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A model of secondary education for Ghana's agricultural development.

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ABSTRACT

A MODEL OF SECONDARY EDUCATION FOR GHANA'S AGRICULTURAL DEVELOPMENT

John Fuaya Edwin, Jr.
Directed by: Dr. Ray Budde

An Abstract of a Dissertation Submitted to The University of Massachusetts in Partial Fulfillment of the Requirements for the Degree of DOCTOR OF EDUCATION

May 1972
ABSTRACT

A Model of Secondary Education for Ghana's Agricultural Development

by

John F. Edwin, Jr.

On March 6, 1957 the Gold Coast became independent under a new name, Ghana. Its foreign exchange reserves, amounting to about $123.1 million at the time of independence dwindled rapidly because of numerous projects the government embarked upon. Some of the projects were inappropriate in terms of the needs of the people. Instead of using local resources to build up its economy, Ghana relied on outside loans. A major part of the economic problem which relates to this study is that, importation of food crops increased annually, thus swelling trade deficit to an unbearable proportion. This increasing importation of food was the outcome of the neglect of practical farming.

Farming has remained at the subsistence level because agriculture has remained too theoretical to be productive. The pre-independence education was purely academic: it was structured that way to serve mainly the objectives of European
traders, missionaries and governments. That type of education alienated the people of the Gold Coast from the land because they realized that that type of education had superceded farming in fostering economic and social mobility. To this explanation must be added one which was political. British political tactics were sometimes dominating and oppressive, therefore, some of the people of the Gold Coast advocated strong academic schooling which they knew could help the country achieve political emancipation.

Unfortunately, after political emancipation on March 6, 1957, locally available resources, such as the fertile land, were not properly utilized. Also, the educational system was not tailored to meet the post-independence needs of the people, the most important of which was the economy as it related to the rapid population increase.

This study points out that a **practical** agricultural secondary education should have been one of the various ways for Ghana, a developing country, to build its economy. This study states further that developed countries, like England, the United States of America, and Canada, depended and still depend on **practical** agricultural education. The study suggests that state farms should fade out gradually in favor of private farming industry based on scientific and practical methods as an organized scientific war against hunger, poverty and joblessness. The "Green Revolution," which is the scientific war, cannot be left in the hands of illiterate farmers. Farmers should be knowledgeable enough to be
effective in their own profession and also to be able to participate in all local and national activities, for example, the understanding of and the involvement in politics. In other words, through agricultural secondary education, the social, the political, and the economic status of farmers will no longer remain inferior. The people's cold attitude toward farming must be changed through some form of education. And the program of study suggested for such an education covers agricultural, academic, and business subjects at the secondary level.

The program of study should be supported by other systems; for example, research projects by the universities to supply the practicing farmers with current information based on or adapted to local conditions. Also, it would be a good idea for the universities to begin now discovering how essential commodities (including non-edible ones) could be produced from farm crops.

In conclusion, the study makes it clear that the British are no longer to blame for the present inappropriate educational system which has contributed a great deal to economic crisis and rising unemployment. It states that integrated development planning is imperative, and that Ghana cannot afford to ignore practical agricultural education with a dignified status. Possibilities of establishing some other productive educational institutions, for example, a fishing secondary school, must be explored.
A MODEL OF SECONDARY EDUCATION
FOR GHANA'S AGRICULTURAL DEVELOPMENT

A Dissertation Presented
By
John Fuaya Edwin, Jr.

In partial fulfillment of the requirements of the Graduate School of the University of Massachusetts for the Degree of
DOCTOR OF EDUCATION

May 1972

Subject: Agricultural Secondary Education
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DEDICATED TO

Dr. and Mrs. Richard Braddock Brown
of West Hartford, Connecticut,
and their family--
Barbara (now Mrs. Hertz, Jr.),
Sandra, and Brad--
trustworthy and beloved host family
since 1966.
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CHAPTER I

INTRODUCTION

The Gold Coast, formerly a British Colony in West Africa, became independent on March 6, 1957, with a new name, "Ghana." Since independence this country has been facing many problems which are complex, interrelated, and therefore inseparable. At the present time the economic problem is the severest.

The Problem

The economic situation at independence was, by comparison, better than that of most new African nations. The country's Foreign Exchange Reserves amounted to $123.1 million in 1957. However, these dropped down to 36.4 in 1967. The reason for this is that Ghana, immediately after the attainment of independence, embarked on a number of projects (for some examples, see Appendix A). Some projects were very extravagant, while others were of no immediate necessity for the people. Although the Foreign Reserves were dwindling, no effective plan was developed to replace, much less to increase

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1 It was named after the ancient Kingdom of Ghana which existed from about 800 to 1200 A.D.

them. Ghana has a number of resources which could have been utilized in order to boost the nation's economy, but nothing was done along this line. Farming was not given any attention. Today, Ghana, despite its fertile land and labor force, imports food which can be grown locally. This fact has contributed a great deal to external debts: in other words, the neglect of farming has partly brought about economic problems. Unemployment has also resulted. So, the two main problems this study deals with are the economy and unemployment as they relate to agricultural education and development.

The Background of the Problem

The economic problem and unemployment in the country are inseparable, and both of them are partly the outcome of an educational explosion in recent years and inadequate educational planning. Educational development planning, just before and after independence, was based on sheer numbers. The main objective of the Accelerated Development Plan of 1951 was to promote expansion of education in order to eradicate illiteracy and also to respond to the peoples' demand for more schools. Even though the Accelerated Development Plan was directed at the elementary school system, it affected secondary education also (See Appendices B, C, and D). Such an expansion, because of an inadequate number of trained teachers, produced two serious results:

a) In the densely populated areas there were as many as forty pupils in primary class one under one teacher, teaching all subjects. Sometimes, with the permission of the District Education Officer, a home-room class was assigned
more than forty pupils.

b) In the sparsely populated areas, two or more classes were combined under one teacher, who was obliged to teach all subjects.

Also, the inadequate number of textbooks and of libraries made the situation grow worse as the number of schools continued to grow. One has to mention also the fact that there were only a handful of education officers to provide supervision. There were a few of the factors which made it impossible for the schools to motivate the students. Dropout cases and examination failures should partly be attributed to these causes. Here are some figures of middle school failures: 1957 (9,510), 1958 (8,454), 1959 (8,120), 1960 (9,205), 1961 (8,164), 1962 (9,446), 1963 (10,272), 1964 (10,345), 1965 (12,223). These figures show that in seven years the educational system produced 85,739 middle school failures. The same problem occurred in the secondary schools also. In short, the educational system has continued to produce increasingly high numbers of dropouts and examination failures who subsequently have difficulty getting jobs. Conditions worsen every year. People hover around Labor Offices (employment centers) looking for jobs. The situation is breeding social problems: poor housing in the cities, thefts, bribery and corruption, and nepotism.

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3 These figures were computed from the Annual Reports of the West African Examinations Council, (Printed London: Brown Knight and Truscott, Ltd., March 1965 and March 1966), p. 22 and p. 19 respectively.
It may be pointed out that the aspirations, goals, and objectives of Ghanaians today include freedom from hunger and poverty, and the average Ghanaian expects that education can provide this type of freedom. Therefore, it is disappointing that education has contributed greatly to unemployment (poverty) and economic problems. It sounds strange that Ghana, with all its rich land, imports agricultural products which, if produced domestically, would offset the country's trade deficit. Education has ignored practical agriculture and has left it in the hands of illiterate peasants who perpetuate the same old subsistence farming, a situation which does not promote the production of adequate food.

The Purpose of the Study

There are two major purposes of this study. It has been pointed out that

There is a notable shift of emphasis when it comes to measuring effectiveness. The tendency is less to ask how well we, the educators, are doing. Not that efforts to assess educational systems are new, but earlier studies failed for a variety of political and administrative reasons, and also because they were over-sold by enthusiasts who saw in them easy solutions to difficult problems.\(^4\)

In the light of this statement, the first major purpose of this study will be to present the merits and demerits of Ghana's secondary education with reference to the type of manpower needed for building the state.

The second purpose of the study is based on the following statement:

It is not only a matter of teaching more to more students, a sufficiently formidable prospect in itself, but in addition, teaching different things in different ways on the basis of individual capabilities and interests.  

In response to "teaching different things," a practical agricultural education will be proposed as an alternative model of secondary education. Its practical nature would make it different from existing types of agricultural schools which are too academic and theoretical to bring about increased agricultural productivity.

The Significance of the Study

This study explores possibilities through which Ghana can emerge from subsistence farming—a situation which has been contributing a great deal to economic crisis and unemployment. Any country whose farming is subsistence would have to import food or face famine. The seriousness of this calls for an agricultural program which would change the situation by making farmers grow enough for the whole country.

Not only would present farmers grow more food, but also some people might go back to their rural towns as a result of a successful "go back to the land" scheme; thus more available labor and manpower resources would be properly utilized for the good of the nation.

If labor and human resources are channelled properly

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5Ibid., p. 9.
through secondary education, it might mark the beginning of a change in the unfavorable attitude towards manual jobs, particularly farming. Therefore, it would be of great significance if the study could explain the reason why people have been looking down upon farming and why this attitude is detrimental to a developing nation like Ghana.

If secondary education is becoming the minimum education for most Ghanaians, and if many of them join the unemployed after graduation, would it not be wise to provide some types of alternative secondary education which could change the unemployment situation? To this end, secondary education in Ghana could make a valuable contribution.

Of considerable importance is the timeliness of this study. It was started before the February 1972 coup which has aroused interest in agriculture among the people. The educational system must take advantage of the people's interest in agriculture. In other words, the educational reformers might find it easy to incorporate agricultural education into the educational system. It is hoped that some of the rational for creating practical agricultural secondary schools can be applied to the creation of other productive professions. Fishing is one example.

**Methods of Investigation**

First of all, my own experience has provided a very good background for undertaking this study. I am a product of the British system. For eight years, I worked as a teacher and educational administrator in Ghana's primary, middle, and
secondary schools. I was, for three years, a local manager of schools.

Believing that a school can make money for itself through farming rather than wait endlessly for funds from the Ministry of Education or the Local Authority, I helped a middle school (of which I was the headteacher) establish a cocoa farm. Today, the school is benefitting from the proceeds of this cocoa farm (see Appendix E). My experience has convinced me that the educational system of Ghana should offer practical agricultural education.

Second, an extensive reading of authors on African education, African culture and African social life has been done. Some of the educational reports, for example, the Phelps Stokes Commission, have been studied. The information gained from such readings brought to light criticisms of Ghana’s educational system. The main criticism is that Ghana’s education is not tailored according to its economic and manpower needs.

Third, agricultural materials and three agricultural educational systems were studied. A knowledge of different aspects of agricultural development and agricultural education in other lands contributed a great deal to this study. It was during the study of these materials that it was discovered that the present wealthy countries did not neglect agriculture in their development.

Fourth, a study was made of the feelings of Ghanaians about the economy of the country, its agricultural problems, and the inadequacies of Ghana’s educational system. Readings
from primary sources were tapped, for example, Buxton's\textsuperscript{6} explanation of the destruction of the farming profession through slave trade. The feelings of inadequate agriculture have been expressed recently by Ghanaians in local newspapers and in personal letters to me. In addition, Nana Kobina Nketsia, a prominent Ghanaian, well versed in Ghanaian affairs, (presently lecturing at Brandeis University, Harvard University and University of Massachusetts in Boston) was consulted personally.

Fifth, agricultural programs which have been embarked upon by the Military Government and the people of Ghana have been studied and found encouraging (see Appendices, F, G, and H). One important aspect missing in the program is that they have not been grafted into any agricultural education.

Finally, a special visit was made to the Bristol County Agricultural High School at Segreganset where I talked with faculty and students. Much information was obtained from this visit.

The following were sources of information covering all the methods of investigation:


b) Statistical reports, books, magazines, and articles on the Gold Coast/Ghana (Economy, production, farming, education, etc.).

c) Research and reports on African education and manpower needs by educational and

other interested committees, conferences, commissions, and agencies: for example, UNESCO and FAO.
d) Records of missionaries, explorers, and merchants to the Gold Coast, now Ghana.
e) Ghana Newspapers.
f) Ghana Parliamentary Debates.
g) Other countries' agricultural development projects.
h) Interviews and letters.

Limitations of the Study

1. A curriculum or type of courses for an agricultural secondary school is not included; however, the nature and content of a program study of practical farming worth introducing into Ghana's secondary education has been discussed.

2. The cost of establishing agricultural secondary schools is not determined; but evidence offered in this study indicates that Ghana could manage resources for at least four such schools.

3. As indicated in the previous section, the study does not prescribe a solution for all of Ghana's economic and social problems. Promoting agricultural secondary education is one of many possible solutions. For example, fishing, which has been a long-time occupation (also at the subsistence level) for the majority of people on the coast and along some of the rivers, could be made a part of Ghana's secondary education. Time does not permit a study of other possibilities; agriculture was chosen as a major thrust to be studied.
Definition of Terms

Some words and phrases need definition:

a) **Gold Coast**: The pre-independence name for present Ghana. When the country became independent on March 6, 1957, it was named after Ghana, the first ancient West African Kingdom.

b) **Neo-colonial education**: Ghana's educational system is still, despite some modernization, essentially colonial, in that, educational reforms or innovations are influenced by the old colonial academic values. Some Ghanaians feel this is necessary in order to avoid a dilution of standards. For example, even though there have been some curriculum reforms relevant to the lives of the people of Ghana, examinations are still external^7 and are responsible for many failures and dropouts.

c) **Education**: Education is the process by which people prepare themselves for functions relevant to human development and practical life. Furthermore, unless experiences are applied to problem-solving exploration, education loses its worth. It is important to remember that experiences do not come from formal classroom situations alone, and that neither academic programs alone nor non-academic programs alone can provide meaningful education. Both types are important supporting elements for nation-building.

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^7External examinations are those prepared, conducted, and graded by examiners outside the local school. The students' teachers play no part in the examinations.
d) Green Revolution: The "break-through to new techniques in agriculture." The important point is that obsolete methods of farming give way to modern and more scientific and technological methods. The Green Revolution aims at enriching plant life--this should be symbolized by the rich green leaves of crops. Devastated land could be restored and all available farming land used productively. The "Green Revolution" suggests that effective programs are embarked upon to boost agricultural productivity. Much as the Industrial Revolution was organized to create wealth for England, so should the Green Revolution solve the economic problems in developing nations.

e) Farming: The practical utilization of the soil supported by certain essential know-how.

f) Developing countries: a term used to replace phrases like "underdeveloped countries" and "backward countries." It may be admitted, however, that a country which does not use its resources to the maximum is an underdeveloped country. Based on world standards, one agrees with the Pearson report that developing countries are the non-industrialized countries in Africa, South Asia, East Asia, Southern Europe, Latin America, and the Middle East.

g) € is the designation for Ghana (money) New Cedi:

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one cedi is almost equivalent to the United States dollar. No means Ghana New Pesiwa: one pesiwa is almost equivalent to the United States cent.

Organization of the Study

In Chapter One, a description of the background of the problem, the problem itself, the purpose of the study and the significance is given. Chapter Two describes indigenous farming and its eventual destruction through slavery. One finds in this chapter that after the period of exploitation, the people of the Gold Coast came to view academic education as the road to power, economic security, and social prestige. This in turn resulted in a complete alienation of the people from the land. Unfortunately, post-independence educational changes did not do much to attract the people "back to the land." Suggestions are made in Chapter Three for more productive farming methods. Solutions for unemployment as well as rural development are also suggested. In Chapter Four reasons are given as to why Ghana should hinge its agricultural reforms on secondary education. In Chapter Five are suggestions for implementation; some of the points discussed are resources, sites, and leadership. In Chapter Six are conclusions, recommendations, and suggestions for further research.

Review of Literature

The following is some of the literature which forms the core of the study: it includes some of the primary sources and also recent statements by Ghanaians and Africans.
In his book, Buxton explains that people in the Gold Coast, now Ghana, were farmers and that the economy was partly based on farm products. This way of life was destroyed when the slave trade not only interrupted the peace and stability essential to farming, but also proved to be a more lucrative job. After the abolition of slavery, no constructive attempt was made to reinstate and improve farming. Buxton therefore supplies important data.

The proceedings of a conference held at the University of Sussex in 1969 is embodied in The Two Blades of Grass. This book discusses farming practices in Europe, Russia, and other countries where agricultural productivity supports rural life as well as urban industry. Referring to developing nations, the conference pointed out that farming could begin with little external capital because of the fact that the most basic resource (labor) was locally available. Family ties were attacked as being a menace to individual growth; however, the conference failed to discuss whether family ties could be made to sponsor cooperative farming. The conference agreed that education should contribute to an agricultural improvement in developing countries.

Harbinson's "Educational Planning and Human Resource Development," though a very small pamphlet, makes a valuable contribution to this study. Harbinson points out that lack of significant secondary vocational education is one of the setbacks in developing countries. The roots of all problems in these countries are underemployment and over-population. The book suggests that new jobs must be created and development
plans tied in with economic and human development needs.

If one is interested in Harbinson's ideas, one must then turn to C. A. Anderson for more. Anderson advocates balanced curriculum, equity and quality in education, and vocational education. Mr. R. Poignant, writing along the same lines, feels that educational planning should aim at both qualitative and quantitative targets, and that it should strive to satisfy the manpower needs anticipated in the next ten or twelve years. He, like Harbinson, stresses programs which deal with population trends.

Ghana Parliamentary Debates presents what politicians feel about the economy, education, and the future. As is expected, there are usually conflicting ideas as to what education should be; however, it seems that the majority of Members of Parliament agree that there is something wrong with education in Ghana. There is ample proof that politicians have been and are concerned about the economic trends in Ghana. Both the government party and the opposition party admit the problem which has arisen as a result of the lack of interest in farming. Presently, both the government party and the opposition party are looking for viable projects to boost agricultural productivity. Daily Graphic and Ghanaian Times (Ghana's most widely distributed newspapers) give day-to-day information on situations in Ghana. Even though most articles are exaggerated, the fact that educational reforms are long overdue is discernible in these newspapers. Also, the mounting unemployment is referred to almost every day in these newspapers. The average Ghanaian now feels that there
is no sense in the country's failure to utilize the land. In the local papers, many people have promised support in various forms (for example, offering of land) to people interested in agriculture. The one-track education has been declared in these local papers as inadequate for the country's economic needs.

Also a collection of materials on the recent agricultural development has been studied. Some of them have been reproduced in their entirety (see Appendices F, G, H, and M under "The Operation Feed Yourself" scheme). The program in these materials looks very promising if it is incorporated in an educational plan. African Forum and Pan African Journal are good sources of information about the aspirations and problems of black people under foreign rule.

National aspirations for freedom and self-determination began in the Gold Coast as early as 1865. But local leadership was quelled. For example, King Aggrey of Cape Coast (in the Gold Coast), who protested British encroachment, was deposed and deported to Sierra Leone.10 This incident was an example of how the English entrenched their power, thus making the people submissive. In some cases, because of the status accorded the educated natives (often used by the British as tools in entrenching their power and spreading their influence), the people of the Gold Coast equated academic education with political power, dignity, the road to

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economic prosperity and the ladder for social mobility. They began to clamor for that type of education. This partly explains why reports on educational reforms in favor of vocational and agricultural education received no currency.

It is appropriate at this point to discuss farming methods and practices in Ghana as they relate to colonial education, educational deficiencies, and the present economic and social crisis. Political independence must sponsor cultural emancipation, and if education, a vital part of culture, is not yet liberated, then the people's minds are bought as expressed in Osadebay's poetry:

Who buys my thoughts
Buys not a cup of honey
That sweetens every taste;
He buys the throb,
Of Young Africa's soul,
The souls of teeming millions
Hungry, naked, sick,
Yearning, pleading, waiting.11

CHAPTER II

DESTRUCTION OF FARMING AND THE EFFECTS

In the previous chapter it has been mentioned that the problem which has prompted this study is the fact that Ghana faces a serious economic crisis and that one of the solutions is an agricultural revolution. It has been indicated also that the educational system, before and after independence, did concentrate only on academic disciplines, thus ignoring agricultural education. It has been pointed out that the educational system has contributed a great deal to unemployment. In general, the attitude of the people in Ghana, until the early 1970's, had not been favorable towards farming. In this chapter, an attempt will be made to explain how agricultural life was destroyed and how this has affected the country's economic and social life.

Indigenous Farming in the Gold Coast

Originally, the people of the Gold Coast were farmers. They did not engage in commercial agriculture. Their farming tools were primitive. Everyone was a farmer: even the specialists—calabash carvers, potters, hunters, iron workers, basketry makers—grew their own food. This made the people self-supporting as far as food crops go.

Agriculture was a way of life. The children through informal agricultural education became farmers and replaced
the older generation. The people did not have to relocate or migrate in hunting for jobs. In addition to farming, some children learned their fathers' or uncles' special trades, or chose non-family trades through apprenticeship. One has to admit that by modern standards farming was at the subsistence level; however, their needs, their outside attractions and aspirations, were fewer, simpler, and less complex than those of modern Ghanaians. Therefore, it may be argued that agriculture was adequately supporting the lives of the people before the arrival of the Europeans.

The Arrival of the Europeans

The main objectives of Europeans making their way to Africa were to Christianize and trade with the people. These objectives involved two things: first, a deliberate attempt on the part of the Europeans to 'wean' Africans from 'paganism', and second, a systematic and well-planned scheme to exploit the continent of Africa.

It is not necessary to discuss all the activities of Prince Henry, the Navigator. It is sufficient to say that it was he who initiated and promoted the exploration of West Africa for three reasons--to open up trade, to propagate Christianity, and to find a sea-way to India. In 1471, the Portuguese discovered gold on the Gold Coast and so were very happy to open a gold mine at Abrobi, near Komenda.¹ Other European countries were attracted by the opportunities in the

Gold Coast. By the sixteenth century, the Gold Coast, like many African countries, was playing "host" to missionaries and traders.²

The British in 1555 arrived at Shama, a town in the Gold Coast. From there they took with them to England, gold, ivory and pepper. Other items in the Gold Coast which kept British interest burning were some slaves, wax,³ red-wood, fowles, fruits, vegetables, pigs and goats.⁴ In exchange for these commodities, the people of the Gold Coast received European goods; for example, Indian cotton, tobacco, pipes, cloth, gin, rum, knives, trinkets, muskets, and gun powder.⁵

There is no evidence that trade in these commodities interfered with the agricultural life of the people of the Gold Coast at the very beginning. However, when the demand for slaves increased as a result of the need for cheap and abundant labor in the United States, life (including agriculture) on the Gold Coast was completely destroyed. The Gold Coaster, now depending upon slave-trade for his needs,⁶ became more and more involved in slave trade.

Some writers try to explain away the Gold Coaster's guilt in this traffic. Whether slavery in the Gold Coast was

⁴Freda Wolfson, Ibid., p. 132.
⁵Freda Wolfson, Ibid., p. 132.
less cruel or not, there was no justification for Africans to sell their own people. Sometimes, slavery in Africa is made less serious on political and social grounds. Well, the white man also found justification on economic grounds. The whites thought that the blacks were inferior, idiots and less than human. To trade in slaves was justified upon this wrong assumption. Charles de Secondat, Baron of Montesquieu argues:

Were I to vindicate our right to make slaves of the Negroes, these should be my arguments. The Europeans, having extirpated the Americans, were obliged to make slaves of the Africans, for clearing vast tracts of land. Sugar would be too dear, if the plants which produce it were cultivated by any other than slaves. These creatures are all over black, and with such a flat nose; that they can scarcely be pitied. It is hardly to be believed that God who is a wise Being, should place a soul, especially a good soul, in such a black ugly body. The Negroes prefer a glass necklace to that gold which polite nations so highly value: can there be a greater proof of their wanting common sense? It is impossible for us to suppose these creatures to be men, because, allowing them to be men, a suspicion would follow that we ourselves are not Christians.

Because the Europeans felt that the black people were inferior, the latter were considered as chattels; thus, the

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7J. E. Casely Hayford, Gold Coast Native Institutions, New Impressions (London: Sweet and Maxwell, Ltd., 1970, p. 82.

8Maybe American Indians since "extirpated" means "up-rooted." The Europeans tried to enslave the American Indians but for various reasons this did not work.


10Buxton, Ibid., p. 467.
Europeans rushed to Africa to scramble for slaves as if the latter were ordinary commodities. Slave trade in the early half of the last century disrupted all types of social life completely: farming as a way of life was also destroyed. After the abolition of slave trade it was suggested that, for economic reasons, legitimate trade should be encouraged. Legitimate trade, as a kind of reconstruction, failed for the following reasons.

First of all, one tends to agree with Mr. Salmon - a private British citizen - that progress was "not the keynote of the Crown Colony System." After the British had sapped the West African countries through trade in slaves and other commodities, of their manpower and resources, they felt that it was "not possible to withdraw the British Government, wholly or immediately, from any settlements or engagements on the West African Coast"... and that the Government should aim at gradually withdrawing from all four colonies, except probably Sierra Leone... The general opinion in England was that the West African Colonies were not worth keeping; they were unhealthy, poverty-stricken and perpetually troubled with barbarian raids.

With this kind of feeling the British Government did not see the need for any development (even though the administrators in the colonies sometimes thought improvement was essential); rather this feeling of the white men towards the

11Hayford, Ibid., p. 186.
12This was the decision of a Select Committee of the House of Commons to which Colonel Ord reported after his visit to West African Colonies in 1864.
people served to increase their influence unduly and entrench their power the more.

**White Power and White Influence**

The concept of power over the weaker or so-called inferior race has been part of human history from time immemorial. Love for power is not a modern phenomenon, and it is sought for in various ways. As far back as the fifteenth century the white man in the Gold Coast had tried to show how powerful he was. The Portuguese defied Kwamina Ansa's refusal to endorse a Portuguese residence on his land.

Kwamina Ansa thought that it would be better that the Portuguese should continue trading as they had been doing, for if they settled in the country, sooner or later quarrels would certainly arise. Ward says that the Portuguese were determined and the local chief had to agree but was unwilling.14

With fire-arms at their control and with the castles as a protection, the Europeans proved that they were powerful. Some local inter-tribal conflicts and wars also gave the Europeans opportunity to exhibit their power. They often assisted one tribe in waging war against another: the conquered tribe eventually was brought under European domination or rule. The Ashantis came under British rule through this type of European tactics.15 Also, unjustifiable deportations were used to intimidate and soften the people of the Gold Coast.

**King Aggrey of Cape Coast**

14 W. E. Ward, Ibid., pp. 53-54.
15 Ibid., Chap. 15.
...led a violent protest against increasing British encroachment on the authority of the Fante chiefs and had pressed for local self-government. His mounting opposition especially after 1865 eventually led to his deposition and deportation to Sierra Leone in December, 1886.  

A similar case happened in Ashanti later. When the Asantehene was not pleased with British colonial tactics and showed some resistance, he and some of his people were taken prisoners, being "kept first in Elmina Castle, and later in Sierra Leone, and, in 1900, taken to Seychelles Islands off the east coast of Africa."  

The entrenchment of the power of the British went hand in hand with the exertion of their influence. In 1820, James Bannerman, an educated Gold Coaster, was appointed Justice of the Peace and later, in 1850, became the Civil Commandant at Christiansborg. In 1883, nine Gold Coasters held high posts including seven District Commissioners. Through some of the local chiefs, British officials were able to force through what they wanted from the people. Also, the conferring of British titles, for example, "Order of the British Empire" (O.B.E.) on some chiefs and some educated people promoted British influence. Education also fostered British influence because of the clerks, interpreters, teachers, catechists, 

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17 W. E. Ward, Ibid., p. 185.

18 Eluwa, Ibid., p. 137.
lawyers and government workers, who it produced. This created the general impression that one had to be submissive to the British if one wanted to be elevated. This type of elevation to social prestige was achieved through academic education, and the more people asked for that type of education, the more the population was alienated from the soil.

Alienation From the Soil

British authority and influence made the people of the Gold Coast equate academic education with power. Both the literates and the illiterates felt the same. The literate thought he was far ahead of the illiterate in many ways; this the illiterate admitted. The literates understood and spoke the master's language, and so the illiterate people had to see them before seeing the master. Generally, the literates enjoyed the better economic life. Some literates were employed at the magistrates' and chiefs' courts. In certain cases, some literates became the spokesmen for their respective villages. Some of them led local delegations to government offices.

If one admits that Africans sometimes had extreme respect for white men, then one understands why the education of those Africans who were associated with the white men influenced the thinking of both the literates and the illiterates.

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20 Ibid., p. 392.
Furthermore, there were others, for example, Joseph E. Casely Hayford, who realized they could generate political power through their education in order to diffuse British power and influence. They did not seem to find any potential power in agricultural education. It is understandable why people at that time demanded more and strong academic education: they recognized that academic education could provide the type of power capable of creating political economic, and social mobility. If the Abolition Act of 1834 was aimed at multiplying "the difficulties and dangers of the slave-trade" thus affording "protection to the native in the cultivation of the soil, by ... opening a market for the sale of the productions he rears," then legitimate trade should have supported and promoted agricultural revival through some type of education.

The effects of the absence of agricultural education were the core of the warnings by educational prophets. These prophets complained that the educational system of the Gold Coast was not suitable to local needs. They foresaw that Gold Coasters would be eventually alienated from their culture and their land. The Phelps-Stokes Commission, which in 1919 and 1924 carried out surveys on African education, reported that "....the missions have failed to see how their success depends on native welfare, and have therefore been strangely indifferent to the economic value of agriculture...." 22

21 Ibid., p. 392.
The missionaries are oftentimes blamed for not providing agricultural education. It has been argued that the goal of missionary activities on the Gold Coast, being divinely planned, divinely motivated, and divinely ordered, was explained by missionaries in terms of divine intervention in the history of the people of the Gold Coast; it was not discussed in purely human terms. The missionaries thought they were obliged to tame the savages (Africans) and thus save their souls. Therefore, the missionaries, interpreting men's needs in Biblical terms, felt that "sin is central to human history.... Man's need was deliverance from sin...." Despite this primary goal, the missionaries deserve some credit for other non-Biblical concerns. Missionary education produced not only well-educated African leaders, hospitals and clinics: it made provision for agriculture also. For example, the English Church Mission built "three girls' boarding schools for experiments in agriculture and crafts." The Basel missionaries taught the natives "not only to read


24In some cases, this objective was beneficial to the people of the Gold Coast. One has to recall indentors of human sacrifice in order to accept this statement.


and to write, but also agricultural pursuits," in addition to courses in carpentry, tailoring, joinery, and other things in an Industrial School at Cape Coast. Furthermore, they introduced new plants and taught the people how to prepare them, some of which are now becoming staple articles of commerce, such as coffee, cocoa, Virginian and Kentucky tobacco.

It appears that vocational and agricultural education by the missionaries were not successful because the people of the Gold Coast and the Colonial Government showed very little interest.

It has already been pointed out that literates, as well as illiterates, because of British authority and influence, equated academic education with power and that to attain political freedom in the late nineteenth century and the first half of the present century called for strong academic education. In the early 1920's the Phelps-Stokes Commission made surveys on African education. It was at the same time that Joseph Ephraim Casely-Hayford's (a gold Coast lawyer and politician) National Congress of British West Africa sent a delegation in September 1920 to see the King of England about "better and more effective representation of our people" in the affairs concerning them. The fact that the King refused

28 Ibid., p. 232.
29 Ibid., p. 131.
30 Eluwa, Ibid., pp. 138-146.
to see them, much less to discuss the petition with them, fanned their burning desire for more and stronger academic education as a tool to achieve their political objective.

In short, it may be explained that the educational reports in favor of agricultural education were, unfortunately, not timely. The people did not need agricultural education to achieve political representation. This is not to say that agricultural education was not necessary and to teach the people of the Gold Coast to use their hands was a wrong philosophy of education. Booker T. Washington's philosophy of agricultural education was not a wrong idea. He felt that there was nothing wrong in telling a black man to work with his hands if that would provide him his needs. What made Washington's philosophy unacceptable to his contemporaries was that his educational program was "to instill into the Negro mind that if education does not make the Negro humble, simple, and of service to the community, then it will not be encouraged."31 It is necessary to recall that this statement was made at a time in the United States when Jim Crow Laws (Black Codes) had completely excluded Black Americans from educational, political, social and economic opportunities. The racial condition during the period made his opponents, including W.E.B. DuBois, convincingly argue that he, Booker T. Washington's philosophy of education was, therefore, out of context of historical events in American Society.

Secondly, the reason why agricultural education was not properly encouraged by the Colonial Government itself was because of unsuccessful attempts to take over the land for British commercial farming interests. By introducing the Lands Bill in 1897, the British might have taken the land and made it into public land. It has been pointed out that

The Leaders of Gold Coast people knew that in some parts of Africa, as well as in some other tropical countries, white men had made farms or plantations of their own on land which used to belong to the people. And only a few years later, the Government of Kenya...thought this empty land belonged to nobody; and so it took it as public land, and leased some of it to European farmers .... The government was sorry for this mistake, and paid the Africans money for the land it had taken. But the Africans did not get their land back.32

It is not certain whether the Colonial Government in Kenya was really sorry and that a similar mistake could not have been made in other colonies. Between 1880 and 1904, about 470 companies registered with the British government in order to establish mining industries in West Africa, the bulk of these expecting to operate in the Gold Coast. However, only four companies were operating in the Gold Coast in 1904.33

From what has happened in other parts of Africa, it may be safe to assume that if the Land Bill had been accepted by the people of the Gold Coast, both mining and farming industries would have become a British monopoly. It may be recalled that, at the turn of the nineteenth century, forest crops were boosting

33Fage, Ibid., pp. 106-115.
foreign trade. Why would one not agree at this point with Martin Kilson that "the key to the colonial situation is the growth of...the 'cash nexus' within the framework of the imperial market system"?

It must be pointed out also that the Education Act of 1852 by Governor Hill did not consider agriculture in any way. Even academic education was badly neglected by the Colonial Government. When James Africanus Horton, a Sierra Leonean doctor, pointed this out, he was nearly "removed from the Gold Coast." H. T. Ussher, the Administrator, thought that Horton was supporting the Fante Confederation against the Colonial Government.

It is evident in the second half of the last century and the first half of this century British education in the Gold Coast (a) created economic and social disparity among the literates and illiterates, (b) neglected agricultural improvement which would benefit the people, and (c) helped entrench British political power. All these factors combined made academic education more appealing to the people than agricultural education.

34 Fage, Ibid., pp. 67-68.

35 Peter Worsley (ed.), Two Blades of Grass (Manchester: University Press, 1971), p. 350. Worseley was editing the proceedings of a conference held at the University of Sussex in 1969 to explore what patterns of relationships in traditional communities could form the foundation of agricultural cooperative development. Contributors included renowned British scholars.

After Ghana achieved political independence, very little was done to consider agriculture as essential to nation building. Alienation from the land was not considered as a menace to development. This is partly responsible for the present economic and political problems. For example, referring to the coup which toppled Dr. Busia's Ghana government on Friday, January 14, 1972, The Providence Journal reported:

"Accra's only Sunday newspaper, The Echo, urged the new government..."to face the hard realities of our economic plight"...

Aside from the massive long-term debts, Ghana now has reached a point where foreign exchange earnings are so low that it is months behind in payments for everyday imports, including food....Equally critical is a failing agricultural program forcing Ghana to import food. Most economists here feel Ghana would be capable of supplying its own food if agriculture were operated more smoothly."

The present situation calls for a green revolution aimed at both short- and long-term agricultural needs. Farming cannot be neglected: this fact is one of the laws of nature. Ghanaians are familiar with the proverb:

"Yenkwati Firaw nkɔ Nta." You cannot get to Northern Ghana without crossing the Volta. The laws of nature or society must be obeyed to succeed in life.

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38 This sentence is written in Twi, an Akan dialect. 'Firaw' is the River Volta which separates the northern from the southern section. The next sentence is the literal interpretation.

CHAPTER III

GREEN REVOLUTION IN A GREEN LAND

In the last chapter it was explained that for social, economic, and political reasons, farming did not receive any consideration in the Gold Coast. Also, it was pointed out that Ghana ought to have oriented itself towards productive agriculture as soon as it became independent. Because of the present economic crisis arising partly out of neglect of farming, the Green Revolution was, at the close of the chapter, proposed as a partial solution. In this chapter, an attempt will be made to evaluate the validity and effectiveness of a Green Revolution in Ghana; but, before anything further, let us define "Green Revolution" more intensively.

The Definition of Green Revolution

The word Green in 'Green Revolution' is very appropriate in the case of Ghana. The country itself is 'green' because of its green forest. Hence the title of this chapter. It is naturally easier to launch a Green Revolution in a fertile country than in a barren land. "Green Revolution" is a fairly recent term, and, "developing across Asia, began to make noticeable impact only since 1965...Rapid changes in agricultural practice and productivity...have been a product
of application of modern science.\textsuperscript{1} "Revolution" usually gives the connotation that sudden and rapid changes happen which replace outmoded, unwanted and inappropriate ideas. The "Green Revolution," it may therefore be asserted, stimulates and encourages rapid changes in agricultural practices for the sake of a more productive system. Mr. William S. Gaud, executive Vice-President of the International Finance Corporation in Washington, who coined the term 'Green Revolution' defines it as the "way in which scientists met the challenge of hunger, and, by and large, defeated it."\textsuperscript{2}

Importation of food is now a problem in Ghana because the old primitive farming practices cannot cope with the population explosion. With his primitive tools, the subsistent farmer wastes too much time. Also, "primitive methods demand hard physical labour for small return."\textsuperscript{3} To this must be added the fact that the average farmer in Ghana does not employ fertilizers. Most of the people are farmers; yet they do not produce enough for the country. Alienation of the people from the land has brought about an exodus from the rural towns to the cities, causing social and cultural problems in both the towns and the cities.


It seems reasonable therefore to mention that Green Revolution should deal with technological, economic, social and cultural changes\(^4\) in Ghana with all of these resulting in better living conditions for the people. The Green Revolution, like the Industrial Revolution, must aim at transforming society. Its main objectives should be:

a) To bring about the use of modern tools, machines and methods.

b) To educate a few to whom prolific crop production may be entrusted. This would mean that a great number of people would be released for other productive sectors.

c) To provide adequate and nutritious plates on every table.

One question that may be asked is, "Would Green Revolution succeed at all in Ghana, or, would there be any obstacles?"

Natural Forces that Pose Problems

Some of the problems facing agriculture are natural ones; however, they are not unsurmountable. Water is scarce in some parts of Ghana, especially in the northern section which suffers longer dry and shorter wet seasons. To supply farms with water through irrigation is one of the purposes for which the Volta Dam was constructed. Even though this irrigation system has not reached all dry areas, it could fairly be said that the situation can be remedied in the next few years if efforts are made.

\(^4\)The Industrial Revolution in England dealt mainly with these four issues: not just machines for mass productions.
Transportation has not as yet reached every farm, but the present transportation network needs few links in order to off-set discouragement on the part of farmers. It is under difficult situations that the average farmer goes about his occupation, and so his motivation is ruined when he watches his crops rot. In some cases, it is sheer negligence of maintenance of roads by the government when the cocoa season is over. Existing linking roads can, with proper attention, be kept open all year round. Some bridges are of temporary or poor construction: they repeatedly give in every year, and the rebuilding of the same bridges every year by the government drains the economy. Even if the price of food is raised as an incentive for the farmer to carry his foodstuffs to the nearby market, the fact still remains that some of the farmers will have to walk about six miles a day. One wonders whether, at the present time, an increase in food prices would not worsen the situation. The farmer's problem is not necessarily the food prices: maybe, the lack of marketing facilities is the major problem. This problem calls for communal effort. Government projects to build linking roads may have to be supplemented with communal labor; for example, two towns could plan a joint project in road construction. This kind of communal labor is a way of life of the people of Ghana. Many

5 The cocoa 'routes' could be made to serve crops other than cocoa alone.
schools, hospitals, and roads have been built through this type of communal labor.

Mechanization is another problem. It cannot be implemented all over Ghana, especially in the forest area because of stumps and roots of big trees; however, some forest areas which were farmed about fifty years or more ago would not present many problems. Also, the whole northern section is grassland and almost stumpfree, and because it is a large area, Ghana is not completely denied opportunities for mechanized farming. What is important is to find out what type of machine is good for what type of soil. Even though full-scale mechanization cannot be embarked upon

\[\ldots\text{there are many ways in which labour-saving devices and more modern methods could be introduced into the farming industry, thus making it more efficient and productive.}\]

Soil erosion hampers agricultural projects. Soil erosion occurs in almost every part of the country during torrential rains. The worst condition is in the north where the rainy season is followed by a long drought period. But again, this is a problem that can be conquered if agriculture is really considered the mainstay of the economy of the country. The method known as terracing has not yet been intensively applied in Ghana. Shifting cultivation solves erosion in some way, \(^7\) but maybe the carried-away rich soils could be trailed

\[^7\text{Ibid., p. 79.}\]
\[^8\text{Erosion occurs faster where the land is bare, so shifting cultivation, by providing vegetation during the following period, reduces the power of erosion.}\]
to their final destinations and farming industries established there. A case in point: the alluvial soil upon which agriculture in Egypt⁹ depends is from an erosion of deposits from the Abyssinian mountains through the Blue Nile River.

The Food and Agricultural Organization has also discussed some other problems; for example, capital-intensive competition with developed countries as far as exports of processed products are concerned, and the choice of suitable technological method.¹⁰ This organization makes some valuable suggestions based on two major issues: integrated planning and, more important, the effectiveness of private enterprises. It may be argued that one of the keys to an effective Green Revolution is private ownership.

Farm Ownership

One of the colonial masters' legacies still remaining in some African countries is that most enterprises are owned and controlled by the government. Thus, in Ghana, telephone, television station, radio station, the major banks, and some factories are still owned by the government. In some cases, however, this is understandable because private capital for a large business may be difficult to raise. But private farming

⁹ Egypt, now part of the United Arab Republic, has about three-quarters of its land within the Libyan desert (west and south of Egypt) and the Arabian desert (east).

could begin on a small labor-intensive scale provided it is given due encouragement by the government and other supporting agencies. In the Seven-Year Development Plan for 1963 to 1969 no recognizable place was given to private farming industries. In that Development Plan the government outlined a very impressive agricultural development program (Table 1), but its implementation was left in the hands of the government. It was well-known to the Office of the Planning Commission which prepared the Seven-Year Development Plan that agriculture was failing to serve the needs of the people. The commission stated that

Ghana needs an agricultural revolution as a pre-condition for the Industrial Revolution at which policy is aiming eventually. A prosperous agriculture will provide the market for the consumer goods and the producer goods which industrial sector will want to sell. A country like this with a large proportion of the labor force engaged in agriculture can continue to draw capital for investment only from agriculture.11

It may be pointed out that the labor force engaged in agriculture could not produce enough food for the post-1963 period partly because the majority of the workers were working for the State Farms Corporation (Government-owned and government-operated).12 (Even the Farmers' Council was a political puppet and its chairman owed his post to the government).

Some of the irregularities13 on the State Farms were:

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12 Ibid., pp. 63, 79-81.
13 Author's own knowledge and observation.
TABLE 1
GHANA'S AGRICULTURAL PLAN FOR 1963-69

I. Agriculture in Ghana's Economy

II. The Present State of Agriculture

III. Industry and Agriculture

IV. Productivity in Ghana's Agriculture

(i) Acreage
(ii) Water
(iii) Stock and seed
(iv) Farming practices
(v) Marketing

V. Tasks of Agriculture under Seven-Year Plan

(i) Nutrition
(ii) Rural incomes
(iii) Commodities for domestic industry and export

VI. Production Targets

(i) Food
   (a) Protein
   (b) Fruits and vegetables
(ii) Agriculture raw materials and export crops

VII. Policy for Agricultural Development

VIII. Investment Programme for Agriculture

(i) The private sector
   (a) Extension and Development Services
   (b) Seed, stock and machine service
   (c) Marketing
   (d) Credits and subsidies
(ii) State farms
   (a) Organization and management
(iii) Agricultural wing of the Workers' Brigade
(iv) United Ghana Farmers' Co-operatives
(v) Agricultural research
(vi) Agricultural education
(vii) Irrigation
(viii) Fisheries
(ix) Forestry

a) fictitious names appeared on payrolls,
b) some laborers went home before the end of the assigned shift,
c) some laborers were assigned to perform private duties for agricultural officers,
d) some workers lingered on the farms when an agricultural officer was not around,
e) late-comers and absentees had their time cards marked full, especially when they were the agricultural officer's favorites or relatives.

One may maintain that these malpractices were bound to happen. After all, the laborer received no more than 75 pesewas\(^14\) a day. Furthermore, the owner (the government) lived in Accra: it was an absentee farm-owner. Today, food shortage is severer than in 1963 when an Agricultural Revolution was suggested by the Planning Commission.

Private ownership (or private cooperative) may be one of the keys to Green Revolution. In addition to reducing, if not eliminating, the malpractices indicated above, private ownership promotes the sense of pride, job-consciousness, initiative, desire to improve productivity, and above all, diligence. All of these are essential in combatting problems such as apathy on the part of farm laborers. The absence of a program to encourage private agricultural industries in Ghana was referred to after the 1966 coup:

The danger inherent in a one-crop (cocoa) economy was brought home to Nkrumah by the experts immediately Ghana became independent. It was urged that Ghana's

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\(^14\)Until December 27, 1971, when Ghana Currency was devaluated, 100 pesewas were equal to U. S. 98 cents.
agriculture should be modernised, diversified and expanded to increase productivity and thereby cut down on food importation.

Nkrumah's programme of achieving these ends was the establishment of a number of State Farms and factories instead of providing incentives to the private farmers to produce more food by adopting modern techniques. 15

At the time of the 1966 coup, Ghana was 'on the verge of famine and starvation' 16 and, under the Ghana-United States Agreement, nearly $6,393,000 17 worth of food and other farm commodities were shipped to Ghana. The farm commodities were: 25,000 metric tons of wheat flour, 20,000 tons of rice, 5,000 tons of yellow corn, 5,000 tons of guinea corn, 9,200 bales of cotton, 500 tons of vegetable oil and 400 tons of tobacco leaf. 18 Canada also sent a gift of 17,500 tons of flour. 19 All of this happened to Ghana partly because farm ownership had not been encouraged. Referring to the political control of farmers, Wallerstein pointed out that:

In Ghana in 1961, separate membership cards for the trade unions, farmer's co-operative and women's movements were abolished, membership in the Convention People's Party offering automatic membership in the linked groups. 20

16 Ibid., p. 8.
17 Ibid., p. 33. N$ 5,142,000 of this amount was loaned to Ghana for use in social and economic development. The author cannot say whether this amount was put into productive agricultural programs.
18 These farm commodities can be grown abundantly in Ghana.
19 Ibid., p. 33.
A cooperative farming, controlled by political concerns, is likely to paralyze an Agricultural Revolution and so, a new type of cooperative farming, free from political control, must be tried.

Cooperative Farming

It is clear from what has been said so far that government-owned or government-controlled farms were not productive enough in Ghana. It is a sad thing that happened.

Ghana, like many African countries, has in its culture an important way of life which can promote cooperative farming: that is, communal living through communal projects.

A. Cooperative farming through labor pool: A number of people rotate in helping one another to make a farm. It may be on a week or two-week cycle.

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| TWO-WEEK CYCLE LABOR POOL

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Prepared by the Author. For more information on the working system of this table, refer to Appendix 1.
This method is still widely and profitably used but mostly during the cocoa season. More crop production could be achieved if this system were to form the pattern for an all-year crop production: growing of corn, tomatoes, okra, millet, yams, and so forth. Planting, sowing, thinning, harvesting, and other things through this team spirit, as one would realize, is not a capital-intensive undertaking.

B. Farming through labor donations: Under this method the guest farmers do not expect the host-farmer to 'pay' them back: they donate their services free of charge. Usually, the guest farmers are friends, relatives, tenants or those for whom he had done some good deed before. This method of farming could be done (with mechanization and fertilization); but, business-wise, this system does not go far because the donation is usually on a one-day basis.

C. Corporate farming: This is a corporation and is different from cooperate farming. Corporate farming can very well support a green revolution. A number of people can pool money and/or land together for this purpose. In this case individuals may have shares depending upon how each person invested. But it is extremely important that business interest is shown in the farm activities. Even if a farm manager were hired, it would be necessary for the members of the corporation to be business-oriented in their overall management and supervision. Tweeten cautions that

many crop and livestock enterprises continue to require close personal supervision. The personal management "art" of the proud owner-husbandman may elude the
corporate farm and raise production costs.\textsuperscript{22}

Among the reasons given by Petch to support private farming and farm organizations are these:

a) Competition among producers lead to quality production for reasonable price.

b) Large quantities can be produced.

c) Incentives to use all available resources, labor, efficient methods, and machinery.

d) Decisions are made at the right time without waiting for someone's approval.\textsuperscript{23}

The size of membership for a corporate farm may vary. From the point of view of farming industry in Ghana, one appreciates Petch's warning that "large scale business may hamper effective organization and supervision (including the actual day-to-day business transaction)"; however, it seems that with proper business education the way could be paved for large-scale agricultural enterprises in Ghana with minimum organizational and supervisory problems. This is not to suggest that agricultural development should be by leaps and bounds. Under this discussion one may consider the African "extended family"\textsuperscript{24} as a possible source for corporate farming. They may have to start at a low stage.

\textsuperscript{22}Luther Tweeten, Foundations of Farm Policy (Lincoln: University of Nebraska Press, 1970), p. 40.


\textsuperscript{24}Close relatives, for example, uncles, aunts, cousins, etc. The term family, in a European sense, is husband, wife and children.
A developing country which tries to make higher leaps than it should may fail. According to Weitz, there are three stages of farming: (a) subsistence, (b) mixed or diversified, and (c) advanced. He defines subsistence farming as that in which output and consumption are almost identical. The definition of subsistence farming is clearer in the following words: "Subsistence farms are those where agricultural products are raised with the main purpose of covering only the needs of the household; selling is limited to surpluses of these products." The second stage according to Ruthenberg, is the partly commercial farms where cash crops, selling 50 per cent of the gross returns, are cultivated in addition to household needs (this could be brought about through diversification).

Through diversified farming, Ghana can quickly emerge out of subsistence farming within two years; thus it will not only seal off importation of food but also begin to change its foreign fiscal situation by the sale of surplus food. In planning for a productive diversification these points should be borne in mind:

a) Staple food (for local consumption), obtained from annual and semi-annual crops, must be given priority. Weatherwise, Ghana can have crops on the land all year round.

b) Exploration of possible markets for crops; Ghana might grow such crops for exportation.

c) Perishable foods that cannot be properly processed at the moment in Ghana may be grown for domestic use only.

While this is going on, planning for the next stages would be worthwhile: (i) semi-commercialized farms whose cash crops bring in 50-75 per cent of the gross return, and (ii) highly commercialized farms where less than 25 per cent of the gross output is for domestic consumption. It may be pointed out that the planning of the stages of the Green Revolution should be flexible enough to respond to unforeseen circumstances.

Even though it has been argued that private ownership will boost productivity, the Green Revolution should not be the concern of the farmers alone. Productive farming requires some supporting systems and agencies.

Supporting Systems and Agencies

The supporting systems in Ghana should come from both private and government sectors: provision for good roads, water supply, marketing facilities, loans, banking system, opportunity to purchase simple machines, fertilizers and insecticides, electricity, data-feeding from research centers, and coordinating industries (for example, local bakeries to handle most of the wheat). The most important agency is an

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27 Government effort is mentioned here because, for example, a private farmer cannot order fertilizers unless the government does something about foreign exchange which is very tight now.
educational system for the education of prospective farmers.

In Ghana, as in many African countries, academic learning has been divorced from practical application to normal life. Many people feel academic learning is the hallmark of a good educational system, and conducive to world-prestige. But learning often remains bookish and theoretical, and agriculture in Ghana is also more theoretical than practical. Agricultural students learn "how corn grows," not "how to grow corn."

Agriculturists oftentimes want to remain in their ivory towers. A high school student who studies agricultural science also aspires to enter that ivory tower: "to go back to the land" is therefore out of the question. Whether the agricultural institutions are, in practical terms, doing their job or not, one has to be reminded of the fact that the government of Ghana imports food for the people to eat. The agricultural institutions have failed because their programs are not practical. The head of the Department of Agriculture at the Kumasi College of Technology in 1958 criticized this theoretical and bookish agricultural education in this way:

I am not convinced that since we in this country are not producing agriculturists for any other country, there is very little point in basing our course on imaginary universal or even British standards ....A standard in education is high enough when it adequately serves the needs of the community for which it is designed. As the problems become complex, so the standard must grow to deal with them.28

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This statement was opposed by David Balme, the first principal of University College of Ghana. He stated that a "new institution could not afford to weaken its standards." Ashby is correct in saying that "over standards of admission at one end and quality of degree at the other, neither government nor university college made any compromise...." This means that, as far as Ghanaians are concerned, departure from the traditional theoretical learning or program results in dilution of standards; hence agriculturalists are content with learning how corn grows rather than combining this with knowledge of how to grow corn.

Now that Ghanaians feel that an agricultural revolution is needed, learning how corn grows and learning how to grow corn should both be considered very important in a meaningful agricultural program. The importance of practical education was emphasized by E. W. Blyden, an outstanding educator in West Africa in the nineteenth century. He defines practical education as that which aims "at practical results of a more important character," that which is adapted to the exigencies of the country....

If Ghana's present exigencies are lack of food, lack of employment and economic instability, then it would be

29 Ibid., p. 47.
30 Ibid., p. 45.
32 Ibid., p. 226.
imperative for Ghana to structure some type of education to help face these challenges in practical terms.
CHAPTER IV

SECONDARY EDUCATION AS THE HINGE

Much was said in the previous chapter about the reasons for the failure of agriculture in Ghana. It was stated that the failure should not be attributed to natural forces, because natural forces which pose a menace in Ghana can be overcome. The failure of agriculture should rather be attributed to the alienation of the people from the land. Furthermore, in Chapter Three one reads about the "Green Revolution," the major objective of which is to wage a scientific war against hunger and unemployment. The success of this war hinges upon an appropriate educational program.

This chapter suggests that one of the institutions upon which the Green Revolution could be hinged is education at the secondary school level. A combined knowledge of how corn grows and how to grow corn, an essential prerequisite to the Green Revolution, cannot be pursued by illiterate farmers; on the other hand, we have seen that in Ghana's academic agricultural schools, practical instruction in agriculture is ignored. That academic agricultural institutions in Ghana are divorced from real life has been argued by the Minister of Agriculture in Ghana.\(^1\) For this reason, the model which this

study proposes will be practical and the philosophy of the model agricultural secondary school will combine both theoretical and practical aspects.

**Philosophy of an Agricultural Secondary Education**

Agriculture, as far as food production is concerned, should make the soil 'manufacture' maximum food during the crop's natural life span. Depending upon the quality, weather conditions, and other factors, a seed inherently possesses the ability to produce maximum yield. If this is the case, then the farmer must know about all that needs to be done to promote maximum food production.

Education in an emerging nation is functional only when it can change people's life-styles or living conditions for the better. It is upon this premise that one might say, with justification, that educated people are not necessarily those who can read and write, because to learn how to read, write and remember facts does not in itself provide automatic solutions to life's problems. The educated person (illiterate or literate) is the person who applies acquired information to real-life situations by translating available data into workable formulae; thus, an educational system which produces outstanding men in fish biology in a country which relies on importation of fish is operating on a very wrong philosophy of education. It may well be argued that the world's first generation of farmers who found a way out of being fruit-gatherers (though they could not read or write) were better educated than twentieth century Ghanaians who live in a fertile land, possess better tools and more scientific knowledge,
and yet import food.

Education, being the main acculturation force has been invested with power by nature to govern the direction of a society's development. Therefore, any form of economic and social reforms which call for a revolution must be "manifested in some form of educational change." The educational change should be able to provide sources of stability in a rapidly changing society. For example, education must try not to create gaps between classes as a result of preferential employment. Also it must be able to provide various economic opportunities for every person. Admittedly, the school itself cannot and should not produce money, but it is its responsibility to "create" people who can "create" money. Furthermore, education itself should not produce food for the nation, but it is its duty to produce people who can produce food abundantly.

If the educational system were to accept this responsibility, it would concern itself with what many people have said or are saying in support of this view. Julius K. Nyerere, referring to all underdeveloped countries, said, "We should think in terms of increasing our agricultural output." He maintains that the underdeveloped countries can themselves produce more." As far back as 1871 the Fante Confederacy

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4 Ibid., p. 235.
had in mind

To promote agricultural and industrial pursuits and to endeavor to introduce such new plants as may thereafter become sources of profitable commerce to the country.\(^5\)

The first Education Ordinance for the Gold Coast, by ignoring this definite wish of the people, was therefore not serving all the needs of the people. The need for an agricultural education has been echoed by a number of Africans in the nineteenth and the twentieth centuries. More recent pleas are found in the local newspapers in Ghana. For example, Mr. J. K. Boakye, a Ghanaian complained that "Our land must be able to give us more food, but our education is not teaching us how to grow more food...."\(^6\)

The philosophy of education in the model proposed in this study is valid and sound because it is relevant to the present needs of the people of Ghana. It provides the basis for an agricultural education which organizes "all the powers of a human being, moral, intellectual, and physical, by and for the individual and social uses."\(^7\) And it is such a valid philosophy which must underlie the objectives of an agricultural secondary education.

Objectives

Bearing in mind the present situation in Ghana, the

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\(^6\)Daily Graphic (Accra, Tuesday, January 5, 1971, p. 5, Col. 2.

\(^7\)Nelson B. Henry, ed., *Philosophies of Education* (National Association for the Study of Education, 41st Yearbook, Part 1, 1942), p. 320. See also the philosophy of the Bristol County Agricultural High School, Segreganset – Appendix J.
following objectives for an agricultural secondary education are considered feasible:

1) To provide an alternative education.
2) To help the country seal off importation of food.
3) To promote balanced economy.
4) To propagate the dignity of honest labor.
5) To produce future farmers.
6) To become a feeder institution for agricultural colleges sensitive to the real needs of the people.

Each of these objectives should be examined.

1. To provide an alternative education.

There are some people who would enjoy deriving their livelihood from farming, but the present educational system aims at luring these "natural" farmers into law, medicine and other professions, even though these may not be their natural aptitude. To no country in the world would nature deny people, (however few), with interest in farming, and so in Ghana provision must be made for its natural farmers; otherwise, manpower resources would be wasted or at best left untapped.

2. To help the nation seal off importation of food.

It is necessary to seal off importation of agricultural products which can be produced in Ghana. Tobacco leaf, soya bean oil, ground nut oil, palm oil, sugar, flour or wheat, fruits, rice, cereals, potatoes, vegetables, coffee, milk, raw cotton, and many other things are being imported right now.\(^8\) Sealing off importation of food would undoubtedly save Ghana some money.

3. **To promote a balanced economy.**

Industrialization without sound agriculture does not create a sound economy. In much the same way as agriculture needs industries as supporting agencies, so do industries need agriculture as a supporting agency. For example, the Pioneer Tobacco Company, Limited, in Ghana, should be fed locally with raw materials. As a matter of fact, even non-agricultural industries will not progress if agriculture remains at the subsistence level.

4. **To propagate the idea of the dignity of honest labor.**

Africa is "becoming increasingly a net importer of food, despite the continent's needs and potential for becoming a major food producer." The primary reason for this is the attitude of the people toward farming. In Ghana, as in some other African countries, what is termed the 'colonial mentality' has resulted in an exaggerated regard for academic education and white collar employment while other important jobs are held in relative contempt. The majority of those who take such manual jobs are either illiterates or those forced by an insensitive educational system to drop out from school.

It is not at all surprising that Nigeria is ahead of Ghana economically. Nigerians, in general, willingly and happily consider any kind of job opportunity, provided that it offers economic security. Nigerian residents in Ghana are

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10 Jobs like carpentry, masonry, butchery, farming, cleaning, fishing, are too menial for an elementary school graduate to consider for a life-long profession.
generally very serious businessmen and traders. They do not mind being fishmongers, pepper sellers, or traders in small items; such occupations are among those looked down upon by Ghanaians.

Unless the educational system in Ghana changes, the bad attitude toward farming will continue. Presently, most of the unemployed in the big cities would feel it an indignity to go back to the land. They have left the fertile land behind them, while unsuccessfully hunting for white-collar employment. These white-collar job hunters increase in number each year (see Table 3); yet, Ghana needs only a small percentage of its population in order to wage a scientific war against subsistence farming. For a developing country like

<table>
<thead>
<tr>
<th>Year</th>
<th>Monthly Averages of Registered Unemployed (Source: Employment Service Statistics)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>14,743</td>
</tr>
<tr>
<td>1962</td>
<td>15,489</td>
</tr>
<tr>
<td>1963</td>
<td>13,433</td>
</tr>
<tr>
<td>1964</td>
<td>13,622</td>
</tr>
<tr>
<td>1965</td>
<td>11,301</td>
</tr>
<tr>
<td>1966</td>
<td>11,478</td>
</tr>
<tr>
<td>1967</td>
<td>16,713</td>
</tr>
<tr>
<td>1968</td>
<td>17,551</td>
</tr>
<tr>
<td>1969</td>
<td>15,027</td>
</tr>
<tr>
<td>1970</td>
<td>16,513</td>
</tr>
</tbody>
</table>

Source: A letter from the Ghana Labour Department, dated 3rd February, 1972. Unemployed figures are higher than these: those who did not register are not included. To these figures one may add also the number of underemployed (figures not available). These figures are not reliable; however, they point out that unemployment has been increasing since 1966.
Ghana, contempt for manual employment is really a stab in the back of its economy; therefore, "a considerable degree of common perception must be established," because even those who would have liked to engage in such jobs are often influenced adversely by others. It is high time that this naive public sentiment changed. And this is an especially opportune moment: because of the present economic crisis, education could, with little difficulty, propagate in students the dignity of honest labor. However, the fact still remains that farmers, like any other professional men, should enjoy what they are doing so as to be able to produce good results. Montapert states:

I have never known a successful man who achieved his place in life by working at a job he disliked. True, there may be many distasteful duties to perform...and discouragement piled upon discouragement; but a mature person, who basically enjoys what he is doing, has learned to expect occasional setbacks and will take them in his stride with never a thought of giving up.12

It follows that any agricultural education should produce future farmers who really enjoy their occupation.

5. To produce future farmers.

Unless efforts are made now to encourage people to take

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up farming as an honorable profession, it can be predicted that Ghana would find it hard to replace its present generation of farmers. Even those half-educated literates, unsuitable for any clerical employment, are too proud to go back to the land. But in such a case, Ghana, like any other country would not be able to rely on farmers who would constantly improve upon their performance through different types of continuing programs of study.

6. To prepare students for further studies.

It is from practical agricultural secondary schools that Ghana's agricultural colleges may recruit students who believe in combining theory with practice. Also, graduates of agricultural secondary school, because of the foundation they would have, could study on their own, or in continuing education centers. Continuing education of either kind is necessary for professional growth. It is hoped that any type of education beyond the agricultural secondary school would pursue "knowledge of better practices in production of food and cash crops."13

The objectives of secondary agricultural education which I have described above are the outcome of a study of several countries. Agricultural education programs in Uganda, Iran and Segreganset, Massachusetts provide useful examples.

Three Agricultural Schools Compared

By 1967, Uganda had established secondary level technical and farm schools (Table 4) which now offer various

courses, including agriculture and agricultural mechanics.

In Tables 4 and 5 one discovers that

a) these schools are four-year institutions,
b) business and academic courses do not enjoy equal status if they are offered at all,
c) only about 6 per cent of those taking the course in agriculture reached the final year,
d) only about one-third of the students in all the schools reach the final year. The dropout rate is high. This may be due to the fact that the students are prepared for the First Craft Certificate of the City and Guilds of London Institute; i.e., an external examination.

In Iran, the Ministry of Education provides agricultural secondary education. After a five-year elementary education and during a three-year Guidance Cycle, the school authorities try to

(1) increase general knowledge for better living,
(2) develop moral and spiritual values, and,
(3) discover the student's talents and abilities for academic or vocational/technical studies at the secondary level.\footnote{Embassy of the Republic of Uganda, Education in Uganda, (Washington: Embassy of the Republic of Uganda, July 1969), p. 3.}

It is not clear in Iran's educational system whether it is during the Guidance Cycle that exploratory courses in practical farming are given, or whether such courses are embodied in the vocational or the natural science program. However, on completion of the three-year Guidance Cycle, students take a qualifying or entrance examination for academic or vocational/technical studies at the secondary level.\footnote{United States Department of Health, Education and Welfare, The Educational System of Iran (Washington, D. C.: United States Printing Office, 1970), p. 5.}
### TABLE 4

**ENROLLMENT IN SECONDARY LEVEL TECHNICAL AND FARM SCHOOLS IN UGANDA**

<table>
<thead>
<tr>
<th>Year</th>
<th>Boys</th>
<th>Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year I</td>
<td>555</td>
<td>52</td>
<td>607</td>
</tr>
<tr>
<td>Year II</td>
<td>283</td>
<td>52</td>
<td>335</td>
</tr>
<tr>
<td>Year III</td>
<td>350</td>
<td>11</td>
<td>361</td>
</tr>
<tr>
<td>Year IV</td>
<td>214</td>
<td>4</td>
<td>218</td>
</tr>
<tr>
<td>Total</td>
<td>1,402</td>
<td>119</td>
<td>1,521</td>
</tr>
</tbody>
</table>

### TABLE 5

**ENROLLMENT IN SECONDARY LEVEL TECHNICAL AND FARM SCHOOLS (UGANDA) BY COURSE OF STUDY**

<table>
<thead>
<tr>
<th>Course of Study</th>
<th>Year I</th>
<th>Year II</th>
<th>Year III</th>
<th>Year IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>253</td>
<td>143</td>
<td>105</td>
<td>15</td>
</tr>
<tr>
<td>Agricultural Mechanics</td>
<td>21</td>
<td>21</td>
<td>16</td>
<td>27</td>
</tr>
<tr>
<td>Boat Building</td>
<td>21</td>
<td>--</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>Brickwork</td>
<td>65</td>
<td>24</td>
<td>67</td>
<td>53</td>
</tr>
<tr>
<td>Carpentry &amp; Joinery</td>
<td>69</td>
<td>21</td>
<td>61</td>
<td>43</td>
</tr>
<tr>
<td>Electrical Installation</td>
<td>20</td>
<td>36</td>
<td>12</td>
<td>28</td>
</tr>
<tr>
<td>Fitter Mechanics</td>
<td>12</td>
<td>24</td>
<td>12</td>
<td>--</td>
</tr>
<tr>
<td>Gin Fitting</td>
<td>85</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Motor Vehicle Mechanics</td>
<td>41</td>
<td>47</td>
<td>57</td>
<td>32</td>
</tr>
<tr>
<td>Painting &amp; Decoration</td>
<td>--</td>
<td>19</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Plumbing/Plipofitting</td>
<td>20</td>
<td>--</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>607</td>
<td>335</td>
<td>361</td>
<td>218</td>
</tr>
</tbody>
</table>

vocational/technical institutions. There are also three-year programs to train agricultural specialists, and also two-year courses to produce "skilled workers and farmers." One's attention may be drawn to the following aspects of Iran's educational system:

a) The business secondary schools are separated from the agricultural schools, yet the latter do not offer business courses by themselves.
b) Unless the skilled farmers from the two-year institutions somehow set up their own businesses after graduation they may have to work under the three-year trained agricultural specialists as laborers. This might breed some unfavorable attitudes on the part of the former.
c) Prospective teachers for secondary business schools are educated in a separate College of Business. One realizes here also that there is no way business education can be a part of the experiences of agriculturists.
d) Prospective students for secondary level institutions go through national examinations. This is the same type of external examination which in Ghana is called "the killer" (because 'casualties' at such external examinations are usually heavy). And it may be pointed out that external examinations are a powerful source of waste and manpower.

In Segreganset in Massachusetts is the Bristol Agricultural High School which caters for the agricultural needs of the people of Southern Massachusetts through its day and evening programs. Students major in Animal Science, Poultry Science, Vegetable and Fruit Growing, Landscape Gardening, Floriculture, and Arboriculture. These divisions provide

"diversified knowledge of the over-all agricultural industry."¹⁸ Because its motto is "What is worth doing at all is worth doing well," (see Appendix K: Objective No. 4), its philosophy is based on a combination of theoretical and practical subjects. Subjects offered comprise (a) academic and related subjects, and (b) agricultural subjects (Table 6). In a sense, this school teaches not only how crops grow but also how to grow crops as an effective device essential for job competency in skills, understanding, and attitudes. It prepares students for gainful employment in agriculture. The school makes itself a motivating force in order to promote the students' personal and occupational advancement towards responsible lives for themselves as individuals, for their families, their communities and their country. Farming, defined as "agricultural production,"¹⁹ enjoys high esteem by both students and faculty. In addition to being practical in their teaching methods, most faculty have their own private farms or productive gardens. This is one effective way of propagating dignity of honest labor. It is an example of how the image of school instructors becomes influential.²⁰

Even though admission is not necessarily based on academic excellence in students' elementary schools, the

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¹⁸Bristol County Agricultural High School, Chieftains, (Segreganset: undated), p. 11.
²⁰Weitz, Ibid., p. 88.
<table>
<thead>
<tr>
<th>ACADEMIC AND RELATED</th>
<th>Freshman Year</th>
<th>AGRICULTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Animal Science</td>
<td></td>
</tr>
<tr>
<td>Algebra</td>
<td>Poultry Science</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>Vegetable &amp; Fruit Growing</td>
<td></td>
</tr>
<tr>
<td>General Science</td>
<td>Ornamental Horticulture</td>
<td></td>
</tr>
<tr>
<td>Botany</td>
<td>Landscape Gardening</td>
<td></td>
</tr>
<tr>
<td>Physical Education</td>
<td>Agricultural Mechanics</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th>Animal Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Poultry Science</td>
</tr>
<tr>
<td>Geometry</td>
<td>Vegetable &amp; Fruit Growing</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Floriculture</td>
</tr>
<tr>
<td>Government</td>
<td>Arboriculture</td>
</tr>
<tr>
<td>Biology</td>
<td>Agricultural Mechanics</td>
</tr>
<tr>
<td>Soil Science</td>
<td></td>
</tr>
<tr>
<td>Physical Education</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior Year</th>
<th>Animal Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Poultry Science</td>
</tr>
<tr>
<td>Algebra</td>
<td>Vegetable &amp; Fruit Growing</td>
</tr>
<tr>
<td>Business Mathematics</td>
<td>Floriculture</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Landscape Gardening</td>
</tr>
<tr>
<td>Physical Education</td>
<td>Arboriculture</td>
</tr>
<tr>
<td></td>
<td>Agricultural Mechanics</td>
</tr>
<tr>
<td></td>
<td>Entomology and Plant Pathology</td>
</tr>
<tr>
<td></td>
<td>Animal Nutrition</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Senior Year</th>
<th>Animal Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Poultry Science</td>
</tr>
<tr>
<td>Algebra</td>
<td>Vegetable &amp; Fruit Growing</td>
</tr>
<tr>
<td>United States History</td>
<td>Floriculture</td>
</tr>
<tr>
<td>Physics</td>
<td>Landscape Gardening</td>
</tr>
<tr>
<td></td>
<td>Arboriculture</td>
</tr>
<tr>
<td></td>
<td>Agricultural Mechanics</td>
</tr>
</tbody>
</table>

Source: Bristol County Agricultural School, Chieftains, Segreganset: undated), pp. 12-13
Segreganset Agricultural High School demands of its students high performance equal in quality to that of the academic secondary schools in the country; thus a student may be penalized or dismissed for one or more of the following reasons:

a) Failing more than one academic subject.
b) Failing any two subjects.
c) Failing in 40% or more of credits being carried.
d) Failing his major agricultural subject.\(^2\)

One may ask at this point, "How do the academically 'backward' students meet these requirements?" The answer is simple. Their academic lessons are related to practical experiences in their agricultural program. (It may be pointed out here that they were not forced into the school by their parents or elementary school counselors). In fact, as one faculty member pointed out, students who come to the school with a very poor science or mathematics background improve a great deal by the end of their senior year. This reminds us of a boy who was not doing well in school, yet was able to relate mathematics and science very intelligently to experiences which were of interest to him. (See "The Poor Scholar's Soliloquy," Appendix L). Evidently, this 'poor scholar' was placed in a disadvantageous environment, - the school. Writing about such 'disadvantaged' students Riessman states:

> What can be seen and felt is more likely to be real and true in his perspective. His practical orientation does not encourage abstract ideas....A person with

\(^2\)From the school's record, dated September 1971.
intellectual competence in one field is frequently thought of as a 'brain' with ability in all fields....theory is impractical, "most big ideas that look good on paper won't work in practice...."  

Maybe many of the dropout cases in Ghana are due to the classrooms being insensitive to the students' individual experiences.

If academic subjects are related to practical farming, students interested in farming could cope with their academic work. It is therefore wrong for the Ministry of Education in Ghana to make a rule that those who fail to gain admission to the regular academic secondary schools will be assigned to farm schools and vocational institutions. This policy will not help make farming an honorable job; it will rather perpetuate the same old inferiority complex on the part of the farmers.

Some more information about the Segreganset Agricultural High School worth remembering:

a) The poultry and animal husbandry provide well-balanced mixed farming.

b) The School is almost self-supporting as far as food for resident students is concerned.

c) Even though the school was established around 1912, it was in 1968 that it was accredited by the New England Association of Colleges and Secondary Schools. Before its accreditation, it had already produced private agricultural businessmen who are now well established in life: some of them are Hopkins, a landscape businessman; Christen, who owns Christenson

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Green House; and, Pearson, owner of the Andrade Stand. All these people are mature, well-respected people who make their contribution in the community significant. The people in the community do not look down upon them because of their occupation.

d) Students spend at least two summers working on private farms for wages and course credits. They are supervised by faculty members during this summer project.

e) Dropouts are very few indeed, and only a negligible percentage relate to poor school work.

f) The school draws some inspiration by being a member of the Future Farmers of America whose motto is "Learning to do; doing to learn, earning to live; living to serve." The Future Farmers of America awards four degrees, based on achievement, to its active members.

g) The school itself is well supported by colleges and other research organizations.

From all that has been said so far, one discovers the main difference between the Uganda and Iran farm schools on the one hand, and the Segreganset school on the other. The Uganda and Iran schools, unlike the Segreganset school, do not aim at producing private agricultural businessmen. Ghana, unfortunately, is in the first category, but it may be said that successful farmers are usually private, and, one is

\[23\] Bristol County Agricultural High School, Ibid., p. 20.

\[24\] See Appendix M for incentives provided under "The Operation Feed Yourself" scheme in Ghana.
reminded that:

Most agricultural change has come about in the past as a result of the initiative, drive, ambition, and technical managerial ability of individuals...this is because the production process itself...depends for its success on the experience and judgment of competent individuals, who can handle and forecast the movement of the changing variables of soil conditions, weather, prices...25

It is for this reason that business-orientation is made to form part of the organization of the proposed model of agricultural secondary education.

Secondary Education as Suitable for Agriculture

Since the major role of a Green Revolution is to wage a scientific war against shortage of food and unemployment, education at the secondary school level may be more successful than at the eight-year elementary school level.

First, a four-year agricultural secondary education will raise the dignity of farmers in Ghana. Farmers would not feel inferior, because their education will offer them the tools and opportunities to participate in community activities. No longer should farmers be denied political opportunities. Also farmers' children should draw inspiration from their fathers' dignity and their educational advancement. Farmers should also enjoy any life opportunities—good homes with modern furniture, decent work clothes, reading materials, cars, radios, and many others. A farmer with a secondary school

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education will feel entitled to these amenities as basic life necessities. It is this kind of life which makes people denounce farming in an attempt to crave white-collar employment.

For a rounded program, a four-year agricultural education would be needed to provide sufficient time for in-depth theoretical and practical studies. The two-year middle schools, termed 'continuation schools', designed for "...practical and vocational subjects such as metal work, masonry, carpentry, needlework, sewing and embroidery, elementary agriculture..." will not help Ghana. The reasons are clear. The new eight-year elementary general education will not offer students adequate preparation in subjects like biology and mathematics, and so the two-year continuation school will, at best, offer students what is just adequate for farm laborers. This view is supported by Sir W. Arthur Lewis, who says that "improved business performance would be one of the benefits of an expanded secondary education programme..." Once again, it must be stressed that Ghana should aim at producing business farmers; the two-year continuing schools will not achieve this.

The second reason for a four-year program is that farming, as a life-time profession, should be chosen at one's


27The two-year continuation school is equivalent to grades nine and ten. One wonders whether its products would have acquired sufficient knowledge in order to wage a successful scientific war against hunger.

will. A certain amount of maturity is necessary before one chooses farming as a profession. If students, even at the secondary school level, sometimes do not know what they would like to do in the future, then it follows that an agricultural education leading to future occupation will be a premature choice by primary school pupils.

Third, the model of an agricultural secondary school being proposed is a transit institution to cater to those who would terminate their education after graduation in order to take different types of agricultural occupation, including food production, as well as those who would continue their education in agricultural colleges and universities. On the basis of this, it is clear that the primary school cannot be an effective transit institution. The role of an agricultural secondary school as a transit institution (for a living and for a college pursuit) must reflect the institution's program of studies.

Program of Studies

Ghana seems to be moving toward a comprehensive program for secondary schools. The Minister of Education, Culture and Sports announced that

In future, no new secondary school in the country will be allowed to offer tuition in only pure grammar and arts subjects like history, geography and literature, but will be required to provide curricula which, in addition to art subjects, will

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offer agricultural, commercial and technical training to students. 30

One wonders whether, at this present stage, it is advisable to open new schools in Ghana. Even if new schools were opened, they would offer only token courses in agriculture which would perpetuate the same "sad school gardens that have made little difference in the African bush..." 31 However, assuming that what the Minister of Education proposed (above) would amount to an effective agricultural secondary education, then one finds it plausible to recommend a program of study composed of academic, agricultural and business courses. 32 It appears that Ghana's non-academic program should be business-oriented; otherwise it may not contribute much to industrialization. The Industrial School which was opened at Cape Coast by the Basel Mission was not business-oriented, 33 but an agriculture which is business-oriented commands better profits; hence, agricultural education in Ghana should include the following areas:

A. Academic:

Algebra, General Science, Botany, English, Chemistry, Physics, Biology, Geometry, African Studies (history, culture, political economy, politics), Citizenship.


32See Blyden's interest in agriculture; of course, he does not mention business education. Lynch, (ed.) Ibid., p. 18.

33Horton, Ibid., p. 232.
B. Agricultural:

Vegetable and Fruit Growing, Animal Science, Poultry Science, Comparative Agricultural Studies, Agricultural Economics, Disease and Pest Control, Mechanization, Soil Science, Farm Layout, Agriculture and Rural Development, Fertilization.

C. Business:

Farm Management, Pricing and Marketing, Bookkeeping, Typing, Cooperative Systems, Credit and Bank Loans, Labor Laws.

This list is not exhaustive. (See also "Operation Feed Yourself Guide" Appendices F, G, H). Introductory courses in carpentry, first aid, mechanics, and masonry may help future farmers. Also, when the agricultural secondary schools become well established (much will depend upon the needs of Ghanaians), courses in floriculture, landscaping, horticulture, and so on, may be offered.

Closely related to the program of studies are the admission and graduation requirements.

1. Admission to the program should not be based on academic excellency in a student's elementary school. Voluntary desire to enter the school may be the major determining factor. However, one must have had a level of knowledge of the simple R's, with remedial courses prescribed whenever necessary. Students transferring from the regular academic secondary schools may be considered for advanced placement.

2. Satisfactory work must be required of all students, but the school itself should provide an environment conducive
to satisfactory work with minimum frustration and discouragement.

3. An amount of practical field experience should be required for graduation. For this reason, the school should have its own farms and demonstration centers in addition to "affiliated" private farms where students could work for both wages (the money going into their own pockets) and course credits.

4. An individual program would have to be worked out by both the student and his program counselor. This program should be determined by the student's future plans. This means that some students might spend less or more than the regular four-year period.

5. A student would major in one particular area, for example, Vegetable Production, but might spread his entire program to cover the three areas already mentioned above.

6. External examinations (whether national or overseas) would not be necessary. An agricultural secondary school should be autonomous in awarding diplomas to its students, or, at least, in nominating successful students for diplomas to be awarded by the Ministry of Education. Indeed, any vocational program which operates on external examinations will not achieve much success. 34

What has been said so far, it may well be argued, can provide the type of agricultural program "needed to stimulate occupational competence...." 35 It is important to remember

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34 Garlick, Ibid., p. 32.
at this point that, as far as agricultural education is concerned, success may not be achieved if the sites for agricultural schools are not suitable.

Sites

Consideration for the sites may take into account (a) suitability of the land, (b) availability of space for future expansion, and (c) cost. Because of the present economic situation in Ghana, choosing sites may call for utilizing existing buildings. Here are some possibilities: Combination or Affiliation Plan, Conversion Plan, and Spotting Plan.

1. Combination or Affiliation Plan

This plan suggests that either (a) the agricultural program be attached to an existing academic secondary school and accorded equal status with all the academic programs, or, (b) two institutions (one academic and one agricultural) play joint-host to the program. While this plan may be viewed as financially feasible, there is sufficient reason to approach it with scepticism. The history of education in Ghana shows that earlier agricultural education in Ghana has been swallowed up by academic interests when both have been under the same administration. For example, Achimota secondary school was to "assist the gradual spread throughout the country of improved agricultural methods," but this was not achieved because of its later involvement in preparing academic students to enter British universities. Another example is

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36 Foster, Ibid., p. 166.
37 There were no universities in the Gold Coast at that time, and so future university graduates had to go overseas.
that of Prempeh High School, which was established to "combine literary education with training in industrial subjects" and "is now in every sense a grammar school...." 38

2. Conversion Plan

What this means is that some of the existing ivory-tower agricultural schools could be converted or modified to suit practical farming. The agricultural schools at Asuantse (near Cape Coast), Kwadaso (near Kumasi), Yankpala (near Tamale), offer a golden opportunity for such a conversion plan. All that has to be done in a case like this is to reform the curriculum: existing buildings may need little alterations or extensions. It seems possible that this plan is the most likely to succeed and also the least expensive.

3. Spotting Plan

A new site altogether might be chosen. It must meet all the site requirements mentioned earlier. There are many suitable places which are the 'native' homes for particular agricultural products. Agricultural specialists and geologists should be consulted before a final spot is chosen (see Table 6 for suggested sites through the Spotting Plan). This suggested plan is almost the same as that suggested in "The Operation Feed Yourself" scheme (Appendix N). Any one of these two spotting plans would provide Ghanaians with the staple food they need. Yams, corn, rice, plantain and coco-yam are eaten by almost everybody in Ghana. Other agricultural products which have not been mentioned in Table 7 but

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38 Foster, Ibid., p. 169.
### TABLE 7
SUGGESTED DISTRICT SITES

<table>
<thead>
<tr>
<th>School*</th>
<th>District</th>
<th>Closest River</th>
<th>Home of Other Possibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Lawra</td>
<td>Black Volta</td>
<td>guinea livestock yams millet tobacco</td>
</tr>
<tr>
<td>B</td>
<td>Bimbila</td>
<td>Oti</td>
<td>yams tomatoes groundnuts maize livestock guinea corn tobacco millet</td>
</tr>
<tr>
<td>C</td>
<td>Salaga</td>
<td>Volta Dam</td>
<td>rice maize yams millet guinea corn groundnuts</td>
</tr>
<tr>
<td>D</td>
<td>Wiawso</td>
<td>Tano</td>
<td>plantain cocoyam cassava rice yams corn tomatoes sugarcane tobacco groundnuts citrus</td>
</tr>
<tr>
<td>E</td>
<td>Axim</td>
<td>Ankobra</td>
<td>rice oil palm coconut sugar cane citrus</td>
</tr>
<tr>
<td>F</td>
<td>Akuse</td>
<td>Volta Dam</td>
<td>livestock tobacco oil palm corn groundnuts citrus tomatoes</td>
</tr>
</tbody>
</table>

*See Figure 4.

Source: The author prepared this with the help of information on Appendix O and Appendix P (showing the district locations).
which could provide good income are peppers, garden eggs (egg plant), tiger nuts, watermelon, pawpaws, pineapple, potatoes, sweet potatoes, onions and legumes. A viable educational planning is called for because

Educational planning, regardless of how good its methodologies may be, can never really work well unless the administrative milieu is favorable. This is less a matter of how the boxes are arranged on the organizational chart...as of how the various participants...think about planning and how they perceive their own particular role in relation to the planning process. 39

As Coombs has said above, educational planning does not mean anything on paper unless it is implemented. For this reason, it is appropriate to discuss, at this point, the implementation of this model of secondary agricultural education.

CHAPTER V

IMPLEMENTATION

The previous chapter deal with three main issues: economic and unemployment problems, the causes of the problems, and the need for a change. At the end of Chapter Four the need for a change to be sponsored by a practical agricultural secondary school has been emphasized. But in a country like Ghana, where farming is among the last occupations to attract both the literates and the illiterates, a suggestion for an agricultural secondary school may receive little enthusiasm. A suggestion to introduce Secondary School Diploma in Farming may not be tolerated even by the Ministry of Education. Also, a bill to the Parliament for such a thing may be killed in its very early stages. Such a qualification—Secondary School Diploma in Farming—would impress on the minds of the general public only as an object of scorn and a sign of educational backwardness.

However, very luckily for Ghana, a number of people have already begun to look at things differently: this is a realistic response to the economic situation. Therefore, there is evidence that the people of Ghana will patronize the establishment of agricultural secondary schools. Formerly it was a "taboo" or an indignity for secondary school and college students to hold the hoe; now it seems it is "sacred" and
honorable: the present military government has issued directives for all secondary schools and colleges to produce crops.\footnote{See "Operation Feed Yourself Guide to Schools" (Appendix F).} Therefore, this is an opportune time to graft a practical farm school into the educational system.

However, the question which must be asked is, "Is the implementation of such a school possible in terms of the availability of manpower and funds, leadership, and public orientation?"

\textbf{Manpower}

There is evidence that some people in Ghana (literates and illiterates) are willing to offer all types of help (including voluntary labor) for agricultural development programs. For example, there are some individuals in the Gomoa Assin Traditional Area who promised land to any interested agricultural investors. In making this publicly known, the Chief of Gomoah Ngyiresi (also the chief farmer of the traditional area) said that "people in the area were prepared to supplement any viable project in the area by communal labor."\footnote{\textit{Daily Graphic} (Accra: Friday, October 16, 1970) p. 6, cols. 4-5.} Such a place could accommodate an agricultural high school and other auxiliary projects (for example, large private farms and small-scale industries), and this could be done on a labor-intensive basis. Furthermore, such a cluster-project could effectively bring to the rural areas people who are unsuccessfully hunting for white-collar employment in the cities.
Additional evidence of interest in the developing of farming has been the attitude shown among some university students. A group of university graduates have formed a Farmers' Club to help people in Tema and surrounding areas "improve their method of farming and increase agricultural production."3 Such a club could do a good job if these interested university students would take an active part by dipping their hands in the soil and the animal dung.

Another example: the inhabitants of twenty-six villages in the Ashanti Mampong District formed an organization known as the Rural Dwellers Federation to undertake rural projects with each other for their common good...to bind themselves to make voluntary contributions in cash, labour and resources for the achievement of our common goals....4

It is not only the people who have shown this interest. The Government of Ghana is trying to introduce some agricultural policies. For example, it wants to establish a farming college for Middle School graduates who want some basic training.5 The fear arose that this might become just a "paper plan," but the interest in agriculture manifested by politicians suggests the opposite. After asking the Minister of Agriculture, "Are you referring to paper plan?", Mr. Ackuaku, a Member of Parliament pointed out:

Our population is growing rapidly and the quality of life of our people is also rising with better and more education.... We are eating more, and better and insisting on more variety and better quality. The demands on the industry of agriculture are increasing by geometrical progression. We either have to produce more and more, or we perish.\(^6\)

As has been pointed out in this study, agricultural development plans\(^7\) oftentimes amount to, as indicated by Mr. R. T. Seglah, M.P., "armchair activities,"\(^8\) and this supports Mr. Ackuaku's feelings expressed in the question above: "Are you referring to paper plan?" However, despite this criticism, the government agrees with most politicians that uncontrollable famine would soon set in unless something practical is done. Also according to recent reports all the people in Ghana are involved in the "Operation Feed Yourself" scheme (see Appendices F, G & H).

So in terms of manpower, what is necessary at the moment is the ability to pool together and direct all private and government efforts towards the establishment of at least four agricultural secondary schools. However, manpower alone cannot create such schools without adequate money.

**Funds**

If the people of Ghana are assured of the effectiveness and productivity of an agricultural secondary school, they would *chip off* some of their money to support it. If


\(^{7}\)See Table 1.

\(^{8}\)Ghana Parliamentary Debates, Ibid., C. 944.
Otumfu Opong Ware II, the Asantehene, says: "I'm ready to help young farmers,"\(^9\) then it may be assumed he would not mind making monetary contribution. Also, being the traditional head of the whole of Ashanti and commanding the respect of the Ashantis, he might not find it difficult to help raise funds for a project of this nature. Many such interested traditional leaders could be inspired to do the same. Also, some wealthy people in the country would offer help.

In the past, Ghana has not given proper attention to practical agriculture grafted into the educational system; thus, no proper allocation has ever been made for this purpose even when there were financial opportunities.\(^{10}\) For example, by the Colonial Development and Welfare Act (1940) the British Parliament made available £5,000,000 a year for ten years in the interest of the colonies. This amount was increased by a £1,000,000-a-year research grant. It would have been perfectly all right for Ghana to have used part of its share in developing practical agricultural education because the Act made provision, among other things, for economic and educational development. In 1944, the British Colonial Office suggested that the people in the colonies should have knowledge of food production.\(^{11}\) Maybe this is the reason why the 1944 general development program drawn by the Government of Ghana

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\(^{10}\)Bourret, Ibid., p. 124. See also Horton, Ibid., pp. 197-199.

\(^{11}\)Davis, et al, Ibid., pp. 75-76.
included "improvement of agriculture...."\(^{12}\) Apparently, agricul-
tural improvement was not grafted into the education system
and backed up with a sizable allocation.

Further evidence of improper allocation of funds and
the neglect of an agricultural education can be found in the
manner the country's Foreign Reserves were expended. Indeed,
there are many other evidences that a viable agricultural edu-
cation escaped the attention of development planners.

The significance of re-allocating and re-assessing
government spending has been explained by H. L. Elvin as
follows:

> Resources are too short to permit misuse
> of them than can possibly be foreseen and
> avoided....under-developed countries....
> must save in order to form the capital t
> they need....\(^{13}\)

If this advice is sound then one questions an injunc-
tion by the Minister of Education last year that new secondary
schools to be built should offer "in addition to are subjects
....agricultural, commercial and commercial and technical
training to students."\(^{14}\) Let us repeat the question, "Does
Ghana need more secondary schools at all?" Is it not in the
interest of the country's educational development to freeze
the extension of academic secondary schools and the funds re-
allocated? Another question is, "Does Ghana really need more
vocational centers in the urban areas to offer courses in

\(^{12}\)Ibid., p. 66.

\(^{13}\)Lowe, Grant, and Williams, Ibid., p. 20.

various subjects to the youth?" The answer is "No!" Ghana already 'boasts' of numberous defunct, sterile, or insensitive vocational schools, and there is no point establishing more unless they are to serve political ends. The existing ones should be improved upon.

An amount of N$ 1,099,344 was being spent on a number of agricultural projects in the Central Region in 1971. One thing, whether they were productive projects or not is not very clear. However, it is evident that agricultural education was not considered an essential part of those projects. For example, the Asuantsi Agricultural School, located in this particular region, needed some improvement in order to be classified as a practical agricultural institution, but nothing was done about it.

At the present time, the military government of Ghana has cut down expenses, cancelled some projects, and also allocated money for growing of food crops. Farmers are encouraged to borrow from banks. Furthermore, various plans have been devised, aimed at ending shortage of food by 1974. But, one important point to remember is that, all these projects

16 Ghanaian Times (Accra: Tuesday, February 16, 1971), page not obtained.
and allocations are not plugged into a system of education which will make an agricultural development an on-going project. While this two-year "Operation Feed Yourself" scheme is salvaging the pieces, leadership is needed for the structuring of a practical agricultural secondary education, not only to launch a scientific war against the present problem but also to build a strong fortress against possible future food shortages and food importation. Leadership for this is needed right now.

Leadership

Ben Akumanyi, speaking on "The Obstacles to Industrialization in Ghana" said:

...the obstacles to industrialization...

are, among other things, not lack of natural resources or labor...but rather lack of competent administrative personnel, under-utilization of local experts...and the inability of our universities to train the right sort of technicians to man our local industries.19

In the same way, lack of competent administrative personnel (leadership, in this study) will bottleneck the implementation of an agricultural revolution. Leadership, nowadays, demands someone other than a passenger who miraculously brings a plane safely to the airport when the pilot dies.20 Leadership qualities include knowledge of planning:21 he cannot be


20Taunton Gazette (Taunton: Tuesday, November 5, 1968), p. 7. This is said to have happened in Michigan. The emergency pilot, the only passenger at that time, was Dwight Steele, an amateur photographer.

21Lowe, Grant, Williams, Ibid., p. 13.
an emergency planner. In a sense, he needs knowledge covering all sections of the planning process: in other words, an integrated planning.

He must be able to work with people, doing more listening than talking. This presupposes also that he would work cooperatively with offices like the Survey Department, the Ministry of Agriculture, the Labor Department, the Forestry Department, the Ministry of Information, the Ministry of Finance, and the Ministry of Education. It is expedient to involve all types of people and professionals in the implementation of such an agricultural secondary education: teachers, university officials, businessmen, farmers, students, and traditional leaders. It would be advisable to have representation of these people on special committees such as on Curriculum, Fund-Raising, Personnel, Public Relations, Construction, and Finance. It is also advisable to establish a Steering Committee (representatives from each committee) whose role is:

a) To coordinate all the activities and reports of the various committees.

b) To evaluate the project from time to time in the light of the goals of the project, and

c) To re-structure the project to suit unforeseen problems.

In addition to the important virtue of being able to work with people, the administrative leader should be non-tribally aligned. He must not only understand what education means but also agree with James Pickett that "education has
economic significance." Social knowledge and insight is a great factor which he cannot afford to ignore. He must prove that he has plenty of ideas to offer even though he refrains from imposing them on the people. He must be able to convince the people of Ghana that Ghana's agricultural program has to be incorporated in an educational system. He should be able to tolerate frustration, and he should have the sense of self-acceptance, professional commitment and intellectual abilities. In addition to personal attributes, professional commitment and intellectual abilities, Thurman feels leadership should be a personal-selection. This is a very interesting point which calls for a determination on the part of the leader to deal with all problems in order to achieve his goal without selfish, political, ambitious, and opportunistic calculations.

Above all, he who chooses to lead this type of revolution to change the people's attitude would not be a preacher only: he is a man of action, believing in farming and, if

22 Lowe, Grant and Williams, Ibid., p. 97.
23 Smith, Stanley, Shores, Ibid., p. 88.
possible, demonstrating that he is himself a practical farmer. Such an action will sound louder than words: the leader would find it easier to keep things moving, to get people to evaluate the present program, and to challenge other people. He can challenge them easily to action because he is a man of action; he would not find it difficult to win the respect of the people: respect is "tremendously influential in changing a person." 

Some of the qualifications which Horton carved for the Gold Coast administrator sound valid even today for the Ghanaian leader:

...a man of tact...a man who, by long experience in the manners, customs, and habits of the...people, understands the people.

Presently, leadership must come from among Ghanaians. No doubt, Ghana has a great number of capable citizens to do this and their talents must be utilized because, "Africa is utterly dependent on her graduates to lead their continent...." This idea is supported by Little who says that the leader would have dealings with...traditional leaders....a high premium on a traditional background.

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29Ashby, Ibid., p. 50.
...Such persons... have two advantages. Although regarded as highly sophisticated, they still are sufficiently in touch through kinship and marriage to be thought of as fellow tribesmen by the illiterate people around them... 30

A lot has been said about the expectations of a leader for this project, but who is he? Some indications have been shown on Table 8.

It may be an exaggeration to say that politics can do everything in the world except to make a man. It cannot, of course, call down food from the heavens, but, is it not true that political power is the superstructure? 31 In terms of implementation of this project, politicians could easily make themselves the key people who "could initiate what was decided and make it become a reality." 32

It is not necessary to labor on the role of politicians 33 in the implementation of agricultural secondary schools in Ghana. If they are really willing to improve agriculture they can initiate it. However, the fact must be emphasized that it is one thing to vote to do so, and another thing to see that a meaningful plan is made and successfully implemented.

30 Little, Ibid., p. 113.


33 The politicians are all included in the "Government" on Table 8. They include the President, the Prime Minister, and Parliamentarians.
TABLE 8

TYPES OF LEADERS AND THEIR TOOLS

<table>
<thead>
<tr>
<th></th>
<th>Political Tool</th>
<th>Administrative Tool</th>
<th>Demonstration Tool</th>
<th>Grass Roots Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Government</td>
<td></td>
<td>x^a</td>
<td>x</td>
<td>xx</td>
</tr>
<tr>
<td>Chief Education Officer</td>
<td></td>
<td>x^a</td>
<td>x^b</td>
<td>xx</td>
</tr>
<tr>
<td>Education Officers</td>
<td></td>
<td>x^a</td>
<td>x^b</td>
<td>XX</td>
</tr>
<tr>
<td>Farmers' Council</td>
<td></td>
<td>x</td>
<td>x^b</td>
<td>XX^a</td>
</tr>
<tr>
<td>Teachers' Association</td>
<td></td>
<td>x</td>
<td>x^b</td>
<td>XX^a</td>
</tr>
<tr>
<td>Institutions</td>
<td></td>
<td>x^a</td>
<td>x</td>
<td>xx</td>
</tr>
<tr>
<td>Educational Units</td>
<td></td>
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<td>x^b</td>
<td>xx^a</td>
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<tr>
<td>Individuals</td>
<td></td>
<td>x^a</td>
<td>x</td>
<td>xx</td>
</tr>
</tbody>
</table>

Notes: Tool x^a is what is immediately available to the person(s) and likely to be used first. Tool x^b is the least to be used but could be very influential. No leader(s) can afford to ignore Tool XX which represent the people in general.

Administrative officers, including Education Officers, are supposed not only to suggest the remedy for a problem but also to take the lead in the search for it. But when one is afraid of dismissal from his employment because one's appointment hinges on a political veto, one tends to become an impotent administrator. In Ghana, education officers and other educational administrators are competent enough to realize the ineffectiveness of the whole educational system. Their tool will be effective if it is appreciated by the government in power.

Demonstration tool, in this study, does not mean strikes and marches. Demonstration here refers to agricultural demonstration schools. One person or a group could demonstrate the usefulness of farming school. Maybe a college graduate or a public figure would like to make a farm, holding...
the hoe himself; no doubt other people will be influenced by this example.

Grassroots, the people, the masses, should be involved in all aspects of the planning and implementation for two reasons: first, the agricultural schools will recruit their students from the masses; second, they will need financial and material support from the people. Therefore, it is important to remember that

men who hold top positions in the most powerful organized groups (pressure groups) are believed to exercise the greatest unofficial influence upon projects, policies, and issues in the local administrative units.34

Even if the groups are not pressure groups, even if they are illiterates, they should become a part of the project. This does not mean that there should be a referendum to decide the feasibility of an agricultural secondary education. Beginning at the local administrative level, the project should be explained to the people. It is necessary to begin this at the local administrative level because the project deals with changing attitudes.

Public Orientation

The general public, if their support is needed, should be oriented, so that they may accept in good faith the concept of agricultural secondary education.

Many Ghanaians may have realized already that there are thousands of middle school leavers who cannot even write

34 Kimbrough, Ibid., p. 93. "Administrative unit" may be construed to mean district or area. The people in the area must be involved.
simple letters (Appendices Q & R) much less interpret letters to illiterates, but, few people would blame this on the educational system. Statistical proof of the number of failures owing to unsuitable academic examinations (see Chapter I, footnote 3) proves the failure of the educational system, but as Ghana approaches possible starvation, Ghanaians must admit that

man, through his capacity of awareness of himself...is able to control and direct his destiny....It is therefore up to us...
..to develop our capacities....35

The present educational system is one-track and does not offer opportunities for all capabilities. As has already been said, even if one wants to evaluate Ghana's education on the basis of academic achievement only, one finds that it has failed. Dr. Brookman-Amissah, a Ghanaian, says: "Education must be committed to the total development of the individual in the realization of all his potentials."36 Ghana's education has not achieved this yet.

Secondly, the public would be interested to know that agricultural education would be the foundation for commercial farming. One of the problems facing agriculture in Africa is international competition in the marketing of agricultural products. Ghana needs farmers who would understand the situation in order to make their plans effective and productive.

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36The Ghanaian Times (Accra: Wednesday, February 17, 1971), page not available.
Thirdly, if through scientific farming our land in Ghana produced more than the local consumption demands, the excess may be used to promote other scientific discovery. It has been reported that yams can produce electricity.\(^{37}\) Banana drink is produced in Uganda\(^{38}\) (a new type of rum labeled "wagari"). Can Ghana not produce banana bread and make it a big business? An eighteen-month research has shown that bread can be made of cassava to support African countries where there is no wheat. Can't this type of bread be mass-produced in Ghana for home consumption and exportation? It is said that that type of bread will keep for several days. If Ghana had a number of all-year-round professional cassava farmers and cassava-bread bakers, would this not constitute a big business? Dr. David Dendy, leader of the cassava-bread discovery team said:

> It is an ideal material for enrichment with vitamins, minerals and protein concentrates. Bread is also vital as an emergency food source in areas devastated by natural disasters and where people are living below subsistence levels.\(^{39}\)

Fourthly, public orientation needed in Ghana is that which should correct Ghanaian misconception of Europeans, especially that of the British. A response to a questionnaire

\(^{37}\)Daily Graphic (Accra: Saturday, January 9, 1971) p. 12, cols. 1-4. More will be said about this in the next chapter.


carried on in Ghana shows that Africans believe that they are better farmers and fishermen than Europeans. What this really means is that an uninformed average Ghanaian finds it hard to believe that there are European farmers; they believe all white people hold white-collar jobs. People must be referred to the historical fact that there are white farmers in Europe, United States of America, Canada and Russia. If one wants to single out England whose white-collar job image has done more to influence Ghanaians, one has to read McDonald's collection of English agricultural writers.

One writer points out that:

After a period of devastation,... the country found itself in a plight for the want of cheap food for an increasing population. Whenever a nation becomes populous and the necessities of life are scarce and dear, it is then expedient to attempt the discovery of new improvements in husbandry, so that the community may be fed upon easy terms.

Another English writer says:

Now the more corn and cattle are rais'd the cheaper must all Provisions be, which is generally look'd upon to be a Benefit to the Publck.

It is necessary to mention here a point relevant to this study. Having been prevented by ill-health to complete his education at Cambridge University, England, Thomas Tusser

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42Ibid., p. 147.
became not only a poet in agriculture but also a practical farmer who "possessed correct knowledge" in farming.

A very important piece of additional information, as a key for this public orientation, is that Britain's greatness was through agriculture. A Briton admitted this fact, saying:

Another secret spring that gave new motion to agriculture and preserved to us that superiority which, as foreigners say, "gave rise to the greatness, riches, and power of the English," was the exportation of wheat.

Does this mean that agriculture was the secret of Britain's greatness, riches and power? Can this be true of the United States of America? Doesn't Denmark give us the same impression? Let us put forward the question: Which advanced country has economically progressed even though it ignored agriculture? The answer is "None!" It is historically true that

In the advanced countries, agricultural development was an integral part of the process of economic growth. Until the beginning of the nineteenth century, the economics of Western European countries were based mainly on agriculture. Agriculture, in fact, gave impetus to industrialization.

Public orientation must make it clear that Ghana's pride has resulted in plight. It is sad that education has made people feel too proud to go back to the land. Some Ghanaians may feel that it is not the job of the educational

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44 Ibid., p. 78.
45 Weitz, Ibid., p. 5.
system to turn out literate farmers, thus an agricultural secondary education might seem a wrong education to them. Though such people may be in the minority, they could influence, especially if they represent the idea of those 'European-manufactured' native elites who were

picked out by the European elites, .... branded.... with the principles of Western culture.... stuffed.... with high-sounding phrases, grand glutinous words that stuck to the teeth. After a short stay in the mother country they were sent home, white-washed. 46

It must be made clear to such white washed conservative elites that European culture included and still includes farming as a way of life. Farming still plays a very important part in European countries, and practical agricultural institutions form a part of their educational systems. To change such conservative ideas various media for public orientation might help.

In short, through local newspapers, television, radio, flyers, group assemblies, professional magazines, town meetings, a very effective orientation is needed to launch a viable green revolution on a scientific basis through secondary education. A greater part of this study, especially the concluding chapter, offers plenty of material for such public orientation.

46 Leagans and Loomis, Ibid., p. 450.
CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

This study has focused on education and manpower development in agriculture in Ghana during three main eras: before the slave trade, the period between the abolition of the slave trade and Ghana's independence, and from independence to the present. During each of these eras, farming has remained at the subsistence level. This is the general feeling throughout the whole study. Also, there are a number of major conclusions which can be made on the basis of this study.

Conclusions

First, the Europeans, the British in particular, are no longer to blame for the present situation in Ghana. Often-times, one hears some apologetic statements which put the blame on the colonial master. British educators and political administrators are sometimes criticised for not tailoring education in Ghana to suit the people. But it might be argued that the educational system created by the Europeans was not a complete failure. At least it produced teachers, lawyers, ministers, politicians, doctors, educators and great men from whom emerged the nineteenth as well as the twentieth century national leaders, for example: Dr. James Kwefyi Aggrey, Mr. John Mensah Sarba, George Blankson, Samuel Brew, Francis Grant,
Henry Barms, Mark Hausen, Joseph Adams,1 Reverend Philip Quague, Sam Kanto Brew, Samuel Collins Brew, James Hutton Brew, and J. E. Casely Hayford, just to mention a few. Dr. Kwame Nkrumah, who led Ghana to independence, was a product of the colonial educational system.

Admittedly, the colonial educational system is to blame for not producing practical farmers, however, it must be made clear that the British should not be made to share the post-independence blame. One may argue that Ghanaians had been brain-washed by the time of the independence, and that is why they did not realize that the colonial educational system was inadequate for Ghana. This is a lame excuse. Ghanaians were brain-washed, it may be argued, yet after independence Ghana began making its political system non-British. Likewise, after the independence, something should have been done about the inadequacy of the educational system. Ghana should have realized that British educational legacy would not help Ghana, and so what happened in Ghana educationally should not be blamed on the British.

Second, Ghana would not have been in such a critical condition if integrated planning had been the basis for nation-building after independence; such integrated planning (including an agricultural education) would have seemed as a preventive measure against the present crisis. Plans to build the new nation of Ghana should not have been built on foreign formulae. The problems of nation-building for England, the United

1 Shepperson, Ibid., pp. 106-107.
States, Canada and other developed countries were indeed complex but quite different from those presently haunting Ghana. Ghana must find its own unique solution. The substitution of European-given names for African-given names tends to become only an emotional and political affair: substituting "Ghana" for "Gold Coast," "African Personality" for "Western Culture," Republican Democracy" for "Monarchical Democracy" means nothing to Ghana. Also, by maintaining foreign words or names like Michaelmas, Lent and Trinity Terms does not help either. Names and words, in themselves, are hollow, sterile, and beside the point. The name "Ghana" does not automatically bestow upon modern Ghana the riches and dignity of the ancient Ghana.

What needs to be changed are the attitudes and the behavior of the people towards employment, their educational system and any other obsolete methods detrimental to the building of a nation. It is only then that the modern name Ghana becomes significant. National planning dominated by only political interests which are inconsistent with the nation's post-independence needs and aspirations, results in maladjustments of the economic and social structures. For this reason one may say that Ghana can ill afford to ignore practical agriculture in its development plan.

Third, in Ghana the academic diploma is the only status symbol. But it is possible to create more status symbols which, at the same time, make positive contributions to the development of the country. Education has not done much along this line. For this reason, there is a strong need for an
"educational protestantism" against educational neocolonialism. It is ironic that Britain is changing its educational philosophy while Ghana still upholds what Britain is rejecting or questioning. For example, Britain is questioning its examination procedures, yet Ghana still believes in British-type examinations which have drained its manpower. Educators in Ghana must be allowed to launch viable educational reforms which must include an attempt to develop and harness all human capabilities. The country needs all kinds of professionals including practical farmers. At the present time, Ghana is not far from the pre-independence era when a farmer was producing food for only himself and his family.

Fourth, it is not necessary to force all the citizens to go back to the land as the present "Operation Feed Yourself" program\(^2\) purports to be doing (see Appendices F, G, H, M, & N). Only a small percentage of the population is needed to support the nation with sufficient food, and this could be achieved only through a scientific educational program. It seems logical to establish about four practical agricultural secondary schools. In four years' time the nation might have produced enough practical farmers ready to continue "The Operation Feed Yourself" program if these schools were established. To this end, every possible incentive should be explored to recruit and prepare the students. Students admitted to the practical agricultural high schools should have free

\(^{2}\)This program is justified for its attempt to stop importation of food, but only when it is incorporated into an educational system.
education in addition to other benefits. (Some incentives were made to students in Teacher Training Colleges when the country needed teachers badly for its educational expansion program. Also, some incentives were made to the students at the Winneba Ideological Institute when the C.P.P. government wanted to educate future politicians whom it wanted to imbue with its political ideology of socialism, Nkrumais and conscientism.) It stands to reason that, at this time, when Ghana needs practical agricultural schools, incentives should be made to the students who choose to educate themselves to become farmers.

Fifth, there is a danger that western countries might soon lose interest in Ghana. The World Bank, the developed countries and other agencies have given various loans to Ghana for development projects. But, as it is, it might be absurd for a country to give Ghana further loans because it appears Ghana does not know how to use loans for productive ends. The $16 million building built for a few days' conference for the Organization of African Unity, and the importation of food crops which can grow in Ghana are the type of things which the western world might not understand in terms of Ghana's economic policy. Ghana would have been commended by the world if it had, with some of the loans, built practical farm secondary schools as an important part of Green Revolution. The "Operation Feed Yourself" program shows the hands of experts and

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3 This building is presently not being used. It is not suitable for anything. The project is well-known by the title "Job 600."
offers some hope, but the problem is that the suggestions it offers need an education higher than the elementary level. If farmers were well educated to utilize all the scientific suggestions, a number of the specialists, for example, the Agricultural Extension Officers, could be released for other duties, such as research.

Sixth, the present problems in Ghana call for a diversified secondary education program which can sponsor the development of other productive professions, such as the training of fishermen. It has been reported that Chinese and Filipinos have imported herbivorous African Lake fishes in recent years. These fishes grow rapidly and the profit and protein yield from an acre pond are greater than can be realized from an acre of dry land.4

If people from far lands import herbivorous fish from Africa for fish farming while African countries themselves import processed fish, then there is something wrong. The problem is that fishing is also, unfortunately, looked down upon. It has been left in the hands of illiterates who perpetuate the same subsistence fishing. They would not be able to wage a scientific war, in the name of "Blue Revolution," against the importation of fish. In order to stop importing fish, Ghana has to embark upon an educational system incorporating a business-oriented program. Here again, a secondary education is advisable. A fishing school with a status less than that of a secondary school might only perpetuate the

present subsistence fishing.

Seventh, it has been suggested in this study that the agricultural secondary schools should be allowed to award diplomas or at least recommend successful students to the Ministry of Education for diplomas. However, these schools should not make the "manufacture" of diplomas the primary goal. If this becomes the primary goal, the schools will be forced to teach the students the mechanics of passing examinations, rather than the mechanics of making themselves real tillers and real lovers of the soil. In the study it was pointed out that the educational system in Ghana has lost a great deal of manpower through insensitive and inappropriate theoretical examinations.

These conclusions call for a systematic up-to-date research, not only in farming, but also in other areas. It is at this point that universities in Ghana must be called upon to make an impact on the country's development program. Here are some recommendations.

Recommendations

First of all, it must be made very clear that agricultural secondary schools as well as their graduates need constant help from universities and colleges. New ideas in agriculture, based on indigenous factors, need to be discovered and disseminated to agricultural schools. Research on domestication of new crops, cross-breeding of crop species (hybridization) will boost cooperative production. There are already plenty of materials on the market, for example, the Food and
Agriculture Organization might be a source of information. All that is needed is adaptation of ideas to local conditions. Second, it could well be projected that four practical agricultural schools can turn out practical farmers who might produce surplus food. The question will then arise, "What are we going to do with the surplus crops?" If nothing is done with surplus crops Ghanaian farmers might be discouraged. Here again, the universities in Ghana should begin now, with the cooperation of the government, in locating and establishing markets in other countries, African or non-African. Data should be collected as to which countries will need Ghana's crops. However, there is a danger in this suggestion. The "Green Revolution" is happening in almost all the developing countries, and very soon competition for outside markets might be keen and difficult, however, with foresight, Ghana can make good use of its surplus crops. This is described in the next recommendation.

The third recommendation for research is on how surplus crops might be processed into non-edible materials essential to Ghanaians and neighboring countries. It has been reported in Ghana that electricity can be produced from yams. Maybe this discovery should be pursued. Maybe, Ghana can grow

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5Read also the research programs advocated by parliamentarians in the 2nd Series of the Ghana Parliamentary Debates (Accra-Tema: Ghana Publishing Corporation), issue (i) Vol. 8, No. 19, Thursday, 26th August 1971, and (ii) Vol. 8, No. 21, Monday, 30th August 1971. See also Office of the Planning Commission, Ibid., Chap. 4 on "Agriculture."

enough cotton and process it for its medical supplies which it imports presently. Universities in Ghana should be able to produce people who can invent, explore and discover new things. Among the graduates of universities of Ghana might be inventors like George Washington Carver (1864-1943), a Black American who, from peanut (groundnut), made ink, dyes, soap, wood stains and insulating board. From the potato he made rubber. It would be a wise thing for the universities in Ghana to engage in chemurgy (the use of farm and forest products as sources of raw materials for chemical production).

In connection with this it might be a good idea for Ghana to make use of waste products. Illiterate women use the skin (peel) of plantain to produce soap called "amonyke" in the Akan language. This soap can be used as medicated soap because it cures skin rashes. Hundreds of tons of plantain peels go to the dump each day, yet Ghana imports soap. During the cocoa seasons, thousands of cocoa pods (the hard outer crust) are left to rot in the cocoa farms, yet they are used by illiterate women for making soap. Ghana has many such waste products which might be put into proper use.

Fourth, there is a strong need for changing the attitude of people in Ghana toward practical farming. Farmers encourage their children to pursue other professions: they do not want their children to be like them. Teachers in elementary schools take gardening as less important part of the

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7Encyclopaedia Britannica, 1971, Vol. 5, p. 5. His inventions include edible items but have not been listed here since this section is on non-edible items.
curriculum than subjects like arithmetic, English and reading. At the secondary school and college levels students do not aspire to become practical farmers, while the universities' agricultural objective is to produce elite agriculturalists. The government's attitude clearly shows that it is not so much concerned with the production of scientifically educated practical farmers as with giving out loans to illiterate farmers who, at best, perpetuate the same subsistence farming. In other words, the social, political, economic and educational status accorded farming is so inferior that people naturally have to look down upon this profession as inferior. And unless a change of attitude occurs, nothing can be done.

**Summary**

It appears that, from agriculture alone (including all its branches), the products Ghana needs for commercial farming as well as industrialization might be obtained locally. Also, if the conclusions and suggestions in this chapter are carefully examined and dove-tailed with national planning, economic and unemployment problems could be solved easily. A small section of the population will be engaged in practical farming, thus the rest of the population could be released for other industries, including those which would emerge as a result of the manufacture of surplus crops into other commodities.

The economic and unemployment situation in Ghana at the present time seems gloomy, but there is still hope. What is important is that Ghanaians must make their first step right now. A Chinese proverb, "A journey of a thousand miles
begins with a first step,"⁸ speaks to Ghanaians also. The enthusiasm aroused immediately after independence for the building of a new nation must be revived; this time, not on political and emotional bases, but on a realistic basis incorporating sound, practical, productive and integrated planning with an appropriate educational system.

In conclusion it might be appropriate to point out that certain lines in the Ghana National Anthem reflect the goals and aspirations of the people. Also, there are other sections of the Anthem which echo "All Hands on Deck" messages at this time of the nation's exigencies. The Ghana National Anthem presents a challenge to all Ghanaians and all institutions in Ghana. It calls for the practical use of the mind and also the strength of the arms of every citizen, and it prays for FREEDOM in all of its forms--political, economic and social--the hallmark of a great and strong nation:

1. God bless our homeland Ghana
   And make our nation great and strong.
   Bold to defend forever
   The cause of Freedom and of Right;
   Fill our hearts with true humility,
   Make us cherish fearless honesty,
   And help us to resist oppressors' rule
   With all our will and might for evermore.

2. Hail to thy name, O Ghana,
   To Thee we make our solemn vow;
   Steadfast to build together
   A nation strong in Unity;
   With our gifts of mind and strength of arm,
   Whether night or day, in mist or storm,
   In every need whatever the call may be,
   To serve thee, Ghana, now and evermore.

3. Raise high the flag of Ghana,  
   And one with Africa advance;  
   Black star of hope and honour  
   To all who thirst for Liberty;  
   Where the banner of Ghana freely flies,  
   May the way to freedom truly live;  
   Arise, arise, On sons of Chanaland,  
   And under God march on for evermore.  

\[9\] Data was received from the Office of the Ghana Ambassador to the United States, Washington, D.C.
## APPENDIX A

### GOVERNMENT PROJECTS 1951-1961

<table>
<thead>
<tr>
<th></th>
<th>1951</th>
<th>1961</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Population</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Schools</td>
<td>154,360</td>
<td>481,500</td>
<td>211.9</td>
</tr>
<tr>
<td>Middle Schools</td>
<td>66,175</td>
<td>160,000</td>
<td>241.7</td>
</tr>
<tr>
<td>Secondary and Technical Schools</td>
<td>3,559</td>
<td>19,143</td>
<td>437.8</td>
</tr>
<tr>
<td>Teacher Training Colleges</td>
<td>1,916</td>
<td>4,552</td>
<td>137.5</td>
</tr>
<tr>
<td>Universities</td>
<td>208</td>
<td>1,204</td>
<td>478.8</td>
</tr>
<tr>
<td><strong>Output of Manpower</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Middle School Certificate</td>
<td>6,400</td>
<td>26,500</td>
<td>314.0</td>
</tr>
<tr>
<td>With Technical Certificate</td>
<td>719</td>
<td>858</td>
<td>19.3</td>
</tr>
<tr>
<td>With Secondary School Certificate</td>
<td>413</td>
<td>3,430</td>
<td>730.8</td>
</tr>
<tr>
<td>With University Degrees</td>
<td>6</td>
<td>148</td>
<td>--</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Hospital Beds</td>
<td>2,368</td>
<td>6,155</td>
<td>159.9</td>
</tr>
<tr>
<td>Rural and Urban Clinics</td>
<td>1</td>
<td>30</td>
<td>--</td>
</tr>
<tr>
<td>Number of Doctors (Including Dentists)</td>
<td>156</td>
<td>500</td>
<td>220.5</td>
</tr>
<tr>
<td><strong>Transport and Communications</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roads</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I (Bitumen)</td>
<td>1,398</td>
<td>2,050</td>
<td>46.7</td>
</tr>
<tr>
<td>Class II (Gravel)</td>
<td>2,093</td>
<td>3,346</td>
<td>59.8</td>
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<tr>
<td>Number of Post Offices</td>
<td>444</td>
<td>779</td>
<td>75.4</td>
</tr>
<tr>
<td>Number of Telephones</td>
<td>7,383</td>
<td>25,488</td>
<td>245.2</td>
</tr>
<tr>
<td><strong>Public Utilities</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Number of persons served by water supplies division</td>
<td>986,000</td>
<td>2,146,100</td>
<td>119.7</td>
</tr>
<tr>
<td>Number of rural water supplies</td>
<td>3,327</td>
<td>4,291</td>
<td>38.8</td>
</tr>
<tr>
<td>Installed Electrical Capacity (kW)</td>
<td>84,708</td>
<td>120,860</td>
<td>42.7</td>
</tr>
<tr>
<td>Electrical Power Generated: (kWh'000)</td>
<td>281,983</td>
<td>390,174</td>
<td>38.4</td>
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<tr>
<td>Government</td>
<td>86,561</td>
<td>175,581</td>
<td>102.8</td>
</tr>
<tr>
<td>Private</td>
<td>195,422</td>
<td>214,593</td>
<td>9.8</td>
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## APPENDIX B

**THE GROWTH OF THE PRIMARY SCHOOL SYSTEM IN GHANA: 1952-1959**

<table>
<thead>
<tr>
<th>Year</th>
<th>Colony</th>
<th>Ashanti</th>
<th>Trans-Volta</th>
<th>Northern Region</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Schools</td>
<td>Pupils</td>
<td>Schools</td>
<td>Pupils</td>
<td>Schools</td>
</tr>
<tr>
<td>1952</td>
<td>1,575</td>
<td>183</td>
<td>901</td>
<td>90</td>
<td>543</td>
</tr>
<tr>
<td>1954</td>
<td>1,610</td>
<td>216</td>
<td>960</td>
<td>105</td>
<td>578</td>
</tr>
<tr>
<td>1955</td>
<td>1,655</td>
<td>228</td>
<td>988</td>
<td>112</td>
<td>613</td>
</tr>
<tr>
<td>1956</td>
<td>1,717</td>
<td>237</td>
<td>997</td>
<td>114</td>
<td>599</td>
</tr>
<tr>
<td>1957</td>
<td>1,775</td>
<td>250</td>
<td>1,000</td>
<td>120</td>
<td>605</td>
</tr>
<tr>
<td>1958</td>
<td>1,805</td>
<td>250</td>
<td>1,008</td>
<td>121</td>
<td>606</td>
</tr>
<tr>
<td>1959</td>
<td>1,800</td>
<td>253</td>
<td>1,023</td>
<td>128</td>
<td>644</td>
</tr>
</tbody>
</table>


Since 1951, regional boundaries have been changed and the term 'Colony' is no longer used with respect to the southern regions. However, this table adheres to earlier usage for purposes of comparison with earlier periods.

Given in thousands.

Years represent academic years; thus, 1952 should read 1952-53 academic year.
APPENDIX C

THE GROWTH OF THE MIDDLE SCHOOL SYSTEM IN GHANA: 1952-1959

<table>
<thead>
<tr>
<th>Year²</th>
<th>The Colony²</th>
<th>Ashanti</th>
<th>Trans-Volta</th>
<th>Togoland</th>
<th>Northern Region</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Schools Pupilsᵇ</td>
<td>Schools</td>
<td>Pupils</td>
<td>Schools</td>
<td>Pupils</td>
<td>Schools</td>
</tr>
<tr>
<td>1952</td>
<td>398</td>
<td>51</td>
<td>195</td>
<td>26</td>
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<td>14</td>
</tr>
<tr>
<td>1954</td>
<td>464</td>
<td>57</td>
<td>234</td>
<td>28</td>
<td>152</td>
<td>17</td>
</tr>
<tr>
<td>1955</td>
<td>517</td>
<td>63</td>
<td>246</td>
<td>30</td>
<td>194</td>
<td>19</td>
</tr>
<tr>
<td>1956</td>
<td>545</td>
<td>64</td>
<td>258</td>
<td>31</td>
<td>166</td>
<td>18</td>
</tr>
<tr>
<td>1957</td>
<td>621</td>
<td>71</td>
<td>266</td>
<td>32</td>
<td>216</td>
<td>21</td>
</tr>
<tr>
<td>1958</td>
<td>729</td>
<td>78</td>
<td>287</td>
<td>35</td>
<td>233</td>
<td>23</td>
</tr>
<tr>
<td>1959</td>
<td>763</td>
<td>82</td>
<td>327</td>
<td>42</td>
<td>260</td>
<td>25</td>
</tr>
</tbody>
</table>


Total enrollment in both primary and middle schools was increased by one-half in a seven-year period, with the middle schools showing a slightly greater overall rate of expansion (67.0 as against 43.0 per cent).

ᵃSee Appendix B for explanation of the term "Colony."

ᵇGiven in thousands.

cYears represent academic years; thus, 1952 should read 1952-53 academic year.
APPENDIX D
THE GROWTH OF THE SECONDARY SCHOOL SYSTEM IN GHANA: 1951-1960

<table>
<thead>
<tr>
<th>Year</th>
<th>Government and Approved Schools</th>
<th>Private Schools</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Institutions</td>
<td>Enrollment</td>
<td>Institutions</td>
</tr>
<tr>
<td>1951</td>
<td>13</td>
<td>2,937</td>
<td>49</td>
</tr>
<tr>
<td>1952</td>
<td>26</td>
<td>5,033</td>
<td>27</td>
</tr>
<tr>
<td>1953</td>
<td>30</td>
<td>6,066</td>
<td>28</td>
</tr>
<tr>
<td>1954</td>
<td>31</td>
<td>6,936</td>
<td>19</td>
</tr>
<tr>
<td>1955</td>
<td>31</td>
<td>7,711</td>
<td>28</td>
</tr>
<tr>
<td>1956</td>
<td>35</td>
<td>8,908</td>
<td>23</td>
</tr>
<tr>
<td>1957</td>
<td>38</td>
<td>9,860</td>
<td>22</td>
</tr>
<tr>
<td>1958</td>
<td>39</td>
<td>10,423</td>
<td>24</td>
</tr>
<tr>
<td>1959</td>
<td>39</td>
<td>11,111</td>
<td>30</td>
</tr>
<tr>
<td>1960</td>
<td>59</td>
<td>14,000+a</td>
<td>52</td>
</tr>
</tbody>
</table>

Source: Computed from Ghana, Education Statistics, 1959, pp. 1-2. See Foster, Ibid., p. 191

These are fairly close approximations based on the 1960 Census

Years represent academic years; thus, 1951 should read 1951-52 academic year.
Dear Rev. Sir/

It affords me the greatest pleasure to write and acknowledge the receipt of yours dated November 19th, 1971. There are many reasons why I am pleased to receive and reply to your letter. I am sure it will interest you the more if I try to uncover my reasons.

I worked with you at Koforidua before your departure to America and I prepared and read the 'send-off' address on behalf of the Koforidua Zion Church. On times without number I have cited you as a specimen of clergymen under whom I have served during my twenty-two years chequered career. I am anxiously waiting to see or hear you back so that we shall share with you the great knowledge and experience you have gained. Brushing these reasons aside I have eagerly been trying to know the head-teacher who had a foresight to establish the cocoa on which you are seeking the data. I have been here since September 20th, 1971 and have expressed my deepest sense
of appreciation for the head teacher who made such contribution.

I would like you to journey with me through the detailed data you are demanding and carry on with other inter course if space would allow that.

The cocoa started yielding in 1964, and below are the statistics:

<table>
<thead>
<tr>
<th>YEAR</th>
<th>WEIGHT</th>
<th>AMT.</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1964</td>
<td>1 Load</td>
<td>35 lb</td>
<td>£ 8.55</td>
</tr>
<tr>
<td>1965</td>
<td>1 Load</td>
<td>50 lb</td>
<td>£ 8.00</td>
</tr>
<tr>
<td>1966</td>
<td>1 Load</td>
<td>20 lb</td>
<td>£ 7.20</td>
</tr>
<tr>
<td>1967</td>
<td>3 Load</td>
<td>50 lb</td>
<td>£30.67</td>
</tr>
<tr>
<td>1968</td>
<td>4 Load</td>
<td>25 lb</td>
<td>£35.33</td>
</tr>
<tr>
<td>1969</td>
<td>4 Load</td>
<td>25 lb</td>
<td>£35.33</td>
</tr>
<tr>
<td>1970</td>
<td>3 Load</td>
<td>30 lb</td>
<td>£28.00</td>
</tr>
<tr>
<td>1971</td>
<td>1 Load</td>
<td>10 lb</td>
<td>£ 9.33</td>
</tr>
</tbody>
</table>

Some of the questionaire cannot be answered because of lack of school records. Mr. Quarshie Sam whom I believe you know very well had to bury himself into inactive files for hours on end before we could unearth the figures given. I would like to suggest to you to place on record directly to him your gratitude for contributing in no small measure toward the achievement of this goal.

There has never been any expansion and I do not hope that the cocoa had experienced any pest problems. Some of the items the cash from sales of the cocoa had been used to purchase are footballs jerseys (about three sets) washing basins, buckets (for drinking water) cups, towels (rubbing down after physical education) Repairs to
desks and furniture had also been faced with such moneys. We have 'Oware', chess and other in-door games which the children tell me that they were bought from the cash accrued from the sales of cocoa. I have plans to extend the farm and have consulted the elders of the village to give some additional land for the purpose. All teachers and the management owe you a duty at least 'A BIG THANK YOU' for your foresight. Greetings from the Odikro, Mr. Sam, My Wife and all.

Yours

(Signed) J.K.P. Buful.
1. **INTRODUCTION:**

(a) For many years Ghana has been importing food from other parts of the world to feed her people. This is because the food that is produced by her own farmers is not enough; large sums of money are spent each year for this purpose. Most of the food imported which include foodstuffs such as maize, rice, vegetables, fish, meat, fruits, etc., can be produced in this country. The money that is spent in paying for all these foodstuffs comes from the earnings obtained by exporting cocoa, timber and other raw materials. If only we can grow most of the food we need, the amount of money that is spent each year on food imports alone will be used in providing more schools, colleges, hospitals, roads, houses, bridges, industries, etc. This, therefore, is the reason for "Operation Feed Yourself".

(b) Ghana, an agricultural country, should not consider herself a proud and independent nation, if she cannot feed her people. The policy of the N.R.C. therefore aims at stopping the importation of any food that can be grown in Ghana and to encourage their local production.
2. **PLAN:**

In order to enable us to produce the food that we require as quickly as possible, certain crops have been chosen. These crops are to be produced in selected areas of the country, where they have been found to grow best. Below are the crops and the areas:

(i) **Maize** - Swedru-Ajumako (C Region); Assesewa (Eastern); Northern Ashanti and North Brong Ahafo; Damongo (Northern Region).

(ii) **Rice** - Tamale-Walewale-Yendi-Salaga (Northern Region & low lying areas of Upper Region)

(iii) **Plantain** - Most of the forest areas

(iv) **Yam** - Northern section of Volta Region; Brong Ahafo and Eastern half of Northern Region.

(v) **Cassava** - All areas south of the forest zone.

(vi) **Millet & Groundnut** - Northern and Upper Regions

(vii) **Vegetables** - All Regions. Special emphasis on dry season vegetables below all dams.

3. **CONTROL:**

The Commissioner for Agriculture is the national head of Operation Feed Yourself; your Regional Commissioner is the regional head. He has a committee of advisers with the Regional Agricultural Officer of the Ministry of Agriculture as regional co-ordinator. Therefore all problems about Operation Feed Yourself should be reported to your Regional Commissioner.
4. **PRODUCERS:**

Encouragement will be given to schools, colleges, prisons and private farmers as well as state agencies such as the State Farms Corporation, Food Production Corporation and the settlers of the Settlement Division of the Ministry of Agriculture to grow more of the crops for the Operation by supplying them with some of their needs. Prizes will be given to the best producers after the harvest.

5. **LAND:**

(a) The first thing to consider in farming is land. Whether a school has a farm land close by or not, it is expected that every school will make its contribution to Operation Feed Yourself by making a farm.

(b) If an educational institution has no land of its own, the head master may approach the chief in his area for help. The Regional Commissioner in that Region should be consulted only where there is difficulty in obtaining land.

6. **CROP:**

(a) The crop or crops that a school selects for growing should be one or more of those mentioned above, depending on the location of the school. If there is any doubt, the district extension officer of the area should be consulted.

(b) Every educational institution will be given a target for each crop selected. It is expected that the target will be achieved. Any school that will exceed its target will be given a prize.
7. **TOOLS:**

Hoes, cutlasses and axes are the main implements, which will be supplied to the school on credit.

8. **INPUTS:**

Seed, fertilizer, insecticides etc. will also be made available to school on credit.

9. **FARM SIZE:**

(a) Farms are to be measured in acres. One acre is 4,840 sq. yards or about 70 paces by 70 paces.

(b) It is always important for a farmer to know the size of his farm. This makes it easy for him to know whether he is doing well or not each year. He can judge how well he has done by comparing what he put into the production of an acre of a crop and what he got out.

10. **PRODUCTION:**

(a) Below is a general guide for the growing of the crops that have been selected which should help you. But you always have to seek advice from the extension officer in your area:

(b) **Maize:**

i. **Planting Time:** March/April September.

ii. **Cultural Practices:** If possible the grass should not be burnt; ploughed deeper than 9 inches. The grass ploughed should be mixed thoroughly with the soil.

iii. Inter cropping is not recommended. Planting may be done by hand or by mechanical planter.
iv. **Fertilizer:** Apply 2 bags of fertilizer already mixed 20 - 20 - 0, to one acre at the time of seeding and one bag sulphate of Ammonia after 2nd weeding. Advice of the extension officer should be obtained.

v. **Method of Planting:** As a general recommendation, a plant spacing of 3' x 1', which gives a plant population of about 14,500 plants per acre, should be adequate for most conditions.

vi. **Weed:** These may be controlled by hoeing when plants are 2 to 3 weeks old and again at 6 - 8 weeks old.

vii. **Insect Control:** See extension officer

viii. **Harvesting:** Remove the cobs by hand and store after treatment in circular stack with thatched roof until dry. See the extension officer.

ix. **Yield:** Potential yield per acre 1,800 lb.

x. **Storage:** Shelled corn may be placed in a plastic liner bag inside a cocoa sack and treated with ethylene dibromide (EDIB). Store in a dry place. See the extension officer for advice.

xi. **Marketing:** Report to zone co-ordinator.

Many farmers like to take advantage of the minor season rains and plant a second crop of maize in September. This is not advisable since the minor crop often fails because of poor rainfall and incidence of stem borers. School are advised to plant crops such as Guinea corn
(Sorghum) or groundnuts or cowpeas instead.

(c) Rice:

i. **Planting Time:** June in the north

ii. **Cultural Practices:** Stump and clear where necessary; burn refuse during dry season. Plough after allowing enough rain to soften the soil. All crop refuse should be turned under completely.

iii. **Other cropping practices:** At least two harrowing in different directions before planting is necessary for good control of weeds.

iv. **Fertilizer:** Two bags, 15-15-15 at planting time and one bag sulphate of Ammonia at 6 weeks old. See extension officer.

v. **Method of Planting:** Direct seeding may be done by drilling if mechanical planter is used. The seed rate is 50-60 lb. per acre. When broadcast by hand the seed rate is about 60-70 lb. per acre. Seedlings should be thinned to a spacing of 2" x 2".

vi. **Growth Period Care:** Thorough weeding by hand picking or hoeing should be done at least 2 times during the growth period.

vii. **Pest Control:** See extension officer at once.

viii. **Harvesting:** Seek advice from extension officer

ix. **Yield:** 1,500 - 2,000 lb. paddy. Potential yield about 5,000 - 6,000 lb. paddy per acre (under irrigation).
x. **Marketing:** Report to zonal co-ordinator.

(d) **Millet:**

i. **Planting Time:** May (early) July/August (late)

Upper Region - plough 6 inches deep during first rains.

Harrow in April, ridge in May before planting early millet.

ii. **Rotation of Crop:** (a) 1st year millet, 2nd year groundnut 3rd year maize.

(b) Upper Regions: - 1st year early millet, and guinea corn, 2nd year guinea corn; 3rd year groundnuts.

iii. **Fertilizer:**

See extension officer.

iv. **Method of Planting:**

(a) **Early Millet:** Sow in rows 36" apart and 12" between plants. About five seeds per hole and thin to one plant after 15-20 days.

(b) **Late Millet:** Plant in rows 30" x 24" between plants.

v. **Growth Period Care:** Weed when plants are about three weeks old and again at eight weeks old.

vi. **Pest Control:** See extension officer.

vii. **Harvesting:** Cut off heads and carry home.

viii. **Yield:** Potential yield is about 500-900 lb. per acre.

ix. **Marketing:** Report to zonal co-ordinator.
(e) **Plantain:**

i. **Plantain Time:** April.

ii. **Cultural Practices:** Land must be cleared of bush in the dry season and the trash burned just before the rains start.

iii. **Other Cropping Practices:** Plantain is propagated from suckers taken from the base of the mother plant.

iv. **Fertilizer:** See extension officer.

v. **Method of Planting:** Suckers are planted from April in deep holes spaced 10 to 15 feet apart. Some farmers intercrop with cocoyam, cassava, or other crops.

vi. **Growth Period Care:** Keep weeds under control. Propping of trees in windy areas is necessary.

vii. **Pest Control:** See extension officer.

viii. **Harvesting:** Plantain fruits are ready for harvesting 12-15 months after planting depending on variety and growing conditions.

ix. **Yield:** Potential yield is about 300 - 400 bunches per acre.

x. **Marketing:** Report to zonal co-ordinator.

(f) **Cassava:**

i. **Planting Times:** All the year round but mostly during the rains.

ii. **Cultural Practices:** Ploughing and harrowing for fine tilth.

iii. **Method of Planting:** Sticks 9 inches long; spaced 3 ft. by
3 ft. and buried about two-thirds of depth. Keep weeds down by hoeing.

iv. **Fertilizer:** Two bags 15-15-15 at planting and one bag each of Sulphate of Ammonia and Muriate of Potash and 8 weeks after.

v. **Harvesting:** 8-15 months. Dig with hoe, taking care not to damage tubers.

vi. **Yield:** Potential 8 - 12 tons fresh tubers.

vii. **Marketing:** Report to zonal co-ordinator.

(g) **Yam:**

i. **Planting Time:** October/March.

ii. **Cultural Practices:** The trees and brush are allowed to dry and then burnt.

iii. **Other Cultural Practices:** In most cases mounding is prepared about 2-3 ft. high, and 3-4 ft. wide at base. Planting distances about 3' x 3' requiring about 4,000 to 5,000 sets per acre.

iv. **Growth Period Care:** Control weed by hoeing.

v. **Pest Control:** See extension officer.

vi. **Harvesting:** This is done by digging out the tuber when the tops have dried down.

vii. **Yield:** Potential 10-12 ton per acre.

viii. **Marketing:** Report to zonal co-ordinator.

(h) **Groundnut:**

i. **Planting Time:** During the rains.
ii. **Cultural Practices:** Thorough ploughing which completely buries all weeds followed by harrowing.

iii. **Fertilizer:** 1 bag single super phosphate per acre.

iv. **Method of Planting:** Spacing on ridges should be 24 inches apart with 9-inch intervals, between the hole and 2 seeds per hole. If planted on flat the spacing can be the same or 18 inches by 6 inches with one plant per hole. Planting should be after the first rains.

v. **Growth Period Care:** 3 hoeing should be done during the 2nd and 3rd week, and 6-8th week of planting.

vi. **Pest Control:** See extension officer.

vii. **Harvesting:** When the leaves begin to yellow and the kernels are fully developed and coloured, harvesting begins.

viii. **Yield:** Potential 800-1,500 lb/acre unshelled nuts.

ix. **Marketing:** Report to zonal co-ordinator.

x. **Reporting:** Accurate report on work done should be sent to the District Co-ordinator on special forms that will be provided as may be directed without fail.

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**ISSUED BY THE:** OFFICE OF INFORMATION
PUBLIC RELATIONS AND CAMPAIGNS SERVICE
MINISTRY OF AGRICULTURE
A C C R A

**MARCH, 1972.**
APPENDIX C

FUNCTIONS OF DIVISIONS OF
THE MINISTRY OF AGRICULTURE

Cocoa Division:

The Cocoa Division will be one of the most important Government organs for the campaign for plantain production. Its large labour and supervisory staff should be asked to lend a hand to plantain production as follows:

(1) Cutting out gangs and disease spotters should be asked to prop up all plantain plants likely to lodge in or as blown down by wind in their area of operation, from now to the end of April, 1972.

(2) Farmers should be encouraged to thin out suckers to not more than two per stand with a view to eventually leaving one strong plant to take over from the harvested one. (This would help to reduce competition for vegetative growth among too many side suckers).

(3) The division should aid in the distribution of planting materials whenever they can, particularly from cocoa stations.

Irrigation Division:

This division has a significant role to play in the programme for
dry season vegetable production. The division should therefore

(1) Submit to headquarters within one month

(a) acreages available for dry season increase the production of vegetables.

(b) Requirements for seed, fertilizers, insecticides sprayers, watering cans etc. (type and quantities).

(c) Requirements for tractor services and pumps where and when needed.

(d) Requirements for access roads etc.

(2) Establish facilities for supplies of seedlings to farmers and production agencies.

(3) Liase with Food Marketing Corporation in the establishment of markets for dry season vegetables. In this exercise the Division and the Corporation should bear in mind the excessive wastage of tomatoes and onions every year and they will be expected to produce a blue print for marketing of vegetables from the north for implementation next season. Estimates of costs should be included in the paper.

Information and Intelligence:

To keep the public informed about the progress of the Operation, it is necessary to issue press releases occasionally and to organise radio and television programmes. The information that may be given out may concern land offered by a chief or land owner, acreages prepared and planted to various crops; harvesting operations; pest con-
trol, marketing and market prices, fish catches etc. But under no circumstance should press statements or interviews by the press be made in a Region without first clearing with the Regional Commissioners, who are responsible for the regional command. This should be strictly followed to avoid embarrassments at the national headquarters.

**Economics and Marketing Division:**

The Division is charged with supplying information on acreages, conditions of crops and estimated yields of the sector crops.

Over the years the census staff of the Division have been engaged in a position to estimate increases or decreases in acreages of the sector crops during the campaign.

Each officer of the Division should therefore send information on the acreages that are being planted to these crops. These reports should be submitted every fortnight.

Officers are also to send information on the condition of the crops as they grow.

The Chief Agricultural Economist has already sent out instructions to his staff on this, but they are to be asked to make copies available to Regional Co-ordinators for the information of Regional Committees. The Chief Agricultural Economist will also inform the National Committee of the General progress of the programme.

**Crop Production Division:**

All officers and other staff of this Division should be enrolled
in the campaign. They should form the main force for advice and provision of services in support of it.

Each officer of the Division should work almost exclusively on the crops earmarked for the zone in which he works. He has to

1. See that inputs like seed and fertilizer are available for distribution.
2. Arrange for supply of other requirements for the campaign.
3. Provide technical advice to farmers, Schools, Colleges etc.
4. Organise campaigns on the instruction of the Regional Committee and in cooperation with district administrative officers.
5. Submit reports on general progress of campaign.
6. Liaise with Food Distribution Corporation in the marketing of produce.
7. Co-ordinate all district activities associated with the Operation.

The Seed Multiplication Unit will have to make available all the requirements of seed for the various organs of production and should therefore organise itself to provide this service without fail.

Source: This data was among materials sent to the author from the Ministry of Agriculture, Accra, Ghana (no date).

This is part of the "Operation Feed Yourself" scheme which was launched in March, 1972.
APPENDIX H
OPERATION FEED YOURSELF
INSTRUCTION NO. 1/72

1. SITUATION

a. Past Government Policy

Ghana's performance in agriculture since independence has been so poor that the country has had, each year, to import substantial quantities of food. While successive governments have talked about agriculture, their fiscal policies have not only failed to give credence to their intentions but have often actually led to a slowing down of agricultural activity.

b. Balance of Payments:

The country's imports of food and agricultural raw material have increased from £37 million in 1963 to a staggering £87 million in 1970. In the light of the country's balance of payments predicament, unless something is done to reverse the situation, the country might be plunged into serious food shortages.

c. Present Government Policy:

The NRC has resolved to stir up a national awareness to the
situation and to urge the whole population to grow more food for themselves. There is an urgent need to revitalise the state and private agencies engaged in food production and distribution to increase production fast. These agencies include the Food Production Corporation, the State Farms Corporation, the settlers in the Settlements Division of the Ministry of Agriculture, the Schools and Colleges, the prisons and private farmers and farming organizations.

2. **Aim**

**TO GROW MORE FOOD CROPS AS A MATTER OF URGENCY DURING THE 1972 PLANTING SEASON.**

3. **Execution**

a. General Outline: To achieve the greatest impact on the food production situation in 1972 we shall concentrate on the growing of selected sector crops in the zones which have the best conditions for their cultivation (Annex A). Targets have been set for the Regions. To encourage production, there shall be guaranteed prices, negotiated with the producers' representatives, and guaranteed markets primarily through the agency of the Food Distribution Corporation. Services support including rehabilitation of feeder roads and bridges will be provided by the communities, assisted where possible by the Armed Forces. The logistic backing of materials and funding will be provided by the Ministry
of Agriculture through Regional Agricultural Committees.

b. Tasks

(1) The National Operations Committee (N.OP.C) shall be responsible for overall conduct of the operation through the Programmes Control Executive (PROCONEX) which

a. issues all instructions for the conduct of the operation in respect of Programmes Planning, Administration and Finance, Logistics, Information and Intelligence and general co-ordinating support to all production agencies;

b. acts as secretariat to the N.OP.C;

c. co-ordinates effort and provides support to regions;

d. examines and analyzes Regional performance reports; provides technical and financial directions.

(2) The Production Agencies which include state controlled organs like State Farms, Food production Corporation, Settlement Division, Food Distribution Corporation and State Fishing Corporation on one hand and the Schools, Colleges, Prisons, Armed Forces and private fishing and farming communities on the other, shall be encouraged with facilities such as farming materials and marketing to produce in support of Regional quotas/targets under the overall control and direction of the Regional Commissioner supported by the Regional Agricultural Committee and Agricultural Co-ordinatora.
(3) The Regional Agricultural Committee (RACOM) shall

a. be headed by the Regional Commissioner and will be charged
   with the conduct of the region's operation to achieve targets of production;

b. co-ordinate requests for land and other logistic support
   from local sources or Ministry of Agriculture;

c. organize regional campaign and self-help projects in aid
   of the operation;

d. run competitions in preparation for merit awards to be made
   at the end of the season;

e. report to the Ministry of Agriculture periodically and in
   accordance with state reports and return charts and

f. report on the Regional Co-ordinators to the Ministry of
   Agriculture as necessary.

(4) The Regional Agricultural Co-ordinator (RAC) shall be

responsible to the Regional Commissioner on the spot and

to the Ministry of Agriculture technically for

a. The co-ordinating of the functions of the regional units of
   Ministry of Agriculture's Divisions in the support of the
   regional farmers and the Regional Agricultural Committees;

b. supervision of the distribution of all Ministry of Agriculture
   inputs sent to the regions for issue to farmers and
   accounting for these inputs to the Regional Commissioner
   and the Ministry of Agriculture generally;
c. advising the RACOM on agricultural performance of farmers and farming organizations;

d. providing technical advice to the Regional Agricultural Committees in the use of agricultural resources;

e. advising the Regional Commissioner on the technicalities of achieving the set regional targets of production;

f. reporting to the Ministry of Agriculture PROCONEX as required by routine returns of state of production and logistics activities in the Region.

(5) The State Corporations shall be tasked as follows:

i. **State Farms, Food Production Corporation and the Settlement.**

Division shall

a. produce as shown at Annex B. Their produce shall, as far as possible, be marketted by the Food Distribution Corporation;

b. render state reports and returns to PROCONEX as shown in Annex C;

c. cultivate extra land in as many regions as possible and indicate labour intakes in accordance with special expansion directions to be issued later.

ii. The Food Distribution Corporation shall

a. be the Principal marketing organization for all state farms and the private sector producers,
b. have adequate funds to buy a sizeable portion of the produce to make effective the guaranteed price policy;

c. be guided by the bulk purchase price advised by the Commodity Price Advisory Committee (COPAC) of the Ministry of Agriculture;

d. establish a network of depots at National, Regional and District levels for the storage and distribution of commodities;

e. report periodically to the PROCONEX as per state report and return chart at Annex

f. advise PROCONEX and RACOM on state of feeder roads for necessary attention to facilitate purchasing and distribution traffic.

g. assist RACOM in assessing the productive capacities of farmers and farming organisations including Schools and Colleges.

h. establish firm security regulation to guide its financial operations and to prevent cash losses.

i. ensure the security of corporation commodities in storage or in transit.

iii. **State Fishing Corporation** shall organize its production to ensure increased catch by placing all its production operations under Akers Trading Company's management to achieve the largest catches as shown at Annex B(10). It shall also
render periodic returns and report as per the chart at Appendix 5 to Annex 0. It shall ensure that necessary arrangements are made to facilitate distribution of fish to all regions. In this respect all available transport including aircrafts of the Ghana Airforce and Ghana Airways will be used.

c. Co-ordinating Instructions:
(i) For State, Returns and Report Chart, see Annex C and its appendices for format.

(ii) Bonus or Incentive Policy
(a) The criteria for awards will be based on:
(i) acreage cultivated during 1972 growing season
(ii) yield per acre obtained from that acreage
(iii) quality of produce sold to buying agents and
(iv) general farm management including adoption of recommended practices.

(b) Awards will be in the form of
(i) Cash
(ii) Farm inputs like seeds and fertilizers
(iii) Items such as T.V. sets or transistor wireless sets
(iv) Overseas trips

(c) Method of assessment. The policy of bonuses and incentives should be well publicised and farmers who want to compete should be registered. Their farms
should be measured after planting and a bonus and incentive sheet established for each farmer. Periodic visits should be paid to the farms and the farm scored according to the suggested form attached (See Annex F).

(d) Selection should be made by a Regional Selections Committee (RESECO) See Annex G for persons for whom awards will be made.

(iii) Agricultural Shows: It is expected that each Regional Agricultural Committee will plan and stage one show at a time most convenient to all component producers in the Region with the object to

a) demonstrate high quality products
b) demonstrate use of agricultural machinery and equipment as well as their care and maintenance
c) advertise new machinery and equipment
d) demonstrate good farming, processing and storage techniques.

(iv) Review of operations: It is expected that this operation will be reviewed quarterly with the object of ensuring that the regional programmes are being developed properly with the necessary logistic supports to achieve prescribed targets at the end of the production period. Instructions will be issued later on these reviews.
(v) Regional Co-ordinator and their regional supporting teams:

Regional coordinators shall have supporting teams for the conduct of this operation. The team shall consist of at least:

- the Regional Coordinator - Leader
- the Divisional Crop Production officer - Deputy
- the Divisional Economics and Marketing officer
- an officer in charge of machinery, equipment and transport
- an officer in charge of farm inputs such as seeds, fertilizers and agro-chemicals
- an officer in charge of information and intelligence.

Regional Agricultural Coordinator shall submit the names and ranks of team members to PROCONEX with their first reports which should be submitted to reach PROCONEX by the 7th of April 1972.

(vi) List of Abbreviations

- N.O.P.C ............... National Operations Committee
- PROCONEX ........ Programmes Control Executive
- RACOM .......... Regional Agricultural Committee
- COPAC .......... Commodity Price Committee
- RESECO .......... Regional Selection Committee

(vii) List of Annexes

Annex A - Zones and Crops
Annex B - Crops and Fish Targets
Annex C - State, Returns and Reports Chart.
Annex D - Functions of Divisions in Ministry of Agriculture
Annex E - Organisational Chart
Annex F - Bonus and Incentive Score Sheet
Annex G - Persons and Organisations to receive awards
Annex H - Machinery Distribution.

4. **ADMINISTRATION AND LOGISTICS**

a. Material support will cover the provision of simple farm implements such as hoes, cutlasses, axes, fertilizers, pesticides, clearing and cultivation equipment and transport. These will be issued through Regional Co-ordinators. Instructions on distribution will be issued later.

b. **Farm Implements**

Cutlasses/matchets, hoes and axes will be supplied for sale to farmers at specified prices by the Ministry's extension services. Additional consignments will be sent for distribution to Schools etc.

c. **Fertilizers**

Upon arrival at Tema, the Ministry will distribute fertilizers to regional depots and inform Regional Commissioners and Regional Co-ordinators. Distribution within the region is the responsibility of the regional committees. The 750 tons just arrived is being distributed to Central, Volta and
Ashanti Regions. Another consignment of 1,600 tons due at Tema on the 17th of March will be distributed to Southern Regions. Additional consignments for the rice crop in the north should arrive by end of April for distribution to farmers well before the planting season in June, 1972.

d. **Pesticides and other Chemicals**

Hitherto, sale of these has been left with local agents. For this operation, Regional Agricultural Coordinators should stock as many types of agro-chemicals as would be required in their regions for sale at cost to anybody who wants them. Small quantities of Agrocide, D.D.T., Lindane and Sevin should always be on hand. They should never be retailed in bottles to gardeners who want small quantities. Old Gammalin and other cans are better.

e. **Transport**

Regional Agricultural Coordinators shall coordinate all transport resources of the Ministry in the region primarily for the conduct of this operation but without endangering the progress of other essential activities of the Ministry.

f. **Clearing and Ploughing Plant Policy**

Available Land clearing and farm machinery are so few that they should be used efficiently and effectively. Regions should establish their priority areas and prepare a programme chart for the equipment available in their regions.
Annex H gives the regional distribution of the present fleet of Ministry land clearing and farm machinery. Their control should be under the Regional Agricultural Committee, to which the Regional Mechanisation Officer should answer.

g. **Labour:** It is an expressed objective of this operation to take on as many of the unemployed persons who can be found at regional labour offices. In the light of the expansion policy to be issued, additional manpower intake would be determined.

h. **Support Services:**

(i) In addition to the Divisions of the Ministry in your Regions you may call on the services of organisations such as the Department of Social Welfare and Community Development, the Public Works Department, and the Armed Forces.

(ii) The Social Welfare Department has made available six crawler tractors (MF 500) and seven wheeled tractors as indicated in Annex H. More have been promised and they will be distributed as delivery is taken. Regional Commissioners and RACOMS should take note of this distribution list. The feeder road programme of the Department of Social Welfare should be under the control of Regional Commissioners for the support of Operation Feed Yourself.

5. **DIRECTION ON CONTROL**

a. The National Operations Committee and the Programme Control
Executive (PROCONEX) shall be based in the Ministry of Agriculture, Accra where the Commissioner for Agriculture shall be operating from.

b. The PROCONEX shall be located in Room 1 of the Ministry and will operate from 08.00 hours to 18.00 hours daily each working day. On Saturdays it shall operate from 08.00 hours for urgent calls.

c. All letters relating to Operation Feed Yourself shall be addressed to

PROCONEX
Operation Feed Yourself
Ministry of Agriculture
P.O. Box M.37
Accra.

Telegrams should be addressed to PROCONEX, MINAG, ACCRA

d. All correspondence shall be marked Operation Feed Yourself.

e. All other non-Op-FYS correspondence shall be addressed normally to the Principal Secretary, Ministry of Agriculture, Accra.

f. Contacts

i) Your telephone contacts are as follows:
Officer | Name | Office | House
---|---|---|---
Commissioner for Agric. | Maj.-Gen. D.K. Addo | 63036 | ?
Principal Secretary | J.W. Sraha | 65502 | 24541
Chief Agricul. Officer | A.A. Laryea | 65056 | 77415
Principal Co-ordinator | C.E. Tagoe | 64715 | 25545
Chief Transport Officer | F.M. Akufuo | 77787 | -
or
77786/1
Chief Information Officer | E. Abrahams | 65421/318 | -
Logistics Officer | E.S. Commodore | 65421/317 | -
Finance & Admin. Officer | J.G. Amofo | 65421/315 |
Deputy Co-ordinator | A.B. Williams-Baffoe | 62325 | 76551/37

(Chief Crop Production Officer)

ii) Regional Agricultural Coordinators shall be as follows:-

Upper Region | - | F.K. Badjie
Northern Region | - | Mamma Seidu
Brong Ahafo Region | - | E.K. B. Nyarko
Ashanti Region | - | J.A. Adjei-Tabi
Western Region | - | E.S. Otinkorang
Central Region | - | H.K. Boateng
Eastern Region | - | B.A.A. Williams
Volta Region | - | J.E. Ako-Nai
Greater Accra | - | A.B. Williams-Baffoe

Organisational Chart

See Annex E for the Organisational chart for Operations Feed Yourself in the Ministry of Agriculture

16 March, 1972

Signed: MAJOR-GENERAL D.K. ADDO
(COMMISSIONER FOR AGRICULTURE)
APPENDIX I

DETAILED NOTES ON TABLE 2

(a) Farmers work more as a group; one man cannot farm one-fourth what four farmers can accomplish in one day.

(b) The farms are owned individually and could be at different places.

(c) There are free days for individual interests (see chart: Table).

(d) If a guest farmer, for some reason, was unable to work with the group on a particular day, he might do one of the following:
   (i) hires someone or asks a friend outside the group to fill in for him,
   (ii) asks the host farmer not to participate during his (the guest's) next turn,
   (iii) chooses a separate day (outside the group's schedule) in order to fulfill the overdue obligation,
   (iv) pays a day's wage to the host farmer.

(e) The host farmer provides food at his own expense.
APPENDIX J
THE PHILOSOPHY OF BRISTOL COUNTY AGRICULTURAL HIGH SCHOOL

Bristol County Agricultural High School, established in 1912, by an act of the General Court of the Commonwealth of Massachusetts, is designed to fit students to obtain gainful employment in productive agriculture, allied occupations, and further education for those who qualify. The total school curriculum includes academic, vocational and related courses and provides a well rounded instructional program each of the four years.

The student placement program for agricultural experience is under the supervision of school instructors and takes place from May to September. The combination of classroom and practical placement experience insures that the program stresses both the "How" and "Why" of accepted practices essential for job competency in skills, understanding, and attitudes. The school curriculum commences with fundamentals and proceeds by progressive steps in the instructional training program to prepare students for gainful employment in the agricultural industry as well as to encourage constructive leisure time activities.

The complete educational and activities program at the Bristol County Agricultural High School is a motivating force towards develop-
ment of a student's continuing personal and occupational growth cul-
minating in greater contributions to self, family, community, and
country following graduation.

Source: A flyer (dated April 14, 1971) obtained from the
Director's office.
APPENDIX K

THE OBJECTIVES OF BRISTOL COUNTY

AGRICULTURAL HIGH SCHOOL

1. Develop a systematic program of instruction and supervised agricultural experience to prepare students for entering gainful employment in productive agriculture or its allied occupations - on-farm versus off-farm.

2. Develop a positive attitude toward the ecological use of soil, water and other resources.

3. Develop an awareness for continuing education to allow for adjustment to ever changing scientific and technological advancements in the agricultural industry.

4. Develop an appreciation for pride of accomplishment as stated in the school motto: "What is worth doing at all is worth doing well."

5. Develop a desire for sound physical and mental health habits.

6. Develop an appreciation for constructive leisure time activities.

7. Develop those abilities in human relations which are essential to a successful life and career in a democratic society.

Source: A flyer (dated April 14, 1971) obtained from the Director's office.
APPENDIX I

THE POOR SCHOLAR'S SOLILQUY

No, I'm not very good in school. This is my second year in the seventh grade, and I'm bigger and taller than the other kids. They like all right, though, even if I don't say much in the classroom, because outside I can tell them how to do a lot of things. They tag me around and that sort of makes up for what goes on in school.

I don't know why the teachers don't like me. They never have very much. Seems like they don't think you know anything unless they can name the book it comes out of. I've got a lot of books in my room at home—books like Popular Science, Mechanical Encyclopedia, and the Sear's and Ward's catalogues—but I don't very often sit down and read them through like they make us do in school. I use my books when I want to find something out, like whenever Mom buys anything second hand I look it up in Sear's or Ward's first and tell her if she's getting stung or not. I can use the index in a hurry.

In school, though, we've got to learn whatever is in the book and I just can't memorize the stuff. Last year I stayed after school every night for two weeks trying to learn the names of the Presidents. Of course I know some of them like Washington, and Jefferson and Lincoln, but there must have been thirty altogether, and I never did,
I'm not sorry though, because the kids who learned the Presidents had to turn right around and learn all the Vice Presidents. I am taking the seventh grade over, but our teacher this year isn't so interested in the names of the Presidents. She has us trying to learn the names of all the great American inventors.

I guess I just can't remember names in history. Anyway, this year i've been trying to learn about trucks because my uncle owns three and he says I can drive one when I'm sixteen. I already know the horsepower and number of forward and backward speeds of twenty-six American trucks, some of them Diesels, and I can spot each make a long way off. It's funny how the Diesel works. I started to tell my teacher about it last Wednesday in science class when the pump we were using to make a vacuum in a bell jar got hot, but she didn't see what a Diesel engine had to do with our experiment on air pressure so I just kept still. The kids seemed interested though. I took four of them around to my uncle's garage after school and we saw the mechanic, Gus, tear a big truck Diesel down. Boy, does he know his stuff!

I'm not very good in geography either. They call it economic geography this year. We've been studying the imports and exports of Chile all week, but I couldn't tell you what they are. Maybe the reason is I had to miss school yesterday because my uncle took me and his big trailer truck down state about 200 miles, and we brought almost 19 tons of stock to the Chicago market.
He had told me where we were going, and I had to figure out the highways to take and also the mileage. He didn't do anything but drive and turn where I told him to. Was that fun! I sat with a map in my lap and told him to turn south, or southeast, or some other direction. We made seven stops, and drove over 500 miles round trip. I'm figuring now what his oil cost, and also the wear and tear on the truck — he calls it depreciation — so we'll know how much we made.

I even write out all the bills and send letters to the farmers about what their pigs and beef cattle brought at the stockyards. I only made three mistakes in 17 letters last time. My aunt said, all commas. She's been through high school and reads them over. I wish I could write school themes that way. The last one I had to write was on "What a Daffodil Thinks of Spring," and I just couldn't get going.

I can't do very well in school arithmetic either. Seems I just can't keep my mind on the problems. We had one the other day like this:

If a 57 foot telephone pole falls across a cement highway so that 17 3/6 feet extend from one side and 14 9/17 feet from the other, how wide is the highway?

That seemed to me like an awfully silly way to get the width of a highway. I didn't even try to answer it because it didn't say whether the pole had fallen straight across or not.
Even in shop I don't get very good grades. All of us kids made a broom holder and a bookend this term and mine were sloppy. I just couldn't get interested. Mom doesn't use a broom anymore with her new vacuum cleaner, and all our books are in a bookcase with glass doors in the parlor. Anyway, I wanted to make an end gate for my uncle's trailer, but the shop teacher said that meant using metal and wood both, and I'd have to learn how to work with wood first. I didn't see why, but I kept still and made a tie rack at school and the tail gate after school at my uncle's garage. He said I saved him ten dollars.

Civics is hard for me too. I've been staying after school trying to learn the "Articles of Confederation" for almost a week, because the teacher said we couldn't be good citizens unless we did. I really tried, because I want to be a good citizen. I did hate to stay after school, though, because a bunch of us boys from the south end of town have been cleaning up the old lot across from Taylor's Machine Shop to make a playground out of it for the little kids from the Methodist home. I made the jungle gym from old pipe, and the guys made me Grand Mogul to keep the playground going. We raised enough money collecting scrap this month to build a wire fence clear around the lot.

Dad says I can quit school when I am sixteen, and I am sort of anxious to because there are a lot of things I want to learn how to do, and as my uncle says, I'm not getting any younger.

Source: The Department of Visual Education, University of Florida (no date).
APPENDIX M

PERSONS AND ORGANISATIONS TO RECEIVE BONUS AND INCENTIVE AWARDS

General:

1. Our general list of awards will cover:-
   
   (a) The three best private farmers in a Region (3 prizes)
   
   (b) The best school/college in the region.
   
   (c) The three best Regional Co-ordinators by level of production in their area and general citation.
   
   (d) The three best farm managers in Settler Units, State Farms and Food Production Corporation.
   
   (e) The best farm under Settler Unit, State Farms, Food Production Corporation.
   
   (f) The Paramount Chief who is considered by the Commissioner for Agriculture on advice of each Regional Commissioner to have made the greatest effort towards Operation Feed Yourself - and agriculture in general by citation.
   
   (g) The three best fishing companies considered by the Commissioner for Agriculture to have achieved the most impressive average monthly catch tonnage for its fleet size.
2. We plan to make assessment of performance during the season ending December 1972 and at agricultural shows to be organised for quality yields competitions.

Source: Among materials obtained from the Ministry of Agriculture, Accra, Ghana (no date).

This is part of the "Operation Feed Yourself" scheme which was launched in March, 1972.
APPENDIX N

ZONES AND CROPS

EASTERN REGION:
Koforidua
Oda
Tafo
Somanya
Mpraeso

Plantain and Cassava in South
Plantain
Plantain
Maize and Cassava in South
Plantain

CENTRAL REGION:
Swedru
Esiam
Cape Coast
Dunkwa

Maize and Cassava
Maize and Cassava in Eastern section
Plantain in Western section
Maize and Cassava
Plantain

WESTERN REGION:
Wiwoso
Asangrangwa
Tarkwa
Axim
Takoradi

Plantain
Plantain
Plantain
Cassava
Cassava
ASHANTI REGION:
Mampong
Eastern Kumasi
Western Kumasi
Bekwai

Maize and Yams in the north
Plantain
Plantain in the South Maize in the North
Plantain

BRONG AHAFLO REGION:
Goaso
Sunyani
Wenchi
Kintampo

Plantain
Plantain in South Maize in North
Maize and Yams
Maize and Yams

GREATER ACCRA:

Maize, Cassava and Vegetables

VOLTA REGION:
Denu
Sogakope
Ho
Kpandu
Jasikan
Kete-Krachi

Cassava and Dry-season vegetables
Cassava and Dry-season vegetables
Maize and Cassava
Maize (Plantain in association with cocoa)
Yams (Plantain in association with cocoa)
Yams (Rice)

NORTHERN REGION:
Salaga
Yendi
Bole

Rice and Yams
Rice and Yams
Millet
Damongo  
Tamale  
Walewale

UPPER REGION:
Wa  
Lawra  
Tumu  
Navrongo  
Bolgatanga  
Bawku

Maize  
Millet
Rice and Dry-season vegetables
Rice and Millet

Millet, Groundnuts (Rice)
Millet, Groundnuts (Rice)
Millet, Groundnuts (Rice)
Groundnuts, Dry-season vegetables
Groundnuts, Dry-season vegetables
Groundnuts, Dry-season vegetables

Please note that vegetables grown in the rainy season are not included because it is expected that it will be encouraged everywhere.

The Districts are the Crop Production Districts and each has a senior officer in charge. Each is further sub-divided into sub-districts with technical officers in charge. The Regional Agricultural Officer should provide a map showing his sub-districts and officers in charge and make this available to the production agents.

Source: Among materials obtained from the Ministry of Agriculture, Accra, Ghana.

This is part of the "Operation Feed Yourself" scheme which was launched in March, 1972.
GEOGRAPHICAL AREAS OF FOOD CROPS

Source:
Boateng, Ibid., p. 65
APPENDIX P

MAIN TRANSPORTATION SYSTEM IN 1966

Source:
Boateng, Ibid., p. 123
APPENDIX Q

A LETTER BY A TENTH GRADE PUPIL

Dear Uncle,

I am very happy to inform you this letter. I am in middle from four try and went the connotations. Please I dont have any money so that try and give me some money to went the connotations.

Please try and post me money to spend me Christmas. When you get this letter please try and reply.

I send here with my words.

I greet you to you and your wife and your children.

Thank you.

Yours Sincerely.

Source: The name and address of the writer have been left out on purpose; however, the original letter may be obtained for verification from me. The letter was dated 22nd day of November, 1971.
APPENDIX R

A LETTER FROM ANOTHER TENTH GRADE PUPIL

Dear Uncle,

I write with much thanks for you and your pictures. I think your as well as I am.

Place. I want to tell you that now I am in form four. Last year wrote to inform me that, you want me to take part of T.C.E. But as for me, I want to take part of the common entrance examination.

Lovely uncle, I went enough money to pay for the entrance fee. So that, I want to receive an amount about £10.50.0, and the present fee money for about £4.00.0.

If you get this letter, immediately to send it. I am looking back in the end of this month.

Greetings to your wife and the family.

Source: The name and the address of this letter have been left out on purpose; however the original letter could be obtained for verification from me.
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