AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

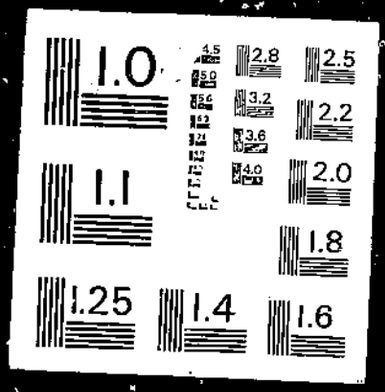
*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

USDA/FAER-30

GHANA: SUPPLY AND DEMAND PROJECTIONS FOR FARM PRODUCTS TO 1975 WITH IMPLICATIONS FOR U. S. EXPORTS. (Foreign Agricultural Economic Report). / Lyle E. Moe. Washington, DC: Economic Research Service. Mar. 1966.

(NAL Call No. A281.9/Ag8F)

1 OF 1
USDA-FAEF
30



U.S. DEPARTMENT OF AGRICULTURE • ECONOMIC RESEARCH SERVICE

ECONOMIC DEVELOPMENT BRANCH
LIBRARY

GHANA:

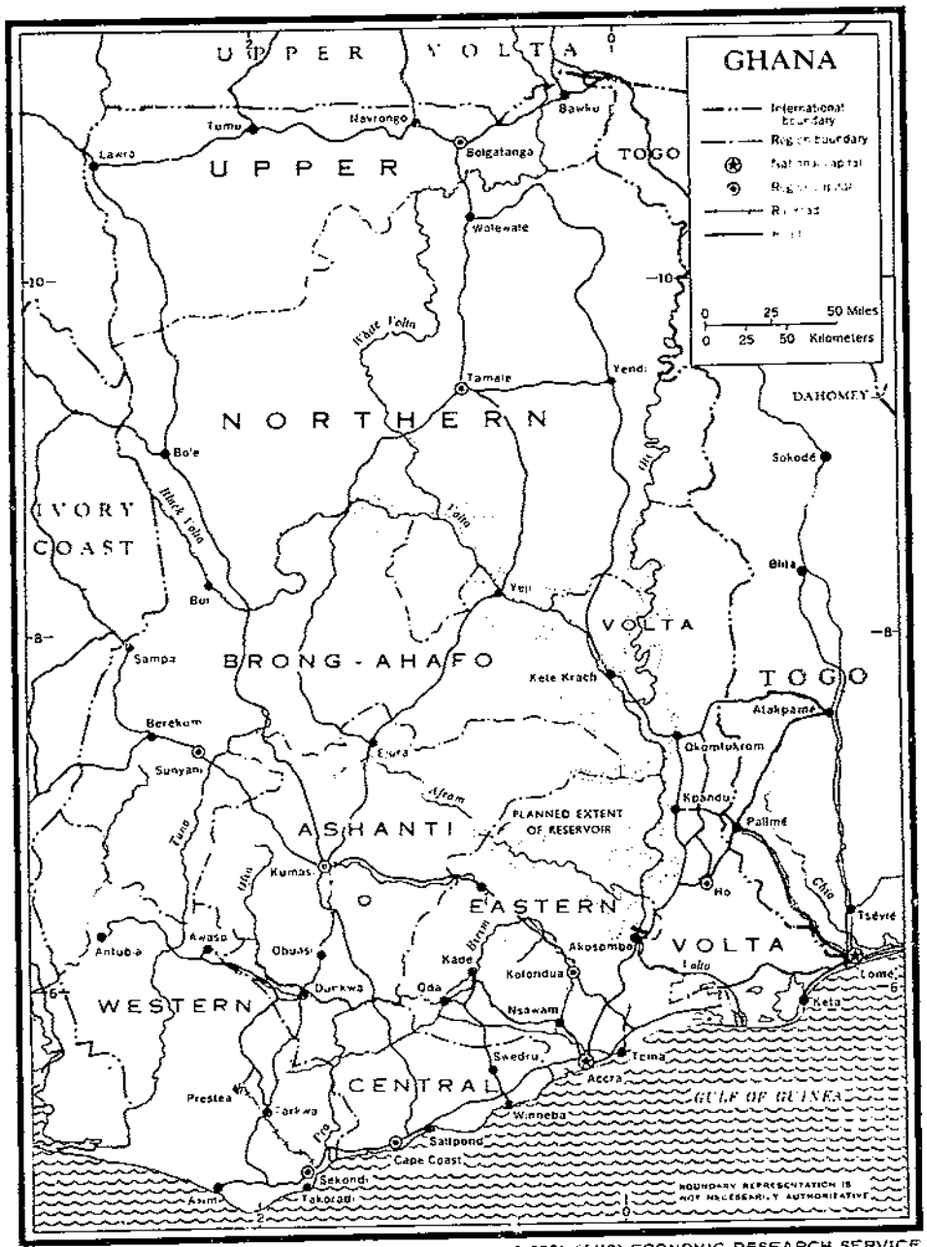
SUPPLY AND DEMAND PROJECTIONS FOR FARM PRODUCTS TO 1975 WITH IMPLICATIONS FOR U.S. EXPORTS

FOREIGN AGRICULTURAL ECONOMIC REPORT NO. 30

PREFACE

In July 1961, the United States Department of Agriculture contracted with the Department of Political Economy, University of Edinburgh, Scotland, to prepare a projection of supply, demand, and trade of selected agricultural commodities in Ghana. Results of the study were published in Scotland in an unabridged version in March 1965 under the title "Ghana: Projected Level of Demand, Supply and Imports of Agricultural Products in 1965, 1970, and 1975."

This research constitutes a part of the Department's efforts to evaluate the long-term prospects for agricultural products throughout the world. The major findings of the study are now summarized in this shorter report, along with the conclusions and implications of the projections for U.S. agriculture.



U.S. DEPARTMENT OF AGRICULTURE NEG. ERS 3991-65(10) ECONOMIC RESEARCH SERVICE

CONTENTS

	Page
Summary	iii
General Procedure	1
Projections of Demand	1
Population	1
Economic Growth	2
Food Consumption	5
Projections of Supply	5
Exports	6
Imports	8
Rice	9
Wheat	12
Tobacco	14
Dairy Products	16
Meat Products	18

SUMMARY

Ghana, a republic within the British Commonwealth of independent nations, is approximately the size of the State of Oregon, and has an estimated population of 7.4 million people (1964). As a whole, it has sufficient cultivable land to maintain a growing population at current nutritional standards. However, there is also considerable scope for increasing agricultural productivity and improving the pattern of diets. The main dietary problem is protein deficiency, especially among children.

Ghana imported a record $69.2 million worth of agricultural products in 1961. But tariff restrictions were introduced in 1961 and reinforced in 1962 to promote a more favorable balance of payments. Agricultural imports declined to $61.2 million in 1962 and to $40.4 million in 1963. Ghana's imports of the five agricultural products specifically dealt with in this report totaled $20.0 million in 1963. The United States exported $7.8 million worth of agricultural products to Ghana in 1963, and the five products discussed in this report accounted for 91 percent of this total.

Ghana's main agricultural import from the United States is rice. It is projected that Ghana will purchase about 85 percent of its imports from the United States in 1970 and 1975. Rice production in Ghana is increasing, but not at a rate sufficient to meet total demand. It is projected that the United States will supply Ghana with 29,000 tons of rice in 1970 and 35,000 tons in 1975.

Ghana does not produce wheat and therefore depends entirely upon imports to meet its wheat and wheat flour needs. Canada, however, supplies most of the market at present. According to projections, the United States will supply about 20 percent of the wheat market through 1975, or 19,000 tons in 1970 and 24,000 tons, wheat flour equivalent, in 1975.

Ghana's imports of dairy products from the United States have been primarily dry milk under Title III of Public Law 480 (donations by charitable organizations). The Netherlands supplies nearly all of the market for condensed and evaporated milk. Ghana's commercial imports of dry milk from the United States are projected at 300 tons in 1970 and 500 tons in 1975.

The Ghana study places the projected level of imports of unmanufactured tobacco by 1970 at 1,270 tons (2.8 million pounds). But because domestic production has been increasing faster than anticipated, actual imports will probably be closer to 455 tons (1.0 million pounds). By 1975, domestic production may be sufficient to meet domestic demand. Unmanufactured tobacco exports from the United States to Ghana in 1970 are projected to be around 315 tons (0.7 million pounds).

Ghana cannot expand her livestock industry sufficiently to meet her meat needs. About 70 percent of her meat imports are currently live cattle from neighboring West African countries. No projections are made for U.S. meat exports to Ghana by 1975. The market for U.S. meats in Ghana is small and is likely to remain so for some time. United States exports to date have consisted primarily of frozen poultry.

Washington, D.C.

March 1966

GHANA: SUPPLY AND DEMAND PROJECTIONS FOR FARM PRODUCTS TO 1975 WITH IMPLICATIONS FOR U. S. EXPORTS

By Lyle E. Moe, Agricultural Economist
Foreign Regional Analysis Division
Economic Research Service

GENERAL PROCEDURE

To estimate within certain limits how the demand for agricultural commodities may be expected to develop in Ghana in 1965, 1970, and 1975, the University of Edinburgh adopted a two-fold approach. First, an analysis was made of the major factors responsible for long-term movements in demand, that is, population growth and per capita income. This approach affords an opportunity for discussing aggregative relationships that have occurred during recent years in Ghana, the composition of the gross domestic product, the influence of external trade, and capital formation.

The other approach to the study was an analysis of data on relationships between food consumption and total expenditure of Ghana households and individuals at different levels of income. The income-consumption relationships so derived were used to project consumers' demands for selected items. Thus, the study projected demand at constant prices and allowed only for changes in income and total population. It assumed stability of tastes and the absence of social and economic factors that might disturb the aggregate income-consumption relationship. The limited statistical information presently available for Ghana did not lend itself to a further excursion into econometric techniques.

Very limited data are available on food farming operations in Ghana. In the original Ghana study, the production targets proposed in the country's new Seven-Year Development Plan were used extensively to project the extent of increase in domestic food supplies. The development plan covers the period October 1963 to September 1970.

The original Ghana study was published in 1965. The study's projections for 1965 were prepared and completed in 1963, and for the reasons set out below are not included in this summary. Ghana's 1965 trade data will not become available until late 1966, but it appears that the study's demand projections and, correspondingly, the import projections for 1965 are too high. Depressed prices for Ghana's major export, cocoa, have caused a critical shortage of foreign exchange holdings. This shortage, along with relatively low levels of foreign aid and investment, required Ghana to take unusual emergency measures to conserve gold and foreign exchange. These included imposition of tariffs and quantitative restrictions on agricultural imports, and seriously affected 1965 trade. Presentation of the 1965 projections would therefore be of slight value at this time, but they do serve to point out that unless economic conditions in Ghana improve, the import projections will, in all likelihood, be below the levels projected for 1970 and 1975.

The import projections for 1970 and 1975 are shown in table 1.

PROJECTIONS OF DEMAND

Population

Population projections are of great importance in forecasting demand for consumer goods, since the aggregate demand for a product is no more than the total population multiplied by the per capita demand. Since we are primarily concerned with forecasting

Table 1.--Ghana: Total imports of selected agricultural commodities and imports from the United States, 1960, and projections for 1970 and 1975

Commodity	Total demand			Total supply			Total imports			Imports from U.S.		
	1960	1970	1975	1960	1970	1975	1960	1970	1975	1960	1970	1975
	1,000 metric tons											
Rice	61	107	135	32	73	94	29	34	41	16.4	29	35
Wheat flour	57	96	122	--	--	--	57	96	122	23.5	19	24
Evaporated milk	7	13	18	--	--	--	7	13	18	--	1/	1/
Dry & condensed milk	1	3	4	--	--	--	1	3	4	2/	2/0.3	3/0.5
Meat products	49	80	100	12	20	28	37	60	72	--	1/	1/
Tobacco (unmfd.):												
Projection from original study	2.3	4.3	5.4	0.8	3.0	5.4	1.5	1.3	--	0.9	--	--
Revised projection	--	--	--	--	3.8	--	--	0.5	--	--	0.3	--

1/ No projection made. 2/ No commercial imports. 3/ Commercial imports of dry milk.

demand for foodstuffs, which are usually inelastic with respect to changes in per capita income, population is likely to be the major cause of movements in total demand.

The latest census (March 1960) recorded a total population of 6.7 million people, which makes Ghana one of the most densely populated countries in Africa with 73 persons per square mile. However, nearly half the total population and four-fifths of the town dwellers are concentrated in the south-central part of the country within a triangle of railways connecting the three main urban centers: Accra, Kumasi, and Sekondi-Takoradi. In this area, one-sixth of all Ghana, the average density was 205 persons per square mile. By contrast, some 40 percent of the land area, broadly the Northern and Upper Regions, was occupied by 20 percent of the population at an average density of 30 persons per square mile. There seems every reason to expect a further concentration of the population in the larger towns. A major task facing Ghana over the decade will be the creation of employment opportunities in secondary industry, without which serious problems of urban unemployment will arise.

In Ghana, population growth is largely determined by changes in mortality. Official demographers do not expect the immigration rate, fertility rate, or the age-sex composition of the population to change significantly over the period 1960-75. The problem of forecasting is therefore one of choosing a set of assumptions about mortality trends.

The original, unabridged study gives population estimates for 1960-75 based on alternative assumptions of high and low mortality. For the period to 1975, the growth rate of 2.9 percent per annum is adopted. Thus, the population of Ghana is projected to be 8.8 million in 1970 and 10.3 million by 1975.

Economic Growth

The per capita demand for a commodity depends largely on an individual's income. Therefore, projections of income, like population, assume considerable importance in a study of demand forecasts.

The long-term objective of the Ghana Government is the attainment of economic growth through the creation of a modern socialist economy. In light of this, the development plan is concerned primarily with the following immediate objectives: raising the gross domestic product (GDP) by expanding domestic production of food, other staple consumer goods, and building materials; correcting the imbalance between the contribution of agriculture and other activities to the GDP and employment; and improving the weak balance of payments situation by import substitution and further processing of primary exports.

Ghana's economic health depends largely on the rest of the world. Exports of a narrow range of primary commodities have accounted for about one-fourth of the GDP since the mid-1950's as against as much as one-third in the earlier postwar period. The structure of Ghana's external trade is not complicated: cocoa accounts for about two-thirds of domestic exports; minerals, including newly mined gold, constitute an additional 20 to 25 percent; and timber, as logs or as more processed products, provides most of the remaining 10 percent. Exports of other agricultural products are unimportant--kola nuts, oilseeds, and copra represent about 1 percent. Ghana has had a deficit balance of trade. From 1956 through 1963 this deficit averaged $32.2 million (table 2).

Table 2.--Ghana: Balance of trade, 1956-63

Year	Imports	Exports	Surplus (+) or deficit (-)
	Million dollars		
1956	249	242	- 7
1957	271	256	- 15
1958	237	293	- 56
1959	316	317	+ 1
1960	363	325	- 38
1961	394	322	- 72
1962	333	322	- 11
1963	365	305	- 60

The direction of Ghana's external trade over the postwar period has changed markedly. Although the United Kingdom (UK) has retained its position as Ghana's principal trading partner, its share of total trade has declined. At the same time the European Economic Community (EEC) countries have almost doubled their trade with Ghana. On an individual country basis, the United States has continued to retain second place as a market for Ghanaian exports (table 3). The relative importance of markets in neighboring African countries will probably increase in the future.

Although neither estimates of aggregate output nor population movements are wholly reliable, statistics indicate the average level of real income available per capita rose rapidly during the early years of 1950, from about $143 per head at constant (1960) prices in 1950-52 to $170 in 1954-55. The rate of improvement slackened between 1955 and 1958. But during the following two years, per capita real income increased sharply to around $195 in 1960.

According to projections in the unabridged study, the GDP will increase at an average annual rate of 5.1 percent from 1960 to 1975. The 1960 GDP of $1.3 billion is therefore projected to increase to $2.2 billion by 1970 and $2.8 billion by 1975. With population rising at an average rate of 2.9 percent per annum, income per capita would increase from $195 in 1960 to $250 in 1970 and $270 by 1975. However, if this rate of growth is to be achieved, much of the increase in average per capita income will be required for capital formation so that the growth in per capita personal consumption is expected to be much lower.

Since a growth rate in real output of nearly 5 percent per annum was achieved over the period 1950-61--without comprehensive planning and during a period of considerable political change and uncertainty--the rate of 5.1 percent through 1975 does not, at first glance, appear overambitious. Moreover, much of the expensive infrastructure which inflated the ratio of capital investment to output from the mid-1950's should contribute towards income generation in future years. With the completion of the

Table 3.--Ghana: Direction of trade, imports and exports, 1959-63

Item	1959	1960	1961	1962	1963
	Million dollars				
Imports from--					
United Kingdom	127	133	145	113	120
United States	18	21	33	26	23
Japan	24	30	31	22	23
Netherlands	26	34	31	26	33
Germany	28	39	30	20	37
Sino-Soviet Bloc	10	15	18	22	34
Exports to--					
United Kingdom	98	102	93	101	86
United States	60	49	76	58	47
Germany	43	44	39	36	31
Netherlands	45	40	39	32	30
Sino-Soviet Bloc	6	23	10	25	34

Volta River Project and the Tema complex of secondary industries by, say, 1967, favorable conditions should exist for a further improvement in growth rates. They would include average living standards for the urban labor force.

But, while the projected GDP of $2,200 million by 1970 and $2,800 million in 1975 may appear feasible, it still has to be realized. The development plan projections for Ghana's balance of payments on current account indicate a possible cumulative deficit of $896 million for the period 1963-70, to which may be added an additional $168 million to repay existing foreign loans. Since it is hoped to maintain gold and foreign exchange reserves around the 1962 level, $223 million, the gross sum of $1,064 million, or about $152 million per year, will have to be acquired by donations, public borrowing, and private foreign investments.

It appears that more than $152 million per year may have to be obtained from outside sources if a growth rate in excess of five percent is to be sustained.

The development plan projects the price of cocoa beans for the period 1963-70 to average 25.4 cents per pound and the export volume to average 450,000 tons. However, cocoa bean prices between 1963 and 1970 will probably average below 25.4 cents. Because of favorable weather and improved cultural practices the 1964/65 world cocoa bean crop was a record 1,507,000 metric tons, 21 percent above the record 1963/64 outturn and 70 percent over the 1955-59 average. This supply was well in excess of world cocoa demands. The New York spot "Accra" price for cocoa beans averaged 23.4 cents a pound in 1964 but fell to an average of 17.2 cents per pound in 1965. The average price for July 1965 was 12.2 cents, the lowest monthly price since September 1946.

Coupled with the low cocoa prices has been a lower level of private foreign investment than hoped for. A great deal of foreign assistance will be required for Ghana to weather the financial straits in which she finds herself in 1966. Unless an appreciable improvement in future cocoa supply and demand is achieved, perhaps through an international producer-consumer cocoa agreement or some other means, cocoa bean prices will remain depressed and the projected economic gains for Ghana may not be realized.

Food Consumption

Having arrived at the income projections, it is necessary to derive the relationship between income and expenditures on food.

The analysis of consumer expenditures in Ghana begins with the cross-section data available from family budget surveys undertaken in various parts of the country over the period 1953-62. The cross-section approach associates variations in actual consumer expenditures with variations in household or per capita income during a given period of time. Most of these family budget surveys were conducted by Government statisticians in order to determine appropriate weights for retail price indices. Thus, the data did not lend itself easily to comparative studies of food expenditure patterns. The analysis permitted the determination of the total demand for food, but the income-consumption relationships for specific food imports could not be derived.

However, detailed statistics of Ghana's imports of commodities by volume and value were available for analysis by the time-series approach. It was, therefore, possible to relate either quantities or values for selected items to different determinants of aggregate demand. By contrast with the cross-section approach, time-series of imports refers to apparent consumption for the economy as a whole. Because of the absence of reliable data on personal income, it was necessary to select a component of personal income which was likely to be both relevant and reliable for time-series analysis of food imports. Data were available on the net cash payments made by the Cocoa Marketing Board to cocoa farmers and on the wages and salaries paid to recorded employees from 1954 to 1961. These are the two major cash-earning sectors of the Ghanaian economy, and the incomes of small traders and others are closely tied to changes in these sectors. The results of the time-series analysis were related to the income and population projections to arrive at the projected levels of demand for imported food.

PROJECTIONS OF SUPPLY

While it is possible to project demand under various specific assumptions about the behavior of relevant variables with the aid of econometric techniques, projection of agricultural production presents more difficult problems. Agricultural production is the product of yields times acreage. Under West African peasant farming conditions it is particularly difficult to define--let alone measure--yields or acreage under mixed and successive crops, and neither the Food and Agriculture Organization (FAO) nor other experts have, as yet, much experience with large-scale censuses in West Africa.

It appears that since 1945, agricultural output has risen with the expansion of the rural labor force, which has worked a larger area of land by traditional farming methods. There is little evidence (from price changes) of a persistent imbalance between demand and supply of basic energy foods, roots and tubers, plantains, etc., which can be grown easily throughout the forest zone and the coastal areas. Acute shortages on a national scale have been limited to years of poor harvests--1950/51 and 1961/62--which, through price increases, had the effect of stimulating local production as well as imports.

However, this does not mean that domestic food production, distribution, and seasonal storage facilities have been sufficient to avoid problems of undernutrition in the northern part of the country or deficient nutritional standards for the vast bulk of the population. Accordingly, the new development plan has set up ambitious food production targets aimed at eliminating deficiencies in the present diet, reducing food imports, and providing for the growth in population.

Experience of other tropical African countries suggests that ambitious targets, involving State management, large-scale use of machinery and fertilizers, and improved

varieties and crop rotation, are extremely difficult to achieve quickly. Again, replacement of shifting cultivation by settled farming systems requires a high degree of cooperation and the application of expensive extension services. It can be done in existing areas of close settlement, which are in any case often areas of high agricultural potential, given requisite Government action or popular enthusiasm.

However, a great deal of experimentation with alternative crops, types of seeds, and farming systems will be required before Ghana can attain rapid expansion along new lines.

Of the import commodities dealt with in this report only tobacco, rice, and meat are produced domestically. The supply projections for these commodities are deferred to the section on import commodities.

EXPORTS

Export proceeds from cocoa, timber, and minerals have provided the primary stimulus to economic activity in the past and will continue to be an important determinant of changes in aggregate output and demand through 1975. Much, therefore, depends on the growth of markets in industrialized countries. While one of the major objectives of the development plan is to broaden the base of the economy and to diversify crops (in respect to both products and destinations), the role of growth in the economy may be expected to remain closely linked to the market prospects for one commodity--cocoa (table 4).

The world market for cocoa products is dominated by a limited number of wealthly countries in which the price of cocoa rather than per capita income is the predominant factor affecting consumption. In the United States, the largest consuming country (25 percent of the world market for raw cocoa), per capita cocoa consumption has fallen since the years before World War II, and changes in personal incomes no longer have a positive effect on cocoa consumption. Expansion of the American market must, therefore, depend largely on the growth of population and the absence of shifts in relative prices that would induce substitution of other ingredients for cocoa. In the United Kingdom, the effect of income also appears no longer important and therefore the expansion of the British cocoa market will also depend largely on the rate of population increase and positive price effects.

As a group, the six countries of the EEC form the largest and fastest growing market for cocoa, accounting for some 35 percent of world imports of beans. West Germany and Italy appear to be the most promising markets for expanding cocoa sales.

Demand is likely to increase in poorer European countries where present per capita consumption is still below 2.5 pounds per head but where strong income effects have been apparent, for example, in Spain. On the other hand, in other high-income countries (Sweden, Canada, and Australia) postwar experience indicates that the rate of growth of per capita consumption tends to level off as it approaches the range of 3 to 4 pounds. This is similar to the U.S. pattern, and is in contrast to the pattern in Switzerland, where per capita demand of over 7 pounds is a world record.

Regions where prospects have been more uncertain because of the absence of a free market, but on the whole promising, are Eastern Europe and mainland China. At present, consumption is very low there by Western standards, exceeding 1 pound only in Czechoslovakia and estimated at a mere 0.3 pounds in the USSR. There has been a decided increase in imports of cocoa in recent years, reflecting to some extent rising real incomes as well as the more obvious decisions of economic planners.

Table 4.--Ghana: Exports of principal agricultural commodities, by quantity and value, 1959-63

Commodity	Quantity					Value				
	1959	1960	1961	1962	1963	1959	1960	1961	1962	1963
	1,000 metric tons					Million dollars				
Cocoa	--	--	--	--	--	195.6	188.9	198.1	198.1	200.9
Cocoa beans	254.2	307.7	405.4	428.0	411.1	192.6	186.0	194.0	187.7	190.7
Cocoa butter	--	--	1.2	11.8	9.8	--	--	1.2	7.9	9.7
Cocoa paste	6.8	3.1	4.5	12.9	12.6	3.0	2.9	2.9	2.5	0.5
Kola nuts	8.7	11.8	14.5	9.4	16.9	2.1	3.4	2.9	4.0	2.4
Coffee	2.0	2.4	1.7	3.9	2.7	1.1	0.9	0.6	1.2	0.7
Copra	3.8	3.2	2.2	1.2	0.5	0.6	0.5	0.3	0.1	0.04
Bananas	--	4.7	4.8	1.5	3.7	--	0.4	0.3	0.2	0.3
Palm kernels	2.9	3.1	1.9	0.8	0.6	0.3	0.4	0.2	0.1	0.1
Total exports	--	--	--	--	--	315.7	320.3	316.9	322.1	299.2
Agricultural	--	--	--	--	--	201.1	195.7	205.0	205.3	205.8
Nonagricultural	--	--	--	--	--	114.6	124.6	111.9	116.8	93.4

Table 5.--Ghana: Total imports of selected agricultural commodities, and imports from the United States, 1956-63

Commodity	1956	1957	1958	1959	1960	1961	1962	1963
Rice:								
Total imports(thou. dol.)	1,578	3,502	2,647	5,697	4,563	7,040	10,532	4,145
U.S. imports(thou. dol.)	4	53	270	832	2,503	5,962	9,857	3,710
U.S. share of total (percent)	--	1.5	10.2	14.6	54.9	84.7	93.6	89.5
Wheat flour:								
Total imports(thou. dol.)	5,760	8,194	6,861	8,701	8,501	8,723	7,604	4,724
U.S. imports(thou. dol.)	3,652	5,787	5,064	3,895	3,436	2,446	1,623	797
U.S. share of total (percent)	63.2	70.6	73.6	44.8	40.4	28.0	20.8	16.9
Dry milk:								
Total imports(thou. dol.)	132	154	120	252	350	748	745	866
U.S. imports(thou. dol.)	19	23	16	62	155	301	302	376
U.S. share of total (percent)	14.4	14.0	13.3	24.6	44.3	40.2	40.5	42.4
Condensed milk:								
Total imports(thou. dol.)	1,824	2,357	1,927	2,740	2,913	3,879	3,595	3,721
U.S. imports(thou. dol.)	--	--	--	8	--	--	6	--
U.S. share of total (percent)	--	--	--	0.3	--	--	0.2	--
Meat & meat preparations:								
Total imports(thou. dol.)	4,097	4,928	4,262	4,648	4,620	5,404	3,976	4,129
U.S. imports(thou. dol.)	--	--	55	141	246	339	257	409
U.S. share of total (percent)	--	--	1.3	3.0	5.3	6.3	6.5	9.9
Tobacco (unmfd.):								
Total imports(thou. dol.)	1,067	1,341	1,233	4,090	2,550	2,463	1,566	1,747
U.S. imports(thou. dol.)	1,060	1,341	1,233	2,648	1,954	1,871	1,098	1,268
U.S. share of total (percent)	99.3	100.0	100.0	64.7	76.6	76.0	70.1	72.6
Cigarettes:								
Total imports(thou. dol.)	2,958	1,043	236	317	529	769	306	297
U.S. imports(thou. dol.)	--	2	5	27	31	31	17	18
U.S. share of total (percent)	--	0.2	2.1	8.5	5.9	4.0	5.6	6.1

Cocoa production in Ghana will probably continue to increase in future years. Profitable alternatives to cocoa farming will probably remain limited in the rural economies. Future increases in production will probably come about through increased yields per acre rather than through extended acreage. Recent experiments with fertilizer application and removal of excess shade indicate considerable scope for improving yields per acre. The following tabulation shows Ghana's share of the world cocoa bean production from 1955 to the present:

Year	Cocoa bean production		Cocoa bean production in Ghana as percentage of world production
	World	Ghana	
	1,000 metric tons		Percent
Average: 1955/56-1959/60	887.3	258.4	29
1961/62	1,125.3	416.0	37
1962/63	1,158.0	428.4	37
1963/64	1,241.1	448.0	36
1964/65 1/	1,507.0	560.0	37

1/ Preliminary.

There are conflicting opinions as to whether the record production in 1964/65 was due primarily to unusually favorable weather or whether cocoa production in West Africa is reaching a new plateau because of new plantings, higher yielding varieties, and improved cultural practices. Without the answer to this question, meaningful projections of future cocoa production cannot be made.

Ghana has proposed to increase the capacity of its cocoa processing industry from about 25,000 tons of beans in 1963 to over 100,000 tons before 1970. It is hoped that domestic processing will enhance the export proceeds to the extent of $280 a ton (12.7 cents a pound). Insofar as additional sales of cocoa butter, cake, etc., may be arranged with newer markets in Eastern Europe, domestic processing may be beneficial; but in selling to traditional markets--especially on the Continent of Europe--importers may not be willing to compete with other sources by paying a high premium for processed cocoa from Ghana. Importers also have the added disadvantage of having to pay a higher tariff on processed cocoa than on cocoa beans in most importing countries. Further processing of cocoa before exportation may therefore have only a minor effect on total export income.

IMPORTS

Ghana's imports of agricultural products increased from an annual average of $41.0 million during 1955-58 to $69.2 million in 1961, but it declined to $61.2 million in 1962 and $40.4 million in 1963. The proportion of the total import bill spent on foodstuffs during the period 1954-62 remained fairly constant at around 17 percent, but dropped to 11 percent in 1963.

In the original Ghana study, the specified projections for agriculture were related to eight agricultural commodity groups--rice, wheat products, tobacco, milk products, meat products, fish products, beverages, and sugar. Since the United States has not been and is not expected to be a significant supplier of Ghana's demand for fish products, beverages, or sugar, no discussion of these products is included in this summary. Ghana's imports of the five products discussed in this report totaled $29.1 million in 1962 and $20.0 million in 1963 (table 5).

The United States exported $7.8 million worth of agricultural products to Ghana in 1963 and the five products mentioned accounted for 91 percent of this total.

As previously indicated, the size of the market for imported foodstuffs in Ghana will depend largely on the rate of increase in income, population, and agricultural production. Increased agricultural productivity may successfully reduce the local deficit in rice and tobacco. Regarding wheat, milk products, and meat, Government policy will aim to restrain demand by fiscal and quantitative measures.

The two main considerations influencing Government policy are likely to be (1) the overall balance of payments position and (2) the extent to which particular imports compete with local substitutes. In December 1961, Open General Licenses were suspended in Ghana and quantitative restrictions were imposed on imports from all sources. Various amendments to the exchange control and import licensing arrangements have been made to simplify procedure, but some permanent machinery for conserving foreign exchange and securing protection for local production is expected to remain. Bilateral trade agreements are also likely to modify the direction of trade in foodstuffs. A weakening balance of payments may not necessarily involve drastic reductions in all foodstuffs, however, as Ghana's dependence on foreign aid and markets suggests the need for judicious acts of reciprocity. Total demand, domestic supply, and imports of selected agricultural commodities for 1960, and projections for 1970 and 1975 are shown in Figure 1.

Rice

Ghana's imports of rice have increased more rapidly than its demand for other basic foodstuffs, so that by 1962 the value of this commodity represented 16 percent of the value of all food imports and 2 percent of total expenditures on recorded imports. The volume of rice imports rose from an average level of 3,805 tons (valued at $705,040) in 1949-53 to 9,605 tons (worth $1,839,328) in 1954-58. This upward trend was probably due in large part to increases in cash incomes. The volume of imports from 1960 through 1963 fluctuated, in thousands of tons, from 28.8 to 47.1 to 71.8 to 26.8. These sharp fluctuations appear to be due to the price relationship between imported rice and close substitutes.

In July 1961, an import tariff of 2.4 cents per pound was placed on wheat flour (table 6). No tariff was levied on rice and consequently rice was substituted for wheat. In October 1962, an import duty of 5.9 cents per pound was placed on wheat flour and a duty of 3.5 cents per pound was placed on rice. The sharp drop in import levels of both wheat flour and rice in 1963 indicates that there was a shift to rice and flour substitutes, for example, yams, plantains, cassava, etc. The apparent per capita consumption of rice and other products in recent years, and projections for 1970 and 1975 are presented in table 7.

Rice production in Ghana began in 1932 when the Government encouraged farmers to grow it. The success of this early rice extension scheme was limited largely by the lack of good water control. The second stimulus to increased rice production arose from the food shortage brought about by World War II. The food shortage and the high prices which prevailed after the war were a continuing encouragement to rice farmers. By 1950, about 22,000 tons of rice was being produced and the land planted to rice was estimated at 49,000 acres.

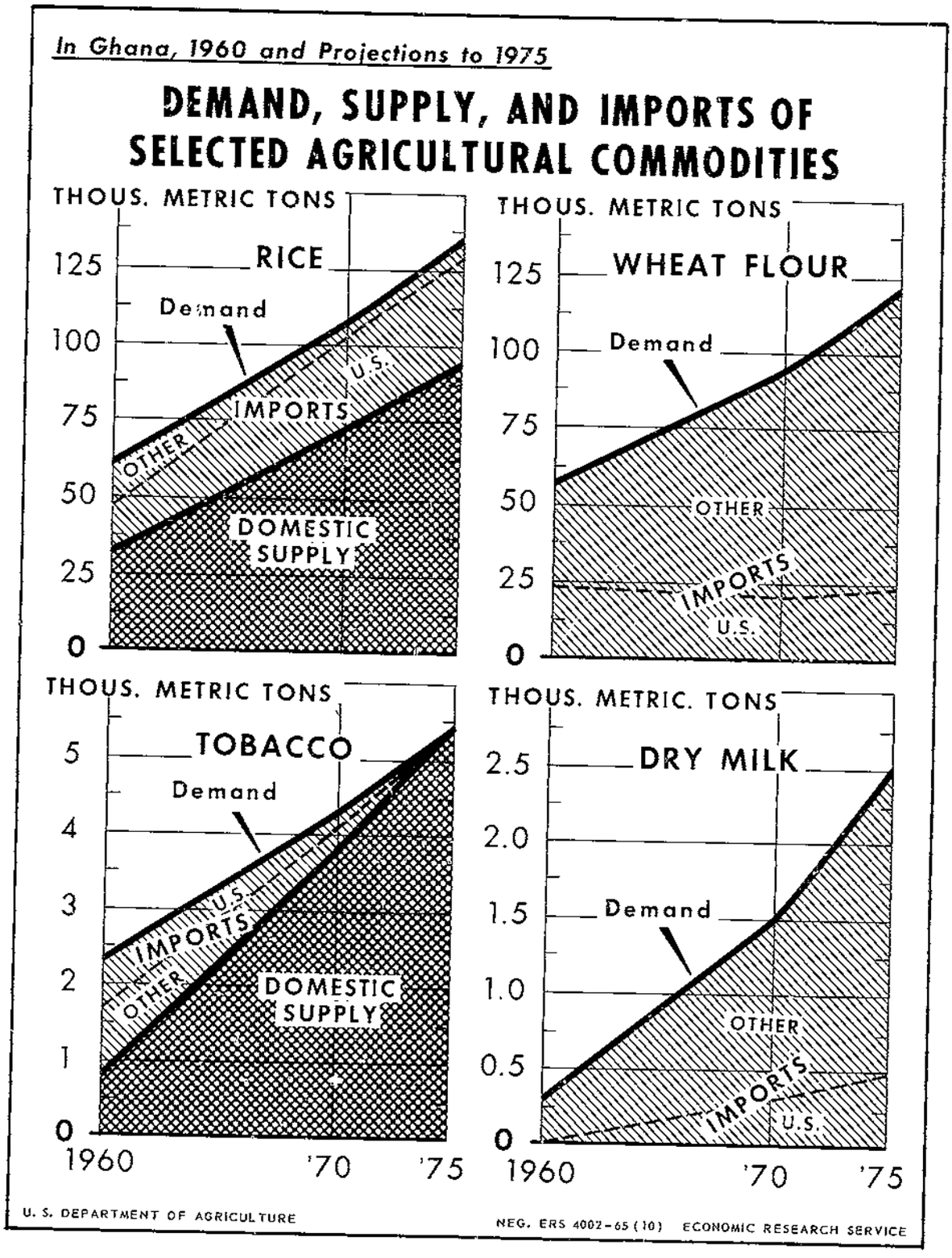

In Ghana, 1960 and Projections to 1975
DEMAND, SUPPLY, AND IMPORTS OF SELECTED AGRICULTURAL COMMODITIES
THOUS. METRIC TONS
RICE
125
100
75
50
25
0
Demand
U.S.
IMPORTS
OTHER
DOMESTIC SUPPLY
THOUS. METRIC TONS
WHEAT FLOUR
125
100
75
50
25
0
Demand
OTHER
IMPORTS
U.S.
THOUS. METRIC TONS
TOBACCO
5
4
3
2
1
0
Demand
U.S.
IMPORTS
OTHER
DOMESTIC SUPPLY
1960
'70
'75
THOUS. METRIC. TONS
DRY MILK
2.5
2.0
1.5
1.0
0.5
0
Demand
OTHER
IMPORTS
U.S.
1960
'70
'75
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 4002-65 (10) ECONOMIC RESEARCH SERVICE

Figure 1

Table 6.--Ghana: Changes in rates of import duty per pound on selected agricultural commodities, 1958/59-1963/64

Commodity	1958/59	1959/60	1960/61	1961/62	1962/63	1963/64
			-Dollars-			
Rice	--	--	--	--	.04	.04
Wheaten products:						
Wheat flour	--	--	--	.024	.059	.059
Biscuits, cake, etc.	.106	.106	.14	.28	.35	.42
Milk products:						
Milk and cream	--	--	--	--	.025	.025
Butter and cheese	--	--	--	--	.14	.14
Meat (all kinds)	--	--	--	.035	.07	.07
Tobacco:						
Unmanufactured	1.30	1.30	1.30	1.58	1.58	1.58
Cigars	5.60	5.60	5.60	8.40	11.20	11.20
Cigarettes	5.25	5.25	5.25	7.91	10.50	10.50

Table 7.--Ghana: Apparent per capita consumption of selected agricultural commodities, average 1949-53 and 1954-58, annual 1959-62, and projections for 1970 and 1975

Item	Unit	Annual average		Annual				Projected	
		1949-53	1954-58	1959	1960	1961	1962	1970	1975
Population (midyear)	Million	5.52	6.14	6.60	6.77	6.95	7.14	8.8	10.3
Commodity									
Rice:	Pound	11.06	1/	1/	19.45	1/	1/	27.0	28.9
Domestic	"	2/ 9.51	1/	1/	9.93	1/	1/	18.3	20.2
Imported	"	1.55	3.45	11.34	9.52	14.94	22.19	8.7	8.7
Wheat flour	"	9.87	14.04	19.86	18.67	19.85	15.38	24.2	26.1
Milk products 3/	"	1.16	1.83	2.52	2.59	3.84	3.69	4.1	4.8
Unsweetened evaporated milk	"	0.77	1.49	2.12	2.17	2.85	2.55	3.3	3.9
Meat products:	"	1/	14.83	1/	15.65	1/	14.31	20.4	21.7
Domestic	"	1/	3.14	1/	3.87	1/	4.23	5.1	6.1
Imported	"	9.41	11.69	11.74	11.78	14.79	10.08	15.3	15.7
Livestock	"	7.34	7.84	8.51	8.80	11.56	7.89	5/	5/
Chilled and frozen meat	"	0.06	0.22	0.44	0.57	0.87	0.73	5/	5/
Dried and salted meat	"	1.22	2.51	1.89	1.57	1.47	0.77	5/	5/
Canned meat	"	0.79	1.12	0.90	0.84	0.90	0.69	5/	5/
Cigarettes	Number	144.1	4/185.5	228.5	256.7	223.8	190.0	312	334
Domestic	"	0	160.9	217.9	238.5	203.0	181.5	5/	334
Imported	"	144.1	24.6	10.6	18.2	20.8	8.5	5/	0

1/ Not estimated.
2/ 1950.
3/ Represents evaporated, condensed, and dry milk only.
4/ 1957-58.
5/ Not projected.

Rice production from 1958 through 1963 is shown below:

Year	Area planted (1,000 acres)	Production (1,000 metric tons)
1958	60	23,587
1959	63	29,484
1960	68	31,752
1961	68	30,500
1962	70	31,500
1963	72	32,500

In general, rice is grown by small-scale farmers along side streams that flood naturally during the rainy season. The development plan provides for a target output by large-scale producers of 7,500 tons in the first year (1964), rising to 62,500 tons in the seventh (1970). Although substantial efforts are being made to increase rice production, production by large-scale farmers has been advancing much slower than the Ghana Government hoped it would.

Projections.--In the original Ghana study, the total demand for rice is projected to increase from 62,000 tons in 1960 to 107,000 tons in 1970. The future level of imports will depend largely on the success of the Government's aim to increase rice production. It is assumed there will be no change in small-scale production (30,000 tons). The production of 62,500 tons on large farms by 1970 is considered optimistic. A level of 43,000 tons appears more attainable. Thus production in 1970 is placed at 73,000 tons, leaving 34,000 tons to be supplied by imports if domestic demand is to be satisfied.

By 1975, total demand is projected to reach 135,000 tons. Domestic supply is placed at 94,000 tons--30,000 tons from small-scale farmers and 64,000 tons from large-scale farmers. Import needs by 1975 are therefore projected to be about 41,000 tons.

Implications.--Little is known about any price premium enjoyed by imported long-grained white rice over locally produced brown rice. However, Ghanaians, especially in the urban areas, express a marked preference for the uniformly graded, long-grained American rice, the promotion of which has proved to be a very successful venture for U.S. suppliers. Starting with 1 percent of the import market in 1956, the United States accounted for 85 percent by 1961 and 94 percent by 1962. In the first 11 months of 1964, the United States supplied Ghana with 97 percent of her rice imports.

It is projected that the United States will retain at least 85 percent of the Ghana rice market in 1970 and 1975. The United States is therefore expected to market about 29,000 tons of rice in Ghana in 1970 and 35,000 tons in 1975 (table 8). These estimates may prove to be too conservative, as the projections in the original Ghana study regarding domestic rice production appear optimistic.

Wheat

Per capita consumption of wheat products in Ghana is exceedingly small by comparison with that in traditional wheat-producing countries, but it is relatively high by standards in tropical Africa. Indeed, if African countries with sizeable non-African populations are excluded, Ghana ranks after the Ivory Coast and Senegal, where the French bread-eating tradition has been emulated by more prosperous sections of the local population.

Two distinct phases may be discerned in what happened to wheat flour imports. First, they rapidly increased from a prewar level of some 9,000 tons (average 1937-39) to 24,400 tons in 1949-53, which may be partly attributed to "food shortages" in the rapidly expanding urban areas; and second, they again increased sharply from 35,000

Table 8.--Ghana: Imports of rice from the United States and the Netherlands, 1956-63, and projections for 1970 and 1975

Year	Total from all sources	Imports from the United States	Imports from the Netherlands	U.S. share of total imports
	1,000 metric tons			Percent
1956	8.9	--	0.9	--
1957	18.6	0.3	3.7	1.6
1958	14.2	1.4	1.5	9.9
1959	33.9	4.6	2.4	13.6
1960	28.8	16.4	1.6	56.9
1961	47.1	39.4	1.7	83.7
1962	71.8	68.5	1.0	95.4
1963	26.8	23.8	0.1	88.8
1970	34.0	29.0	1/	85.0
1975	41.0	35.0	1/	85.0

1/ Not projected.

tons in 1956 to a peak level of 62,600 tons in 1961. During this latter period, rising cash incomes were probably the predominant factor, although the extension of bakeries and bread-eating habits to smaller towns and families with lower incomes was also a contributory influence.

However, substitution of rice or local staples for bread took place in 1962 when price increases (and a deterioration in the flour content of bread loaves) followed the imposition of a 2.4 cents per pound import duty on flour in July 1961--subsequently raised to 5.9 cents per pound in October 1962. Flour imports in 1962 fell sharply to some 49,800 tons, representing an apparent per capita consumption of just over 15 pounds per annum, compared with nearly 20 pounds in 1961.

The future for imports of wheat products depends almost entirely on Ghana's demand for wheat flour (or grain equivalent). Since the mid-1950's, imports of other wheat products--cabin bread, biscuits, etc.--have fallen as the result of the development of local biscuit and cake bakeries which have been protected by import duties.

Wheat cannot be grown economically in Ghana's tropical climate. This means that the long-term prospects for wheat imports may be more promising than for other major food imports, with the probable exception of milk products. Public policy will aim to restrain internal demand, not only to conserve scarce exchange reserves but also to protect local production, especially corn and other cereals which are partly consumed in the form of bread. Much, therefore, depends on the degree of consumers' attachment to local staples and to the activities of "mammy traders" who bake on a small scale. These women have become increasingly important in the bakery trade and their goods now account for some 70 percent of all bread baked from wheat flour; the remaining 30 percent is produced by "master bakers," mainly Lebanese, who concentrate primarily on the larger urban markets.

Although there are no plans to grow significant amounts of wheat in Ghana, there will be a switch from the importation of wheat flour to grain when the proposed flour mill at Tema is established. Arrangements have been made for a West German group to build a $12.6 million factory complex to manufacture various food products, and a flour mill with an annual milling capacity for 60,000 tons of flour is included. As a by-product of the mill, together with the proposed peanut oil mill and fish cannery, an animal feedstuff unit will be developed to produce some 30,000 tons of animal feed

per year. North American wheat may be expected to constitute the bulk of the supply for the new mill, which would require some 83,000 tons of wheat annually to operate at full capacity, given an extraction rate of 72 percent.

Projections.--The per capita consumption of wheat flour is projected to increase from 18.7 pounds in 1960 to 24.0 pounds in 1970 and to 26.0 pounds by 1975. Ghana's wheat flour requirements are therefore expected to be 96,000 tons in 1970 and 122,000 tons in 1975. As Ghana produces no wheat, its wheat requirements are equivalent to its import needs. It is expected that about 83,000 tons of wheat grain, equivalent to the 60,000 tons of flour produced in the Tema mills, will be imported in 1970 and 1975. Unless milling capacity is increased, the remaining import needs will be obtained in the form of wheat flour.

Implications.--Historically, Ghana has obtained practically all of its wheat from the United States and Canada. But there may be greater competition from new sources of supply in the future. Although Ghanaian consumers prefer bread made from North American flour, attempts have been made by Australia and France to introduce soft wheat. A mixture of soft and hard wheat could lead to some reduction in import costs. It should be noted that in the first 11 months of 1964, 4 percent of Ghana's wheat imports came from Russia. What role these or other countries may play by 1970 or 1975 is conjectural. Also, the countries from which Ghana imports wheat may be determined as much by political factors as by economic factors. In any event, it is likely that the Ghana wheat market will become increasingly competitive.

The United States has supplied less than half of the Ghana wheat flour market since 1959. In 1962, 1963, and the first 11 months of 1964, the U.S. portion of the market was about 20 percent. Ghana's 1962-64 trading pattern regarding wheat may, however, be substantially altered with the opening of the Tema flour mill and the subsequent substitution of wheat grain for wheat flour. Should the United States retain its present share of the market through 1970 and 1975, it can expect to market about 19,000 tons of wheat (flour equivalent) in Ghana in 1970 and 24,000 tons in 1975 (table 9).

Tobacco

Ghana's imports of unmanufactured tobacco through 1958 consisted primarily of U.S. black fat tobacco for chewing and pipe smoking. In 1959, Ghana imported flue-cured tobacco for the first time. New factories processed over 3 million pounds of this type of tobacco that year. Unmanufactured tobacco imports reached a record 5.6 million pounds in 1959 but declined to 3.0 million pounds in 1961 and to 2.2 million pounds in 1962.

Local leaf production has increased rapidly since large-scale experiments were initiated by the Ghanaian Ministry of Agriculture and the Pioneer Tobacco Company in 1953. By 1964, local leaf production had attained a level of 5.5 million pounds. This was grown on some 13,870 acres, mainly by small farmers (table 10). The 1946 production of flue-cured tobacco was approximately 1.25 million pounds--more than double the quantity in 1960. Commercial production of fire-cured tobacco began in 1963 and by 1964 some 250,000 pounds had been produced. Ghanaians hope that this tobacco can be substituted for black fat tobacco. Most of the flue-cured tobacco is grown in central Ghana around Kumasi. The elevated sandy soils in the area produce tobacco which resembles Indian leaf. Before the cultivation of tobacco in southern and central Ghana, most of the country's production consisted of dark tobacco grown in the north.

Ghana's cigarette imports reached a peak in 1953 when prosperous cocoa farmers began to smoke more cigarettes and local cigarette output was small. Cigarette imports declined sharply by 1957 as local factories began to increase domestic output. In 1962, local cigarettes, composed largely of Ghanaian tobacco, accounted for 96 percent of the total volume sold domestically. Imports of cigarettes are now limited to

Table 9.--Ghana: Imports of wheat flour from the United States and Canada, 1956-63, and projections for 1970 and 1975

Year	Total from all sources	Imports from the United States	Imports from Canada	U. S. share of total
	1,000 metric tons			Percent
1956	35.3	22.3	12.9	63.2
1957	50.6	35.9	14.4	70.9
1958	44.3	33.1	11.1	73.9
1959	59.4	25.7	31.8	43.3
1960	57.3	23.5	32.3	41.0
1961	62.6	16.7	45.0	26.7
1962	49.8	10.4	37.5	20.9
1963	32.2	6.4	24.5	19.9
1970	96.0	19.0	1/	20.0
1975	122.0	24.0	1/	20.0

1/ Not projected.

Table 10.--Ghana: Tobacco production, 1956-64

Year	Total		Flue-cured tobacco		Air-cured tobacco		Fire-cured tobacco	
	Acreage	Amount	Acreage	Amount	Acreage	Amount	Acreage	Amount
	Acres	1,000 pounds	Acres	1,000 pounds	Acres	1,000 pounds	Acres	1,000 pounds
1956	193	54.2	155	44.8	38	9.4	--	--
1957	485	122.5	273	84.2	212	38.3	--	--
1958	1,472	638.6	354	137.1	1,118	501.5	--	--
1959	4,036	2,083.9	898	326.4	3,138	1,757.5	--	--
1960	4,595	1,821.6	1,305	525.3	3,290	1,296.3	--	--
1961	6,300	2,156.2	2,302	567.8	3,998	1,588.4	--	--
1962	6,341	3,147.0	2,381	833.5	3,960	2,313.5	--	--
1963 1/	8,000	4,011.4	3,200	1,083.8	4,700	2,907.7	100	19.9
1964 1/	13,870	5,500.0	3,600	1,250.0	9,600	4,000.0	670	250.0

1/ Preliminary.

high priced brands on which heavy duty is payable. Virtually all of the cigarettes imported come from the United Kingdom (table 11). Cigarette imports from the United States amounted to only $18,000 in 1963. The market potential for U.S. cigarettes is expected to remain limited through 1975 because of restrictive tariff policies and the lack of purchasing power.

Projections.--The per capita consumption of cigarettes, about 257 in 1960, is projected to increase to 312 by 1970 and to 334 by 1975. The incidence and burden of indirect taxes, however, will greatly affect consumption. The smoking habit is not yet well established among large sections of the rural population, and purchases are subject to considerable short-run variation associated with either price changes or availability of cash income.

In the original Ghana study, the total demand for unmanufactured tobacco in 1970 is projected to reach 9.5 million pounds. Domestic production is projected to approach 6.7 million pounds, leaving 2.8 million pounds to be supplied by imports. By 1975, the demand is projected to increase to 12.0 million pounds. Provided adequate disease control, curing, and marketing arrangements are implemented, the level of imports by this date will be confined to a small amount of high-quality blending tobacco. Ghana may have a small surplus of locally grown leaf for export by 1975.

Implications.--Ghana's imports from the United States consist of black fat tobacco and flue-cured tobacco. The United States supplies practically all of the black fat tobacco market, but faces strong competition for the flue-cured market. Black fat tobacco is dark tobacco processed in aromatic oils. To date, Ghana's efforts to duplicate the flavor and quality of this tobacco have been unsuccessful.

Tobacco production is increasing at a faster rate than anticipated. In the original Ghana study, the 1965 domestic tobacco production is projected at 4 million pounds. Production in 1964 approached 5.5 million pounds. Accordingly, import needs will probably fall short of the 1970 projection of 2.8 million pounds. Imports are likely to be closer to 1.0 million pounds (table 12). This assumes that a completely suitable substitute for black fat tobacco is not found. It is projected that the United States will supply Ghana with about 0.7 million pounds of unmanufactured tobacco by 1970.

In projecting that local tobacco production will meet domestic demand by 1975, the Ghana study infers that the Ghana fire-cured leaf will become suitable for the black fat market. If this does not come to pass, however, the United States will continue to market this tobacco in Ghana.

Dairy Products

Since 1949, there has been a four-fold expansion in imports of dairy products. The most important item is unsweetened evaporated milk, which in 1963 accounted for 65 percent of the value of all milk products. In 1963, sweetened condensed milk accounted for 6 percent of the value of all milk products and dry milk accounted for 17 percent. The most rapid increase in imports of milk since 1958 occurred in imports of dry milk. Imports of fresh milk, butter, and cheese have declined in relative importance--from 23 percent of total milk products in 1949-53 to 12 percent in 1963. This suggests that this market is largely confined to expatriates and groups in upper income brackets.

Evaporated milk is marketed in small cans throughout Ghana and is the closest substitute for fresh whole milk. The consumption of evaporated milk is closely related to income. Occupation and urbanization are also important factors, and the recent development of a market for reconstituted fresh milk in the larger urban areas may result in some shift to imports of dry milk. Technical improvements in the

Table 11.--Ghana: Imports of cigarettes from the United States and the United Kingdom, 1955-63

Year	Total from all sources	Imports from the United States	Imports from the United Kingdom	U.S. share of total imports
	1,000 pounds			Percent
1955	2,150	--	2,147	--
1956	1,766	--	1,761	--
1957	569	0.7	544	1
1958	153	4.7	131	3
1959	156	12.5	127	8
1960	238	13.6	207	6
1961	310	13.2	293	4
1962	129	6.7	118	5
1963	123	7.0	116	6

Table 12.--Ghana: Imports of unmanufactured tobacco from three countries, 1956-63, and projections for 1970 and 1975

Year	Total from all sources	Imports from			U.S. share of total
		United States	Rhodesia	India	
	1,000 pounds				Percent
1956	1,180	1,173	--	--	99
1957	1,432	1,432	--	--	100
1958	1,297	1,296	--	--	100
1959	5,642	2,789	1,289	1,090	49
1960	3,376	1,981	358	864	59
1961	2,977	1,895	486	537	64
1962	2,227	1,048	307	722	47
1963	2,119	1,245	437	435	59
1970	1/ 2,800	--	--	--	--
	2/ 1,000	700	3/	3/	70
1975	0	--	--	--	--

1/ Projection found in the original study.
2/ Revised projection.
3/ Not projected.

transshipment of fresh whole milk could also result in an expansion of sales in Ghana, although the cost of refrigeration might limit the market to the larger coastal towns. Existing imports of bottled fresh milk are supplemented by minute supplies from experimental farms. This output could be expanded, but in the absence of an indigenous dairy herd, the development plan has not placed particular emphasis on whole milk production. On the other hand, the Government intends to encourage domestic production of some milk product substitutes, notably margarine.

Projections.--Prospects for further imports of evaporated, condensed, and dry milk appear to be more favorable than those for other imported foods, since the Government is not likely to impose prohibitive duties on a "protective" food which has no close domestic substitute. A duty of 2.5 cents per pound introduced in 1962 was not designed primarily as a measure of protection for domestic production, since, in general, none exists.

Demand for evaporated milk is projected to increase from 7,000 tons in 1960 to 13,000 tons in 1970 and to 18,000 tons in 1975. Future levels of imported dry milk will depend largely on whether or not adequate processing and marketing arrangements are provided to extend consumption of reconstituted "fresh" milk, ice cream, etc., to the smaller towns. The combined commercial imports of dry milk and condensed sweetened milk are projected in the original study to increase from 1,000 tons in 1960 to 3,000 tons in 1970 and to 4,000 tons by 1975.

Implications.--From 1949 through 1963, Ghana obtained more than 90 percent of her evaporated milk imports from the Netherlands. The United Kingdom has supplied most of the remaining market. It appears unlikely that the United States will be a significant source of supply for Ghana's evaporated milk needs by 1970 or 1975.

Historically, the Netherlands has also supplied nearly all of Ghana's condensed milk imports. The United States will probably market only small quantities of condensed milk in Ghana through 1975.

U.S. commercial development of the Ghanaian dry milk market also has been limited to date. Nearly all of the U.S. dry milk exports to Ghana have been under Title III of P.L. 480 (donations by charitable organizations). Future imports of dry milk under P.L. 480 could be considerable but are excluded from consideration here. Ghana's commercial dry milk imports are projected to be 1,500 tons in 1970 and 2,500 tons by 1975. U.S. exports of dry milk to Ghana by 1970 are projected at 300 tons and by 1975 at 500 tons (table 13). Ghana's dry milk imports in 1970 and 1975 will be mainly nonfat dry milk.

Meat Products

Except for poultry and swine, livestock numbers and production of livestock products in Ghana have been virtually stagnant for the past 10 years. Seasonal water shortages, lack of nutritious pasture or fodder throughout the year, and severe infestation of tsetse fly, which transmits the disease tryponosomiasis, inhibit the expansion of animal husbandry.

There are two main types of vegetation in Ghana: the heavy forest and the savannah. The savannah is a mixture of trees and grass and is found along the coastline in the southern parts of the Volta Region and in the Northern and Upper Regions where cattle are kept. The principal breed, called the West African Shorthorn, has some degree of resistance to tryponosomiasis (known as sleeping sickness among humans). The liveweight of this breed at maturity varies from a minimum of 300 pounds among the dwarf shorthorns of the coastal lagoons to about 500 pounds among those in northern Ghana.

Table 13.--Ghana: Imports of evaporated, condensed, and dry milk from the United States and the Netherlands, 1956-63, and projections for 1970 and 1975

Year	Evaporated milk			Condensed milk			Dry milk	
	Total	United States	Netherlands	Total	United States	Netherlands	Total	United States
	1,000 metric tons							
1956	3.9	--	3.6	0.8	--	0.7	0.2	--
1957	4.8	--	4.5	0.9	--	0.9	0.1	--
1958	5.3	--	4.8	0.6	--	0.6	0.1	--
1959	6.3	--	5.6	0.8	--	0.7	0.4	0.2
1960	6.7	--	6.2	0.6	--	0.6	0.7	0.4
1961	9.0	--	8.6	1.4	--	1.3	1.8	1.1
1962	8.3	--	7.8	1.7	--	1.7	2.0	1.5
1963	8.6	--	7.7	0.9	--	0.8	13.5	12.6
1970	13.0	1/	1/	1.5	1/	1/	2/ 1.5	2/ 0.3
1975	18.0	1/	1/	1.5	1/	1/	2/ 2.5	2/ 0.5

1/ Not projected. 2/ Commercial sales.

Until 1962, the annual offtake of domestic cattle for slaughter varied from 6 to 10 percent, with a tendency to rise in recent years under the stimulus of higher prices offered by dealers and the extension of the cash economy among traditional cattle-raising people. At the end of 1962, the domestic cattle population was estimated at 468,000, compared with 480,000 in 1960.

Sheep and goats are found throughout Ghana and are kept for consumption often in connection with religious or festive occasions by people who cannot afford cattle. However, as no special husbandry is practiced, the numbers are conservatively estimated at 500,000 sheep and 500,000 goats. The number of pigs is estimated to be around 50,000. More attention is paid to poultry, which is kept not only by farming families throughout the country but also by urban householders and larger scale commercial poultry producers. The poultry population is estimated to have increased from 2.5 million in 1957 to 4.6 million by 1964.

Further expansion of the livestock industry is largely contingent on the availability of additional feed grains and concentrates. At present, human consumption demands have a natural priority and are in competition with livestock needs. Unless feed production is increased, the total number of poultry and hogs could easily decline as demand and supply pressures from the human populace increase. This reduction will be brought about by producers of livestock not maintaining replacement animals in numbers and quality to support the present level of slaughter.

During the past decade, Ghana has produced some 25 percent of all the meat and about one-third of all the carcass beef it has consumed. In broad terms, it appears that per capita consumption of meat from all sources increased from about 12½ pounds in 1949-53 to some 15 pounds in the later 1950's. A peak level of 18 - 19 pounds was probably attained in 1961 when imports were particularly high.

Projections.--The demand for meat is projected to increase from 49,000 tons in 1960 to 80,000 tons by 1970 and to 100,000 tons by 1975. Domestic supplies, 12,000 tons in 1960, are projected at 20,000 tons in 1970 and 28,000 tons in 1975. The total amount of meat imported is therefore expected to be around 60,000 tons by 1970 and 72,000 tons by 1975.

Implications.--Over the period 1961-63, live animal imports constituted about 70 percent of the value of total meat imports. Imports of carcass and meat preparations constituted the remaining 30 percent (table 14). Live animals are imported from neighboring West African countries--principally Mali, Togo, and Upper Volta. A number of countries, including New Zealand, Australia, the United Kingdom, and the United States, supply other meat imports (table 15). The main meat import will in all probability continue to be live animals from neighboring West African countries. However, as incomes rise in both cattle-exporting territories and in the traditional markets along the seaboard, Ghana may find it necessary to look overseas or to other African countries for a larger supply of carcass meat at prices it can afford to pay.

In Ghana, meat is mainly consumed in soups and stews. Imported canned meat, mainly corned beef, and "cheaper cuts" are consumed throughout the country. The demand for chilled and frozen "better cuts" is restricted to consumers in upper income brackets. In general, imported livestock is destined for the main urban centers and other areas with concentrations of persons with relatively high incomes, for example, cocoa farming districts. Most Ghanaian consumers have a marked preference for fresh meat that they can get only from locally killed livestock.

The United States has a very small part of the Ghanaian meat market. In general, meat products can be bought cheaper in other countries. The smallness of the market also makes it unattractive to U.S. suppliers. During the period 1961-63, Ghana's meat imports from the United States averaged only $335,000. Poultry constituted 86 percent of this total.

No projections are made for U.S. meat imports in 1970 and 1975. The market for U.S. meats in Ghana is likely to remain limited for some time. The best prospect for U.S. meat appears to be poultry, but a specific investigation into the market potential for U.S. poultry in Ghana is not a part of this study. U.S. products must be competitive with respect to price, acceptability, and availability in the local market. As the Ghanaian economy develops, with a rise in the standard of living and a relaxation in austerity measures, it is logical to expect an increase in the demand for quality food.

Table 14.--Ghana: Value of imports of live animals, meat, and meat preparations, 1949-63

Period	Total	Live animals			Meat and meat preparations							
		Cattle	Sheep and goats	Other	Total	Chilled or frozen	Salted/dried Ham or bacon	Salted/dried Other	Canned Corned meat	Canned Other	Sausages, etc.	Total
		Million dollars										
Average:												
1949-53	7.1	2.7	1.8	--	4.5	0.2	.11	0.8	1.1	.31	.11	2.6
1954-58	10.8	4.5	2.0	.03	6.5	0.5	.11	1.6	1.7	.28	.08	4.3
1959	12.3	5.8	1.8	.08	7.7	0.8	.17	1.4	1.8	.25	.14	4.6
1960	13.5	5.7	3.1	.11	8.9	1.0	.20	1.2	1.8	.28	.14	4.6
1961	18.2	9.5	3.0	.25	12.8	1.3	.25	1.3	2.1	.28	.20	5.4
1962	12.6	6.7	1.8	.08	8.6	1.1	.17	0.7	1.7	.20	.11	4.0
1963	14.0	8.0	1.7	.20	9.9	1.5	.14	0.5	1.6	.17	.14	4.1

Table 15.--Ghana: Imports of meat and meat products from four countries, 1956-63 1/

Year	Total from all sources	Imports from				U.S. share of total
		United States	Argentina	United Kingdom	New Zealand	
	1,000 metric tons					Percent
1956	9.9	--	1.7	0.7	0.1	--
1957	10.9	--	2.2	0.4	0.3	--
1958	9.3	--	2.0	0.6	0.2	--
1959	9.7	0.1	1.2	1.1	0.3	1.0
1960	9.2	0.3	1.0	1.5	0.5	3.3
1961	10.2	0.8	1.1	1.9	1.1	7.8
1962	7.1	0.4	0.7	1.7	0.9	5.6
1963	7.8	0.8	1.4	2.3	1.5	10.3

1/ Excludes live animal imports.

END

DATE

FILMED

7-24-79

NTIS