annual cycle of farming activities. A farmer living in the northern Ghana can only farm during the single rainfall season. For the rest of the year in the dry season, he does not work on the farm and food becomes scarce for him. This is why in northern Ghana the dry season is often referred to as the 'hungry season. In the closed forest on the other hand, because of the two rainy seasons the farmer can grow two crops a year and the intervening dry seasons are used for harvesting the crops and preparing new fields for cultivation in the forthcoming rainy season. This is an indication that the growth of trees that forms the forest contribute greatly to farming. But these trees are being felled in the manner that is causing forest depletion.

Although this has lead to the decrease in the size of the forest leading to the lower yield in agriculture, this lower yield can be attributed to weather conditions which is unpredictable in recent times. There are periods where-by the rain falls is scanty and in other periods the rainfall becomes very high that food crops find it difficult to grow well.

There are also pest and insects which contribute to the low yield of agriculture. Here the farmers have found a way of controlling the damage coursed by way of using insecticides and pesticides.

6. Conclusions and Recommendations

Many may have observed an unprecedented rise in the number of farmers seeking relief from various institutions.

The weather, market, interest rates, equipment breakdown, are not under the control of farmers. Choosing of what kind of crop to be planted or transferring land to a creditor is a problem on its own as it can turn out to be rewarding or non-rewarding. When these factors are combined with the threat of serious drought, disease, and loss of farm the economic stress can be a serious issue that the farmer will be confronted with.

There has also been dramatic changes in the economic landscape. In the recent time farm production expenses have increased, capital purchases are on the rise, interest payments are also rising whereas profit is not making any significant upward movement in farming. The situation is that people are leaving their farms because of business and economic instability. In today's global community, farmers are subject to the forces of international markets. Farmers often find themselves in competition with food producers thousands of miles away. Although international trade has opened up new markets for farm products, the global market is usually unstable.

The food production sector in the economy of Ghana has some special characteristics, which need to be mentioned here

In Ghana food production is dominated by subsistence farmers. A subsistence farmer may be an individual or family of husband and wife. None of these can be large enough, to alter the market conditions. Maize production or the cereal market in general can be cited as the main example of perfect competition in Ghana.

The farmer begins cultivation of the crop by starting with underbrushing and lashing of the bush. He then follows up with the felling of trees that are left standing during underbrushing and slashing of the bush. The farmer then follows up with lopping the trees that are felled and left for about one month to dry up and then the bush will be burnt. This is a

process normally called slashing and burning. The process will normally cause a farmer not less than \$800 in the Western Region of Ghana to get one hector of land ready for cultivation. No harrowing is employ as the trees stumps hinders tractor move on the field of land.

Planting of seeds is done by the famer and his family and some friends. He will only provide with food for the day's work. The farm is normally cleared of weeds two times with cutlass and hoe before the crop is ready for harvesting. Harvesting is done by the farmer and his family.

The cost of seeds, planting, weeding and harvesting is estimate to be not less than \$500. No chemicals, fertilizers and manures are used. The farm is left at the mercy of the weather, pest, and rodents. In most cases the yield is far too low to give the farmer a meaningful income. That land is then abandoned and a new land is then prepared at the same cost and this cost is repeated every seasons of planting because the farmer always abandoned the cultivated land and look for a fresh uncultivated land and he is always worst off at the end of every season.

It will be recommendable that famers will be given training and support to be able to cultivate the same land for a long period of time to save them from spending their little income on preparation of new land every year.

When ever there is a shortage in the production of such crops there is a high price increase but when there is bumper harvest, large price cuts may be needed to clear the market. In order to ensure stable supply of food crops and a stable income, the Government must ensure to put in place intervention programme. By this surplus food will be purchase and store during period of large harvest. At low seasons these foodstuff can be release into the market to stabiles food supplies and food prices for both consumers and producers.

As individuals and households, income increase demand for agriculture products declines. It believes that, unless the share of the farm labor is decrease individual returns from farming will continuously decline.

The table below shows a decline of agriculture contribution to GDP as presented on the graph show below.

Farm labor cost combine with other factors gives rise to the problems short-term fluctuation in product prices, and over time product prices decline relatively to other prices and costs, and for reason farm incomes fall relatively to other incomes. Such problems must motivated government action on behalf of the farmers to protection against imports, promotion of exports, intervention to stabilize markets, subsidies of various kinds. With advancement in technology couple with progress in expansion of output, supply have grown increasingly therefore prompting Government measures for the control for supply.

Table:16 Contribution to GDP

Year	Agric (%) norminal GDP	Industry GDP (%) change
2000	35.3	25.4
2001	35.2	25.2
2002	35.1	25.3
2003	36.5	25.2
2004	37.9	24.7

Source: IMF Country Report No. 05/286

In the food production sector, the *quantity* of land is more or less fixed. There is little chance for expanding the area of farm land, by reclamation from the sea and the desert. On the other hand, there is a gradual loss land for mining, the building of houses, and disposal of waste product. In the individual farms, at least in the short term, the quantity of land is fixed

but on the other hand some farmers will give up their land after retiring.

In order to improve on the yield per the available land area, the quality of land can be improved over time by good management. Decisions on such matters as drainage and irrigation and to some extent on fertilizing, on crop rotation, are essentially.

The cost of agricultural land is determined by location of the land, the quality of the soil, and by the climate of the region in which in turn determine its productivity. Distance from centers of consumption has traditionally been regarded as a major factor determining the value of land. Although modern methods of transport including refrigerated vehicles have diminished its importance of location of land from market, in Ghana it is still a problem because such facilities are not available and roads are bad all the year round. In the raining seasons they become impassable and in the dry season it becomes so dusty that driver find it difficult to see on coming vehicle.

Land acquisition varies between communities and the bargaining power of individuals. The land user accounted for two-thirds of the produce when the Land lord does not contribute to the farm at all. On the other if the land lord provide the farmer with some input he rather is entitled to the two- third. Share-cropping, system is very common Ghana since many farmers do have the means to rent land. Share-cropping, tenancy is often held to have, in principle, several advantages over owner-occupancy. The tenant does not have to find money to purchase the land and buildings; he can concentrate his available funds on equipment and current inputs. Tenancy makes entry into farming easier for young people who are well qualified but have limited capital resources {in the case of owner-occupied farms, most

The inheritance systems have a big influence on farm structures. In owner-occupied farm Lands are handed over the families and heirs according to customary laws leading division of farm land into smaller units, and is largely responsible for the predominance of small and often leading to land conflict. Such an outcome clearly runs counter to the need to maintain farms of a viable size, the modern tendency therefore is to seek ways around this difficulty, sometimes assisted by legislative changes, and more often thought arrangements within the family.

Although there are other factors that contribute to land fragmentation and its environmental effect, it has been observed that the effect of small holdings of land seriously affect good agriculture practices. To the extent that the Ministry of Land and Forest instituted a legislative measure to control land acquisition problems.

I will recommend that the government put up stringent measures to protect the lands since land remains the most valuable natural resource for the country. It was first decided in 1949 that steps should be taken to conserve this valuable national possession by creating permanent Forest Reserves where no clearing or settlement would be allowed. In areas with suitable afforestation could be carried out.

Forest reservation benefits the country in various ways. The preservation of forest cover helps to conserve water supplies and to prevent soil erosion, since the speed and violence of the run-off of the rainfall is checked and the moisture can sink into the ground. It helps also to keep up the fertility of the soil whilst the forest products themselves (timber, etc) are valuable both in meeting local needs and in the export trade.

The economy of Ghana which is largely agrarian has been dominated by primary commodity production and exports. We note that stocks of food are carried over from year to year for all the food crops considered for food security reasons. However, there has been some problems with obtaining the data on current stock levels because the Ghana Food Distribution Corporation (GFDC), which used to be responsible for the information gathering and analysis has become defunct under structural adjustment programme and privatization in Ghana.

Also, the deficits shown for the cereals, namely, maize, sorghum, and millet, have resulted more from lack of data on stock levels as at the end of 1999 to date. Moreover the surpluses from roots and tubers compensate for the shortfalls in cereals so that food is available throughout the year. The Food and Agriculture Organization (FAO) in its food supply Situation Ghana's overall food supply as satisfactory.

Among the major cereals consumed in Ghana, but not shown on the food balance sheet, is wheat all of which is imported because there is no local production. An annual average volume of about 200,000 metric tons of wheat are imported into the country and processed mainly into bread for consumption. Estimates made for the food balance sheet for year 2000 were based primarily on expected farmers' production plans in terms of plantings and technology use during the current season. There seems to be general optimism among producers due to last year's good harvest, as well as a normal year weather prediction provided by the Ghana Meteorological Services. The amounts of rainfall available, together with the distribution of rainfall in any particular year, are among the most important factors that influence farmers' planting plans for each year.

This paper has reviewed food production and food availability in Ghana, with a focus on the food situation from year 1992 to 2006. The production and marketing of major staples in Ghana, as well as their availability has been highlighted. Issues concerning food situation in Ghana, including food price movements, have been addressed.

The good performance of the agriculture sector has attracted international attention. World Food Program has approached Government to establish its Food Depot in Ghana. This involves buying Ghana Food Items for its emergency food supplies in the sub region. The deal is worth at least \$10 million per annum. This will go a long way to stabilize farmers income and increase supply.

It is seen from the available data that whereas starchy staples in Ghana generally show annual production surpluses, the output of cereals show more variability from year to year coupled with the tendency of declining real prices for most food commodities, implying low levels of incentives for producers. Also, there is no data available on food stock levels to aid good planning on food needs and food requirement on a yearly basis. The implication is that the government of Ghana should periodically review her macroeconomic policies in terms of how they affect agricultural incentives, particularly food production incentives, so as

to create a congenial economic atmosphere for sustainable food production and food availability in Ghana.

The role played by the availability of good data in a useable form to aid economic planning and programming cannot be overemphasized. Government should therefore take appropriate measures, such as revamping the Policy, Planning, Monitoring, and Evaluation Department. Issues of this nature needs for a further study.

7. List of abbreviation

FAO	Food and Agriculture Organization
MOFA	Ministry of Food and Agriculture
WTO	World Trade Organization
IMF	International Monetary Organization
UG	University of Ghana
Ha	Hectare
MoF	Ministry of Finance

8. List of literature

- [1] Asante, E. O, 1998. “*Food Needs Assessment*. 4th edition. Ghana: Legon, Accra, 220 Pages. ISBN: 30-14232-234
- [2] Hilton T. E: *Practical Geography in Africa* 2nd edition 301 Pages London 1961 Daily Graphic May 7, 1996. ISBN.14124
- [3] Boateng E. A: *Geography of Ghana*. 3th edition, N.W.I. Branch New York: 32 East 57th street 1991, 320 pages. ISBN: 10022-1746-3
- [4] Nyanteng, V. K. 1997. “*Policies and Options for Ghanaian Economic Development*. 1st edition. University of Ghana, Legon, Accra, 201 Pages. ISBN: 014232-234
- [5] Awake, *The World Want Good Health*. 84th edition. USA: Wallkill, NY 1259 2007. 31 Pages. ISBAN: 1120-12483
- [6] Marcel S.: *Microeconomics I*. introductory course. Brno: MUAF Department of Economics. 120 pages. ISBN 0-201-77026-1
- [7] Tracy M: *Food and agriculture in a market economy*. 1st edition. Belgium: APS 20 rue Emile Francios 1474 la Hutte 285 pages. ISBN 2-96000047
- [8] Cfiks: *Collection, Documentation, and Dissemination*. [online] [cit. 2007 – 02 – 04] www.cfiks.org/food_in_ghana.htm, cited June 13, 200

9. Annexes

Annexes 1 Ghana in Africa Map

Annexes 2 Ghana and the Neighbouring Countries

Annexes 3 Soil Map of Ghana

Annexes 4 A typical rural farm house in Ghana

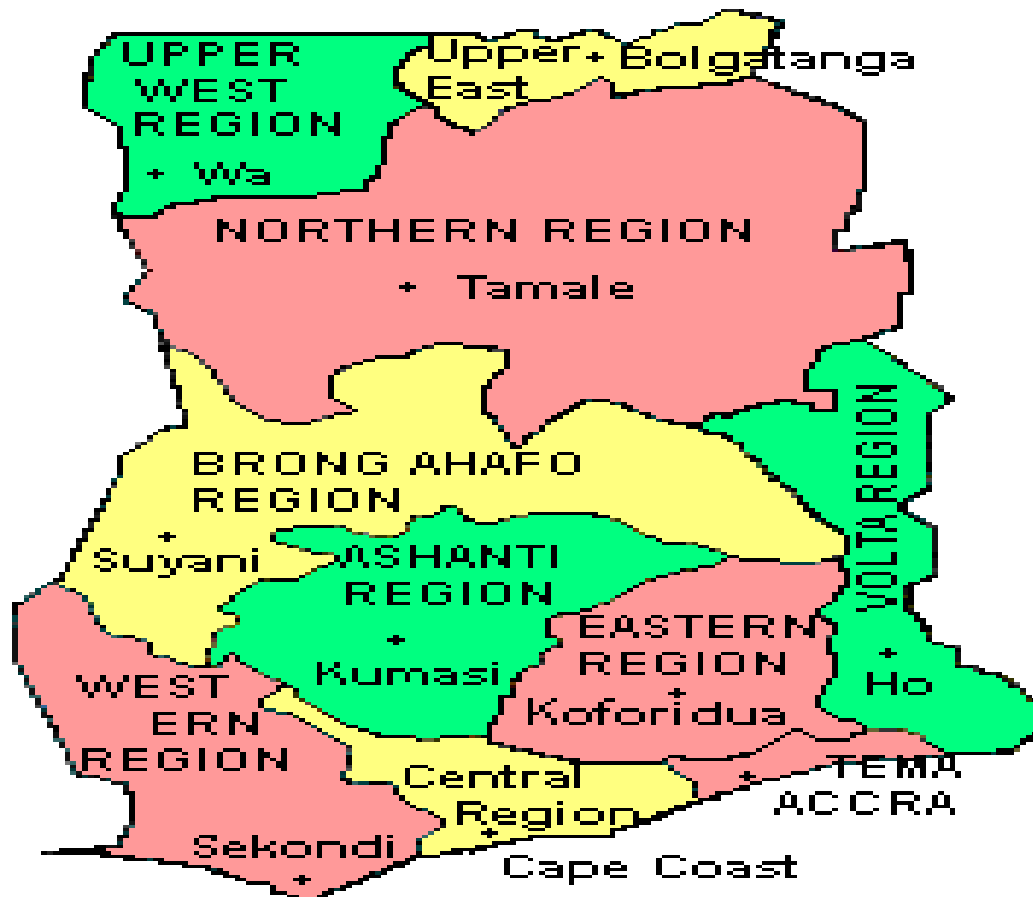
Ghana in Africa Map



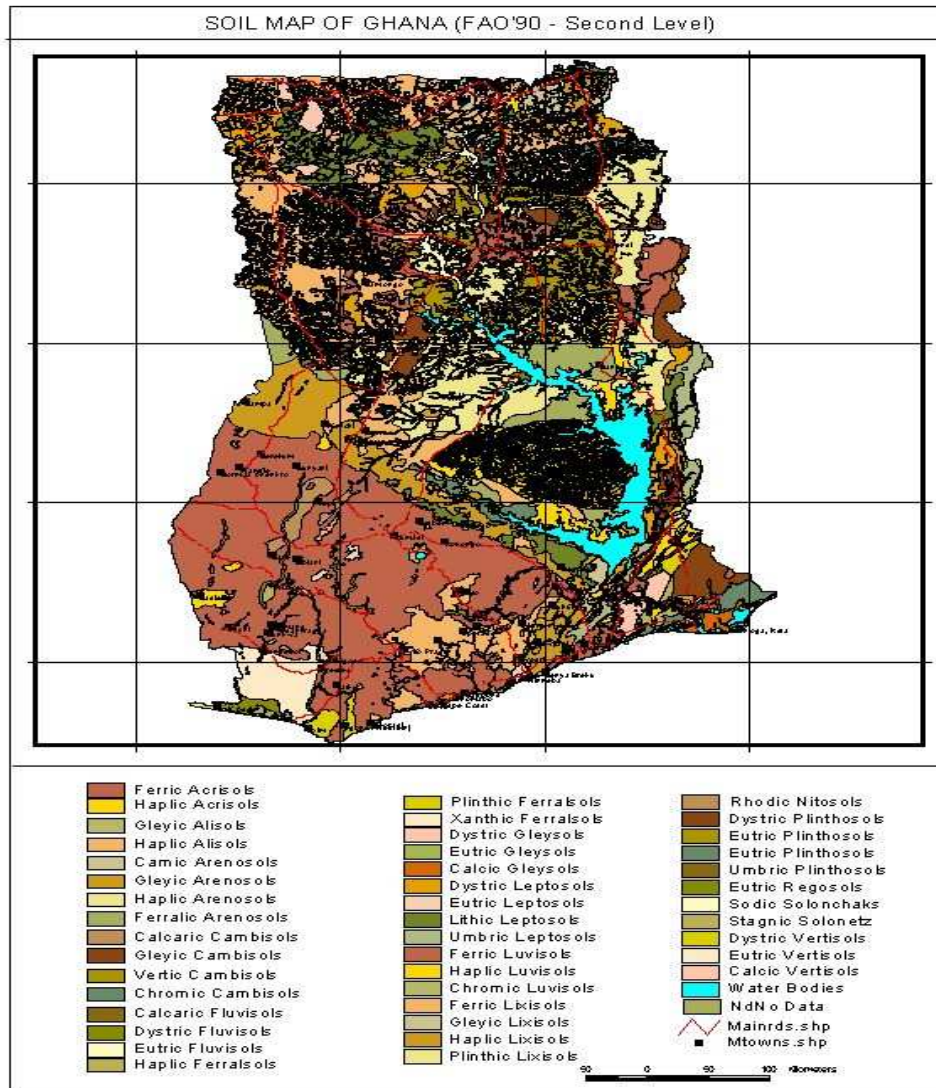
Ghana and the Neighbouring Countries



The Ten Regions of Ghana



The Soil Map of Ghana



A Typical Rural Farm House



A TWO STOREY - Farm HOUSE WITH QUARTERS

- Four Bedroom
- Upstairs Family Room allows for additional privacy.
- Downstairs Bedroom can serve as a Guest Room or may be converted into a study.