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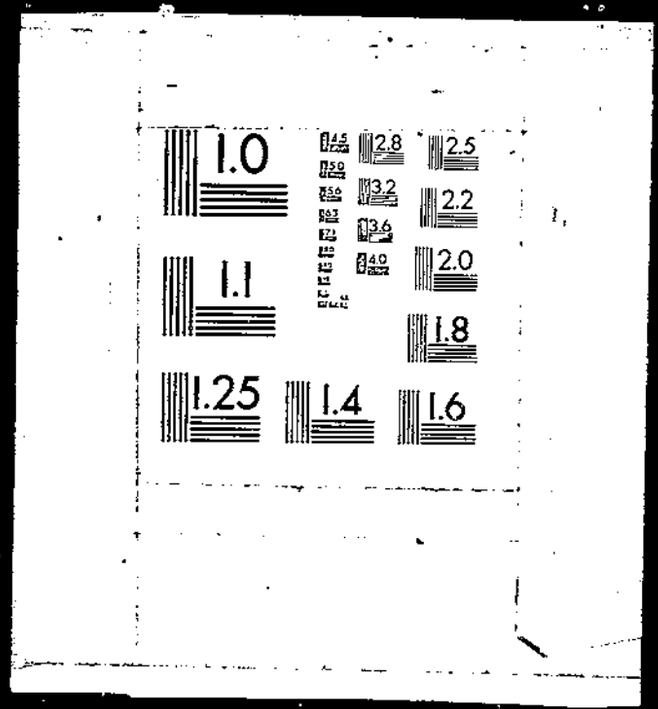

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Ivory Coast: An Export Market Profile

(U.S.) Economic Research Service, Washington, DC

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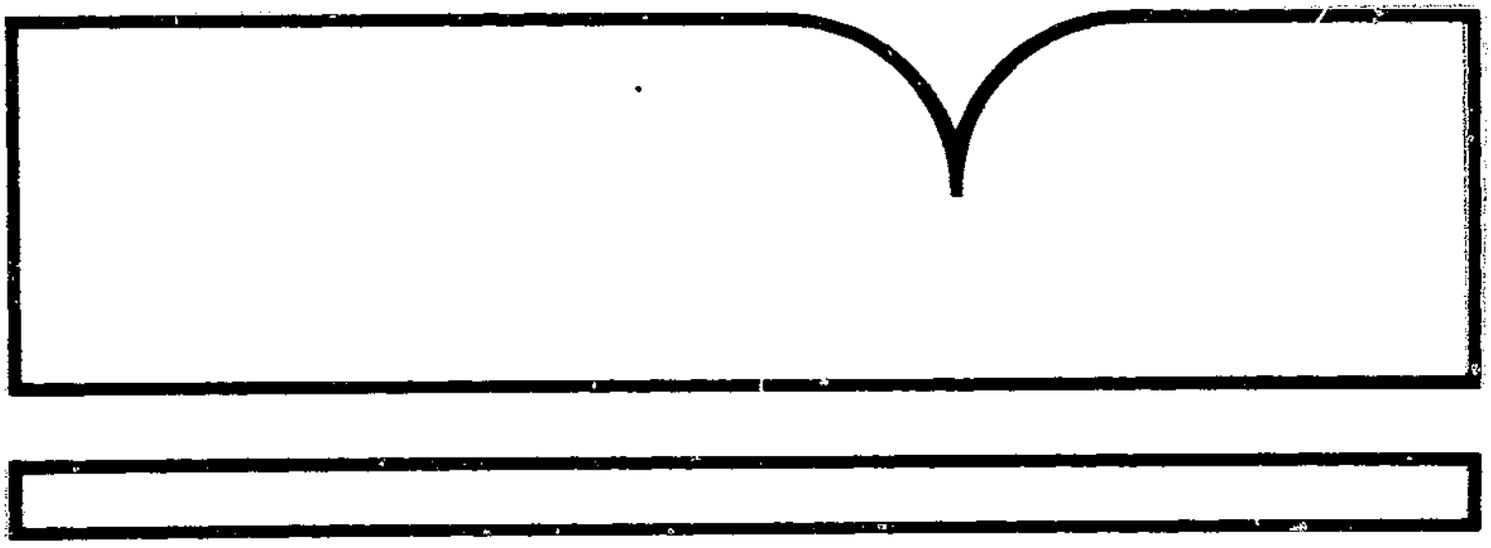

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The Ivory Coast, a West African coffee and cocoa exporter, has import market potential based upon one of the highest rates of real economic growth on the African continent. Because of this income growth, as well as a higher than average population growth rate and increasing urbanization, imported agricultural commodities have risen to meet the nation's growing food needs. In 1983, Ivorians spent $310 million for agricultural imports, up from $133 million in 1973. France now dominates agricultural trade. However, the United States can expand its sales, which since 1970 have represented 2-7 percent of Ivory Coast's total agricultural imports, if it adopts innovative marketing approaches such as labeling in French and packaging in metric quantities. Premixed feed grain products, tobacco, and preserved milk have the greatest prospects for U.S. export growth in the next 5 years.

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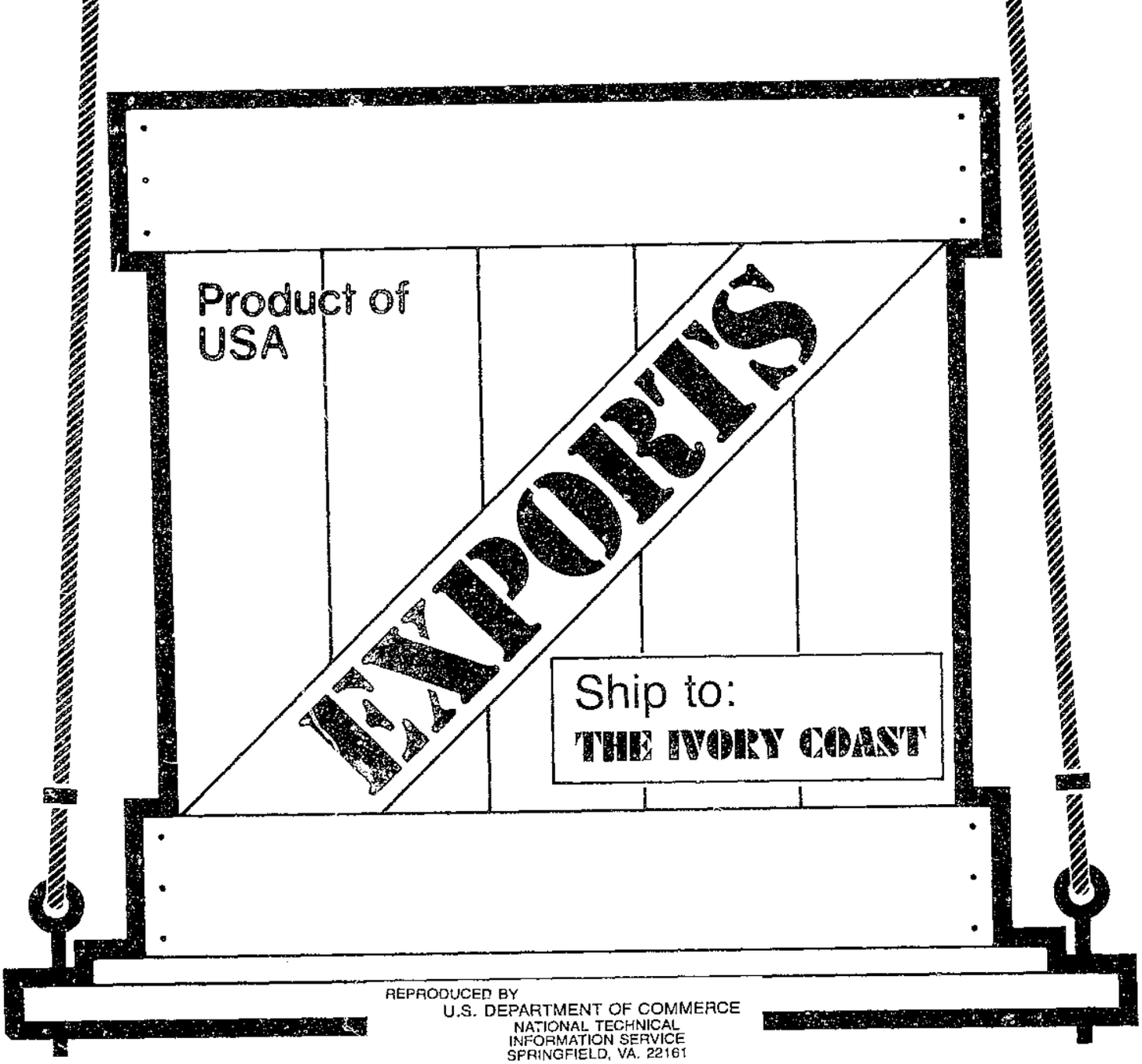
In cooperation with the Foreign Agricultural Service

Foreign Agricultural Economic Report Number 223

The Ivory Coast

An Export Market Profile

Michael A. Trueblood
Nadine R. Horenstein



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Abstract

The Ivory Coast, a West African coffee and cocoa exporter, has import market potential based upon one of the highest rates of real economic growth on the African continent. Because of this income growth, as well as a higher than average population growth rate and increasing urbanization, imported agricultural commodities have risen to meet the nation's growing food needs. In 1983, Ivorians spent $310 million for agricultural imports, up from $133 million in 1973. France now dominates agricultural trade. However, the United States can expand its sales, which since 1970 have represented 2-7 percent of Ivory Coast's total agricultural imports, if it adopts innovative marketing approaches such as labeling in French and packaging in metric quantities. Premixed feed grain products, tobacco, and preserved milk have the greatest prospects for U.S. export growth in the next 5 years.

Keywords: Ivory Coast, debt situation, cocoa, coffee, agricultural production, food imports, market shares, food import projections.

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Note

Use of company names in this publication is for identification only and does not imply endorsement by the U.S. Department of Agriculture.

Washington, DC 20005-4788

September 1986

Preface

Expanding the market for U.S. agricultural exports is a major goal of the U.S. Department of Agriculture (USDA). The Economic Research Service in cooperation with the Foreign Agricultural Service is preparing export profiles for a number of potential markets for U.S. agricultural products. The Economic Research Service is USDA's major source of agricultural and trade information on foreign countries and regions, while the Foreign Agricultural Service has the key role in helping U.S. agriculture further increase exports in world markets.

This report presents information on the prospects for U.S. agricultural exports to the Ivory Coast. The study surveys factors underlying agricultural supply and demand, presents longrun projections of food and agricultural trade, and suggests opportunities for export expansion. This report is intended for officials responsible for export market development programs, the agribusiness community, and the general public. The profile will also help identify information gaps and can serve as a basis for subsequent evaluations of the effects of market extension activities. Similar profiles have been or will be prepared for selected markets in Africa and the Middle East, Asia, and Latin America.

Conversion chart

This report uses metric units throughout:
1 kilogram = 2.2 pounds
1 metric ton = 2,204.62 pounds
1 kilometer = 0.621 mile
449 Communaute Financiere Africaine (CFA) = 1 U.S. dollar (1985 average)
50 CFA = 1 French franc (fixed rate)

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Summary

The Ivory Coast is a West African cocoa- and coffee-exporting nation with import market potential based on one of the highest rates of real economic growth on the African continent. Because of this income growth, as well as a higher than average population growth rate and increasing urbanization, imported agricultural commodities have risen to meet the nation's growing food needs. In 1983, Ivorians spent $310 million for agricultural imports, up from $133 million in 1973.

As a former colonizer, France dominates agricultural trade, enjoying many natural advantages over other competitors. However, its market share has decreased since 1970, with intense competition coming from other suppliers. The United States can expand its sales, which since 1970 have represented 2-7 percent of Ivory Coast's total agricultural imports, if it adopts innovative marketing approaches. Some of these measures include labeling processed goods in French, packaging in metric quantities, and working closely with the Ivory Coast Government on import licensing requirements. The brightest prospects for U.S. sales are in the areas of expanded tobacco exports, processed foods, and premixed grains for the growing poultry industry.

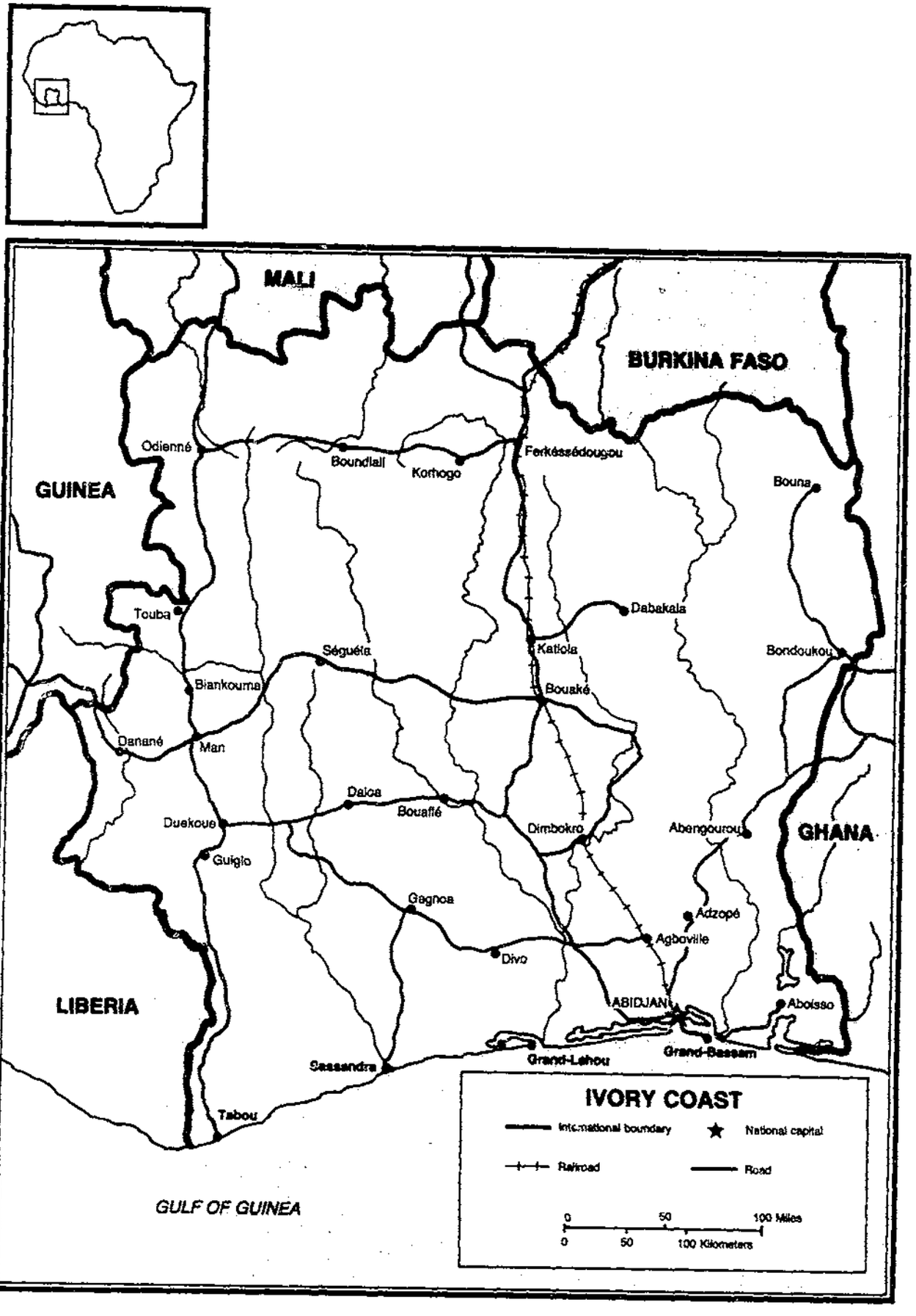
Projections presented in this report show that by 1990, rice imports could reach 557,000 tons, and wheat imports 309,000 tons. For some of the higher value items, vegetable imports could reach 52,000 tons; meat imports 15,000 tons, and milk product imports 84,000 tons. The United States as of yet has not broken into these markets, except for rice. American rice, because of its high quality, is considered a preferred item. However, the high dollar priced the U.S. rice out of the market in recent years, but has started to decline. This decline, in addition to the U.S. Food Security Act of 1985 (with a provision leading to an effective reduction in U.S. rice prices on world markets), promises hope for U.S. rice exports.

Despite the fact that the Ivory Coast suffered an economic downturn from 1982 to 1984, it resumed its positive growth in 1985 due to an excellent cocoa harvest and high coffee prices. However, the country's large foreign debt, incurred in the late 1970's with the hopes of exploiting offshore oilfields, will continue to overshadow the economy. Even though the country undertook a structural adjustment program with the International Monetary Fund (IMF), agricultural imports have continued to increase while other import items have slowed.

Thus, if the Ivorian economy remains healthy and cash crop revenues stabilize, agricultural import requirements are projected to rise through 1990.

Abbreviations

b/d	Barrels per day
BNDA	Banque Nationale pour le Developpement Agricole
CFA	Communaute Financiere Africaine
CP	Caisse de Perequation
CPI	Consumer Price Index
CSSPPA	Caisse de Stabilisation et de Soutien des Prix des Productions Agricoles
EC	European Community
EEP	Export Enhancement Program
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
GOIC	Government of the Ivory Coast
ICCO	International Cocoa Organization
ICO	International Coffee Organization
IMF	International Monetary Fund
kg	Kilograms
PRC	People's Republic of China
SCOA	Societe Commerciale de l'Ouest Africain
SITC	Standard International Trade Classification
SODERIZ	Societe pour le Developpement de la Riziculture
UN	United Nations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Duekoue
Dimbokro
Abengourou
Guiglo
Gagnoa
Adzopé
Agboville
Divo
ABIDJAN
Aboisso
Grand-Lahou
Grand-Bassam
Sassandra
Tabou
IVORY COAST
International boundary
National capital
Railroad
Road
0 50 100 Miles
0 50 100 Kilometers

The Ivory Coast:
An Export Market Profile

Michael A. Trueblood
Nadine R. Horenstein

Introduction

The Ivory Coast, a Sub-Saharan republic in tropical West Africa, has an estimated population of 10.1 million people. Since independence, the country has had one of the most stable and prosperous economies in Sub-Saharan Africa. A mark of its prosperity was a nominal gross domestic product (GDP) in 1985 estimated at $7.0 billion, or $698 per capita. Unlike many of its neighbors, this country has had a vital agricultural sector made up principally of the cash crops coffee, cocoa, timber, and rubber, which has propelled the economy forward. In addition, the discovery and exploitation of offshore oil fields has helped the country meet its energy needs.

Principal food crops grown in the Ivory Coast are rice, corn, yams, cassava, and taro. The country produces other tropical commodities, such as bananas, pineapple, and sugar. Though the Government's national development plan states food self-sufficiency as a goal, many commodities continue to be imported. These imports include basic commodities such as wheat, rice, meats, milk products, and vegetables.

Until 1980, the Ivorian economy experienced steady and rapid growth. Rapid urbanization, along with rising incomes and changing consumer tastes and preferences, spurred the demand for more and different food imports, even as aggregate domestic food production increased. The last few years were marked by economic recession. In spite of this, commercial food imports have been rising.

Objectives of this study are as follows:

- To analyze the trends in food consumption in the Ivory Coast so that agricultural imports may be carefully examined. As a means to that end, macroeconomic background information on the Ivory Coast is furnished.
- To present current Ivorian agricultural policies and production trends.
- To provide an overview of imports along with an analysis of competing suppliers of imported commodities.
- To analyze trends in food importation through use of an econometric modeling technique. The model yields trend projections for selected commodities based on various hypothetical scenarios.
- To identify strategies for expanding U.S. agricultural exports to the Ivory Coast.

The Ivory Coast's Economy: Past and Present

The Ivory Coast, a West Africa nation with a population of 10.1 million people, is located on the Gulf of Guinea between Liberia and Ghana. Agriculture traditionally has played a dominant role in its economy: today more than 85 percent of the population work in agriculture or forestry. Since its independence from France in 1960, it has retained many of its trading ties with France and French remains the official language. This former French colony has a land size of 323,500 square kilometers (124,503 square miles), roughly the size of the State of New Mexico. Its capital is Abidjan, a coastal city with an estimated 2.1 million people in the metropolitan area.

Strategy for Development

The economic malaise of recent years notwithstanding, few countries in Sub-Saharan Africa can claim as impressive a record as the Ivory Coast in terms of political stability and economic growth. Under the leadership of President Felix Houphouet-Boigny, the country has maintained an open economy, welcoming inflows of foreign capital, labor,

and expertise. Recognizing the primacy of agriculture in the economy, the Government of the Ivory Coast (GOIC) chose to focus on exploitation of the country's comparative advantage in the production and export of tropical agricultural products. At the same time, it pursued a strategy of self-sufficiency for certain foodstuffs such as rice, corn, and root crops. The Ivory Coast Government views strong agricultural development as essential to its twin national goals of balancing regional development and slowing rural migration to the cities. Favorable market conditions persisted through 1977 for coffee and cocoa, two of its major export crops, which contributed to the rapid growth rates of the agricultural sector and of overall gross domestic product (GDP).

The Decade of the 1970's

For the purpose of this report, macroeconomic development is divided into two periods: the decade of the 1970's, and the recent period to 1985. High growth rates in real GDP were a mark of the 1970's: growth averaged 5.8 percent (table 1, fig. 1). During this period real per capita GDP increased slightly as well (fig. 2). Foreign exchange reserves peaked at $425 million in 1978 (table 2, fig. 3). Most of these gains reflected the high world prices for cocoa and coffee, principal Ivory Coast export commodities.

The Government modified its development strategy in the late 1970's, investing most of its earnings and exchange reserves from the commodity "boom" into long-term development projects. In addition, the country took out large foreign loans to invest in drilling of newly discovered offshore petroleum fields. These debts were incurred with the hope that they could be easily repaid once oil exportation began.

The Current Situation

The 1980's have brought mixed fortunes to the Ivory Coast, due to many external factors. The early 1980's were particularly harsh. World interest rates rose sharply, and the French franc (to which the Communaute Financiere Africaine [CFA] franc is tied) began depreciating against the U.S. dollar (fig. 4). This latter event increased the cost of servicing the Ivory Coast's dollar-denominated debt. Also, world cocoa and coffee prices had already begun their descent when drought set in in 1982, exacerbating a decline in export earnings (fig. 5).

In addition, the world oil glut placed downward pressure on petroleum prices in 1981, erasing any illusions of becoming a wealthy oil-exporting nation. However, this did not matter, as oil output has disappointed previous expectations, not yet even meeting domestic consumption needs. In 1985, the two producing fields, operating in joint ventures with the Ivorian Government by the Phillips Petroleum Company and Exxon Corporation, respectively, combined to produce only 1 million tons (or 20,000 b/d), as opposed to the domestic consumption level of 1.5 million tons (or 30,000 b/d) (1).[1] Even though oil prices have dropped sharply at present, it is not likely that these offshore ventures will be abandoned, considering the sizable sunk costs involved.

From 1982 to 1984, the Ivory Coast suffered 3 consecutive years of negative real growth in the 4- to 5-percent range (table 1, fig. 1). The petroleum sector (though disappointing) and other new industrial sectors stimulated the economy in these years, but were not enough to offset the declines in the agricultural sector. In 1985, with improved world conditions affecting Ivory Coast's agricultural sector, the country rebounded to a positive 4-percent growth rate, according to preliminary estimates.

The most serious economic problems confronting the Ivory Coast have continued to be its foreign debt and balance of payments deficits. Though the Government's estimated $7 billion total outstanding debt is small compared with some Latin American countries, it is one of the largest external debts on the African continent (fig. 6). Since 1983, the Ivory Coast has nearly every year rescheduled its medium- and long-term debt with its official and private creditors, the so-called "London" and "Paris" Clubs (1, 5). This has been due to disappointing oil output and the fact that exchange reserves have been depleted. Though the Ivory Coast's economic situation improved in 1985, these large debts will likely overshadow the economy over the next few years.

The balance of payments has been equally troubling for the Ivory Coast in recent years. Since 1981, the Ivory Coast has negotiated relief programs with the International Monetary Fund (IMF), which in turn has called for structural adjustments in the Ivory Coast (table 3) (2, 5). The Ivory Coast has historically enjoyed a surplus in its balance of trade, but has suffered current account deficits because of large net outflows of remittances and services, mainly due to a French expatriate population working for the Government. In 1985, the country finally achieved a positive current account balance, mostly due to

[1]Italicized numbers in parentheses refer to items cited in the References at the end of this report.

Table 1—Index of Ivory Coast's basic economic indicators, 1970-85

Year	Nominal GDP[1]	GDP deflator	Real GDP	Real GDP growth in CFA	Official exchange rate	Real GDP	Population[2]	Nominal per capita GDP	Real per capita GDP	CPI[3]
	Billion CFA	*1975 = 100*	*Billion CFA*	*Percent*	*CFA/$US*	*$ Million*	*Thousands*	*1,000 CFA*	*1,000 CFA*	*1980 = 100*
1970	415	65	635	7.0	278	2,288	5,427	76.5	117.1	32.3
1971	440	65	677	6.5	227	2,442	5,700	77.2	118.7	31.8
1972	472	66	717	6.0	252	2,843	5,974	79.0	120.0	31.9
1973	566	75	758	5.7	223	3,404	6,243	90.7	121.4	35.4
1974	739	95	780	2.8	241	3,241	6,502	113.7	119.9	41.6
1975	835	100	835	7.1	214	3,894	6,758	123.5	123.5	46.4
1976	1,114	119	938	12.4	239	3,924	7,033	158.4	133.3	51.9
1977	1,539	158	973	3.8	246	3,961	7,320	210.3	132.9	66.2
1978	1,783	167	1,069	9.9	226	4,737	7,621	234.0	140.3	74.8
1979	2,000	184	1,089	1.9	213	5,119	7,934	252.1	137.2	87.2
1980	2,217	191	1,160	6.5	211	5,489	8,259	268.4	140.4	100.0
1981	2,323	200	1,160	.1	272	4,271	8,597	270.2	135.0	108.8
1982	2,493	224	1,115	-3.9	329	3,393	8,948	278.6	124.6	116.8
1983	2,653	249	1,067	-4.3	381	2,799	9,314	284.8	114.5	123.7
1984	2,924	282	1,037	-2.8	437	2,373	9,695	301.6	106.9	129.0
1985[4]	3,162	293	1,078	4.0	449	2,399	10,090	313.4	106.8	131.6

[1]GDP = gross domestic product.
[2]All per capita statistics throughout this study are based on this population series, which was furnished by the U.S. Census Bureau.
[3]CPI = Consumer Price Index.
[4]All 1985 data are estimates.

Sources: 1970-81—Data (exclusive of exchange rates and CPI) are from (*15*).
1982-85—Preliminary data are from (*5*).
1970-85—Data for exchange rates and CPI are from (*4*).

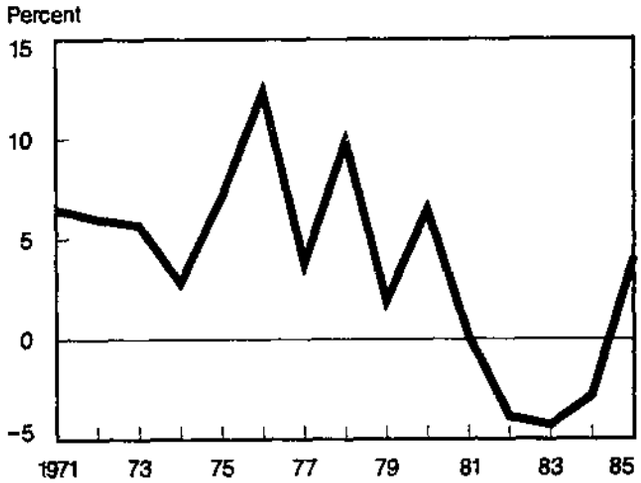
boosted export earnings and a continued contraction of imports.

There were, of course, conditions attached to IMF relief. The structural adjustments involved various measures. Among these measures were cutbacks in public spending and attempts at increasing revenue by 20 percent. Most of the revenue increase was to come from anticipated profits from the nation's agricultural producer price stabilization board, Caisse de Stabilisation et de Soutien des Prix des Productions Agricoles (CSSPPA), in light of increased world prices for key export crops. Subsidies for retail items were eliminated and some value-added taxes were introduced. Short-term loans were prohibited, salaries remained frozen until 1984, and major cuts were made in capital investment spending. In addition, Government enterprises (parastatals) were turned over to the private sector (3).

The Agricultural Sector

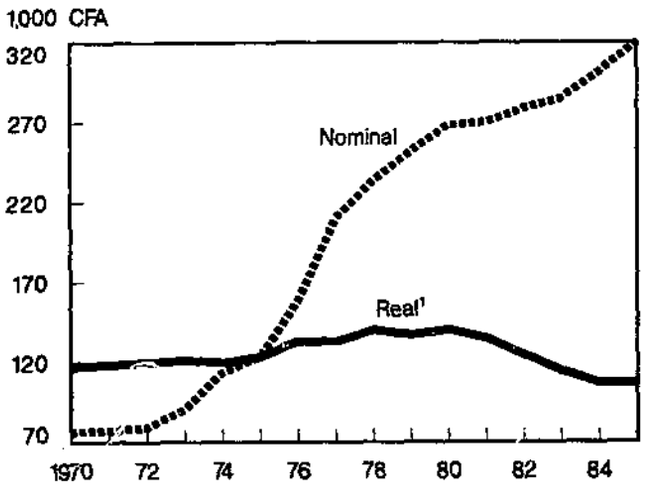
The Ivory Coast possesses diverse natural resources and a climate conducive to high agricultural production. Agriculture, which includes the forestry industry, remains the key economic sector, generating one-fourth of GDP and over three-fourths of the nation's total export earnings. The Government lends

Figure 1
Ivory Coast Real GDP Growth, 1971-85



Source: Derived from table 1.

Figure 2
Ivory Coast Per Capita GDP, 1970-85



1/ Deflated by GDP deflator. Source: Derived from table 1.

Figure 3
Ivory Coast Foreign Exchange Reserves, 1970-84

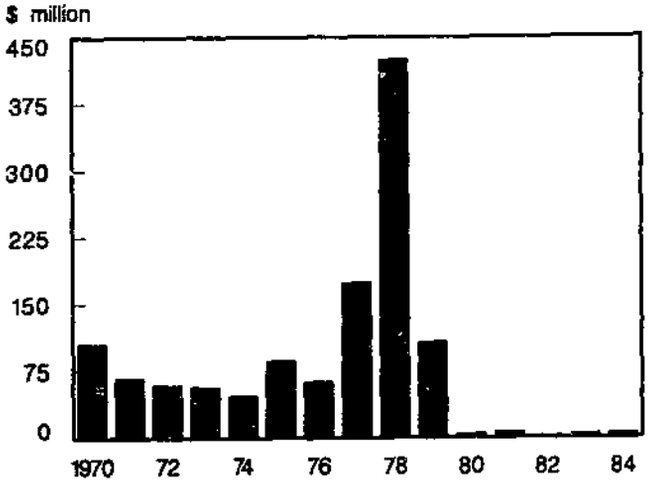


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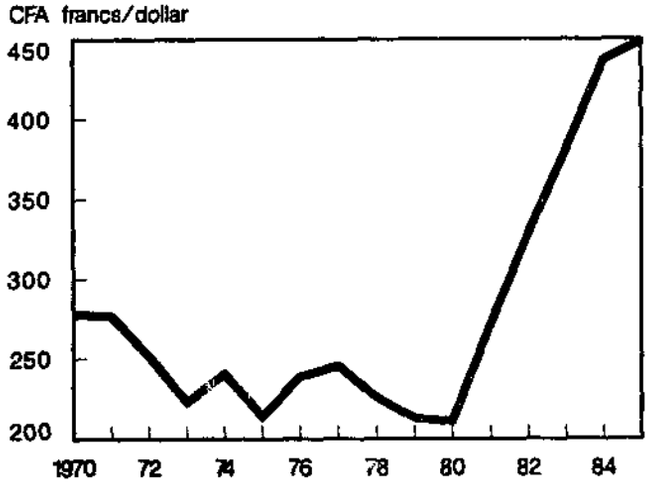
Figure 4
CFA Franc to $U.S. Exchange Rate Comparison, 1970-85



Source: (4).

Table 2—Ivory Coast's trade and debt statistics, 1970-85

Year	Merchandise exports[1]	Merchandise imports	Balance of trade	Net services	Net transfers	Current account	Exchange reserves	Outstanding debt disbursed[2]	Debt service[2]	Food imports	Food imports as proportion of merchandise imports
	$ US million										Percent
1970	497	375	122	(140)[3]	(20)	(38)	105	256	39	70	16.7
1971	496	400	96	(174)	(27)	(105)	67	352	45	78	19.4
1972	596	460	136	(204)	(28)	(97)	59	399	58	92	20.0
1973	862	701	161	(311)	(69)	(219)	57	580	72	142	20.3
1974	1,253	894	359	(327)	(93)	(61)	47	693	115	150	16.8
1975	1,239	1,012	227	(464)	(141)	(379)	86	943	131	139	13.8
1976	1,735	1,161	574	(564)	(259)	(249)	63	1,172	178	142	12.3
1977	2,412	1,597	815	(693)	(300)	(178)	174	1,903	277	216	13.5
1978	2,616	2,043	573	(994)	(419)	(839)	425	2,830	398	267	13.1
1979	2,723	2,233	489	(1,301)	(572)	(1,383)	107	3,707	598	316	14.2
1980	3,013	2,614	399	(1,520)	(706)	(1,827)	4	4,347	871	426	16.3
1981	2,435	2,068	367	(1,299)	(479)	(1,412)	6	4,393	921	435	21.0
1982	2,453	1,847	606	(1,245)	(466)	(1,105)	2	4,947	961	363	19.7
1983	2,092	1,506	585	(1,155)	(352)	(922)	4	4,826	791	344	22.8
1984	2,591	1,314	1,277	(1,172)	(300)	(195)	5	4,835	641	275	20.9
1985[4]	2,966	1,366	1,600	(1,140)	(268)	193	5	NA	NA	NA	NA

NA = Not available.

[1]Both merchandise exports and imports are free on board (f.o.b.).
[2]After rescheduling.
[3]Numbers in parentheses are negative amounts.
[4]All 1985 data are estimates.

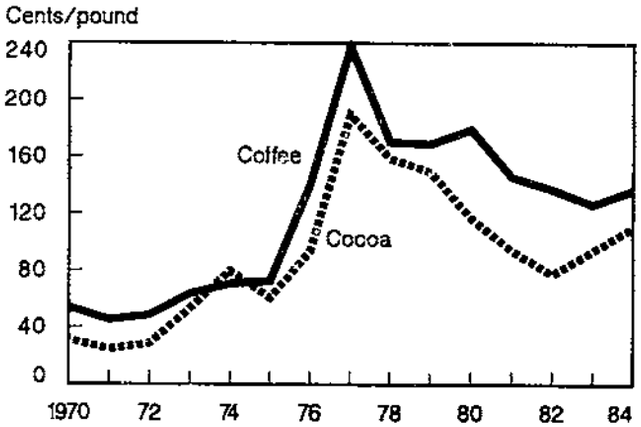
Sources: (4, 11, 16).

strong support to the agricultural sector, and in particular, to the numerous small holders through its programs of producer price subsidies, input subsidies, and agricultural extension services. Before 1977, agricultural development focused mainly on the development of individual crops. In recent years, however, the Government has shifted some of its emphases and broadened its approach to include the development of regions rather than specific commodities. Key elements in this approach include diversifying cash crop farming, encouraging food crop production, and developing and expanding facilities for agricultural processing.

The National Development Plan

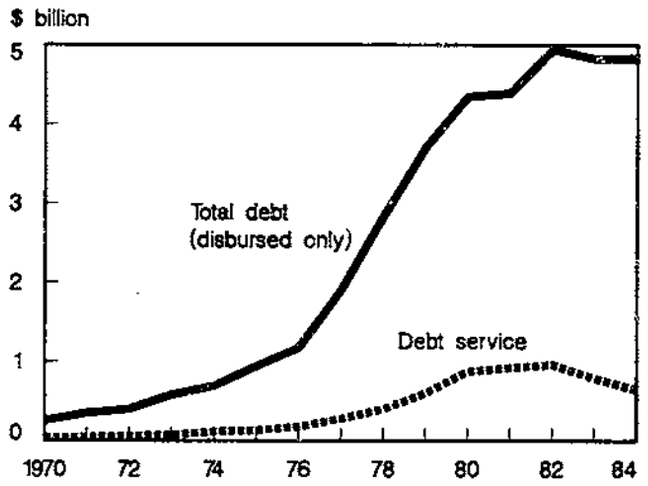
Government planning underpins actions to strengthen the nation's agricultural base. The 1981-85 Five-Year

Figure 5
World Cocoa and Coffee Price Indicators, 1970-84



Note: These prices reflect average prices for the following markets:
Cocoa – Brazil, New York/London, and Ghana
Coffee – Brazil, Colombia, and El Salvador
Source: (4).

Figure 6
Ivory Coast Debt Status After Rescheduling, 1970-84



Source: Derived from table 2.

Table 3—Ivory Coast's balance of payments, 1980-84

Item	1980	1981	1982	1983	1984[1]
			$ US million		
Current account	[2](1,832)	(1,140)	(1,024)	(926)	(191)
Trade balance	399	674	606	585	1,278
Exports[3]	3,012	2,734	2,453	2,092	2,592
Imports[4]	2,613	2,060	1,847	1,506	1,314
Net services	(1,526)	(1,317)	(1,183)	(1,165)	(1,174)
Net transfers	(706)	(497)	(447)	(346)	(295)
Capital account:					
Before debt rescheduling	1,221	592	872	280	(178)
After debt rescheduling	1,221	592	872	328	314
Official capital—					
Before debt rescheduling	868	533	823	97	(131)
After debt rescheduling	868	533	823	144	360
Private capital	188	110	134	73	69
Monetary capital	195	(36)	11	83	(200)
Other capital	(30)	(15)	(95)	27	85
Overall balance:					
Before debt rescheduling	(611)	(548)	(152)	(646)	(369)
After debt rescheduling	(611)	(548)	(152)	(598)	123
Exchange rate (CFA/$US)	211	272	329	381	437

[1]All 1984 data are estimates. [2]Numbers in parentheses are negative amounts. [3]Free on board (f.o.b.). [4]Cargo, insurance, and freight (c.i.f.).

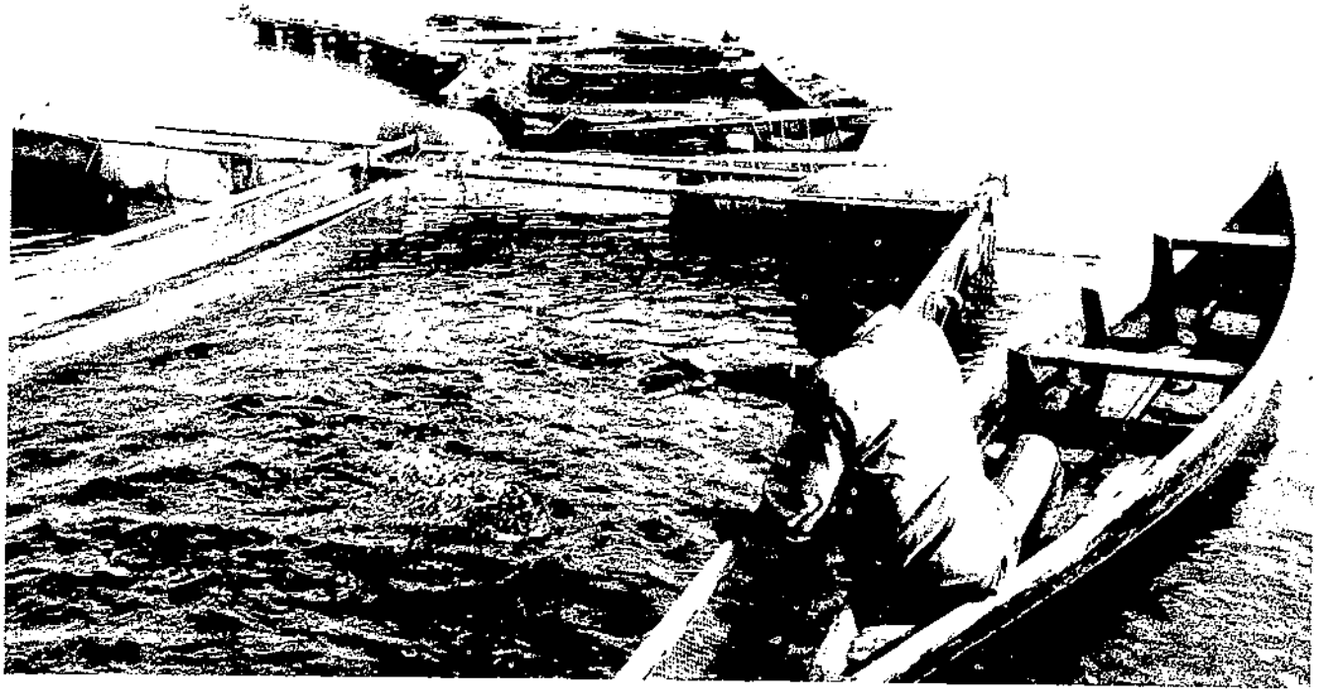
Source: (5).

National Development Plan, which was devised to promote a healthier economy, places priority on the modernization of the agricultural sector and sets ambitious production targets for all crops. As part of its strategy to attain food self-sufficiency, the Government is now offering 30,000 hectares of free land clearance to farmers provided they grow certain food crops. In addition, the Banque Nationale pour le Developpement Agricole (BNDA) has set up both subsidy and guarantee funds to encourage young people to stay in, or return to, farming.

In the 1981-85 plan, close to 15 percent of total public investment was spent on agriculture (6). Of a total 273 billion CFA francs, 64 percent was directed to export crops while 19.4 percent was channeled to food crops. Actual allocations to food crops are somewhat higher because of sizable investments in integrated development projects. The Government devoted particular attention to rice production because of the increasing concern over rice imports. As a result, investment in irrigated rice production amounted to 16 billion CFA francs. Additional investments target rainfed rice. Total paddy (or unmilled rice) was projected to increase at an average annual rate of 7.5 percent between 1980 and 1985 and 11.3 percent between 1985 and 1990, compared with an average annual increase of 6.4 percent between 1970 and 1980. For the 1980 to 1984 period, actual paddy production increased at 6.8 percent per year.

According to the plan forecast, by 1990 rice will become an even more important part of the Ivorian diet, representing 33.5 percent of the caloric intake, compared with 25.1 percent in 1980. Given these trends, the plan projects rice imports to rise to as high as 500,000 tons by 1990 (in 1983, imports peaked at 382,000 tons). Consumption of pulses, roots, and tubers is expected to decline, representing 39.4 percent of caloric intake in 1990 against 51.3 percent in 1980. To narrow the gap between domestic supply and demand, the plan proposes to offer incentives to both producers and consumers of traditional foodstuffs, to use all production factors more efficiently, and to reduce food losses associated with all aspects of the food chain.

The plan also envisages important increases in meat, poultry, and fish production. In 1980, under 20 percent of beef consumption was met by domestic output. By promoting industrial ranching and establishing several fattening units, the Government projects that domestic beef production will reach 40 percent of consumption requirements by 1990. The country is basically self-sufficient in pig and poultry production. To increase the proportion of domestically produced fish in relation to total fish consump-



Fresh water fish, a leading source of protein for Ivorians, are "farmed" in an artificial lake near the city of Bouake.

tion, action has been taken to cultivate or "farm" fish in rivers and lagoons.

Crop Trends and Policies

Overall, Ivory Coast's agricultural sector has performed well relative to the rest of Sub-Saharan Africa (table 4). While Sub-Saharan Africa has received much publicity for its recent famine and declining per capita food production, the Ivory Coast has run counter to this trend. Food production per capita has actually increased consistently over time in the Ivory Coast; agricultural production (which includes nonfood crops) has generally increased as well, albeit with more fluctuation (12).

The Ivory Coast leads the world in the production and export of cocoa, and ranks third as a producer and exporter of coffee (table 5) (10, 11). Favorable growing conditions and buoyant world prices for these commodities through 1977 had provided much of the impetus for output expansion and allowed the CSSPPA, the nation's agricultural producer price stabilization board, to use export profits to finance a special investment and equipment budget as well as to subsidize inputs to farmers.

Since 1978, world prices for both cocoa and coffee started to slacken (fig. 5). In 1980, the International Cocoa Organization (ICCO) was formed by major cocoa-producing nations in an effort to control world supplies and prices. Dissatisfied with the pricing range and buffer stock policies desired by other producing nations, the Ivory Coast did not join this cartel. The cartel agreement negotiated in 1980 expired in July 1986. The Ivory Coast announced in March 1986 that it would again not participate in the cartel, ending speculation by other producing and consuming countries and putting downward pressure on world prices. This price fall was later eased when the Ivory Coast announced it would reconsider its position (2). Current ICCO negotiations will influence cocoa prices for the next few years.

Though cocoa prices fell more than 50 percent between 1977 and 1982, they did rebound slightly in 1983 and 1984. This increase was due to reduced world supplies brought on by drought, which led to reduced harvests in the Ivory Coast as well as neighboring countries Ghana and Nigeria (10, 12). However, the Ivory Coast has produced abundant crops the past two growing seasons (1984/85 and 1985/86), which have been of exceptional quality. These factors have boosted the Ivory Coast's export earnings.

The Ivory Coast joined the International Coffee Organization (ICO), a cartel that was formed in 1963, and continues to be an active member. The Ivory Coast produces the *robusta* type of coffee bean. This bean is used primarily for producing instant coffees. *Robusta* coffee is considered lower in quality and its price is lower, but follows similar price patterns of higher quality *arabica* coffee.

World coffee prices, like cocoa prices, began to drop in 1978. The drop continued until the 1985/86 season when prices rebounded as a result of coffee crop shortages. The shortages were brought on by drought in Brazil, the world's largest producer and exporter. Prices have risen so high during the 1985/86 season that ICO cartel quotas have been suspended, thus allowing each country to export as much coffee as possible. This misfortune to Brazil has indirectly benefited the Ivory Coast's export earnings. The coffee price upturn, coupled with recent strong cocoa exports, has meant that the Ivory Coast is currently enjoying an unusually large balance of trade surplus.

The Ivory Coast produces a host of other important crops for export and domestic consumption (table 5). They include fresh and processed pineapples, sugar, bananas, and cotton. Timber and rubber are also key foreign exchange earners.

Table 4—Indices of agricultural production: Ivory Coast and Sub-Saharan Africa, 1970-85

	Ivory Coast		Sub-Saharan Africa	
Year	Per capita agricultural production	Per capita food production	Per capita agricultural production	Per capita food production
		1976-78 = 100		
1970	96	90	108	107
1971	105	99	105	104
1972	97	86	104	101
1973	88	88	98	96
1974	101	97	99	98
1975	107	102	100	100
1976	100	95	101	101
1977	96	102	100	100
1978	104	103	99	99
1979	108	112	99	99
1980	120	118	99	99
1981	113	120	99	99
1982	107	111	97	98
1983	89	104	90	90
1984	114	120	91	90
1985	114	121	96	96

Source: (12).

Rice is the principal grain produced and consumed in the Ivory Coast. The grain has become a staple for much of the urban population and is also popular in rural areas due to its ease of preparation and storage. The composition of rural and urban diets is shown in table 6. Although rice production has risen steadily, it has not increased rapidly enough to keep pace with accelerating per capita consumption (table 7). The result is that the Ivory Coast meets more than half of its current rice consumption through imports.

Because rice figures so prominently in the Ivorian diet and has become increasingly necessary to import, the Government has played an active role in price and trade policy. During the 1973-74 period, when world rice prices more than doubled, domestic substitution for imports became a priority (fig. 7). Consumer and producer prices were increased significantly, and as domestic production increased, imports dropped to virtually nil in 1975 and 1976. The net result was that per capita consumption fell.

Government intervention exacted a toll, however. The high producer prices had the effect of creating large Government-held stocks, while the high retail prices limited demand. To cut down on storage costs, the Government lowered the retail price but

Table 5—Production of major food and export commodities, 1970-85

Year	Food crops							
	Paddy rice	Corn	Millet and sorghum	Manioc (cassava)	Yams	Plantains	Cocoyams (taro)	Poultry meat
	1,000 metric tons							
1970	215	231	44	540	1,551	650	183	9
1971	262	280	45	567	1,555	670	189	9
1972	217	226	45	585	1,525	690	195	10
1973	228	232	45	625	1,624	660	200	10
1974	274	240	46	623	1,680	720	206	11
1975	340	360	60	939	2,172	1,168	263	12
1976	315	335	55	990	2,032	1,118	257	14
1977	325	350	56	977	1,893	1,058	260	16
1978	345	360	60	1,056	1,984	1,123	275	18
1979	365	375	61	1,112	2,068	1,178	287	20
1980	350	380	63	1,253	2,340	1,223	297	24
1981	390	415	62	1,218	2,220	1,278	205	28
1982	420	470	55	1,230	2,540	1,320	202	30
1983	360	410	43	1,210	2,450	1,150	295	30
1984	514	520	63	1,250	2,470	1,000	260	35
1985	570	530	68	1,520	2,600	1,300	300	37

Year	Export crops						
	Coffee	Cocoa beans	Rubber	Raw sugar	Cotton	Bananas	Pineapples
	1,000 metric tons						
1970	261	193	10	0	14	179	113
1971	268	222	12	0	20	188	139
1972	303	179	13	0	21	212	203
1973	197	208	15	0	22	177	243
1974	270	242	15	5	23	208	228
1975	316	231	15	22	26	192	240
1976	292	232	17	32	31	147	267
1977	187	303	18	32	41	167	242
1978	284	312	19	52	47	197	312
1979	238	379	22	103	59	169	303
1980	365	412	23	135	56	169	306
1981	250	456	22	166	57	151	233
1982	271	360	27	187	64	132	201
1983	85	405	35	126	58	125	181
1984	275	552	41	112	87	148	227
1985	270	525	43	138	87	170	270

Source: (12); Rice and corn data come from the revised series of this publication.

In the Bouake marketplace, a vendor displays avocados, papayas, bananas, mangoes, pineapple, and other tropical produce grown in the Ivory Coast.

maintained the producer price, thereby subsidizing domestic production. In 1981, the Government tried to reduce its subsidy payments by cutting producer prices, but when output dropped, previous prices were quickly reinstated. Since 1977, with the dissolution of the state rice marketing agency, Societe pour le Developpement de la Riziculture (SODERIZ), effective marketing of domestic rice production has broken down, and imports have been increasingly needed to supply urban markets (*13*).

Despite the subsidy's drain on the budget, the Government continues to encourage rice production through inducements. For example, it increased producer prices in 1982/83, and since then farmers who plant more than half a hectare receive free

Table 6—Composition of Ivorian diets, 1980

Region	Annual per capita consumption							
	Wheat	Rice	Corn	Other cereals	Yams	Manioc (cassava)	Bananas	Cocoyams (taro)
	Kilograms							
Rural area average	11.6	39.9	25.4	6.3	189.2	155.4	162.4	34.0
Forest	11.4	40.0	17.8	*	155.5	186.4	226.4	47.0
Savannah	12.0	39.8	39.8	20.8	266.3	84.6	16.8	4.3
Urban area average	40.2	74.2	17.5	7.9	73.1	81.3	90.2	12.9
Forest	31.2	48.4	21.2	8.0	103.8	96.5	154.9	29.5
Savannah	25.5	60.6	41.7	23.2	102.7	44.3	25.0	9.8
Bouake	39.0	90.5	14.5	6.5	120.4	76.9	45.4	8.0
Abidjan	49.5	91.6	10.5	4.9	38.4	79.5	62.9	3.2
National average	22.9	53.5	22.6	7.2	144.6	124.7	131.3	25.1

* = Insignificant.

Source: (*6*).

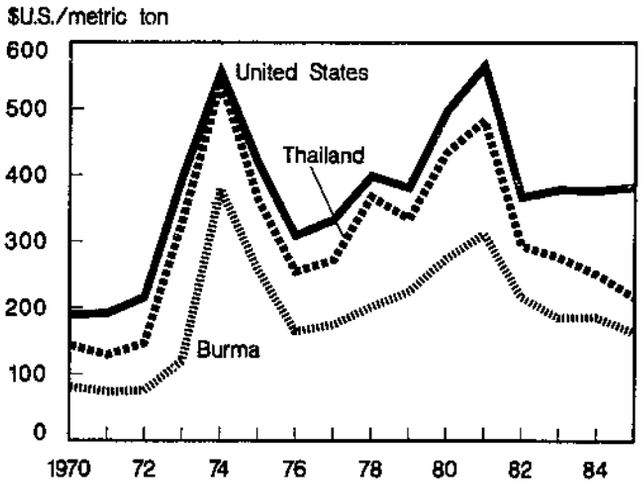
rice seed and fertilizer. The retail price of 160 CFA francs per kilogram (kg) compares favorably with that of other commodities. A number of rice production projects have been established, mainly in the northern regions. To date, they have not produced competitively priced rice relative to international import prices. The Government, however, justifies these investments as a means of achieving a better regional distribution of income and improving the nation's trade balance.

Wheat is not grown in the Ivory Coast, but bread is a popular and inexpensive food item in both urban and rural areas. Thus, the growing demand for wheat has caused wheat imports to climb in recent years (tables 8 and 9). The Government sets the retail prices of wheat flour and bread. Price fixing has become a politically sensitive issue, since profit margins for bakers have been squeezed in recent years due to rising costs. Only lately have bakers been permitted to reduce the weight of a loaf of bread without lowering the price (14).

Corn is becoming an increasingly important grain crop in the Ivory Coast; its production has nearly tripled since 1970. Most is used for human consumption, with some used as feed for the country's growing poultry industry. The Ivory Coast grows millet and sorghum in modest quantities.

The production of roots and tubers plays an important part in the Ivorian diet. Yam output exceeds the production of any other agricultural commodity, with production estimated at a record-high 2.6 million tons in 1984. Other important crops are cassava (or manioc), with 1.1 million tons produced in 1984, and taro (or cocoyams) with 230,000 tons grown in 1984.

Figure 7
World Rice Prices, 1970–85



Source: (4).

Table 7—Milled rice consumption and prices, 1970-84

Year	Lagged production	Imports	Consumption	Per capita consumption	Producer prices	Nominal retail prices	Real retail prices (1970 CFA)
	Metric tons			*Kilograms*	*CFA/kilograms*		
1970	127,740	78,785	206,525	38.1	22	55	55
1971	133,230	97,248	230,478	40.4	22	50	50
1972	162,320	77,119	239,439	40.1	28	50	51
1973	134,490	147,918	282,408	45.2	28	63	54
1974	141,240	72,955	214,195	32.9	65	116	85
1975	169,900	1,636	171,536	25.4	65	108	71
1976	210,800	2,315	213,115	30.3	65	100	62
1977	195,300	121,382	316,682	43.3	65	100	44
1978	201,500	126,336	327,836	43.0	65	100	40
1979	213,900	197,566	411,466	51.9	65	100	33
1980	226,300	168,411	394,711	47.8	50	110	30
1981	217,000	335,278	552,278	64.2	60	130	34
1982	241,800	356,742	598,542	66.9	60	130	32
1983	260,400	382,625	643,025	69.0	80	150	36
1984	223,200	320,799	543,999	56.1	80	NA	NA

NA = Not available.

Sources: (9, 12, 13).

Production of Livestock, Poultry, and Fish

During the 1970's, consumers increased their demand for red meat. Beef's share of red meat consumption stands roughly at 75 percent, while goat and mutton's share is 20 percent, and pork 5 percent. One study showed that while the kinds of red meat consumed remained constant during the 1970's, the supply sources changed (*8*). Domestic production currently accounts for roughly one-fourth of red meat supply. During the mid-1970's, however, a dramatic shift took place in which frozen beef imports from non-African countries began replacing live animal imports from neighboring nations. This shift was a response to the Sahelian drought, in which livestock producers minimized losses by slaughtering their herds in the short run, but which created a longer term supply shortage in the late 1970's. In the early 1980's, Ivorians increased their meat supplies from neighboring countries while also rebuilding their domestic herds. Drought in 1983-84 once again led to heavy slaughtering. Consequently, meat supplies

Table 8—Ivory Coast: Value of selected, total food imports and exports, 1970-84

Year	Imported commodities							
	Rice[1]	Wheat	Milk	Meat	Vegetables	Fish	Other	Total*
					$1,000			
1970	7,321	7,614	6,599	1,963	4,312	2,319	22,666	52,794
1971	7,931	2,798	7,692	2,213	4,138	4,339	23,167	52,278
1972	8,728	7,194	8,256	3,676	4,846	8,057	23,665	64,422
1973	38,996	13,413	12,646	1,729	7,721	11,806	38,131	124,442
1974	34,313	9,785	16,840	3,262	8,743	22,262	39,578	134,783
1975	1,008	12,705	16,131	9,748	9,731	31,705	40,351	121,379
1976	1,545	20,772	24,315	16,317	11,437	26,995	30,105	131,486
1977	32,703	25,175	33,093	22,216	14,296	28,540	43,560	199,583
1978	41,720	29,580	44,859	29,355	15,614	37,407	48,882	247,417
1979	75,950	27,176	50,843	31,669	17,960	54,915	27,379	285,892
1980	61,824	42,598	54,249	25,460	NA	NA	NA	384,752
1981	128,717	41,295	66,950	24,941	20,017	79,782	18,381	380,083
1982	104,147	33,990	50,410	26,649	18,704	76,882	12,909	323,691
1983	94,334	36,028	47,226	16,507	16,736	65,261	9,387	287,479
1984	78,346	34,574	42,901	NA	NA	58,984	NA	NA

Year	Exported commodities						
	Coffee[2]	Cocoa[2]	Fruits and vegetables	Animal, vegetable oils	Sugar and preparations	Other	Total*
				$1,000			
1970	162,252	115,243	26,203	3,835	94	4,155	311,782
1971	158,094	95,209	28,189	7,634	65	5,118	294,309
1972	151,099	108,628	39,065	9,431	305	4,956	313,484
1973	203,818	151,981	50,058	16,875	509	9,723	432,964
1974	275,125	310,195	68,035	65,381	679	26,911	746,326
1975	297,553	288,483	67,562	49,886	319	12,591	716,394
1976	562,087	381,292	64,912	33,883	512	20,306	1,062,992
1977	818,173	527,818	64,248	44,641	1,299	21,989	1,478,168
1978	609,683	895,417	87,711	62,256	3,191	21,903	1,680,161
1979	812,314	689,422	81,136	54,302	4,419	22,237	1,663,920
1980	685,410	923,869	NA	NA	NA	NA	NA
1981	485,646	857,565	120,510	46,632	35,162	32,598	1,578,113
1982	507,383	610,190	83,556	42,986	26,973	31,979	1,303,047
1983	452,368	524,759	61,533	47,316	16,695	38,915	1,141,586
1984	417,000	902,500	NA	NA	NA	NA	NA

NA = Not available.

* = Includes the following commodities or commodity groups: live animals; meat and preparations; dairy products and eggs; cereals and preparations; fruits and vegetables; sugar and preparations; coffee, tea, cocoa, and spices; miscellaneous food preparations; beverages; oil seeds, nuts, kernels; and animal and vegetable oils.

[1]For rice, wheat, milk, and meats, value for 1980 is taken from the Statistiques du Commerce Exterieur de la Cote d'Ivoire (in CFA converted to U.S. dollars). [2]For coffee and cocoa, values for 1980 furnished by Banque Centrale des Etats de l'Afrique de l'Ouest (BCEAO) (in CFA converted to U.S. dollars).

Source: (*9*).

can be expected to be much tighter for the next several years.

Estimates of meat self-sufficiency are difficult to derive. However, indicators point to domestic beef production accounting for about 20 percent of consumption, pig production accounting for over 90 percent, and goat and mutton production accounting for about 35 percent. Cattle production consists of two varieties: zebus, or humped cattle (Bos Indicus), and taurins, or humpless cattle (Bos Taurus). Both species are raised mainly in the northern savannah, with the zebus very susceptible to disease. Most of the pig production takes place in the traditional sector, although some commercial pig producers are using imported hybrid breeding stock, high-quality feeds, and modern techniques. Traditional methods still exist in the raising of most goats and sheep.

In the Ivory Coast, poultry is raised in villages as well as on commercial poultry farms. Poultry meat production reached 35,000 metric tons in 1984 and is estimated to cover close to 90 percent of consumption.

Fish is a leading source of animal protein in the Ivorian diet, with per capita average annual consumption estimated at 25 kg. Modern fishing vessels that operate in the Atlantic Ocean comprise the commercial salt water fishing industry of this West African state. Fishing takes place in coastal waters as well as in lagoons and rivers. Recently, however, catch levels have stagnated in coastal and inland waters because of intense exploitation and pollution. Plans are in the works to complete an artificial lake and fish ponds once construction of various hydroelectric projects is complete. The Ivory Coast

Table 8—Summary of selected food imports, by quantity and value, 1970-84

Year[1]	Wheat	Rice	Corn	Beef	Canned meat	Fish	Vegetables	Milk
				Metric tons				
1970	100,551	78,785	4,593	0	836	11,880	19,057	16,560
1971	32,158	97,248	1,639	779	699	19,496	19,398	16,658
1972	76,930	77,119	28	0	774	29,319	21,288	15,590
1973	141,854	147,918	247	150	991	50,502	22,062	20,521
1974	101,117	72,955	559	631	971	88,107	22,696	23,118
1975	79,352	1,636	126	5,841	586	94,910	26,503	16,427
1976	115,977	2,315	3,066	12,538	1,196	86,045	21,605	28,834
1977	160,264	121,382	7,903	14,440	949	77,488	28,145	58,026
1978	166,402	126,336	14,650	17,418	1,101	81,080	33,214	41,542
1979	137,234	197,566	8,565	14,371	1,016	107,213	31,677	46,654
1980	183,381	168,411	15,933	8,068	1,043	119,589	35,846	43,422
1981	213,201	335,278	24,061	9,137	1,070	131,965	40,014	56,734
1982	176,069	356,742	5,752	12,604	896	122,355	39,455	46,450
1983	211,156	382,625	3,183	8,205	658	107,627	35,887	48,451
1984	206,955	320,799	3,542	7,959	NA	120,100	NA	48,676
				$1,000				
1970	7,614	7,321	405	0	962	2,319	4,312	6,599
1971	2,798	7,931	141	1,032	851	4,339	4,138	7,692
1972	7,194	8,728	15	0	1,028	8,057	4,846	8,256
1973	13,413	38,996	50	308	1,529	11,806	7,721	12,646
1974	9,785	34,313	73	1,213	1,721	22,262	8,743	16,840
1975	12,705	1,008	57	5,792	1,448	31,705	9,731	16,131
1976	20,772	1,545	475	11,105	1,886	26,995	11,437	24,315
1977	25,175	32,703	969	15,618	2,166	28,540	14,296	33,093
1978	29,580	41,720	2,524	21,065	3,110	37,407	15,614	44,859
1979	27,176	75,950	1,764	21,170	3,114	54,915	17,960	50,843
1980	42,598	61,824	3,201	16,834	2,991	67,349	18,989	54,249
1981	41,295	128,717	5,696	17,290	2,867	79,782	20,017	66,950
1982	33,990	104,147	1,087	19,833	2,389	76,882	18,704	50,410
1983	38,028	94,334	762	11,112	1,619	65,261	16,736	47,226
1984	34,574	78,346	789	6,877	NA	58,984	NA	42,901

NA = Not available.
[1]For 1980, quantity and value are taken from the Statistiques du Commerce Exterieur de la Cote d'Ivoire.

Source: (9).

The number of cattle farms is growing in the Ivory Coast, but demand for beef outstrips production. By 1990, the country hopes to meet 40 percent of its beef consumption needs.

exports a substantial amount of tuna, offsetting the foreign exchange spent on imported fish.

Marketing, Distribution, and Processing

The private sector controls most of the food importation and distribution in the Ivory Coast. The exception is with rice, whose importation is controlled by the Ministry of Commerce. Although numerous Ivorian importers operate in the Ivory Coast, a few large French-owned or French-controlled trading companies effectively dominate the food import and distribution sector.

The CSSPPA, under the guidance of the Ministry of Agriculture, fixes the prices paid to farmers for most agricultural products, supervises their domestic distribution, and licenses their export. The prices of those commodities considered politically sensitive, such as rice, bread, and sugar, are regulated by the Ministry of Commerce through the Caisse de Perequation (CP).

With producer prices for paddy (threshed, unmilled rice) in 1984/85 set at 80 CFA francs/kg at the farmgate and 95 CFA francs/kg at the mill, the value of the processed output barely covers the costs of producing and processing the grain. The most recent data available show that the Government has had to pay a subsidy of 53 CFA francs/kg to make up the difference between the cost of purchasing and processing the paddy, estimated at 171 CFA francs/kg, and the sale price to wholesalers, officially established at 118 CFA francs/kg. In 1981/82, it was estimated that the total cost of the subsidy amounted to $8.0 million, possibly reaching $10.4 and $11.0 million in the following two seasons. Subsidies such as these are usually offset by the profit the Government, through the CP, makes on importing low-cost Asian rice. Until March 1983, rice imports were tendered for internationally, that is, bid openly on the international commodity markets. Since then, the CP negotiates directly with foreign governments to procure bulk shipments of rice.

The Government is highly conscious of the need both to assure adequate supplies of rice to its populace and to offer the proper incentives to domestic rice producers. The quantity and timing of rice imports are regulated through licensing procedures established by the Direction du Commerce Interieur. Licensed dealers buy imported rice from

the CP or domestic rice from the rice mills. They are required to have at least 1 month's rice supply in storage and must carry both imported and domestic rice.

Because the majority of the available domestically produced paddy is hand milled and either marketed locally or consumed at home, only 20 to 30 percent is delivered to the rice mills. As part of its structural adjustment programs with the IMF, the Government has turned over its rice mills and warehouses to the private trade, in the hope that such actions will spur domestic production and improve the efficiency of rice processing and marketing (*3*). Six private firms are now responsible for rice milling, although they continue to come under Government regulation.

Bread prices are also regulated by the CP. Widely consumed across the country but particularly in urban areas, bread remains subsidized. Almost all the wheat that goes into bread production is purchased by the French-controlled Grands Moulins d'Abidjan, the country's major flour mill which so far has been capable of meeting the country's needs. A second flour mill with a 40,000-ton capacity began operations in 1982, but thus far has been used little. Ivorians are the primary investors in this mill, but the U.S.-based Dreyfuss Company has also had financial involvement.

Though staple foods such as fresh fruits and vegetables, meats, fish, rice, and bread are retailed mainly in small local markets, processed foods, which are largely imported, are sold in larger grocery stores or supermarkets. Most of the major trading companies are French owned or controlled. These companies are distribution subsidiaries for French food corporations or owners of supermarket chains. The largest chain, Chaine Avion, which is owned by the French trading company Societe Commerciale de l'Ouest Africain (SCOA), controls more than 200 stores throughout the country. One advantage of this trading structure is that import items receive concessions when declared at customs. Overall, French food exports to the Ivory Coast have the advantage of less costly and more frequent shipping. And because of French labeling on food products and postcolonial trading ties, French items receive high consumer recognition.

Until 1980, a public agency was charged with procuring, wholesaling, and retailing both fresh food and nonperishable items through a chain of outlets. The agency procured food items from domestic and import sources. In 1980, however, the agency's functions were formally abolished with the hope that the private sector could operate more economically. Since a private distribution system comprising numerous small traders already existed, marketing functions continued smoothly once the agency dissolved.

Trends in Food Imports

From 1970-83, the value of Ivory Coast's food imports has increased more than fivefold.[2] This amounts to an increase from $53 million to $287 million (table 8). Although the nation has experienced a slowdown in the growth of total imports in recent years due to a general economic downturn, many categories of food imports have been unaffected and, in fact, have shown significant increases. Rice imports, particularly, have shot up since 1977.

Factors Affecting Food Import Demand

Two important forces fueling food import demand are population growth in general, and urbanization in particular. In 1985, total population was estimated at 10.1 million. While average annual population growth from 1970 to 1980 is estimated at 3.9 percent, urban growth rates during this period climbed as high as 8 percent. This urban migration trend is a direct result of the movement of rural Ivorians to the cities and the influx of foreigners from neighboring countries to the Ivory Coast's urban centers. Since the analysis in this report is based on data representing national averages, it likely masks the effect on demand of rapidly changing consumer tastes in urban centers.

As Ivorian incomes have risen, the demand for more and different kinds of food has increased (table 9). In the Ivory Coast, imports serve to either supplement domestic availability of foodstuffs (such as rice and meats) or to satisfy the demand for foods that are not produced domestically (such as wheat, dairy products, and certain kinds of processed foods).

As stated earlier, per capita food production has consistently increased in the Ivory Coast since 1970. Although rice output has moved upward significantly, the domestic production's share of total consumption has been dwindling since 1977, satisfying only about 41 percent of demand in 1984. Increased domestic production of corn, particularly since

[2]Nineteen eighty-three is the latest year for which there is complete data.

1980, has already scaled back the need for imports. As domestic beef production grows, imports' share of consumption should decrease, though still increasing in absolute terms.

According to an annual import program, imports to the Ivory Coast are subject to licensing that establishes a quota for bilateral commercial agreements. Import licenses or certificates are required for most products. These are issued and regulated by the Ministry of Economy and Finance. Rice is one of the few foodstuffs whose availability is closely monitored because of the Government's concern for ensuring a steady supply.

Market Shares

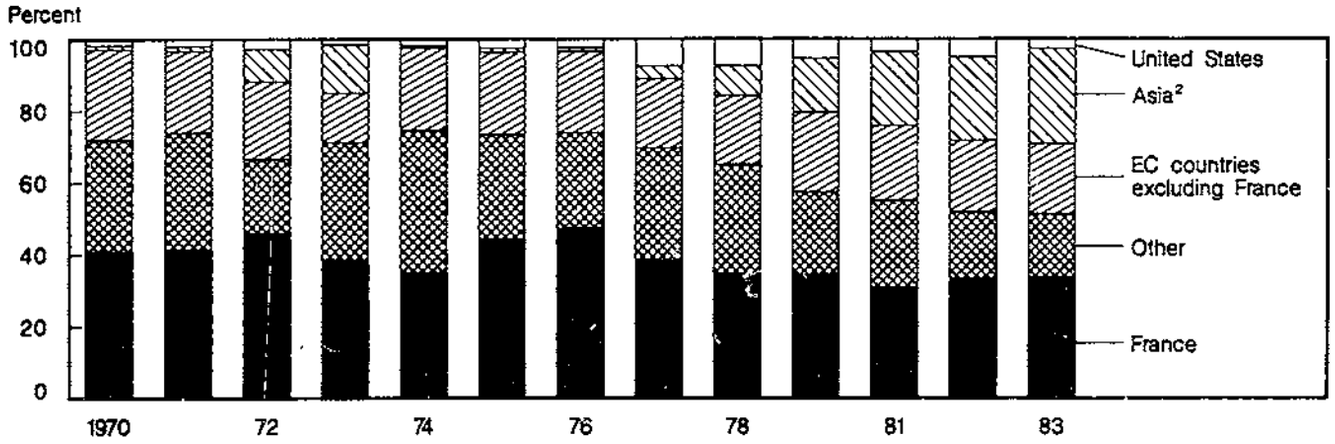
France remains the most important supplier of Ivory Coast's food imports, although other countries are beginning to compete. In 1970, France's market share stood at 40 percent, but by 1983 it had declined to 33 percent, indicating the extent to which suppliers to the Ivory Coast have diversified (table 10, fig. 8).

As a former colonizer of the Ivory Coast, France maintains many advantages over other suppliers. France and the Ivory Coast share a common language, and there still exists a French expatriate population that provides technical assistance to Ivorian Government operations. The Ivory Coast is a member of the French franc zone (CFA), which encourages trade relations with France in the face of currency fluctuations against the French franc. In addition, many of the large trading companies and businesses are either French owned or controlled and employ French nationals. In agricultural trade, the French have a virtual monopoly on wheat exports, averaging 95 percent of the market since 1970. France has also been a significant exporter of beef, fish, milk products, and vegetables.

The U.S. share of the Ivory Coast's agricultural imports has fluctuated, reaching a high of 7.5 percent in 1978, which represented $20.2 million. Since 1978, the value of U.S. exports has generally declined. In 1983, the Ivory Coast imported $8.5 million worth of U.S. agricultural commodities, or only 2.7 percent of its total agricultural imports. Taking into account that total agricultural goods cannot be aggregated on a volume basis and considering the exchange rate depreciation (CFA to the dollar) in recent years, the decline in value of U.S. exports may be deceptive.

Most of the gains for U.S. agricultural exports to the Ivory Coast have been in bulk commodities such as rice, corn, and tobacco. But in recent years, these gains have dwindled because of the dollar's high value compared with the French franc, to which the CFA franc is tied. This fact has made U.S. goods expensive for the Ivory Coast. In the case of rice, the Ivorian Government seems to have adopted a strategy of importing inexpensive, low-quality rice to insure political stability in urban areas while it reduced other import items as part of its attempt to bring its balance of payments problems under control. This action hurt U.S. rice sales in recent years, since U.S. rice exports are more expensive but of higher quality.

Figure 8
Market Shares of Agricultural Imports, 1970-83[1]



1/ Data not available for 1980 (see Appendix 2, Data Sources).
2/ Includes Thailand, People's Republic of China, Pakistan, and Burma.
Source: (9).

Table 10—Value and market shares of total agricultural imports, by selected suppliers, 1970-83

Year[1]	France	The Netherlands	Other EC	Spain	Czecho-slovakia	United States	Senegal	Mali	Burma	Thailand	Pakistan	People's Republic of China	Brazil	Argentina	Other	Total
									$1,000							
1970	24,328	5,254	9,789	304	53	1,013	3,461	592	0	297	351	6	142	234	13,989	59,843
1971	24,958	5,672	8,062	1,423	77	1,122	1,344	352	0	534	354	0	2,604	505	13,430	60,467
1972	32,751	6,596	8,852	422	61	1,916	1,716	746	0	5,364	531	0	224	133	11,623	71,535
1973	51,109	9,481	6,825	458	76	2,019	2,208	269	0	3,958	14,044	0	1,547	73	39,074	133,163
1974	51,249	12,393	21,276	1,499	103	2,427	2,815	289	0	587	570	0	2,978	56	50,562	146,804
1975	60,205	11,496	19,715	3,638	73	3,461	3,908	1,469	0	879	450	167	4,539	492	25,470	135,964
1976	69,616	19,883	13,524	1,902	802	3,347	3,645	4,000	0	992	295	368	1,124	5,724	22,129	147,353
1977	83,621	22,738	19,601	3,056	1,102	16,447	3,609	4,684	0	6,634	864	488	13,652	8,495	34,523	219,514
1978	92,642	28,761	23,045	2,342	2,995	20,156	8,182	6,490	0	505	3,886	17,963	3,000	11,413	47,927	269,327
1979	104,225	37,993	30,271	3,435	4,419	16,381	1,636	7,913	2,821	872	35,016	7,405	3,000	11,742	38,824	305,853
1980	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1981	125,520	37,572	47,541	8,981	10,213	14,353	1,943	95	24,748	16,694	42,225	910	3,076	5,174	69,007	408,052
1982	115,426	30,777	38,438	8,869	4,771	17,418	750	384	21,638	38,092	4,962	16,078	4,013	4,310	40,912	346,038
1983	104,696	18,989	41,328	14,270	4,723	8,457	903	115	17	12,291	65,094	4,931	2,053	1,192	31,339	310,398
									Percent							
1970	40.7	8.8	16.4	0.5	0.1	1.7	5.8	1.0	0	0.5	0.6	0	0.2	0.4	23.4	100.0
1971	41.3	9.4	13.4	2.4	.1	1.9	2.2	.6	0	.9	.6	0	4.3	.8	22.2	100.0
1972	45.8	9.2	12.4	.6	.1	2.7	2.4	1.0	0	8.3	.7	0	.3	.2	16.2	100.0
1973	38.4	7.1	5.6	.3	.1	1.5	1.7	.2	0	3.0	10.5	0	1.2	.1	29.3	100.0
1974	34.9	8.4	14.5	1.0	.1	1.7	1.9	.2	0	.4	.4	0	2.0	0	34.4	100.0
1975	44.3	8.5	14.5	2.7	.1	2.5	2.9	1.1	0	.6	.3	0.1	3.3	.4	18.7	100.0
1976	47.2	13.5	9.2	1.3	.5	2.3	2.5	2.7	0	.7	.2	.2	.8	3.9	15.0	100.0
1977	38.1	10.4	8.9	1.4	.5	7.5	1.6	2.1	0	3.0	.4	.2	6.2	3.9	15.7	100.0
1978	34.4	10.7	8.6	.9	1.1	7.5	3.0	2.4	0	.2	1.4	6.7	1.1	4.2	17.8	100.0
1979	34.1	12.4	9.9	1.1	1.4	5.4	.5	2.6	0.9	.3	11.4	2.4	1.0	3.8	12.7	100.0
1980	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1981	30.8	9.2	11.7	2.2	2.5	3.5	.5	0	6.1	4.1	10.3	.2	.8	1.3	16.9	100.0
1982	33.3	8.9	11.1	2.6	1.4	5.0	.2	0.1	6.2	11.0	1.4	4.6	1.2	1.2	11.8	100.0
1983	33.7	6.1	13.3	4.6	1.5	2.7	.3	0	0	4.0	21.0	1.6	.7	.4	10.1	100.0

NA = Not available.
[1]Data are not available for 1980. See Appendix 2—Data Sources, for explanation.

Source: (9).

In the area of nonbulk items, where packaging and labeling are required, the United States has not fared too well. Although the Ivory Coast can import products with English labeling, Ivorian consumers find products with French labeling and instructions much more appealing. For U.S. nonbulk items to compete successfully, labeling needs to be a consideration. In addition, selling products in metric units is likely to be more amenable to Ivorian consumers.

Historically, The Netherlands has been a stable trade partner for the Ivory Coast, supplying, on average, 9.4 percent of agricultural imports annually since 1970. Milk products and fresh vegetables make up most of the trade. As a bloc, the other European Community (EC) countries (excluding France and The Netherlands) have been a consistent supplier since 1970, averaging 11.6 percent of imports.

An emerging trading bloc, made up of the Asian countries of Burma, Thailand, Pakistan, and the People's Republic of China (PRC), has captured 21.4 percent of imports since 1979. The prominence of the Asian trade group is mostly due to stepped-up rice exports.

Ivory Coast also trades with its African neighbors. Much of the country's livestock comes from Mali. Senegal is an important supplier of fresh and frozen fish, and it is likely that unofficial trade in many other commodities takes place across national borders.

Food Import Profile

The major food items imported by the Ivory Coast are wheat, rice, meat, fish, milk, and vegetables. Together these commodities accounted for about 94 percent of total food imports in 1983.[3] All have shown rapid growth over the 14 years from 1970 to 1983, although shifts have taken place within commodity groups. In 1983, the value of wheat and rice together accounted for about 46 percent of the total food imports, compared with about 28 percent in 1970. Processed vegetable imports have now become more important than fresh vegetables, and canned or frozen meat imports have supplanted live animal imports. These trends reflect, in part, changing consumer tastes and preferences for foods that are easier and less time consuming to prepare.

Rice. During the mid-1970's, the Government attempted to use rice policy as a tool for achieving better regional distribution of income and improving the nation's trade balance. Consequently, rice imports fluctuated sharply, reflecting the Government's changing emphasis on rice self-sufficiency. Despite the Government's continued goal of self-sufficiency, consumption clearly outstrips production, forcing the nation to increase imports each year. Since 1977, the quantity of rice imports has been on a steady upward climb, peaking at 382,000 tons in 1983, with a value of $94 million (table 11). Preliminary estimates for 1984 show imports at 320,000 tons.

The United States has lost much of its market share to Asian suppliers who sell lower quality rice, containing a higher percentage of broken grains, which carries a lower price tag. The Ivorian Government made this switch to keep rice supplies plentiful at low cost, while it undertook other structural adjustment programs with the IMF. The high U.S. dollar relative to the French franc (and CFA) did not help rice exported from the United States, whose prices are generally higher than other suppliers. The U.S. market share of Ivory Coast's rice imports dropped from about 38 percent in 1978 to 8 percent in 1982. It then fell again to less than 1 percent in 1983 and 1984.

As evidence clearly shows, Asian countries have made great strides in increasing their shares of the Ivorian rice market because of their competitive pricing. In 1970, virtually no rice was of Asian origin. By 1979, Pakistan, the PRC, Thailand, and Burma were exporting large amounts of rice. Between 1979 and 1984, these four countries supplied, on average, 77 percent of Ivorian rice imports.

Wheat. Up until 1975, the quantities of wheat imported by the Ivory Coast fluctuated significantly. However, since then wheat imports have been on an upward path, with tonnage reaching 206,000 tons in 1984 (table 12). France is the dominant supplier, in some years capturing up to 99 percent of the market. Wheat from France is purchased by the French-controlled mill Grands Moulins d'Abidjan. Smaller quantities are purchased by the company's newer mill in San Pedro. Most wheat flour and bran are marketed and consumed locally, although moderate quantities of bran are reexported to France as feed. Small quantities of wheat flour are

[3]Total food imports include the following commodities or commodity groups: live animals, meats and preparations, dairy products and eggs, cereals and preparations, fruits and vegetables, coffee, tea and spices, miscellaneous food preparations, beverages, oil seeds, nuts, kernels, and animal and vegetable oils. For more information, consult table 8 of the text and item 9 of the References.

sold to neighboring countries. In the Ivory Coast, retail bread prices are subsidized, resulting in widespread consumption even in rural areas.

Corn. Corn has been imported both to satisfy domestic consumption demands and to serve as feed for the country's burgeoning poultry industry. Though the amount of imported corn is very small relative to rice and wheat, the United States has been one of the leading suppliers, exporting over 17,000 tons in 1981 (table 13). South Africa and Thailand have exported significant quantities in certain years as well. Overall, imports peaked in 1981 with 24,000 tons and have fallen below 6,000 tons since 1982. This fall is most likely due to the large increases in domestic production (table 4).

Meats. The Ivory Coast has experienced rapid growth in imports of fresh and frozen beef and of canned meat (tables 14 and 15). At an estimated average per capita consumption of 12 kg/year, however, meat consumption is still low. In the early 1970's, little beef was imported. However, beginning in 1975, imports rose in response to the Sahelian drought, peaking at $21 million in 1979 and maintaining an $11-19-million range since then. The Government is actively pursuing a domestic cattle production program, but consumer demand for beef continues to outpace supply. Even with a projected tripling of production by 1990, domestic beef is expected to account for only 40 percent of consumption. The two major beef suppliers are Argentina and France.

Table 11—Quantity and value of rice imports, by selected suppliers, 1970-84

Year[1]	United States	Italy	Thailand	Pakistan	People's Republic of China	Burma	Other	Total
				Metric tons				
1970	1,041	60,652	0	0	0	0	17,092	78,785
1971	1,317	46,145	0	0	0	0	49,786	97,248
1972	1,833	30,761	43,512	0	0	0	1,013	77,119
1973	2,027	6,237	18,276	52,027	0	0	69,351	147,918
1974	747	16,865	80	330	0	0	54,933	72,955
1975	1,442	0	0	0	50	0	144	1,636
1976	1,970	72	0	93	0	0	180	2,315
1977	42,543	992	22,263	1,962	0	0	53,622	121,382
1978	47,647	0	0	10,114	54,943	0	13,632	126,336
1979	38,707	0	0	117,555	19,751	995	20,558	197,566
1980	14,107	0	0	31,420	46,647	44,093	32,144	168,411
1981	5,710	0	40,246	111,917	0	67,289	110,116	335,278
1982	29,351	5	136,478	16,809	51,700	72,035	50,364	356,742
1983	3,279	1	44,576	270,487	19,774	52	44,456	382,625
1984	3,158	0	20,299	89,646	175,325	9,073	23,298	320,799
				$1,000				
1970	389	5,271	0	0	0	0	1,661	7,321
1971	367	3,391	0	0	0	0	4,173	7,931
1972	526	3,230	4,854	0	0	0	118	8,728
1973	943	927	2,872	13,443	0	0	20,811	38,996
1974	596	8,516	20	57	0	0	25,124	34,313
1975	936	0	0	0	27	0	45	1,008
1976	1,364	38	0	14	0	0	129	1,545
1977	14,227	305	5,999	477	0	0	11,695	32,703
1978	16,568	0	0	3,665	17,326	0	4,161	41,720
1979	13,118	0	0	35,016	6,520	2,821	18,475	75,950
1980	5,100	0	0	12,015	16,944	15,939	11,826	61,824
1981	5,193	0	15,185	42,225	0	24,748	41,366	128,717
1982	11,086	4	37,642	4,957	14,840	21,638	13,980	104,147
1983	2,144	1	12,204	65,075	3,762	17	11,131	94,334
1984	1,345	0	5,161	21,123	43,043	2,149	5,525	78,346

[1]1980 and 1984 data were supplied by Statistiques du Commerce Exterieur de la Cote d'Ivoire.

Source: (9).

Fish. Fish is the leading source of animal protein in the Ivorian diet. Average annual consumption is estimated at 25 kg per capita and is expected to increase. Domestic production meets less than 50 percent of total consumption demands, leading to the importation of more than 121,000 tons of fresh and frozen fish in 1984. The value of these imports has increased more than thirtyfold since 1970, reaching $59 million in 1984 (table 16). The U.S.S.R., France, and Senegal rank as the major suppliers.

Milk Products. There is little commercial dairy production in the Ivory Coast. However, consumer demand for milk products has risen since 1970. Most imports consist of evaporated or condensed milk which can be stored for lengthy periods without refrigeration. Some 48,000 tons of milk valued at nearly $43 million were imported in 1984, up from 16,000 tons valued at $6.5 million in 1970 (table 17). Subsidized imports from The Netherlands and France account for most. However, in recent years West Germany has emerged as a significant supplier.

Vegetables. Although the Ivory Coast produces a variety of vegetables, increased demand for more or different kinds of vegetables has led to imports of both fresh and prepared vegetables. Together, imports of these two commodity groups were valued at over $16 million in 1983, nearly quadrupling the dollar amounts of imports of 1970 (tables 18 and 19). Fresh vegetable imports consist mainly of potatoes from France and onions from The Netherlands. Tomato paste imports account for a large proportion of the prepared vegetable imports. With annual domestic consumption requirements of tomato paste estimated at 60,000 tons and domestic production averaging only 6,000 tons, it is likely that this commodity will continue to rank high on the list of vegetable imports.

Table 12—Quantity and value of wheat imports, by selected suppliers, 1970-84

Year[1]	Canada	United States	France	Other	Total
			Metric tons[2]		
1970	207	771	78,244	21,328	100,551
1971	0	3,883	28,275	0	32,158
1972	577	4,278	72,074	1	76,930
1973	455	2,800	138,251	348	141,854
1974	358	3,448	96,036	1,275	101,117
1975	530	463	77,668	690	79,352
1976	689	0	115,255	33	115,977
1977	1,037	0	151,229	7,998	160,264
1978	934	1,358	138,226	25,884	166,402
1979	1,248	0	135,910	76	137,234
1980	0	0	183,345	36	183,381
1981	1,512	2,424	209,242	23	213,201
1982	1,655	2,950	171,339	125	176,069
1983	1,777	895	208,447	37	211,156
1984	1,433	0	205,522	0	206,955
			$1,000		
1970	27	58	5,459	2,070	7,614
1971	0	380	2,418	0	2,798
1972	79	400	6,715	0	7,194
1973	73	292	13,000	48	13,413
1974	117	405	9,023	240	9,785
1975	164	51	12,331	159	12,705
1976	213	0	20,548	11	20,772
1977	304	0	23,075	1,796	25,175
1978	276	331	22,532	6,441	29,580
1979	410	0	26,745	21	27,176
1980	0	0	42,579	19	42,598
1981	552	787	39,945	11	41,295
1982	382	784	32,780	44	33,990
1983	666	237	37,110	15	38,028
1984	503	0	34,071	0	34,574

[1]1980 and 1984 data were supplied by Statistiques du Commerce Exterieur de la Cote d'Ivoire.
[2]Wheat flour is converted to wheat equivalent.

Source: [9].

Projected Import Demand

This report analyzes Ivory Coast's demand for imports of five major commodities or commodity groups: rice, wheat, milk products, meats, and vegetables, which together compose the major proportion of total food imports.[4] In the analyses that follow, the authors present findings derived from import demand equations for these five types of commodities.[5] Projections through 1995, based upon these equations, are presented in tables 20 and 21 (see page 28).

Overview

The kind of model chosen for these equations is predictive rather than descriptive. That is, more emphasis is placed upon providing basic trend analysis than upon examining historical interrelationships among variables. The explanatory variables picked to project import demand include population, per capita income, and import prices. Population growth, currently estimated at 4 percent with net immigration, is considered to be the driving force behind the projections.

[4]Although fish imports are a significant proportion of food imports, available data were too limited for an econometric analysis. Analysis of corn imports was also deleted, since imports have fluctuated erratically and are small quantities relative to production (tables 5 and 13).
[5]See Appendix 1 for the results of the econometric equations.

Domestic production is omitted from the equations. In some cases, domestic production of such commodities as wheat and milk products is negligible or uncompetitive, making imports the primary source of consumption. In other cases, imports of such commodities as meat and vegetables fulfill a supplemental role to domestic production. For rice, production was initially included in the equation, but was later excluded after showing very high correlation with population growth.

Overall, the relationships between variables in the model interact generally as expected: imports are positively related to population growth and per capita income, but negatively related to import prices. This means that as population and per capita income increase, the demand for food imports increases; and as import prices increase, demand declines. Note that the elasticities presented are import elasticities and not consumption elasticities (which tend to be lower).

For price elasticities, milk and vegetables are inelastic. Put simply, for every 1-percent change in price that takes place, there is less than a 1-percent change in imports. Wheat, rice, and meats are price elastic where the opposite holds true, showing greater sensitivity.

In the case of per capita income, wheat, milk, and vegetables are inelastic, meaning that imports are less sensitive to changes in income. Meats are elastic, implying greater sensitivity to income changes. Given the complexities of the rice equation, this variable was dropped.

For all the commodities, imports are very responsive to the population growth rate. Given the strength of

Table 13—Quantity and value of corn imports, by selected suppliers, 1970-84

Year[1]	Argentina	Mali	South Africa	Thailand	France	United States	Other	Total
				Metric tons				
1970	0	0	0	0	4,452	42	99	4,593
1971	0	0	0	0	1,209	430	0	1,639
1972	0	0	0	0	0	28	0	28
1973	0	0	0	0	163	50	34	247
1974	0	0	0	0	485	51	23	559
1975	0	78	0	0	0	46	2	126
1976	0	852	0	0	0	2,210	4	3,066
1977	0	2,865	0	0	0	5,031	7	7,903
1978	0	0	10,971	0	0	3,591	88	14,650
1979	743	0	3,892	0	0	3,928	2	8,565
1980	0	0	0	3,000	0	7,521	5,412	15,933
1981	0	0	0	5,940	0	17,186	935	24,061
1982	0	0	0	2,500	9	3,180	63	5,752
1983	0	0	0	0	19	3,145	19	3,183
1984	0	0	0	0	16	272	3,254	3,542
				$1,000				
1970	0	0	0	0	356	16	33	405
1971	0	0	0	0	123	17	1	141
1972	0	0	0	0	0	15	0	15
1973	0	0	0	0	19	27	4	50
1974	0	0	0	0	35	33	5	73
1975	0	13	0	0	0	40	4	57
1976	0	60	0	0	0	409	6	475
1977	0	188	0	0	0	773	8	969
1978	0	0	1,792	0	0	682	50	2,524
1979	139	0	711	0	0	910	4	1,764
1980	0	0	0	702	0	1,530	969	3,201
1981	0	0	0	1,509	0	4,015	172	5,696
1982	0	0	0	412	10	618	47	1,087
1983	0	0	0	0	17	733	12	762
1984	0	0	0	0	17	151	621	789

[1]1950 and 1984 data were supplied by Statistiques du Commerce Exterieur de la Cote d'Ivoire.

Source: (9).

this variable in the equations, this is a very important factor in the projections.

The authors make four sets of projections for each commodity, with a different set of assumptions underlying each projection. In the first projection, or the base run, population and per capita income are forecast at trend growth rates while prices are held constant at the 1982-84 average level.

The second and third sets of projections use the same basic assumptions but with a slightly different twist: prices are anticipated to rise and decline by 10 percent in real terms by 1995, respectively.

The fourth set of projections assumes that prices will hold constant at the 1982-84 level, but that the current population growth rate of 4 percent will gradually slow to 3 percent by 1995.[6] This last set of trend projections thus examines the effects of population on import demand.

Projected Agricultural Import Demand by Commodity

Five major commodity or commodity groups that figure prominently in the Ivory Coast's import demands are looked at individually. The commodity-by-commodity analysis presents possible import scenarios based on statistical modeling techniques.

[6]The population growth rate of 4 percent represents not only the net birth rate, but also migration into the Ivory Coast by foreigners. Human reproduction exceeds 3 percent in only a few countries.

Table 14—Quantity and value of beef imports, by selected suppliers, 1970-84

Year[1]	Argentina	France	Other EC	Brazil	South Africa	Other	Total
				Metric tons			
1970	0	0	0	0	0	0	0
1971	0	115	5	0	0	659	779
1972	0	0	0	0	0	0	0
1973	0	35	0	0	0	115	150
1974	0	188	0	0	0	443	631
1975	565	4,546	0	0	0	730	5,841
1976	7,158	2,772	70	0	0	2,538	12,538
1977	8,126	3,347	265	1,123	437	1,142	14,440
1978	10,292	1,218	1,233	1,917	995	1,763	17,418
1979	7,568	2,830	2,058	0	1,529	386	14,371
1980	933	3,527	2,625	0	32	951	8,068
1981	1,265	5,419	2,107	0	0	346	9,137
1982	2,522	5,956	1,870	1,095	0	1,161	12,604
1983	359	3,648	2,039	82	1	2,076	8,205
1984	11	3,448	3,962	7	0	531	7,959
				$1,000			
1970	0	0	0	0	0	0	0
1971	0	385	11	0	0	636	1,032
1972	0	0	0	0	0	0	0
1973	0	171	0	0	0	137	308
1974	0	681	0	0	0	532	1,213
1975	389	4,081	0	0	0	1,322	5,792
1976	5,352	2,659	71	0	0	3,023	11,105
1977	7,506	4,094	330	1,327	1,048	1,313	15,618
1978	9,540	2,532	1,204	3,282	2,663	1,844	21,065
1979	9,019	5,314	2,525	0	3,752	560	21,170
1980	2,389	6,810	4,268	0	124	3,243	16,834
1981	2,110	11,264	3,165	0	0	751	17,290
1982	3,265	10,153	2,656	1,618	0	2,141	19,833
1983	420	5,238	3,163	92	2	2,197	11,112
1984	12	3,424	2,993	6	0	441	6,877

[1]1980 and 1984 data were supplied by Statistiques du Commerce Exterieur de la Cote d'Ivoire.

Source: (9).

Rice. The rice model shows imports to be sensitive to changes in population and highly sensitive to import prices. Per capita income has been eliminated from the equation. Production, which was initially part of the rice equation, was dropped when it was found to correlate highly with population. Though production was not used as a forecast variable, an independent projection of trends was made in order to calculate both total and per capita consumption for the scenarios that follow.[7]

According to the base run projection, imports would rise to 557,000 tons by 1990, then climb to 905,000 tons by 1995. With milled rice production reaching 345,000 tons by 1990 and topping 444,000 tons by 1995, total consumption would rise to 902,000 tons by the year 1990 and edge up to 1.3 million tons by 1995. Imports would make up 62 and 67 percent of consumption, respectively. For the period 1982 to 1984, imports averaged 59 percent of consumption, up from 38 percent for the prior period of 1970 to 1972. Per capita consumption would rise to 73 kg by 1990 and to 90 kg in 1995. Presently, the per capita consumption level in the capital city of Abidjan, the largest urban area, is estimated at around 100 kg.

In the second projection scenario, which features a scenario depicting lower prices, imports would accelerate and per capita consumption would rise to very high levels. For example, imports would reach 640,000 tons by 1990, then peak at 1.17 million tons by 1995, while per capita consumption would increase to 80 kg by 1990 and reach 108 kg by 1995. This latter figure is very high relative to African, and even Asian, standards. (It is unlikely that per capita consumption would exceed 100 kg given the experience of neighboring countries; thus import levels would probably level off.) The total consumption picture described in this scenario is one of escalation: it would rise to 985,000 tons by 1990 and to 1.62 million tons by 1995. For these years, the share of consumption attributed to imported rice would be 65 and 73 percent, respectively.

A third projection scenario postulates higher prices. Under this assumption, imports would increase moderately, with per capita consumption also rising gradually. Imports would climb to 489,000 tons by 1990 and peak at 716,000 tons by 1995. Per capita consumption would increase to 68 kg by 1990 and move up to 78 kg by 1995. Total consumption would reach 834,000 tons by 1990 and hit 1.16 million tons by 1995, with imports' share of consumption accounting for 59 percent in 1990 and 62 percent 5 years later.

The fourth projection scenario is one in which population would slow. In this case, rice imports would continue their growth, but not as fast as in the base run scenario. Imports would climb to 538,000 tons by 1990 and increase to 794,000 tons by 1995. Per capita consumption would rise to 73 kg by 1990 and to 87 kg by 1995. By 1990, total consumption would reach 883,000 tons; by 1995, it would peak at 1.24 million tons. The share of consumption ascribed to imports would be 61 percent in 1990 and 64 percent by 1995.

Wheat. Wheat constitutes an important part of the Ivorian diet, although little of it is grown at home.

[7]The historical growth rate of milled rice production from 1970 to 1984 was 5.2 percent.

Table 15—Quantity and value of canned meat, by selected suppliers, 1970-84

Year	France	The Netherlands	Brazil	Other	Total
			Metric tons		
1970	530	156	30	120	836
1971	455	134	10	100	699
1972	543	123	11	97	774
1973	728	124	17	122	991
1974	744	130	32	65	971
1975	455	94	12	25	586
1976	653	398	105	40	1,196
1977	703	96	110	40	949
1978	693	103	207	98	1,101
1979	638	126	68	184	1,016
1980	NA	NA	NA	NA	NA
1981	784	54	75	157	1,070
1982	644	91	45	116	896
1983	465	48	14	131	658
1984	NA	NA	NA	NA	NA
			$1,000		
1970	593	223	31	115	962
1971	560	187	12	112	851
1972	726	196	16	90	1,028
1973	1,080	254	26	169	1,529
1974	1,272	297	69	83	1,721
1975	1,103	268	26	51	1,448
1976	1,339	253	205	89	1,886
1977	1,595	283	212	76	2,166
1978	2,176	335	361	238	3,110
1979	2,078	428	151	457	3,114
1980	NA	NA	NA	NA	NA
1981	2,145	138	219	365	2,867
1982	1,708	257	119	305	2,389
1983	1,098	127	33	361	1,619
1984	NA	NA	NA	NA	NA

NA = Not available.

Source: (9).

Imports of this staple are sensitive to changes in import prices and population growth, and insensitive to changes in per capita income. In the base run, the wheat model projects that imports would grow from 206,000 tons in 1984 to 309,000 tons in 1990. By 1995, imports will escalate to 425,000 tons. Per capita consumption would increase from 21 kg in 1984 to 25 kg in 1990 and reach 28 kg by 1995.

The wheat model, in the second projection, portrays a scenario of lower prices. Here imports would reach 328,000 tons by 1990 and advance to 478,000 tons by 1995. Per capita consumption would increase from the base run to 27 kg in 1990 and to 32 kg in 1995.

In the third projection, which forecasts higher prices, imports would increase to 291,000 tons by 1990 and climb to 382,000 tons by 1995. Per capita consumption levels under this scenario increase to 24 kg by 1990 and to 26 kg by 1995.

The fourth projection, with slowed population growth, forecasts a situation in which imports would increase to 301,000 tons by 1990 and to 390,000 tons by 1995. Under this scenario, per capita consumption levels would increase. They would rise to 25 kg by 1990 and edge up to 28 kg by 1995.

Meats. In direct response to the Sahelian drought in the 1970s, Ivorian herdsmen cut back on livestock. The country experienced a consequent upturn in beef imports to satisfy consumer pressures. These imports, of mostly packaged fresh and frozen beef, are highly sensitive to changes in per capita income, population growth, and import prices.

Table 16—Quantity and value of fish imports, by selected suppliers, 1970-84

Year[1]	Senegal	France	Spain	U.S.S.R.	German Democratic Republic	Mauritania	Other	Total
				Metric tons				
1970	512	2,290	50	3,330	0	0	5,698	11,880
1971	1,085	2,781	0	5,655	0	0	9,975	19,496
1972	4,450	6,262	0	9,125	0	230	9,252	29,319
1973	13,605	2,641	0	23,551	0	383	10,322	50,502
1974	13,926	4,658	63	66,818	0	683	1,959	88,107
1975	14,897	2,627	0	70,936	0	885	5,565	94,910
1976	14,780	5,534	970	48,114	0	404	16,243	86,045
1977	15,619	10,694	1,266	20,320	0	0	29,589	77,488
1978	18,841	13,516	0	27,862	5,394	0	15,467	81,080
1979	30,052	12,220	1,629	40,762	2,962	897	18,691	107,213
1980	NA	NA	NA	NA	NA	NA	NA	93,397
1981	45,874	12,467	2,690	26,863	5,430	4,720	33,921	131,965
1982	41,958	15,654	6,722	657	0	29,652	27,712	122,355
1983	32,542	12,188	12,830	0	0	37,870	12,197	107,627
1984	20,234	12,684	12,378	10,590	0	22,842	41,372	120,100
				$1,000				
1970	78	871	0	430	0	0	940	2,319
1971	212	1,325	0	817	0	0	1,985	4,339
1972	1,259	2,849	0	1,598	0	62	2,289	8,057
1973	3,084	1,673	0	4,526	0	111	2,412	11,806
1974	3,668	3,379	0	14,164	0	331	720	22,262
1975	5,212	1,898	0	22,227	0	423	1,945	31,705
1976	4,612	3,131	0	13,466	0	84	5,702	26,995
1977	5,442	5,975	0	6,122	0	0	11,001	28,540
1978	8,405	8,952	0	11,019	0	0	9,031	37,407
1979	16,332	10,278	1,586	16,342	1,010	396	8,971	54,915
1980	NA	NA	NA	NA	NA	NA	NA	58,018
1981	28,891	14,802	2,539	12,247	2,482	2,769	16,052	79,782
1982	24,726	15,358	5,450	191	0	17,005	14,152	76,882
1983	17,567	10,224	10,203	0	0	19,710	7,557	65,261
1984	9,387	9,761	8,449	3,976	0	9,240	18,171	58,984

NA = Not available.
[1]1980 and 1984 data were supplied by Statistiques du Commerce Exterieur de la Cote d'Ivoire.

Source: (9).

In the base run, imports would grow to 15,000 tons by 1990 and to 20,000 tons by 1995. For the lower price (or second projection) scenario, imports are estimated to rise to 17,000 tons by 1990 and to level off at 25,000 tons by 1995.

For the higher price (or third projection) scenario, imports would rise more slowly to 13,000 tons by 1990 and to 17,000 tons by 1995. In the fourth projection, which forecasts a slowed population rate, imports would increase to 15,000 tons by 1990 and to 19,000 tons by 1995.

Milk Products. Little commercial dairy production exists in present-day Ivory Coast. The country depends upon foreign suppliers to meet its urban consumption demands. Though imports are insensitive to changes in per capita income and import prices, they are highly responsive to population changes. Projections of milk products, in the base run, indicate that imports would rise to 84,000 tons by 1990 and would reach 120,000 tons by 1995.

Looking at projections generated by the low-price scenario, imports of milk products would increase to 88,000 tons by 1990 and to 133,000 tons by 1995. Under the high-price scenario, imports would rise to 80,000 tons by 1990 and advance to 109,100 tons by 1995. In the fourth scenario, imports would increase to 82,000 tons by 1990, then climb to 109,000 tons by 1995.

Vegetables. Potatoes, onions, and canned tomatoes or tomato paste constitute Ivory Coast's major vege-

Table 17—Quantity and value of milk product imports, by selected suppliers, 1970-84

Year[1]	France	The Netherlands	Federal Republic of Germany	Other	Total
			Metric tons		
1970	7,690	8,467	108	295	16,560
1971	8,151	8,090	72	345	16,658
1972	6,624	7,952	361	653	15,590
1973	8,617	10,955	577	372	20,521
1974	9,273	13,101	99	645	23,118
1975	7,091	9,095	0	241	16,427
1976	8,952	18,817	0	1,065	28,834
1977	14,960	40,583	0	2,483	58,026
1978	14,062	22,308	61	5,111	41,542
1979	11,802	28,810	0	6,042	46,654
1980	14,551	18,295	NA	10,576	43,422
1981	13,992	25,317	9,730	7,695	56,734
1982	15,433	17,501	7,582	5,934	46,450
1983	16,653	12,127	13,221	6,450	48,451
1984	15,131	18,023	9,422	6,100	48,676
			$1,000		
1970	3,347	3,122	32	98	6,599
1971	4,365	3,034	27	266	7,692
1972	4,022	3,738	150	346	8,256
1973	6,283	5,967	185	211	12,646
1974	8,016	8,403	56	365	16,840
1975	8,242	7,700	0	189	16,131
1976	8,964	14,534	0	817	24,315
1977	13,564	17,888	0	1,641	33,093
1978	17,455	23,274	64	4,066	44,859
1979	14,488	31,002	0	5,353	50,843
1980	19,970	22,987	NA	11,292	54,249
1981	16,738	28,846	9,061	12,305	66,950
1982	16,168	20,297	7,357	6,588	50,410
1983	15,558	12,193	12,685	6,790	47,226
1984	12,543	16,699	8,287	5,373	42,901

NA = Not available.
[1]1980 and 1984 data were supplied by Statistiques du Commerce Exterieur de la Cote d'Ivoire.

Source: (9).

table imports. These basic food items are now widely consumed throughout the country. Of the commodities under review, vegetables are the least sensitive to changes in import prices. The same holds true for population growth, although responsiveness is still high. Per capita income for this commodity group is insignificant. In sum, the analysis suggests that both price and population changes will have little impact on the quantities imported.

Import demand, based on statistical modeling, points to various quantity levels. In the base run, imports are projected to rise to 52,000 tons by 1990 and to 64,000 tons by 1995. Under the low-price scenario, imports would increase to 54,000 tons by 1990 and to 68,000 tons by 1995. For the high-price scenario, imports would slow to 51,000 tons by 1990 and would then advance to 61,000 tons by 1995. In the fourth scenario, imports would rise to 51,000 tons by 1990 and to 61,000 tons by 1995.

Table 16—Quantity and value of preserved vegetable imports, by selected suppliers, 1970-84

Year	France	Italy	Other	Total
		Metric tons		
1970	1,331	3,087	821	5,239
1971	1,031	4,204	644	5,879
1972	960	3,794	640	5,394
1973	1,235	4,510	1,371	7,116
1974	1,284	3,416	1,056	5,756
1975	888	3,429	852	5,169
1976	1,161	5,309	1,039	7,509
1977	1,128	7,123	1,724	9,975
1978	1,119	6,383	2,031	9,533
1979	772	5,978	1,711	8,461
1980	NA	NA	NA	NA
1981	1,082	9,909	1,944	12,935
1982	2,213	7,518	1,139	10,870
1983	1,309	5,601	1,633	8,543
1984	NA	NA	NA	NA
		$1,000		
1970	610	1,017	280	1,907
1971	539	1,230	182	1,951
1972	560	1,244	229	2,033
1973	815	2,269	676	3,760
1974	995	2,622	672	4,289
1975	921	2,422	489	3,832
1976	1,108	2,852	730	4,690
1977	1,099	4,581	1,224	6,904
1978	1,400	4,531	1,630	7,561
1979	1,307	4,797	1,543	7,647
1980	NA	NA	NA	NA
1981	1,282	6,177	1,443	8,902
1982	2,024	5,423	996	8,443
1983	1,250	4,355	1,237	6,842
1984	NA	NA	NA	NA

NA = Not available.

Source: (9).

Prospects for U.S. Trade Expansion

The Ivory Coast stands out dramatically from Sub-Saharan Africa in terms of political stability and economic development. Though recently it experienced negative real economic growth and a liquidity crisis, it was still able to buy its food imports on commercial terms at a time when many countries on the African continent were coping with overwhelming economic and agricultural problems.

Ivory Coast's future will be determined by its ability to sustain its current economic recovery. To a large extent, this will continue to be dependent upon external factors, such as demand for its key export crops, the value of the French franc, and interest rates. Excellent cocoa harvests for the past two seasons, along with high world coffee prices brought on by drought in Brazil, have combined to boost the Ivorian economy during 1985 and 1986. Ivory Coast's large foreign debt will continue to overshadow the economy in the foreseeable future.

The Ivory Coast has made great strides at improving agricultural and food production. However, agricultural imports have risen for many reasons. Higher income levels have led to improved diets and the desire for luxury foods. Imports of certain commodities have risen because the Ivory Coast recognizes that it cannot produce those items (particularly wheat and milk products) for mainly economic reasons. Further, rapid urbanization (particularly of foreigners) has fueled consumer demand for more convenience foods, grain staples, and a greater variety of foods originating from abroad.

Thus, increased Ivorian imports have various implications for exporting nations such as the United States. In the projections made in this study, we have presented some of the factors that directly affect the export outlook. An attempt has been made to predict trends for food demand based upon various scenarios. Using the scenarios with built-in assumptions, imports would reach various projected levels by the year 1990 (table 22).

In terms of quantity, the biggest growth areas for imports will be in rice and wheat. However, the United States has had little success in cracking the market for these two commodities. Evidence indicates that in recent years this has been due primarily to the U.S. dollar's high exchange rate which makes U.S. commodities uncompetitive. American rice,

because of its high quality, is considered a preferred item, which at one time constituted a significant portion of Ivorian imports. Given the U.S. Food Security Act of 1985 (with a provision leading to an effective reduction in U.S. rice prices on world markets), the decline of the dollar, and the Ivorian economic recovery, it is reasonable to assume that the United States can regain some of its market share of rice in the next few years.

The Ivory Coast's importation of wheat has grown rapidly since the last decade. Since 1970, France has had a lock on the market, capturing no less than 90 percent. It is not likely that the United States will break this hold, unless it offers an Export Enhancement Program (EEP); even then, the Ivory Coast might not take it for political reasons. Such a move is sure to cause friction between the Ivory Coast and France and between France and the United States.

From 1970 to 1984, milk and vegetable imports have shown steady growth. Though the Ivorians are not large consumers of milk, imports have grown rapidly since the Ivory Coast has not developed a commercial dairy sector. Imports of these two commodity groups are now dominated by EC countries, who, among other things, have a transportation cost advantage over the United States. To break into these areas, the United States should look to labeling products in French and packaging them in metric quantities. These measures would enhance product salability

Table 19—Quantity and value of fresh vegetable imports, by selected suppliers, 1970-84

Year	France	Spain	Mali	Morocco	The Netherlands	Other	Total
				Metric tons			
1970	5,706	5	1	2,307	4,365	1,434	13,818
1971	5,230	0	97	813	6,441	938	13,519
1972	6,011	9	700	821	7,740	613	15,894
1973	4,675	0	379	1,463	7,779	650	14,946
1974	7,952	58	1,009	1,000	6,201	720	16,940
1975	7,762	132	3,929	1,763	5,767	1,961	21,334
1976	2,428	2,270	1,672	2,292	3,438	1,996	14,096
1977	5,723	2,672	1,205	861	6,068	1,641	18,170
1978	10,045	1,624	886	112	9,856	1,158	23,681
1979	9,548	693	945	296	10,823	911	23,216
1980	NA	NA	NA	NA	NA	NA	NA
1981	8,822	2,753	0	0	14,817	687	27,079
1982	8,470	520	0	612	17,850	1,133	28,585
1983	10,365	2,468	0	378	13,560	573	27,344
1984	NA	NA	NA	NA	NA	NA	NA
				$1,000			
1970	1,205	2	1	461	403	333	2,405
1971	1,120	0	10	224	518	315	2,187
1972	1,301	5	89	218	875	325	2,813
1973	1,614	0	50	386	1,373	538	3,961
1974	2,242	68	120	245	1,186	593	4,454
1975	2,706	55	429	485	1,382	842	5,899
1976	1,791	801	1,030	729	1,292	1,104	6,747
1977	2,755	889	740	310	1,322	1,376	7,392
1978	3,891	486	520	106	1,877	1,173	8,053
1979	4,813	363	554	151	2,938	1,494	10,313
1980	NA	NA	NA	NA	NA	NA	NA
1981	4,368	995	0	0	4,167	1,585	11,115
1982	4,293	380	0	268	4,794	886	10,621
1983	4,317	833	0	151	3,817	776	9,894
1984	NA	NA	NA	NA	NA	NA	NA

NA = Not available.

Source: (9).

with French-speaking Ivorians who traditionally use the metric system.

Given the drought that affected neighboring countries' livestock, Ivorian meat supplies from traditional sources are likely to be low in the short term. This means that fresh and frozen beef imports from overseas suppliers are likely to increase to meet the shortfall. France and Argentina have dominated this growing market. With some competitive pricing, the United States might be able to break in.

There are also some other areas of agricultural exports in which the United States might improve, which were not captured in the projections mentioned earlier. The United States exports small quantities of high-value tobacco: these exports might be expanded in future years. Also, as Ivorian incomes increase and diets improve, the United States might be able to export premixed grains as feed for the growing poultry industry.

Table 20—Projections of commodity import demand, by quantity

Scenario/ year	Total imports				
	Rice	Wheat	Meats	Milk products	Vegetables
	1,000 tons				
Base run:					
1970	78	101	1	17	19
1980	168	183	9	43	36
1984	320	206	8	51	41
1990	557	309	15	84	52
1995	905	425	20	120	64
Lower prices:					
1970	78	101	1	17	19
1980	168	183	9	43	36
1984	320	206	8	51	41
1990	640	328	17	88	54
1995	1,172	478	25	133	68
Higher prices:					
1970	76	101	1	17	19
1980	168	183	9	43	36
1984	320	206	8	51	41
1990	489	291	13	80	51
1995	716	382	17	109	61
Slower population growth:					
1970	78	101	1	17	19
1980	168	183	9	43	36
1984	320	206	8	51	41
1990	538	301	15	82	51
1995	794	390	19	109	61

Future agricultural imports of the Ivory Coast will depend upon domestic agricultural production, sustained economic growth, population growth rate patterns, and the effects of exchange rates on import prices. Given those factors and the current situation, there is room to expand U.S. agricultural exports.

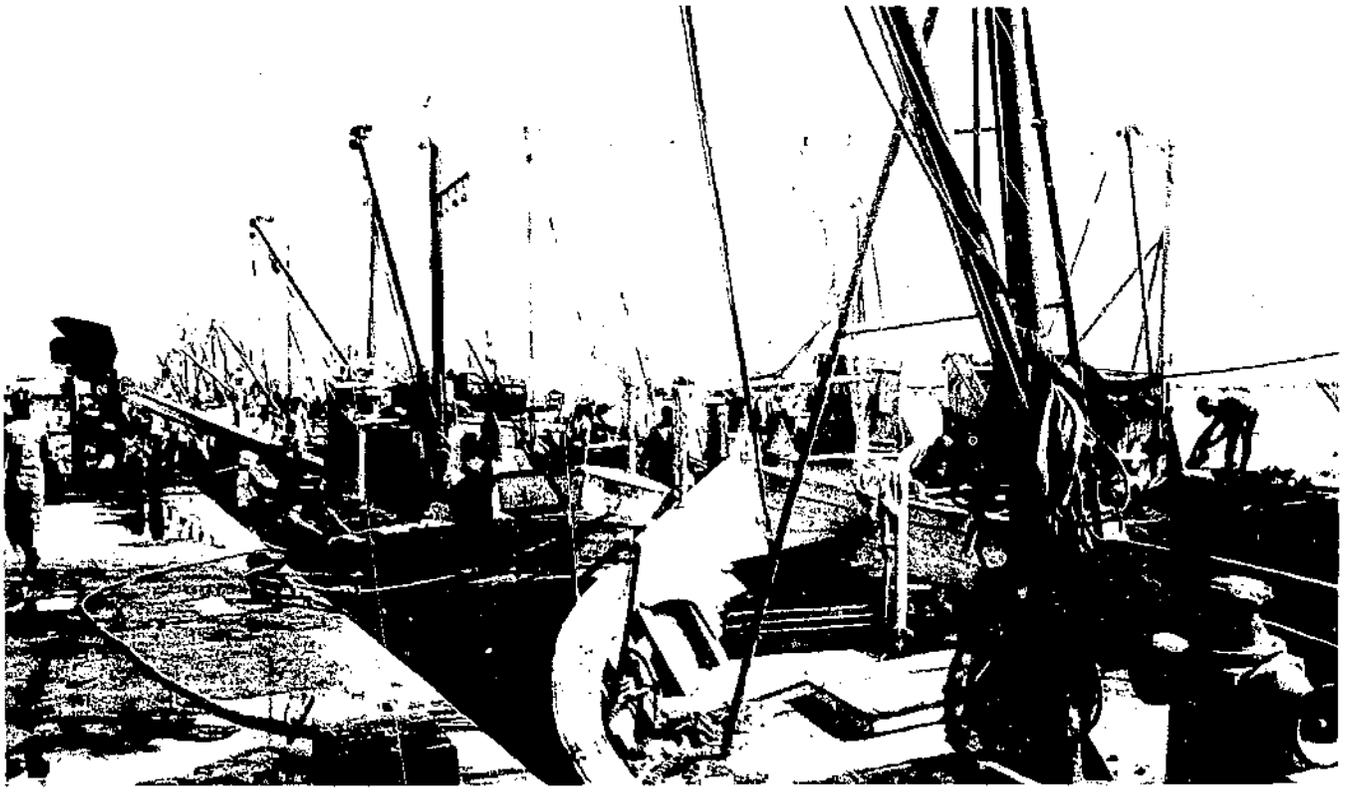
Table 21—Projections of commodity import demand, by per capita consumption

Scenario/ year	Rice[1]	Wheat	Meats	Milk products	Vegetables
	Kilograms				
Base run:					
1970	38	19	0	3	4
1980	48	22	1	5	4
1984	58	21	1	5	4
1990	73	25	1	7	4
1995	90	28	1	8	4
Lower prices:					
1970	38	19	0	3	4
1980	48	22	1	5	4
1984	58	21	1	5	4
1990	80	27	1	7	4
1995	108	32	2	9	5
Higher prices:					
1970	38	19	0	3	4
1980	48	22	1	5	4
1984	58	21	1	5	4
1990	68	24	1	7	4
1995	78	26	1	7	4
Slowed population growth:					
1970	38	19	0	3	4
1980	48	22	1	5	4
1984	58	21	1	5	4
1990	73	25	1	7	4
1995	87	28	1	8	4

[1]The per capita consumption figures for rice include a trend production scenario. For the other commodities, the per capita consumption figures represent only import consumption, which, in the case of wheat, reflects overall consumption.

Table 22—Projections of major commodity imports for 1990

Commodity	Scenario			
	Base run	Lower prices	Higher prices	Slowed population growth
	Metric tons			
Rice	557,000	640,000	489,000	538,000
Wheat	309,000	328,000	291,000	301,000
Meats	15,000	17,000	13,000	15,000
Milk products	84,000	88,000	80,000	82,000
Vegetables	52,000	54,000	51,000	51,000



Boats line the harbor in Abidjan, Ivory Coast's capital and largest city. The coastal city, with a population of 2.1 million, serves as a major port of entry for imports.

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Appendix 1—Methodology

Neoclassical theory of demand and the authors' knowledge of the Ivory Coast suggested the choice of explanatory variables in this analysis. The appendix thus describes the methodology used. The specification of import demand functions is discussed extensively in other sources such as item (7) of the References.

Equations and Variables

In the analysis,

$$Q_i = F(Y, P_i, T)$$

where Q_i = quantity imported of commodity i;
Y = per capita income; P_i = price of i; and
T = population.

The authors hypothesized that the quantity imported would be positively related to population growth and per capita income, and negatively related to the commodity's import price.

For all commodities or commodity groups, the authors measured per capita income as real GDP in CFA franc terms, divided by the country's population.

Prices were measured as the import unit values in CFA franc terms, deflated by the implicit GDP deflator of the Ivory Coast. This was done so that import prices were measured in relation to the general domestic price level. The source for the population variable was the U.S. Bureau of the Census, International Division.

The authors judged production to be nonexistent, negligible, or of a differentiated nature for the commodities or commodity groups. The exception was rice, which was originally included in the equation, but was later excluded when it was found to correlate highly with population.

The method of estimation was ordinary least squares. For all equations, the log-log form was used (app. table 1).

Projections

Projections of quantity imported for 1990 and 1995 were based on the equations for each commodity group. The independent variables were forecast at their historical growth rates. The dependent variable (imports) was calculated, however. The historical growth rates of explanatory variables were derived by regressing the independent variables

Appendix Table 1—Import demand equations

	Summary of regression analyses using log-log form							
Commodity	Constant	Per capita income	Population	Import price	$\overline{R^2}$	Durbin-Watson	Degrees of freedom	Form
Wheat	-1.92 (-1.19)[3]	0.24[1] (0.24)	1.64 (3.06)	-1.11 (-1.77)	65.5	2.58	11	OLS[2]
Rice	-6.50 (-2.12)	— —	2.47 (1.57)	-2.46 (-4.09)	60.3	1.58	12	OLS
Meats	0.04 (0.02)	2.04 (1.45)	1.62 (2.54)	-1.98 (-6.42)	95.4	2.57	10	OLS
Milk products	-2.27 (-4.99)	0.75 (1.90)	1.86 (9.62)	-0.98 (-5.68)	94.9	2.58	11	OLS
Vegetables	-1.17 (4.29)	-0.05 (-0.16)	1.05 (7.17)	-0.52 (-3.66)	95.0	1.95	10	OLS

d.f.[4]	a = 0.05[5]
10	1.812
11	1.796
12	1.782

[1]These coefficients are elasticities; regressions are in log-log form.
[2]OLS = Ordinary least squares.
[3]Numbers in parentheses are t-statistics.
[4]d.f. = Degrees of freedom.
[5]a = alpha.

over time (Ln B = a + $\underline{B}$*Time). Projections were done in log-log form, and then exponentiated back to their linear form.

Prices were held constant at current levels in the base run.[1] Alternative scenarios were created by raising and lowering the real import prices by 10 percent by 1995 (accounting for inflation and exchange rates).

The projections derived from these models assume that present trends will continue in the future. This may not be the case, and therefore one should interpret the projections cautiously. Changes in events and circumstances may lead to shifts in demand. For example, worldwide supply disruptions for key commodities could result in highly volatile domestic prices—factors outside the control of the importing country but which affect it. Internal changes, ranging from policy decisions to infrastructural improvements that boost domestic production could affect imports as well. The models only suggest that if past trends continue, a certain projection is a likely outcome.

Appendix 2—Data Sources

An important undertaking preliminary to the study was the development of a data base that includes a 15-year series of data from 1970 to 1984 on the quantity and value of imports of major food commodities. The data base uses United Nations (UN) trade data, which each reporting country supplies. In the case of the Ivory Coast, the authors judged the Ivory Coast Government for imports to be reliable. (In contrast, data supplied by some other countries might be judged unreliable. In such cases, researchers would be wise to use exporting countries' data.)

[1]This is not to say that prices are likely to remain constant. The recent history of world commodity prices, as figures 4 and 7 show, reveals great price volatility. Projections of any sort of price data are risky; therefore, the base run model initially attempted to neutralize this variable as much as possible.

For all commodities or commodity groups, the Standard International Trade Classification (SITC) codes are noted in Appendix 3 for purposes of verification. For the year 1980, the Ivory Coast did not report its imports to the United Nations. Thus, for this one year, other sources were researched and used if the data were consistent with the UN data. For 1984, preliminary data estimates, which were obtained from other sources, were used if they were consistent with the UN time series.

Appendix 3—Standard International Trade Codes (SITC)

Standard International Trade Codes (SITC) were consulted in the preparation of this report. For purposes of reference or verification, they are listed here.

Commodity	*Code*
Total agricultural imports	00
Beef	0111
Canned meats	013
Milk products	022
Fish	032
Wheat	041
Rice	042
Corn	044
Wheat flour	046
Fresh vegetables	054
Prepared vegetables	055
Coffee	071
Cocoa	072

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