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The
Agricultural
Economy of the

IVORY COAST

Quick Facts on the Ivory Coast

Area: 124,503 square miles

Population: 3.4 million (1962 estimate)

Location: West Africa

Chief export crops:

- Coffee
- Cocoa
- Bananas
- Kola nuts
- Pineapples
- Palm kernels
- Fruit juices

Chief agricultural imports:

- Live cattle, sheep, and goats
- Wheat flour
- Rice
- Sugar
- Wines and beer
- Dairy products and eggs
- Fruits and vegetables
- Meat
- Palm oil

Chief customer and supplier: France

Main domestic food crops:

- Yams
- Plantains
- Cassava (manioc)
- Rice
- Corn
- Cocoyams
- Sorghum and millet
- Sweetpotatoes

Political status: Republic, independent August 7, 1960;
formerly a part of French West
Africa

President: Felix Houphouet-Boigny

Main agricultural problems: Coffee surpluses; not self-
sufficient in production
of food

Future: Economically bright

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Note: "Ton" in this report means a short ton of 2,000 pounds.

SUMMARY

The Ivory Coast is located on the south coast of Africa's great western bulge. It is bordered by Liberia, Guinea, Mali, Upper Volta, Ghana, and the Atlantic Ocean. Formerly a territory of French West Africa, it attained independence as a separate country in 1960. It is generally considered to be the most economically viable of the eight territories of French West Africa which gained independence in 1958 and 1960.

Over 90 percent of the Ivory Coast population of about 3,400,000 is engaged in agriculture (including livestock raising) and forestry. In 1961, exports of chief farm products made up 75 percent of all exports. Considerable wood and wood products are exported. There is some manufacturing. Mining is of minor importance.

For a relatively small country, the Ivory Coast has considerable diversity of agricultural production. Coffee exports furnish about 43 percent of the country's exports of all commodities, and cocoa exports nearly 21 percent. Other agricultural exports include bananas, kola nuts, pineapples, palm kernels, and fruit juices. The country's small cotton production is all spun and woven within the country.

Chief domestic food crops include yams, plantains, cassava, rice, corn, and cocoyams. As is common in tropical Africa, diets tend to be high in starches and low in proteins. There is usually plenty of something for the Ivoirien to eat.

Large areas of the country are not suitable for livestock raising, but thousands of animals are driven to the Ivory Coast each year from the countries to the north for slaughter.

France is the Ivory Coast's best customer for farm products and also its chief supplier of agricultural imports. The United States is the country's second best customer, taking \$12.9 million in coffee and \$10.9 million in cocoa in 1961. Agricultural imports from the United States were small, although total imports from the United States were valued at nearly \$6 million.

A great deal of valuable agricultural research is being done in the Ivory Coast, and there is considerable agricultural extension in one form or another.

Politically, the Ivory Coast has chosen to remain closely aligned with France and the West. The Government favors private enterprise.

Coffee is the Ivory Coast's most valuable commodity, and also its biggest economic problem. Solving the problem of coffee surpluses is the major concern of the Government and its advisors. They also seek to diversify agriculture by increasing production of such commodities as rubber and cotton. They also wish to make the country more nearly self-sufficient in food by producing more rice and palm oil.



THE AGRICULTURAL ECONOMY OF THE IVORY COAST

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PHYSICAL FACTORS AFFECTING AGRICULTURAL PRODUCTION AND TRADE

Plentiful rainfall and an always-warm temperature make the southern part of the Ivory Coast especially suited for tropical tree crops such as coffee, cocoa, kola nuts, bananas, oil palms, coconuts, and plantains, as well as pineapples, yams, cassava, rice, and cocoyams.

The northern part of the country, with less rainfall and more variable temperature, is reasonably well suited for growing cotton, peanuts, sorghum, and millet.

As the country is in the Tropics, it is not suited for the production of Temperate Zone Crops, such as wheat, rye, oats, and Irish potatoes. Nor is it suited for dairying. Conditions are reasonably favorable in the north, however, for raising beef cattle.

The country had no good natural harbor, but the lagoons behind the sand bar permitted the construction of the present excellent harbor at Abidjan.

Except in the northwest, where the terrain is mountainous, most of the country is level or rolling. There are no insuperable barriers to construction of railroads and roads.

Location and Size

The Ivory Coast is located on the southern coast of Africa's great western bulge, just a bit west of center. The south coast fronts on the Atlantic Ocean (Gulf of Guinea). It is bordered on both sides by the coastal countries of Ghana (to the east) and Liberia and Guinea (to the west), and on the north by the inland countries of Mali (formerly French Soudan) and Upper Volta.

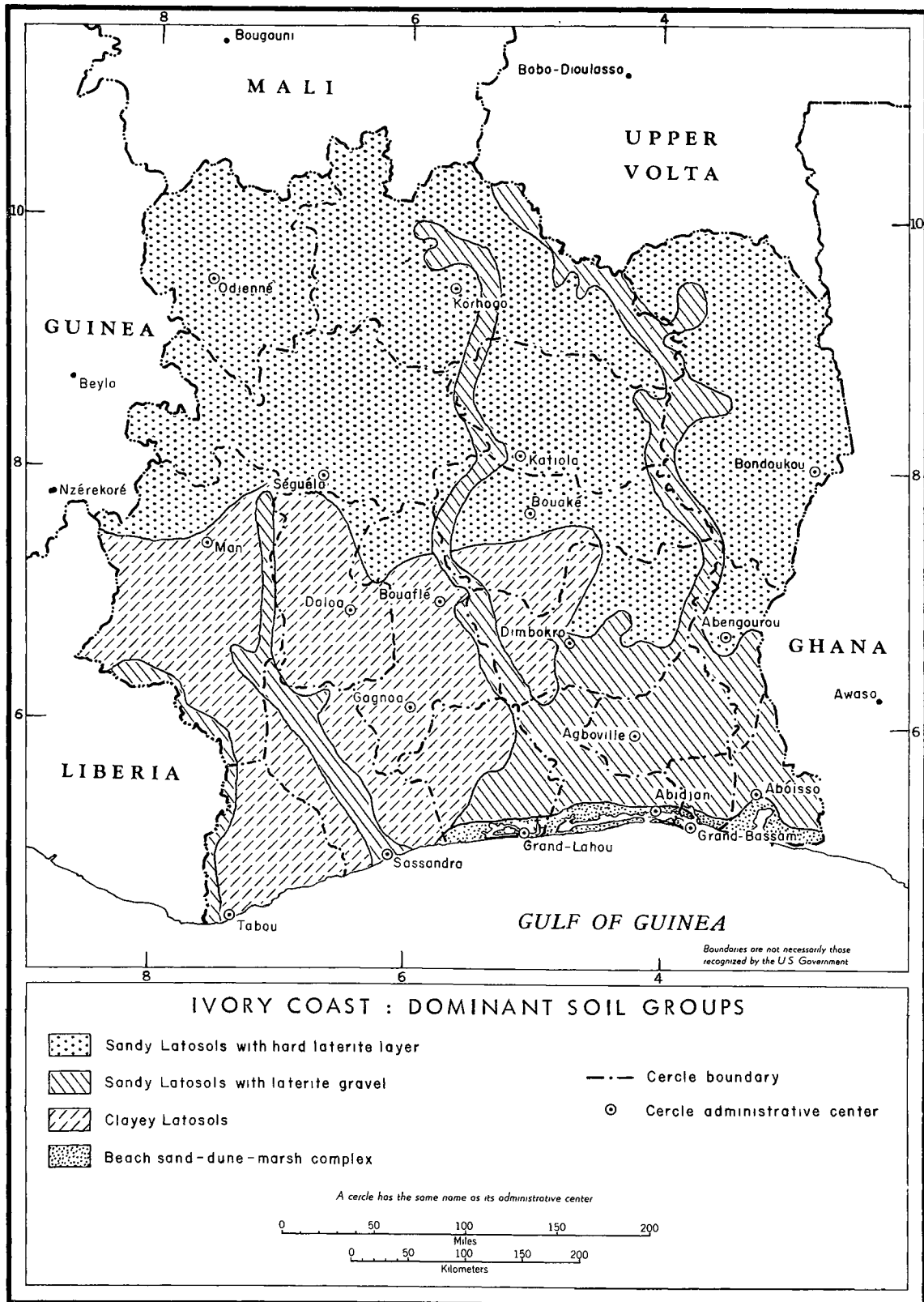
The Ivory Coast's area of 124,503 square miles, somewhat larger than that of New Mexico, is slightly more than 1 percent of the total area of Africa.

Soils

The following information on the soils of the Ivory Coast was compiled by the Soil Conservation Service of the U. S. Department of Agriculture.

Latosols, mostly on undulating to rolling plains, are the dominant soils in the Ivory Coast (fig. 1). They occur everywhere except in the narrow fringe of beach sand, dune and marsh along the coast and on the narrow alluvial plains along the streams (these latter plains are too small to show on the map at the scale used).

Latosols, as a group, are predominantly red, but the color ranges from brown to yellow. They are deeply weathered and strongly leached; commonly lacking distinct horizons other than a darkened surface layer. Because they are weathered and leached, Latosols are low in content of



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Figure 1

plant nutrients. They commonly are friable and easy to till, and water and plant roots penetrate readily. Except for the sandy Latosols and those with a layer of hard Laterite at shallow depths, Latosolic soils have good water-holding capacities.

The most extensive Latosols of the Ivory Coast are characterized by loamy sand surface soils with low humus content and by the presence of hard Laterite, either in the form of fine gravel-size concretions or in the form of a hard layer (fig. 1). This latter form of Laterite is widespread in the northern two-thirds of the country. It occurs either on the surface as a crust or ledge or at some depth in the soil, but usually at not more than 4 feet; it averages about 3 feet in thickness, but in some places it may be as much as 6 feet thick.

In the southwestern part of the country, the Latosols consist of red to reddish brown friable clays. Although high in clay, these soils drain rapidly after rains.

The Alluvial soils, although not shown on the map, are mostly well-drained loamy sands. However, in the southeastern corner of the country, the Alluvial soils are poorly drained silty clay and clay.

Agricultural Regions

Going north from the Gulf of Guinea (Atlantic Ocean), the Ivory Coast may be divided into the following agricultural regions:

The Lagoons, separated from the Atlantic Ocean by a narrow sandbar.--Along the coast an equatorial climate prevails. Constant high temperatures range between 76^o and 83^oF. and humidity between 77 and 88 percent. 1/ Annual rainfall ranges from 79 to 128 inches, with rain about 140 days out of the 365.

The sandbar and the narrow area to the north of the lagoon are characterized by the coconut palm. The inland part of this region has also been found suitable for rubber trees.

The Tropical Rainforest, north of the lagoons zone.--In the tropical rainforest, the temperatures are more variable than in the lagoons zone, ranging from 57^o to 103^oF. The air is less humid (about 71 percent), and the total annual rainfall is 39 to 98 inches.

The altitude rises gently and rather evenly as one travels northward. Natural vegetation here consists of a dense stand of trees 80 feet tall, surmounted by occasional forest giants of 150 feet high.

This region is favorable for coffee, cocoa, bananas, plantains, kola nuts, oil palms, pineapples, yams, cassava, rice, cocoyams, and other crops.

1/ From personal observation in May 1961 in Abidjan and Bouake, the author attests the general accuracy of these paragraphs on the Ivory Coast climate. The weather in coastal Abidjan did not seem so hot, but after a few days there the author became so easily exhausted that he felt obligated to take taxis for trips of more than 3 or 4 blocks. By contrast, Bouake--at the northern edge of the forest zone--seemed cooler and more comfortable.

Savanna and Sudan.--Still further north, the daily and season temperatures range widely, humidity is lower, and there is a wet and dry season each year. Between December and February there are some weeks of cool, dry weather.

The altitude reaches about 1,300 feet in the north. Some higher mountain peaks are found to the west, reaching the greatest height (over 5,000 feet) at Mt. Nimba, on the border with Guinea and near the Liberia border.

The trees of the rainforest thin out into savanna (grassland with scattered trees) and finally into the sudan (grassland without trees).

Crops grown in this area include cotton, dryland rice, peanuts, cowpeas, sorghum, and millet. The majority of the country's cattle graze here.

POPULATION

The Ivory Coast population in 1962 was estimated at 3,400,000. If evenly distributed, this would mean an average population of 27 persons per square mile. However, about 180,000 persons live in Abidjan and 45,000 in Bouake. There are heavy concentrations of population around these cities, around Gagnoa, and at a few spots in the north and west. Much of the north and east are sparsely populated, and an area in the southwest near the Liberian border is practically uninhabited.

Annual population growth is about 2.3 percent.

The Africans, or Ivoiriens, are divided into a number of tribes or ethnic groups:

Agnis - Ashantis - Baoules - southeast.

Koua-Koua and Krounen groups, including the Betes and Bakoues -- southwest.

The Mande clan (including the Dioulas) -- northeast and northwest and in Abidjan and Bouake.

The Voltaic clan -- northeast.

The Senoufo clan -- northeast.

Dans and Gouvos -- Central Ivory Coast.

Of the population, about 12,000 are non-Africans, chiefly French but also including Lebanese, Syrians, and Italians. European population has actually increased since independence, as businessmen have come in hoping to profit from the current boom in the Ivory Coast.

Over 90 percent (over 3 million) of the population is engaged in agriculture (including livestock raising) and forestry.

AGRICULTURAL AND TRADE POLICY

A Private Enterprise, Capitalistic System.

While some newly-independent countries of Africa tend toward government ownership of the means of production, the Ivory Coast remains strongly committed to the private enterprise

system. This policy has attracted European entrepreneurs (mainly French), who have continued to arrive even since the Ivory Coast became independent in 1960.

These policies carry through to agriculture in the country. There is considerable freedom to buy or rent land and to grow and export various crops.

Some Policies a Heritage from the French

The most significant facts of economic life in the Ivory Coast (coffee production and coffee policy) are a holdover from the days when the territory was a part of the colony of French West Africa. In the 1930's the French Government imposed a tax on all coffee imported into France, and the revenue was distributed among the various overseas territories to stimulate coffee production. Special premiums were offered to coffee farmers for new plantings; indemnities were paid for replacement of diseased trees; and free seedlings were distributed to coffee planters. The main purposes of this program were (1) to raise the level of living of small farmers by supplying them with a profitable cash crop, and (2) to provide France with a sufficient amount of coffee for its own consumption, the surplus to be exported to other countries.

The French coffee policy had its most spectacular success in the Ivory Coast. In several recent years, the country has been the world's third largest coffee producer (after Brazil and Columbia) and the world's largest producer of robusta coffee. At present, it is vying with Angola for the honor of being the world's third largest coffee producer.

In an effort to maintain the purchasing power of the Ivory Coast coffee growers and, at the same time, a high level of Ivory Coast imports from France, the latter has maintained purchase prices for coffee substantially higher than world market prices.

To climb down from these high plateaus of coffee production and coffee price is a delicate operation, in which France is, perhaps, more involved than the Ivory Coast itself. This problem is further complicated by the associate memberships in the European Common Market of the Ivory Coast and 17 other independent African countries.

Plans for Agricultural Development

In a speech to the General Assembly of the Ivory Coast Chamber of Agriculture and Industry in March 1962, the Minister of Agriculture outlined the course of action which the Government intends to follow in the development of agriculture.

In general, the policy will be to diversify export crops (with less reliance on coffee) and to make the country more nearly self-sufficient in foods, such as rice and vegetables.

Specific plans for some agricultural commodities are as follows:

Oil palms,--Oil palms will be introduced immediately in the southeast around Dabou and in an enclave which includes Sassandra and a part of the region of Soubre. IRHO (Institut de Recherches pour les Huiles et Oleagineux--Research Institute for Oils and Oilseeds) is making a study of the behavior of the oil palm throughout the entire country.

Coconut palms,--A commission will be created to evaluate the Ivory Coast's coconut palms, especially the band along the Assini Canal. Studies will be made of the behavior of the coconut palm in the interior. Several experiments have been made around Dimbokro, a town between Abidjan and Bouake.

Cotton.--An increase in production is planned, with an immediate goal of 55,000 tons of seed cotton, and a 12-year goal of 79,000 tons of seed cotton. The Government plans to encourage planting cotton outside the traditional areas of Korhogo and Bouake. Experiments at Man and Daloa have been successful, but experiments at Divo have not been conclusive and will be continued.

Rubber.--The Minister of Agriculture characterized rubber as "the crop the most industrial," and thus well suited to the present system of rubber plantations owned and managed by Europeans. However, the ultimate aim of the Ivory Coast Government is to bring the Ivoiriens into the growing and tapping of rubber trees within a cooperative framework.

Bananas.--There has been too great haste in banana planting, particularly by Europeans, according to the Minister of Agriculture. A decree stipulated that in order to become a banana planter, one must have received prior authorization of the technical services. This decree seeks to avoid "negative experiences," deforestation, and a surplus of production over available markets.

Sugarcane.--Experiments by ORSTOM (L'Office de la Recherche Scientifique et Technique Outre-mer -- Office of Overseas Scientific and Technical Research) have brought positive results. Studies are being made looking toward the location of future plantations in the region of Tortya.

Fruit crops.--Nurseries are planned in the north.

Commercial vegetables.--Growing vegetables for market will be encouraged in the outskirts of the two largest cities, Abidjan and Bouake.

Export and Import Controls

Trade relationships between the Ivory Coast and France have been variously described in print as "cozy" and "closed-circuit."

France has made large grants for economic and technical assistance in the Ivory Coast. In return France has been the major supplier of foreign imports. This favored position is vividly illustrated in the import tables.

The machinery for implementing this favored position consists mostly of quotas, tariff preferences, and foreign exchange control. Long-established business relationships with French companies also have an important bearing on the Ivory Coast's trade policy.

Some illustrative quotas are listed below (quantities which the Ivory Coast agreed to import from France in 1962):

- Milk products - 500 million francs CFA (\$2,025,000)
- Wine and beverages - 750 million francs CFA (\$3,038,000)
- Cotton cloth - 1,600 million francs CFA (\$6,482,000)
- Jute bags - 280 million francs CFA (\$1,134,000)

The Ivory Coast agrees to import from France all its requirements of grains, sugar, and edible oils. While this agreement seems to be strictly observed with regard to wheat, a more

relaxed attitude prevails toward rice imports. In fact, most rice is imported from outside the franc zone. (For a discussion of tariffs, see the section that follows.)

Control of foreign exchange is showing some signs of liberalization. Although the foreign exchange earnings of the Ivory Coast outside the franc zone are by agreement held in the French Exchange Stabilization Fund, the Ivory Coast has an unlimited "drawing right account" against this fund. Thus, in 1961, Ivory Coast importers could have bought, theoretically, some \$22,500,000 of American products. In actual practice, 1961 imports from the United States were valued at \$5,874,000.

Tariffs on Agricultural Imports

Imports into the Ivory Coast, including those of farm products, are subject to a variety of import duties. When added together and a high retail markup superimposed, the price to the ultimate consumer may be beyond his reach. 2/

The import duties vary from product to product and not all of the different duties are applied to each product. The various classes of duties are as follows:

Customs duty - Does not apply to imports originating in the franc zone.

Fiscal duty - Applies to all imports except those originating in the states of former French West Africa.

Statistical duty - 1 percent.

Special duty on entry - 7.53 percent.

Tax on value added - 9 percent usual rate.

EDUCATION, RESEARCH, EXTENSION

Agricultural Education

A beginning has been made in agricultural education in the Ivory Coast, and there are ambitious plans for the future.

Centre de Formation Rural de Bingerville (Rural Training Center of Bingerville) had recently been accepting 20 to 60 Ivoiriens annually. The applicants had only an elementary school education. The Centre provided them with 3 years of practical and theoretical agricultural education at about junior high school level. The graduates become agricultural monitors (extension, experimental farm, and similar personnel). For 1962, the number of possible annual admissions was raised to 120.

2/ In 1961, the writer found that many imported products were twice as expensive in the Ivory Coast as in neighboring Ghana. On the other hand, he purchased two subsistence crop items at extremely low prices. A handful of bananas cost 5 CFA francs-2 cents USA-and a generous amount of dry cowpeas also cost 5 CFA francs.

College Technique d'Agriculture de Bingerville (Agricultural Technical School of Bingerville) provides a slightly higher level of agricultural education. Until recently it accepted only 10 students annually, each with about a ninth-grade education, and gave them 3 years of training at approximately the senior high school level. Graduates become technical assistants. For 1962, possible admissions were raised to 60.

These two schools jointly maintain a practice farm and a botanical garden, both at Bingerville.

In addition, a special school trains agents for agricultural cooperatives. This school is known as Centre National de la Cooperation et de la Mutualite Agricole (National Center for Agricultural Cooperation). The Ivory Coast places great hopes in agricultural cooperatives.

There are plans for establishing a Superior School of Agriculture as a part of the proposed University of Abidjan. It is expected that, for the first few years, admissions to the School of Agriculture will be about 25 persons per year. A 3-year course is planned which will lead to the degree of Ingenieur, roughly equivalent to a bachelor of science degree.

In 1958, there were 960 Ivory Coast students attending universities in France and 171 attending the University of Dakar in Senegal, West Africa. It is not known how many of these students were pursuing agricultural courses.

Agricultural Extension

In one way or another, the farmers of the Ivory Coast receive a great deal of agricultural extension--some by private companies, some by quasi-governmental organizations, and some by the Government. Most extension is on a commodity basis.

For example, the privately owned pineapple grower and packer SALCI (Societe Alsacienne de la Cote d'Ivoire--Alsatian Society of the Ivory Coast) furnishes technical assistance to Ivoirien growers near the company-owned plantation. SALCI tells these pineapple growers how and when to plant, cultivate, fertilize, and harvest their crops.

In the north, cotton growers receive technical assistance from the privately owned cotton mill, Etablissements Gonfreville, and from the quasi-governmental cotton promotion organization, CFDT (Compagnie Francaise pour le Developpement des Fibres Textiles - French Company for the Development of Textile Fibers). The extension takes the form of supplying improved cotton seed, spraying for insects, and encouraging early planting of cotton (by withholding "free" spraying for insect control from late planted cotton).

The most extensive agricultural extension activity (really services) is by the government agency, SATMACI (Societe d'Assistance Technique pour la Modernisation Agricole de la Cote d'Ivoire - Technical Assistance Society for Agricultural Modernization of the Ivory Coast). SATMACI sprays cocoa for control of capsid insects and furnishes fertilizer for cocoa trees. The organization also produces coconut palm seedlings for Ivoirien farmers.

As reported elsewhere in this report in the Ivory Coast Government assists Ivoirien farmers in setting up irrigation projects for rice. (See page 19.)

CRA (Centre Recherche Agronomique - Agricultural Research Center) at Bouake endeavors to demonstrate its ideas for increased food production by means of "model villages."

All in all, it can be seen that agricultural extension consists more of service than demonstration and instruction. Furthermore, as in many African countries, agricultural research runs far ahead of extension; however, this same statement could undoubtedly be said of most countries of Western Europe and North America.

Agricultural Research

A great deal of effective agricultural research is carried out in the Ivory Coast by various institutions scattered about the country. Most of these institutions are branches of French institutions with headquarters in Paris. Practically all of the resident scientists are from France or another European country.

The work of these institutes is coordinated by a special committee under the Minister of Agriculture.

The agricultural research institutes are as follows:

ORSTOM (L'Office de la Recherches Scientifique et Technique Outre-mer - Office of Overseas Scientific and Technical Research). This well-equipped general research station, located at Adiopodoume, emphasizes work on crops of the forest zone. A successful method of crop rotation, combined with use of animal manure, has been developed. Under this method the fertility of poor soils is successfully built up and maintained. This station operates a sugar cane quarantine and introduction station.

While popularly known as ORSTOM, the station at Adiopodoume is officially designated as IDERT (L'Institut d'Etudes et de la Recherches Tropicales -- The Institute of Studies and of Tropical Research).

IFCC (Institut Francais du Cafe et du Cacao - French Institute for Coffee and Cocoa).--The research center for the Ivory Coast is located at Bingerville. See pages 11 and 12 for further information.

IFAC (Institut des Fruits et Agrumes Coloniaux - Institute of Colonial Fruits and Citrus Fruits).--The main research activities of this institute deal with bananas and pineapples. The station is credited with establishing the strain Poyo of the Cavendish variety (Musa sinensis) in the country. This particular strain is resistant to Panama disease. The institute also studies citrus fruits, avocados, and mangoes.

While still popularly known as IFAC, the title of the institute has been modernized to L'Institut de Recherches Fruitieres d'Outre-mer (Institute for Overseas Fruit Research).

The research station for pineapples is located at Anguedegdou. The station for bananas and other fruits is at Azaguie.

IRHO (Institut de Recherches pour les Huiles et Oleagineaux - Research Institute for Oils and Oilseeds).--This organization does excellent work on oil palms, coconuts, and peanuts. See page 19 for mention of the Institute's work on oil palms. The research station for coconuts is located at Port-Bouet.

IRCT (Institut de Recherches du Coton et des Textiles Exotiques - Research Institute for Cotton and Exotic Textiles).--See page 23.

IRCA (Institut de Recherches sur le Caoutchouc en Afrique - Research Institute for Rubber in Africa). An experiment station was created at Bimbresso in 1956. Results to date indicate that in the Ivory Coast rubber does better along the coast than in the forest zone. The station also plans to apply or adapt methods of rubber technology developed in the former French Indochina.

Experiment Stations under the Ministry of Agriculture.--These stations are located at Bouake (see page 23), Man, Gagnoa, and Ferkessedougou. The station at Man deals with coffee and rice, the one at Gagnoa with coffee and cocoa, and the one at Ferkessedougou with rice and other food crops.

AGRICULTURAL PRODUCTION

The location of the Ivory Coast near Ghana and Liberia indicates that the agricultural production of all three countries would be similar. The subsistence food crops and the potential export crops of these countries are, in fact, nearly identical. There are major differences, however, in their principal export crops. Ghana's agricultural exports are dominated by cocoa, while rubber is almost the only agricultural export from Liberia. In contrast, the Ivory Coast produces and exports large quantities of a rather wide variety of tropical crops, including coffee, cocoa, bananas, and pineapples. The country also raises a large proportion of its own food, including yams, plantains, cassava, rice, corn, cocoyams, sorghum and millet, and sweetpotatoes. Crop production for 1961/62 was as follows:

Crop	Production
	1,000 tons
Coffee	109
Cocoa	89
Bananas	103
Palm kernels	17
Pineapples	26
Yams	1,764
Plantains	992
Cassava (manioc)	860
Rice (paddy)	174
Corn	154
Cocoyams	110
Sorghum and millet	77
Sweetpotatoes	51
Kola nuts	33
Peanuts (in shell)	24
Palm oil (from same fruits as palm kernels)	23
Cottonseed	6
Cotton lint (from same plants as cottonseed)	2
Tobacco	2
Shea nuts	2
Copra	1

While some livestock and poultry are raised, the Ivory Coast is not especially suited to the production of meat, milk, and eggs, and considerable quantities of these commodities must be imported.

Crop Production

Coffee

Coffee is now the Ivory Coast's leading agricultural export, with an export value in 1961 of \$82 million, 43 percent of the value of all exports, agricultural and nonagricultural.

Perhaps coffee's history in the Ivory Coast can best be summarized by the following brief table of coffee exports:

<u>Year</u>	<u>Tons</u>
1910	33
1915	11
1920	19
1925	56
1930	491
1935	5,713
1940	17,203
1945	41,747
1950	59,733
1955	93,471
1960	162,577

It can be seen that significant production did not begin until the 1930's and has increased by leaps and bounds since then. The Ivory Coast is now the third largest producer of coffee in the world. In 1962/63, Ivory Coast coffee accounted for 4.9 percent of world production. Its third place was, however, far behind Brazil, with 41 percent, and Columbia, with 12 percent, but slightly ahead of Angola's 4.7 percent.

About 95 percent of Ivory Coast coffee is produced by Africans on their own coffee plantations (fig. 2). The other 5 percent is grown on European-managed farms. The success of the coffee farmers is the equivalent of that of the cocoa farmers in neighboring Ghana. In fact, coffee growing has brought a responsible middle class society to the Ivory Coast. Many Africans now own motorbikes and automobiles. Undoubtedly, CFA francs from coffee sales helped to pay for some of these vehicles.

Almost all the coffee produced in the country is of the Robusta Kouilou variety. It is processed in one of two ways. Dry processing is used by Africans and most Europeans. In this process, the coffee cherries are spread out and dried in the sun. After the cherries are dried, the hulls and inner parchment are removed by machine. A few Europeans use a wet depulping process in which fermentation is used to liquify the gum clinging to the parchment. Coffee is cleaned and graded in modern automated plants at Abidjan.

The IFCC (Institut Francais du Cafe et du Cacao) at Bingerville is doing a great deal of work on coffee, as well as on cocoa, kola nuts, and tea. Work has been done on the use of fertilizers, control of pests and diseases, and improvement of grafting material. It has already



Figure 2.--Young coffee trees of bearing age. The Ivory Coast is the world's third largest coffee producer. Coffee makes up over 40 percent of the country's exports. Courtesy of Republique de Cote d'Ivoire, Direction de l'Information.

succeeded in determining the fertilizer needs by regions for coffee. If their findings could be applied throughout the country, the IFCC claims that production of coffee (and cocoa) could be doubled.

About 1953, the IFCC began work in plant breeding in an effort to control a fungus, Tracheomyces fusarium, that was causing widespread damage to the coffee trees. The fungus attacked two varieties of coffee, Kouilou and Idenie. As there is no known treatment for the fungus, resistant Robusta trees were brought in to replace the diseased trees. But they were not adapted to the climate of the country except near the Guinea border and suffered from drought. The IFCC hopes to find some disease-resistant varieties among indigenous trees.

Because of world surpluses of coffee, marketing the Ivory Coast crop became a problem in the mid-1950's. This difficulty in marketing led to the creation of the Caisse Stabilisation des Prix du Cafe (Coffee Price Stabilization Fund) in 1956. It sets minimum prices to be paid to growers.

During the 1959/60 coffee marketing season, the Caisse sets the price paid to producers at 105 CFA francs per kilogram (19.3 cents per pound). As of November 23, 1960, the coffee price was reduced to 95 CFA francs per kilogram (17.5 cents per pound).

The 1961/62 coffee marketing season opened December 4, 1961, with a fixed price of 80 CFA francs per kilogram (14.7 cents per pound). This price still held good for the 1962/63 harvest.

The Caisse also controls export prices for coffee. It does not buy or sell coffee but may finance storage while waiting for a better price. Its funds come in part from coffee export taxes.

The Coffee Price Stabilization Fund over the years accumulated a substantial deficit and on February 8, 1962, merged with the Cocoa Price Stabilization Fund, which had accumulated a surplus. The merged fund is now known as Caisse de Stabilisation des Prix de Cafe et du Cacao (Coffee and Cocoa Price Stabilization Fund).

As a part of an agreement between France and the Ivory Coast, effected January 1, 1962, France agreed to buy 110,000 tons of Ivory Coast coffee each year. The price was to be agreed on each year in advance of the marketing season. However, with the separation of Algeria from France, this was amended in October 1962, and the quota reduced to 97,000 tons. Historically, prices paid for coffee imported into France from the franc zone have been above world prices. Thus, France has subsidized the coffee growers of the Ivory Coast not only by supplying some of the funds of the Caisse but by paying premium prices for coffee.

Coffee production could undoubtedly continue to expand at a rapid rate. However, difficulty of marketing the crop will undoubtedly cause the Government to continue to try to switch farmers from production of coffee to oil palms, cocoa, and domestic food crops.

Cocoa

Now in second place in the Ivory Coast's exports, cocoa was for many years the leading export commodity. The high point of pre-World War II cocoa exports was reached in 1939 with exports totaling 60,800 tons. (In the same year only 19,800 tons of coffee were exported.)

In recent years the largest exports of cocoa were in 1961, when 97,600 tons were exported. By value, this was 21 percent of all exports.

The Ivory Coast is generally the world's fourth or fifth producer of cocoa, after Ghana, Nigeria, and Brazil, and taking turns by years with Cameroon for fourth place. For the 1962/63 season, the Ivory Coast was in fourth place, with a record production of 112,000 tons. This was 9 percent of world production for the year.

Practically all (about 98 or 99 percent) of cocoa production comes from African holdings, and the rest from European holdings (fig. 3). Coffee and cocoa are often grown by the same farmer.

Prior to 1962, cocoa purchased by private companies and individuals were at prices set by the Ivory Coast Cocoa Price Stabilization Fund. The 1961/62 marketing season began on October 25, 1961, with the price set at 70 francs CFA per kilogram (12.9 cents per pound). This same price prevailed for the 1962/63 season.



Figure 3.--Cocoa pods grow close to the trunk of a cocoa tree. Cocoa beans comprise about a fifth of the Ivory Coast's total exports. Courtesy of Republique de Cote d'Ivoire, Direction de l'Information.

IFCC (see coffee for further details) has done a good deal of work with cocoa, but has not succeeded as yet in determining the fertilizer needs by regions. Extension work with African cocoa farmers has been impeded, partly we were told, because they expect too much "magic" from the use of fertilizers.

Of the various cocoa diseases and pests, the capsid insect is the most damaging in the Ivory Coast. The Government sprayed 148,000 acres of cocoa trees with an insecticide usually containing lindane. For a time this spraying was done without cost to the growers. Beginning with the 1962/63 crop, however, the cocoa farmers are required to pay two-thirds of the cost, and the Government is paying the rest.

Neither blackpod nor "swollen shoot" causes significant damage to the cocoa crop in the country. Swollen shoot is the great scourge of the crop in neighboring Ghana.

A part of the Government's agricultural policy is to encourage an increase in production of cocoa, since cocoa is not in world surplus and usually does not require price support. However,

because of certain production techniques, African farmers prefer to grow coffee. For example, a shade cover must be maintained over cocoa trees, whereas coffee can be grown in the open.

Bananas

Bananas rank third among the agricultural exports from the Ivory Coast, although considerably behind coffee and cocoa. In 1961, exports of 101,000 tons were valued at \$8.5 million, or 4.5 percent of all exports (agricultural and nonagricultural). Of these exports, 87 percent went to France and 12 percent to Italy.

Banana exports from the Ivory Coast made up one-eighth of all banana exports from Africa. This included the big exporter, the Canary Islands, as part of Africa. Ivory Coast banana exports were about 1.8 percent of world banana trade in 1960.

Banana exports from the Ivory Coast began in the 1930's, came to an almost complete halt during World War II, and have been rising steadily since 1956. The largest prewar exports amounted to 15,700 tons in 1939. The 1961 exports were the largest up to that time.

About 90 percent of the bananas are grown by Europeans, 10 percent by Africans.

Most of the bananas are now of the poyo robusta strain, usually simply known as poyo. The strain was first introduced in the country in 1955. This variety is less fragile than the variety previously planted. These bananas can be wrapped in polyethylene bags and shipped in bulk (fig. 4). Previously, the bananas had to be packed in boxes or baskets to protect the fruit from bruising.



Figure 4.--Bananas in polyethylene bags in a shipping shed at the Abidjan docks. Most banana exports go to France and Italy.

The poyo robusta strain is resistant to Panama disease. It is susceptible to leaf spot (sigatoka disease), but the actual incidence of this disease in the Ivory Coast is not known.

If markets can be found, it seems likely that banana production in the Ivory Coast will continue to increase. The growers in the country seem happy with the profits they are making on the crop.

The European Common Market will probably bring a wider, but perhaps cheaper, market for bananas from this and other franc-zone countries in Africa. (See page 39 for a discussion of the Ivory Coast and the European Common Market.)

Yams

Yams are the chief domestic food crop of the Ivory Coast, with an estimated production in 1961/62 of 1,764,000 tons.

As in other parts of West Africa, yams seem to be the "prestige" food crop among the African subsistence farmers. These farmers appear to give the yams the most attention in planting and cultivation and take the most pride in selling them at their markets. Yams require careful attention in harvesting and storage.

This crop is not to be confused with sweetpotatoes sold as "yams" in United States. The true African yams usually have a regular, almost cylindrical shape and often grow to a length of 12 to 18 inches. The taste is more like that of a white or Irish potato than a sweetpotato.

Whole yams or pieces of yams are planted at the top of yam hills 2- or 3-feet high, hilled up with a short-handled hoe (fig. 5). When the vines sprout and grow long enough, they are trained to run on poles 6- or 7-feet high, somewhat like pole string beans. The yams themselves grow under the ground.

Because a part of the crop must be used to plant the next year's crop, the amount available for food is necessarily reduced by that much.

CRA (Centre Recherche Agronomique--Agricultural Research Center) at Bouake has done some studies on the economics of yam production. In one village studied, the Center found that a person could earn 82 cents a day from raising yams as compared with only 33 cents a day from raising cotton.

While a subsistence crop, yams are an important commodity in domestic trade.

Plantains

This tree crop, a starchy cooking banana (Musa paradisiaca), is a major food crop of the Ivory Coast, particularly in the cercles of Daloa, Gagnoa, and Agboville. ^{3/} Yields vary from 2 to 4 short tons per acre. The area of plantain cultivation has reached 350,000 acres. Total production in 1961/62 was estimated at 992,000 tons.

^{3/} In a 1961 visit to West Africa, the writer found it difficult at first to distinguish between the growing bananas and plantains. However, the plantain fruits are larger and have a rougher exterior. They do not grow as close together in "hands" as do the familiar table or dessert bananas.



Figure 5.--Annual crops are nearly always grown with hand labor, using a short-handled hoe. Tractors and work animals (horses, mules, oxen, etc.) are rarely used.

Plantains are not eaten raw but are boiled or fried. They can also be cooked resembling thick "potato chips." Apparently, plantains are more desired as food by the Africans than bananas. (An example: When our party was riding around the Ivory Coast, our driver, an African from Mali, kept stopping at African roadside markets to shop for plantains. He could buy plantains more cheaply in these markets than in Abidjan. He was not at all interested in table bananas.)

Cassava (Manioc)

In sheer weight of product, cassava (manioc) comes third to yams and plantains in the Ivory Coast, with an estimated production in 1961/62 of 860,000 tons. While rich in starch (35 percent), cassava contains no fat and only 0.50 to 0.75 percent protein, 0.33 percent glucose, and 1 percent sucrose and dextrine. Cellulose makes up most of the rest. It is by no means a balanced food.

However, cassava is planted from pieces of stalk a few inches long, and thus planting uses up none of the previous food crop. Furthermore, phenomenal yields can often be obtained from cassava with only the most elemental hoeing.

Cassava has the unique quality of keeping well underground even after maturing. If there is a shortage of other foods in the nonharvest season, cassava can be withdrawn from "living storage" and used for food.

While yams and plantains seem to be the most popular crops sold in markets in the Ivory Coast, cassava roots are also sold (fig. 6). So far as is known, no cassava or cassava products are exported, but all are used as domestic food.



Figure 6.--A market at Bouake, Ivory Coast. To the left of the path are yams, the favorite food crop of the country. At the right of the path are cassava (manioc) roots, third most important subsistence crop.

Rice

Rice is the Ivory Coast's most important cereal. A great deal is grown locally--174,000 tons of paddy rice in 1961/62--and considerable quantities of milled rice are imported. Rice imports for recent years were as follows:

<u>Year</u>	<u>Imports (tons)</u>	
	<u>Milled rice</u>	<u>Paddy equivalent</u>
1955	18,400	26,300
1956	13,800	19,700
1957	28,500	40,700
1958	15,500	22,100
1959	38,900	55,600
1960	38,900	55,600
1961	37,300	53,200

The chief rice areas are in the north and west of the country, with a total cultivated rice area of 500,000 acres. In fact, the Bandama River, which bisects the country from north to south, is sometimes described as the eastern border of a rice-dominant food zone. This zone extends all the way to the Casamance River in Senegal. Root crops are the dominant subsistence food crop in the Ivory Coast east of the Bandama River. They are also dominant in the coastal zones of Ghana, Togo, Dahomey, and Nigeria.

Crops of locally grown rice have increased in recent years as shown in the following tabulation:

Paddy Rice Production

<u>Crop year</u>	<u>Tons</u>
1952-54	123,000
1957/58	151,000
1958/59	77,000
1959/60	176,000
1960/61	160,000
1961/62	174,000

As can be seen from the rice trade table shown at the beginning of this section, production of domestic rice has not kept up with the increasing demand.

The Government of the Ivory Coast has a policy which will, if successful, make the country self-sufficient in this crop. Several projects have been planned in which the Government assists various tribes in growing rice. In 1961, the writer visited such a project near Raviart. A small dam had been built to accumulate water for flooding. However, all the clearing and leveling of land had not been done. The writer was told that some tribes were very cooperative and worked very well together on such projects. Members of other tribes, on the other hand, were "rugged individualists" and did not like to work on the cooperative projects.

Until such time as the country is able to produce all its own needs for rice, there is a good chance that it may buy rice from the United States. At present, most rice imports come from outside the franc zone. In 1961, the chief suppliers were China, Brazil, Burma, South Vietnam, and Cambodia. Some rice was also imported from adjoining Mali.

Palm Oil and Palm Kernels

Anyone fairly well-acquainted with West African agriculture would assume that the Ivory Coast exports oil palm produce (palm oil and palm kernels). Actually, it is a net importer of palm oil. However, there are plans for much greater production in the country in the future (fig. 7).

The 1961/62 production of palm oil was 23,000 tons. Palm kernel production was 17,000 tons. Trade reports for 1961 show 2,700 tons of crude palm oil imported from Dahomey, 2,400 tons from Congo (Leopoldville), and 700 tons from Congo (Brazzaville).

In 1961, exports of palm kernels amounted to 13,800 tons.

Excellent results have been obtained from experiments at the IRHO (Institut de Recherches pour les Huiles et Oleagineux--Research Institute for Oils and Oil-Bearing Materials) research station at La Me. Experiments at the station indicate that it is possible to produce 2,700 pounds per acre of palm oil on improved plantations set out with improved varieties. In addition to the palm oil, the same trees would yield 900 to 1,350 pounds per acre of palm kernels without shell.

France and the other European Common Market countries are already large importers of tropical vegetable oils (palm oil, palm kernels, and copra), as well as of peanuts and peanut



Figure 7.--An aerial view of an oil palm plantation at Dabou. Additional plantings of oil palms (Elaeis guineensis) are planned. Courtesy of Republique de Cote d'Ivoire, Direction de l'Information.

oil. The Institute has found that these Western European countries could absorb substantial additional quantities of vegetable oils, some of which could be supplied by palm oil from the Ivory Coast.

The strong demand for vegetable oils is in sharp contrast to the world coffee surplus to which the Ivory Coast is making a significant contribution. The Ivory Coast Government would like very much to convert coffee plantations to oil palm plantations, especially in the southeast around Aboisso.

IRHO had available for 1962 distribution 2 million seeds. With a possible germination of 1 out of 3 seeds, this would be enough to plant 11,500 acres at the rate of 58 trees per acre.

Success in palm produce production would, of course, bring increased competition in Western Europe for U. S. soybean oil and cottonseed oil.

Pineapples

Pineapples, both canned and fresh, make a small but interesting contribution to the exports of the Ivory Coast, as well as a contribution of some significance to the country's diet. In 1961, canned pineapples made up seven-tenths of 1 percent, by value, of agricultural exports and fresh pineapples two-tenths of 1 percent.

SALCI (La Societe Alsacienne de la Cote d'Ivoire - Alsatian Society of the Ivory Coast), the largest grower and canner of pineapples in the Ivory Coast, began planting toward the end of

1948 and began canning in October 1950. SALCI produces 75 to 80 percent of the canned pineapple in the Ivory Coast. It is owned by Banque de Paris et des Pays Bas (Bank of Paris and the Netherlands). There is one other cannery in the country.

Exports of fresh pineapples consist in part of small parcels packed for luxury gift trade. They are sent to France by air. In May 1961, 22 pounds of fresh pineapples could be shipped from Abidjan to France for \$8.10. In 1961, 2,300 tons of fresh pineapple were exported, most of it by ship.

Pineapple production in the Ivory Coast amounted to 1.1 percent of world production in 1960 (fig. 8).

At the SALCI plantations, about half the crop is grown on company-owned land with hired labor, and about half by independent African farmers who receive technical assistance from the company. The plantations are on the Ono Lagoon, not too far inland from the Atlantic Ocean. There is easy, protected water transportation from the plantations to the docks at Abidjan.

The company-owned plantations are situated on rolling hills completely cleared of the tropical rain forest. The fields are so systematically laid out and cared for that they remind one of the American Midwest. The land is deeply plowed with tractor-drawn disk plows. To insure clean coverage, old pineapple stalks and trash are placed in the furrow ahead of the plow. Pineapples require 2 years to mature. Early in SALCI's history, the land was so fertile that the pineapples harvested were so large that canning was difficult. Later as fertility diminished, the size of the pineapples diminished also. The pineapples became too small to can. To keep the fruit up to proper size for canning, exact amounts of fertilizer are now used.



Figure 8.--A pineapple field near Ono Lagoon. The author holds up a choice fruit. The Ivory Coast supplies half of France's imports of pineapples.

Each African grower cultivates about 5 acres of pineapples, 2 1/2 acres being grown and 2 1/2 acres being harvested. The Africans do all their work by hand. They use no workstock or tractors.

SALCI cans a full range of pineapple products--slices, broken slices, crushed, and juice--which it packs under its own brand, as well as about 60 other brands. The cannery is relatively new and modern; it uses pineapple canning machinery made in the United States.

SALCI ships most of its product to France, where it supplies half of the country's imports of canned pineapple. In that it supplies a potential market in France, Ivory Coast pineapple competes with the U. S. (Hawaiian) product.

The Ivory Coast is likely to produce and export even larger quantities of pineapples and will likely hold or increase its share of the market in France. Because of the country's association with France, markets may be expanded to other countries, especially the other European countries belonging to the European Common Market.

Coconuts

The coast east of Abidjan ship channel with its coconut palm trees has a distinct South Seas atmosphere. The coconut palms, however, are not merely picturesque; they have some commercial importance (fig. 9). In 1961/62, production of copra (dried coconut meat) was about 1,000 tons. The Blohorn soap works at Abidjan usually buys the country's entire production.

On the coast, coconut palms blend almost imperceptibly into the oil palm stands. The differences can be noted only by a careful long-range inspection of foliage and fruit.



Figure 9.--Coconut palms (*Cocos nucifera*) growing along the shore of the Gulf of Guinea (Atlantic Ocean).
Courtesy of Republique de Cote d'Ivoire, Direction de l'Information.

The comparative economic merits of growing coconut and oil palms in the Ivory Coast are not known to the writer. However, a good case for oil palms was given us by the director of the Oil Palm Research Station. We did not visit the Coconut Palm Research Station; there we might have heard an equally eloquent case for coconut palms.

Cotton

Although not a major crop, cotton is an interesting and significant agricultural commodity in the Ivory Coast. No cotton lint is exported as such. All of the crop, plus imports from Mali and Upper Volta, is spun and dyed at one modern mill at Bouake. A large portion of the dyed skeins is sold to African artisans, who hand-weave it into designs fancied by the local population.

The remaining skeins are woven at the mill (Etablissements Gonfreville) into durable and colorful cloth, which is in turn made into attractive table cloths and napkins.

The cotton cloth made here is too thick and tightly-woven for use in wearing apparel. The thinner printed cloth for women's clothing is all imported, as are the men's singlets (athletic undershirts) and shorts. However, the Bouake mill is planning to improve and extend its machinery to weave and print the thinner fabric.

The cotton variety grown in the Ivory Coast is Barbadensis Mono. This variety was originated in Dahomey, selected in Togo, and found to be suitable for the Ivory Coast. Both the improved and older Mono varieties are somewhat similar to the Tanguis variety grown in South America. Several Egyptian varieties are also Barbadensis but have long staple.

Cotton is planted in June or later in maturing corn. It is harvested from December to March. Corn is replanted after the previous crop of corn among the cotton plants. Thus, cotton is supplemental to food crops.

A small, professional research station is maintained by IRCT (Institut de Recherches du Coton et des Textiles Exotiques - Research Institute for Cotton and Exotic Textiles) at Bouake. By hybridization (crossing of varieties), the station has come up with HYFI, a high-fiber cotton which was first planted in 1961.

The Bouake station is the only IRCT laboratory in Africa to do basic genetic work in cotton. The cultivated strains (with 52 chromosomes) are crossed with available wild varieties (26 chromosomes) whose most important characteristic is that they have no lint. When wild varieties are crossed with the variety Allen, the resulting fiber is lengthened.

Most of these crosses turn out to be sterile. The process is shortened by microscopic inspection of the seeds to select the fertile crosses before planting. Some crosses have been brought from Texas.

While the present cotton production of the Ivory Coast presents insignificant competition to the United States, the IRCT station is working on some varieties which could be exported. Among varieties which have been tried out are Deltapine, Stoneville, Acala, and Allen. Of these, Allen, a U. S. variety, was found to be best suited to the Ivory Coast. The IRCT obtained the seeds from Nigeria where this variety is grown. Allen has a longer fiber than the domestic varieties, and a lint turnout of 35 percent or better. It is well known on world markets and could be sold there if available.

Insects are not a serious problem in cotton growing. The Mexican boll weevil (the greatest enemy of cotton in North America) is not present. Ivory Coast cotton is infested by *Empoasca*, *Lygus*, and *Hemitarsonernus* vegetative insects which feed on the leaves, and by three bollworms (*Platyedra*, *Argyroplaca*, and *Diparopsis*). The cotton is sprayed with Endrin to control these pests. The Government does the spraying through CFDT, but only if the cotton is planted by September 5. No direct charge is made to the farmers for this service, but the cost is reflected in a lower price paid for seed cotton. CFDT (La Compagnie Francaise pour le Developpement des Fibres Textiles--French Company for the Development of Textile Fibers) is a state company financed by various French and African budgets.

Other Export and Domestic Crops

Production of kola nuts in 1961/62 amounted to 33,000 tons. Estimates of exports of kola nuts give this crop fourth place among the agricultural exports of the Ivory Coast.

Among export crops other than those already mentioned, rubber appears to be the most promising. In 1960, the largest areas of rubber plantations were just west of Ono and in the Dabou savannas. The first production of 800 tons was reported in 1959. In the 1960's, 20,000 acres of rubber are expected to be in production. Rubber will undoubtedly soon begin to show up in the Ivory Coast trade tables as an export of some significance.

Peanut production (24,000 tons in 1961/62) is mostly consumed within the country. Peanuts are a potential export crop.

Tobacco production of 2,000 tons is consumed locally. There is a cigarette factory at Bouake.

Shea nut production is estimated at 2,000 tons. Some years shea nut kernels and shea nut butter are exported.

Sisal was formerly an important industrial crop; processing was done in a cordage (rope and twine) factory at Bouake. However, production dwindled away, and the factory now imports most of its sisal (about 880 tons per year) from Angola.

Among other domestic food crops are corn, cocoyams, sorghum and millet (grown in the north), and sweetpotatoes.

Livestock and Livestock Products

The Ivory Coast does not raise enough livestock to supply its own needs for meat. Imports of cattle, sheep, and goats supply almost four-fifths of the country's meat sold by butchers. Live animals make up the country's largest agricultural import. In 1962, numbers of livestock were as follows:

<u>Kind</u>	<u>1,000 head</u>
Goats	500
Sheep	395
Cattle	310
Hogs	75
Horses and donkeys	2

Cattle.--Cattle, estimated to number 310,000 in 1962, consist of three "races" (types):

1. The Baoule race, named for an Ivory Coast tribe, makes up about 87 percent of total cattle (fig. 10). This type is found everywhere except along the coast and in the northwest. The Baoules are a small, slow-maturing subtype of the West African Shorthorns which show the effects of having been crossed with N'Damas to the north.



Figure 10.--Baoule cattle at an agricultural research station at Bouake, Ivory Coast. These small, slow-maturing native cattle are the most numerous type in the country.

2. The N'Dama race, found in the northwest Ivory Coast around Odiene, makes up about 12 percent of the cattle numbers.

3. The "race des lagunes" make up the remaining 1 percent. They are found in small herds widely dispersed along the coast.

Most of the cattle are found in the north, with almost half being found in the Cercle de Korhogo alone.

These three types of cattle are more or less resistant to trypanosomiasis, the disease transmitted by tsetse flies. They are, however, susceptible to many other diseases, such as rinderpest, foot-and-mouth disease, contagious abortion, tuberculosis, and pleuro-pneumonia.

Each year, the Ivory Coast imports 70,000 to 80,000 head of cattle from the nearby countries to the north, chiefly Mali and Upper Volta. In 1961, the author saw large numbers of cattle near Abidjan which had been driven down from the north for slaughter at Port-Bouet. Some fresh beef is brought in from Upper Volta in refrigerated rail cars, and a little is flown in. This is consumed mostly at Abidjan and vicinity. Some beef is imported by ship, also, mostly from France.

Prospects for increase in cattle in the southern Ivory Coast are poor. Conditions are not especially favorable for cattle and the growers of coffee, cocoa, bananas, and other export crops are not interested in including cattle in their farming plans.

There is a reasonable opportunity for greater production of cattle in the savanna and sudan region of the north.

Goats and Sheep.--As elsewhere in West Africa, goats and sheep are numerous in the Ivory Coast. Goats are estimated to number 500,000 and sheep 395,000. Both sheep and goats are more numerous than cattle and more regularly distributed throughout the country. The greatest densities of these animals are in the middle Ivory Coast, notably in the cercles of Bouake, Dimbokro, Daloa, and Gagnoa. They are generally kept in a rather casual manner in small herds around the African villages. Nevertheless, they thrive and increase in numbers. The goats and sheep are not kept for milk or wool, but some are killed for food. About 100,000 additional goats and sheep are imported annually from the countries to the north for use as food.

Hogs.--Hog numbers are estimated at a nominal 75,000. Pork is not commonly eaten except in Abidjan and vicinity. The local "race" of hogs is described as a "degenerated Spanish type." The hogs are small in frame and root for themselves around the villages and in the forests.

The Livestock Center at Korhogo brought in some imported boars to cross with local sows. These improved pigs have been distributed chiefly around Korhogo, Bouake, and the coastal area.

Prospects for hog-raising seem rather dim, although the Ivory Coast produces much corn and cassava which could be used for feed. Markets are limited, and prices received by farmers for hogs are low.

Horses and donkeys.--Only about 2,000 horses and donkeys are found in the Ivory Coast. This figure fits into the usual scant workstock pattern for tropical West Africa.

Poultry.--Poultry raising on a commercial scale has found some success in the Ivory Coast. Chickens are the only poultry of any significance. The poultry station at Bingerville placed around 130,000 fowls with the poultry raisers of the lower Ivory Coast during the period from 1954 to about 1961. The station has also given technical assistance in raising chickens for eggs and meat. A recent census made within a radius of 62 miles of Abidjan indicates there are 22,000 laying hens in the area, with an estimated annual production of 2,500,000 eggs.

A modest poultry station was installed at Bouake in 1959. It has already contributed to the popularization of poultry-raising in the middle Ivory Coast.

FOOD CONSUMPTION AND DEGREE OF SELF-SUFFICIENCY

Level

Although food is plentiful in the Ivory Coast, diets are not adequately balanced. With yams, plantains, cassava (manioc), rice, and corn being staple foods, diets tend to be high in starches and low in proteins.

Meat consumption (excluding offals, poultry, and game) is estimated at 11 pounds per capita per year, compared with an average of 12.1 pounds per capita for West Africa as a whole.

Trend

Consumption of wheat flour in the Ivory Coast has reached a high level. No wheat is grown in the country. However, 38,600 tons of flour were imported in 1961, mostly from the mills at Dakar, Senegal.

The Government of the Ivory Coast is endeavoring to promote increases in the catch and consumption of salt-water and fresh-water fish. It is also encouraging increased domestic production of livestock, poultry, and fresh vegetables for consumption within the country. The Government hopes to increase domestic production of rice to save foreign exchange now spent for imported rice.

Food Imports

In 1961, imports of food made up 20.3 percent of all imports. This included wines and beer (2.0 percent of all imports) but not fish. Chief recorded food imports, in order of value, were live animals, wheat flour, rice, sugar, wines and beer, dairy products and eggs, fruits and vegetables, meat, and palm oil.

The Ivory Coast ranks somewhat above average in West Africa in percentage of food imports.

TRANSPORTATION

The Ivory Coast is relatively well supplied with railroad and water transportation, but lacks improved roads so important in moving products and people. Building more roads and paving some of the present dirt roads are essential to the future progress of the agriculture of the country.

Roads

As of December 31, 1959, there were 15,595 miles of roads and trails, in the country. Of this total, 405 miles were paved, 6,120 miles were classified as dirt roads suitable for vehicles, and 9,070 miles were trails. Most of the better roads are in the southern part of the country.

Lagunes Cercle, in which Abidjan is located, is best served by roads and trails, with an average of 1 mile of road or trail for each 4 square miles of area. The almost uninhabited Tabou Cercle is least served by roads, with only a mile of road or trail for each 26 square miles of area.

For the Ivory Coast as a whole, road and trail mileage averages 1 mile per 8 square miles of area, as compared with 1 mile of road or trail per 37 square miles of area in the former Federation of French West Africa and 1 mile of road or trail per 0.47 square miles of area in France.

Railroads

The Ivory Coast is better supplied with railroads than most West African countries. Even so, it has just one line extending from north to south, slightly to the east of center.

The Abidjan-Niger Railroad had its beginnings as early as 1904. The railroad was extended to Bobo-Dioulasso in Upper Volta in 1934 and reached its present terminus at Ouagadougou, the Upper Volta capital, in 1954 (fig. 11).



Figure 11.--Ivoiriens selling their luffa sponges and roasted corn to passengers on a train stopped at Rubino. The Ivory Coast's one railroad runs from Abidjan north and northeast to Ouagadougou, capital of Upper Volta.

The railroad thus serves Upper Volta as well as the Ivory Coast. During the political rupture between Mali and Senegal, the Abidjan-Niger Railroad served Mali as well. Mali freight was trucked to and from the freight station and siding at Bobo-Dioulasso.

In May 1961, the author made the trip from Bouake to Abidjan (237 miles) by passenger train in 8 hours. Some of the track and rolling stock are badly dilapidated and in need of replacement.

Of the 729 miles of track in the Abidjan-Niger Railroad, 375 miles lie within the Ivory Coast itself. All of it is on the main line except a 9-mile spur at Ake Befiat (between Abidjan and Agboville) and a 9-mile extension from Abidjan to the east bank of the Vridi Canal.

Although the country is much less intensively covered with rail lines than the United States or Western Europe, any further extension of rail tracks is still very early in the planning stage.

Rivers, Lakes, and Lagoons

The Ivory Coast has no really large rivers or lakes. There are, however, four rivers of some size, all flowing from north to south in the country. They are the Comoe, 430 miles long, the Bandama, 500 miles long, the Sassandra, and the Cavally. The Bandama has an irregular flow, and the Sassandra has steep banks and many rapids. The Cavally forms about three-fourths of the border with Liberia. None of the rivers are navigable for over 40 miles; they are used mostly to transport logs.

Farm products are hauled in the lagoons along the southern coast to Abidjan. These lagoons are behind a narrow sandbar which makes up half the southern coast. They are connected by the Assagni and Assini canals. In all, the canals and lagoons provide transportation on waters protected from ocean storms all the way to Fresco (between Sassandra and Grand Lahou) almost to the Ghana border, a distance of 185 miles.

Ports

Rarely does a single improvement trigger so much progress as has the digging of the Vridi Canal. This channel through the sandbar at Abidjan, completed in 1950, gave the Ivory Coast its first modern ocean port. The canal made the Ebrie Lagoon at Abidjan a capacious port for ocean vessels and brought the present economic boom to Abidjan and the Ivory Coast.

The author saw about 15 ocean freighters and a passenger liner in port at one time at Abidjan in 1961. The ships did not seem crowded for port space, and none were lying out in the Gulf of Guinea awaiting their turn to come into port.

Abidjan is well equipped with docks, warehouses, and machinery for loading and unloading vessels.

Prior to 1950, the Ivory Coast depended on surf ports at Port-Bouet, Grand Bassam, and Sassandra. Ocean freighters anchored in the Gulf of Guinea and employed the lighterage service of small boats which could reach the shore through the surf.

A significant amount of ocean freight is still handled at Sassandra. Some logs are exported from Tabou and Grand-Bereby. However, the great majority of Ivory Coast exports (agricultural and nonagricultural) go through the port of Abidjan. This port also sends out the products of the countries of Upper Volta and Mali.

Abidjan is also the dominant import port not only for the Ivory Coast, but for Upper Volta and Mali.

Air Service

The Ivory Coast has a splendid jet airport at Port-Bouet, near Abidjan. There is jet service to other cities in Africa and to France. Fresh pineapples are flown from Abidjan to France, and fresh meat is flown in from inland Africa.

Airfields which can accommodate small planes are located at Bouake, Bondoukou, Korhogo, Gagnoa, Daloa, Sassandra, Man, Tabou, and other towns. Some of these places have scheduled air service.

INTERNATIONAL TRADE

Exports of Agricultural Commodities

Despite a current small industrial boom in the Ivory Coast, exports of agricultural commodities continue to make up a very large part of the country's total exports--75 percent in 1961.

Nearly half (48 percent) of the Ivory Coast's total exports (agricultural and nonagricultural) go to France, which takes the larger share of each of the Ivory Coast's major crop exports, with the exception of kola nuts.

In 1961 France took the following percentages, by value, of Ivory Coast agricultural exports:

	<u>Percent</u>
Coffee	59
Cocoa	36
Bananas	87
Palm kernels	81
Canned pineapples	83
Fruit juices	80
Fresh pineapples	99

The United States is the country's next best customer, taking 13 percent of total exports, agricultural and nonagricultural. In 1961, the Ivory Coast sent 16 percent of its coffee exports and 27 percent of its cocoa exports to the United States. These exports are of special interest to the Ivory Coast and the franc zone in general, as they bring in desirable U. S. dollars.

Other customers for Ivory Coast agricultural exports include Algeria, Netherlands, Italy, Morocco, West Germany, United Kingdom, and Belgium.

Comprehensive data on the agricultural trade of the Ivory Coast are difficult to obtain. Table 1 was compiled as follows:

- a. Reports of exports to the other countries of the West African Customs Union (Dahomey, Niger, Upper Volta, Mali, Senegal, and Mauritania), and
- b. Estimates of exports to inland countries were added to
- c. Usual published customs reports.

The inland countries, chiefly Upper Volta and Mali, are members of the West African Customs Union, but exports to them have not been reported elsewhere. Table 1 is useful in showing the extent of kola nut exports from the Ivory Coast.

For purposes of comparison, export data shown in table 2 are for 3 years--1959, 1960, and 1961. Since supplementary information is not available for earlier years, table 2 contains information derived only from the usual published trade tables for all 3 years.

Imports of Agricultural Commodities

About 20 percent of the Ivory Coast's imports consist of agricultural products. Some of these--notably rice, sugar, and palm oil--are products which the country could produce to meet its full requirements.

France, as might be expected, supplies most of the Ivory Coast's agricultural imports and is the chief supplier of many items. Other suppliers include Senegal, Mali, Upper Volta, Morocco, China, Netherlands, Brazil, Burma, and Dahomey.

In 1961, France supplied the larger share of the Ivory Coast's imports of sugar, wines and beer, dairy products and eggs, fruits and vegetables, and meat.

Table 1.--Quantity and value of principal agricultural exports, including exports to West African Customs Union and estimated exports to inland countries, Ivory Coast, 1961

Commodity	Quantity	Value
	1,000 tons	1,000 dollars
Coffee	171.8	82,426
From customs reports	169.5	81,725
To West African Customs Union	2.3	701
Cocoa.....	97.7	39,760
From customs reports	97.6	39,736
To West African Customs Union.....	.1	24
Bananas (from customs reports)	100.9	8,483
Kola nuts	35.3	7,980
To West African Customs Union.....	21.6	3,605
To Upper Volta and Mali (estimate)	13.7	4,375
Palm kernels (from customs reports).....	13.8	1,414
Pineapples, canned (from customs reports).....	4.9	1,300
Fruit juices	4.1	903
From customs reports	4.0	867
To West African Customs Union.....	.1	36
Pineapples, fresh (from customs reports).....	2.3	365
Total, above agricultural exports	430.8	142,631
From customs reports	393.0	133,890
To West African Customs Union.....	24.1	4,366
To Upper Volta and Mali (estimate).....	13.7	4,375
Total exports	---	190,169
From customs reports	---	176,635
To West African Customs Union.....	---	9,159
To Upper Volta and Mali (estimate)	---	4,375
Above agricultural exports as percentage of total exports	---	75

Table 2.--Quantity and value of principal agricultural exports,
Ivory Coast, 1959-61

Commodity	1959		1960		1961	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	1,000 dollars	1,000 tons	1,000 dollars	1,000 tons	1,000 dollars
Coffee	115.4	64,836	162.6	75,673	169.5	81,725
Cocoa	69.8	42,997	69.3	35,317	97.6	39,736
Bananas	59.5	4,334	80.0	5,157	100.9	8,483
Palm kernels	16.1	1,993	18.1	2,358	13.8	1,414
Pineapples, canned.....	4.3	1,353	4.6	1,276	4.9	1,300
Fruit juices	3.6	945	4.1	897	4.0	867
Pineapples, fresh.....	1.3	177	3.3	396	2.3	365
Total, above agricultural exports	270.0	116,635	342.0	121,074	393.0	133,890
Total exports	---	137,009	---	151,220	---	176,635
Above agricultural exports as percent- age of total exports...	---	<u>Percent</u> 85	---	<u>Percent</u> 80	---	<u>Percent</u> 76

The chief suppliers of other important agricultural imports were as follows:

Live animals	Mali and Upper Volta
Wheat flour	Senegal
Rice	China
Crude palm oil	Dahomey
Peanut oil	Senegal

Now that the flour mill in Abidjan is completed, the Ivory Coast will import wheat and export wheat flour, instead of importing wheat flour as in recent years (fig. 12).

Imports into the Ivory Coast are summarized in table 3. Data were compiled as follows:

- a. Reports of imports from other countries of the West African Customs Union (Dahomey, Niger, Upper Volta, Mali, Senegal, and Mauritania), and
- b. Estimates of imports from inland countries were added to the
- c. Usual published customs reports.



Figure 12.--Flour mill at Abidjan while under construction. While now obligated to grind only franc-zone wheat, the mill offers a potential future market for U. S. wheat. The Ivory Coast grows no wheat.

The inland countries, chiefly Upper Volta and Mali, are members of the West African Customs Union, but exports from these countries have not been reported elsewhere. Table 3 is useful in showing imports of live cattle from inland countries and wheat flour from Dakar, Senegal.

Principal agricultural imports for the years 1959-61 are shown in table 4. Data were derived from the usual published trade tables. Supplementary information for earlier years is not available.

Agricultural Trade With the United States

The Ivory Coast ships substantial quantities of coffee and cocoa to the United States. In 1961, value of these exports amounted to nearly \$24 million (table 5). Imports of U. S. farm products, on the other hand, are small. In this same year, they amounted to only \$270,000 (table 6). But total imports, agricultural and nonagricultural, from the United States totaled nearly \$6 million.

Agricultural imports from the United States could be greatly increased. For example, most of the country's rice imports come from outside the franc zone. In 1961 only about 5 percent of these imports came from the United States. Representatives of the U. S. rice growers are trying to increase the U. S. share of this market.

At the present time the new flour mill at Abidjan is obligated to buy its wheat from franc zone sources, provided the price is no more than 5 percent above the world market price.

Table 3.--Quantity and value of principal agricultural imports, including imports from West African Customs Union and estimated imports from inland countries, Ivory Coast, 1961

Commodity	Quantity	Value
	1,000 tons	1,000 dollars
Live cattle, sheep, and goats (from inland countries - estimated)	n.a.	7,205
Wheat flour	38.6	5,114
From customs reports	5.9	771
From West African Customs Union	32.7	4,343
Rice	---	4,864
From customs reports	37.3	4,082
From West African Customs Union .....	.5	53
From inland countries - estimated	n.a.	729
Sugar, refined	29.2	4,740
From customs reports	29.2	4,736
From West African Customs Union	1/	4
Wine and beer (from customs reports)	32.3	3,528
Dairy products and eggs	8.1	3,373
From customs reports	8.1	3,345
From West African Customs Union	1/	28
Fruits and vegetables, fresh, dried, preserved	11.9	2,800
From customs reports	11.4	2,710
From West African Customs Union .....	.5	90
Meat and meat preparations	---	1,273
From customs reports .....	.9	1,147
From inland countries - estimated	n.a.	126
Palm oil, crude	5.8	1,142
From customs reports	3.1	628
From West African Customs Union	2.7	514
Flour preparations (from customs reports)	1.1	636
Peanut oil (from West African Customs Union).....	1.6	535
Peanuts (from inland countries - estimated)	n.a.	490
Malt (from customs reports)	2.9	332
Cotton (from inland countries - estimated).....	n.a.	219
Total, above agricultural imports	---	36,251
From customs reports	132.2	21,915
From West African Customs Union	38.0	5,567
From inland countries - estimated	n.a.	8,769
Total imports	n.a.	177,460
From customs reports	n.a.	153,901
From West African Customs Union	n.a.	14,790
From inland countries - estimated	n.a.	8,769
Above agricultural imports as percent of total imports.....	---	Percent 20

1/ Less than 50 tons.

Table 4.--Quantity and value of principal agricultural imports,
Ivory Coast, 1959-61

Commodity	1959		1960		1961	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 tons	1,000 dollars	1,000 tons	1,000 dollars	1,000 tons	1,000 dollars
Sugar, refined	20.6	3,759	21.4	3,848	29.2	4,736
Rice	38.9	4,415	38.9	3,514	37.3	4,082
Wine and beer	17.6	3,156	22.6	2,372	32.3	3,528
Dairy products and eggs	6.1	2,532	5.1	2,388	8.1	3,345
Fruits and vegetables, fresh, dried, preserved	9.3	1,904	8.9	2,139	11.4	2,710
Meat and meat prep. ^{1/} .....	.2	401	.7	932	.9	1,147
Wheat flour	6.1	737	5.3	658	5.9	771
Flour preparations .....	.8	474	.8	494	1.1	636
Palm oil, crude	2.2	446	1.9	438	3.1	628
Malt	3.1	417	2.4	308	2.9	332
Total, above agri- cultural imports ...	104.9	18,241	108.0	17,091	132.2	21,915
Total imports	---	114,590	---	119,955	---	153,901
Above agricultural imports as percent of total imports	---	<u>Percent</u> 16	---	<u>Percent</u> 14	---	<u>Percent</u> 14

^{1/} For 1959, includes only fresh meat and offals.

Table 5.--Value of exports to the United States and percentage of total
exports, Ivory Coast, 1961

Commodity	Value	Exports to U. S. as per-
	1,000 dollars	cent of total exports
		<u>Percent</u>
Coffee	12,898	16
Cocoa	10,861	27
Total	23,759	<u>1/</u> 17

^{1/} Percentage of total agricultural exports.

Table 6.--Value of imports from the United States and
U. S. share of market, Ivory Coast, 1961

Commodity	Value	U. S. share of market
	<u>1,000 dollars</u>	<u>Percent</u>
Rice	248	5
Tobacco, unmanufactured	17	6
Fruits	5	1
Total	270	<u>1/ 1</u>

1/ Percentage of total agricultural imports.

United States wheat growers and their representatives are watching this situation closely. The Ivory Coast may develop into a market for high-quality American hard wheat, which is well suited for the country's humid climate.

The Ivory Coast is a likely market for greater imports of unmanufactured tobacco, canned fruits and vegetables, and, possibly, corn, poultry feeds, and dried milk. In some years, the Ivory Coast imports U. S. tallow for the local soap industry. If the price is competitive and import licenses can be obtained, the country will be a small but steady market for this product.

LONG-RANGE OUTLOOK FOR AGRICULTURE

Production

For the long-term outlook, it appears certain that the Ivory Coast will continue to raise about the same crops as at present, although their order of importance may be shuffled somewhat. No objective data are available as to land which could be used for crops. From personal observations in 1961, it seems there is a great deal of unused land in the southern Ivory Coast which could be planted to tree crops and to annual crops.

Despite Government "discouragement" of coffee-raising, Ivory Coast farmers will undoubtedly continue to produce it as long as yields are adequate, work in raising it is not excessive, and the price subsidized.

Production of cocoa, kola nuts, cotton, and coconuts should continue to rise gradually. Production of bananas and pineapples will follow the market, since these perishable fruits are more sensitive to demand and price changes than some other crops.

Oil palms, rubber, and rice seem to have the best potentials for large increases in production, either percentagewise or tonnagewise.

While an effective local demand for meat, dairy products, poultry, and eggs is evident, there may be some question as to the economic feasibility of increasing production of such products within the country itself. Undoubtedly, much of the north is little suited for any farming except livestock grazing. This area could be used for increasing production of meat and possibly

for production of dairy products. However, much of the south is much better suited to the raising of tropical tree crops than to the production of livestock and poultry and their products.

As in other parts of tropical West Africa, the tsetse fly--carrier of trypanosomiasis--is a major deterrent to the development of a livestock and dairy industry.

Competition with U. S. Agriculture

Since most of its agriculture is based on tropical crops, the Ivory Coast hardly competes with U. S. agriculture. Nor does it appear that developments in the near future will bring any significant competition.

Cotton is one competitive crop grown in the Ivory Coast. However, it is not unreasonable to predict that--if textile mills to supply all of its domestic needs were built in the Ivory Coast--the country would have to import cotton from countries other than its immediate neighbors, possibly from the United States.

Ivory Coast pineapples supply a large portion of the pineapple market in France. Without this competition, France would be a larger potential market for the U. S. product, grown in Hawaii. By planting relatively few additional acres, the Ivory Coast could show a high proportional increase in pineapple production.

If oil palms are planted in significant numbers, the country may be able to supply its own needs for vegetable oils and still have some to export. Increased production of vegetable oils would ultimately compete with U. S. soybean oil and cottonseed oil.

All in all, it seems evident that the Ivory Coast will continue to produce complementary products, such as coffee, cocoa, bananas, and kola nuts, in much greater quantities than supplementary (competitive) products such as cotton, pineapples, palm oil, and copra.

Consumption

Population Growth.--The present average annual growth rate of 2.3 percent seems likely to be maintained or increased. As health conditions are improved, the rate of population growth is likely to rise.

Immigration of Africans, particularly from Upper Volta, Mali, and Guinea, may make significant additions to the country's total population. It also seems likely that immigration of Europeans into the country may add some thousands to the population total. Such European immigration would, of course, be conditional upon continued political stability and a favorable attitude on the part of the Government toward foreign private enterprise.

It is unlikely that Europeans will settle in the Ivory Coast and farm as they have done in Angola, Kenya, and some other African countries. They consider the hot, humid climate too uncomfortable.

Industrialization.--For a tropical African country with no great known mineral resources, the Ivory Coast has a surprising amount of industry, some of it rather sophisticated. A soap works and vegetable oil refinery at Abidjan have been in operation many years. Breweries and

bottlers of soft drinks have been operating for several years. Factories established recently at Abidjan produce matches, make instant coffee, assemble automobiles, and mill wheat into flour. Coffee and cocoa processing plants are an important segment of Ivory Coast industry.

At Bouake, 237 miles inland, is a rather imposing little industrial complex -- the long-established and profitable cotton textile mill, a cigarette factory, and a rope factory.

Factories elsewhere in the country include pineapple canneries and sawmills.

The Ivory Coast has no great hydroelectric projects in view like the Volta River Project in Ghana. However, the dynamos are already humming at the Ayame Dam on the Bia River (fig. 13). Its theoretical capacity of 80 million kilowatt hours per year of electricity increases the electricity supply available to Ivory Coast industries, formerly served only by steam electric generating plants.



Figure 13.--Hydroelectric dam at Ayame on the Bia River. This dam has a capacity of 80 million KWH per year. Most of the current is used in Abidjan. Courtesy of Republique de Cote d'Ivoire, Direction de l'Information.

While prospects for industry in the Ivory Coast appear bright, there seems to be no prospect (or need) for the country to become a truly industrial nation in the near future. Its economic destiny seems to be as a producer of tropical tree crops.

Level of Living

In 1957-59, the estimated per capita income in the Ivory Coast was between \$100 and \$199, according to the United Nations Statistical Office.

While this estimated average seems very low, it is not an especially low average for Africa. To see Africans riding motor bikes and driving automobiles is an interesting sight in the Ivory Coast and an indication of a relatively high economic status. (In some other countries in West Africa, the great majority of Africans walk or ride bicycles, as of course do many Ivoiriens).

While there seems to be no great likelihood of the per capita income increasing at a spectacular rate, there seems reason to believe that it will show a slow but steady rise. As this rise becomes evident, there will be a rise in the level of living, accompanied by an increased demand for imported farm products, notably wheat or wheat flour, rice, dairy products, and tobacco.

U. S. Prospects for Trade

It is easy to predict that the Ivory Coast will continue to sell large quantities of coffee and cocoa to the United States.

What the Ivory Coast will import from the farms of the United States is much less predictable. In the past, agricultural imports from the United States have been small. (See page 33.) In the future the Ivory Coast might import U. S. wheat for the flour mill at Abidjan. The country may take a liking to U. S. rice, as have its neighbors, Ghana, Liberia, and Guinea. The Ivory Coast cigarette factory may import more American tobacco. It is even within the realm of possibility that U. S. cotton might be imported for manufacture within the Ivory Coast.

Association with the European Common Market

France, West Germany, Italy, Netherlands, Belgium, and Luxembourg formed the European Economic Community, popularly called the Common Market, in 1957. At that time the Ivory Coast was associated with the Common Market because it was a part of French West Africa and thus a colony of France. When the Ivory Coast achieved independence, this association was continued on a temporary basis.

In July 1963, an agreement was signed at Yaounde, Cameroon, making the associate membership permanent for the Ivory Coast. Cameroon, Central African Republic, Chad, Congo (Brazzaville), Congo (Leopoldville), Dahomey, Gabon, Rwanda, Burundi, Mali, Mauritania, Niger, Senegal, Somali Republic, Togo, Upper Volta, and Malagasy Republic also became permanent members of the Common Market at the same time.

Under this 1963 agreement, the tropical products of the associated African states will enjoy duty-free entry into the Common Market countries. These same products from Latin America and elsewhere will be subjected to a tariff.

The Common Market countries (France, West Germany, Italy, Netherlands, Belgium, and Luxembourg) will gain a preferential position in the markets of the Africans, although the Africans are permitted to apply tariffs to protect new industries.

Under the agreement, the artificially high prices maintained under a special French price-support system for a number of the associate member countries will be reduced over about 5 years to normal world price levels.

The economic future of the Ivory Coast under the Common Market is hedged in with all kinds of ifs, ands, and buts. However, it is obvious that, even under the Common Market shelter, the Ivory Coast seems destined in time to feel the chill winds of competition. Like all its exports, its coffee will have a broader but cheaper market.

If Ghana and Nigeria refuse to associate with the Common Market, Ivory Coast cocoa would seem to have easy going in Europe. If Ghana and Nigeria join, the cocoa competition could become keen.

The same conditions apply with regard to the country's pineapples, fruit juices, palm kernels, and rubber.

The Ivory Coast has already received a generous share of the Development Fund set up by the members of the European Economic Community. Up to January 1, 1962, it had been allocated \$11,200,000 for social projects and \$10,300,000 for economic projects, or a total of \$21,500,000. Among the Development Fund projects relating to agriculture are the following:

- (a) Road construction in the cocoa area
- (b) Livestock water supplies
- (c) Rural training camps

Under the new permanent arrangement, the EEC increased its Development Fund by an additional \$500 million. It is expected that the Ivory Coast will receive a generous share of this fund.

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