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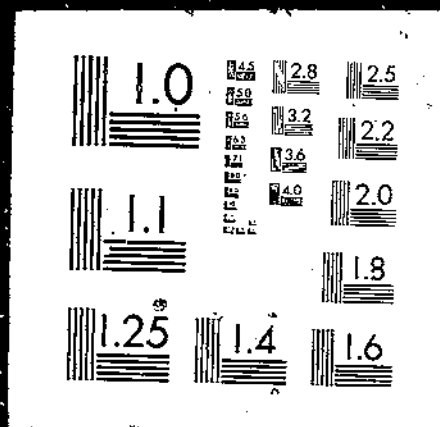
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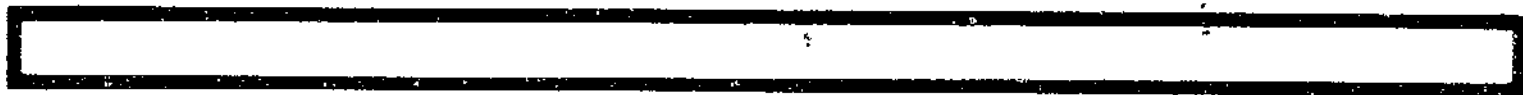
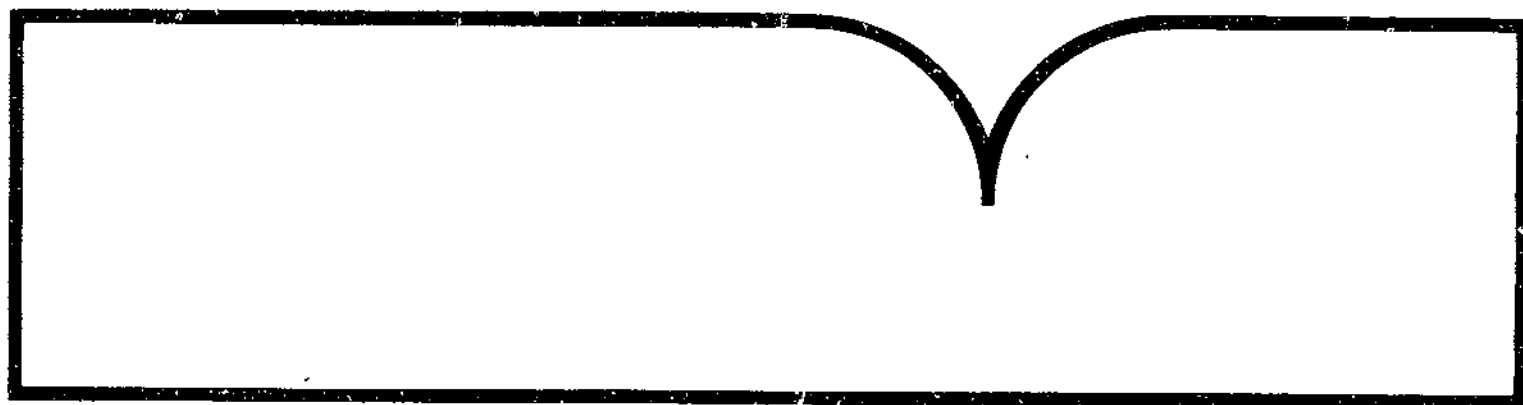


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Dominican Republic  
An Export Market Profile

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

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Number 186

# Dominican Republic

## An Export Market Profile

H. Christine Bolling  
Nydia Rivera-Suarez

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#### ABSTRACT

By 1990, the U.S. share of the Dominican Republic's agricultural import market could reach \$450 million, up substantially from the \$220-million share (out of a total bill of \$250 million) in 1980. This report examines the prospect for expanded U.S. agricultural exports to the Dominican Republic during the eighties. The United States should continue to be the major supplier of grain and oilseed products, and Public Law 480 aid will continue to play an important role in maintaining the U.S. share of basic commodities. A greater U.S. share of the emerging high-value agricultural product market is possible.

Keywords: Dominican Republic, agricultural import potential, production, consumption, trade, agricultural policy, trade policy.

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## PREFACE

Expanding the markets for U.S. agricultural exports is a major goal of the U.S. Department of Agriculture. To support this goal, the Economic Research Service (ERS), cooperating with the Foreign Agricultural Service (FAS), is preparing export profiles for a number of high potential markets for U.S. agricultural products. ERS is USDA's major source of agricultural and trade information on foreign countries and regions, while FAS has the key role in helping U.S. agriculture increase exports in world markets. Profiles are being prepared for selected markets in Africa and the Middle East, Asia, and Latin America.

This report presents information and analysis on the prospects for U.S. agricultural exports to the Dominican Republic. The study surveys basic factors underlying agricultural supply and demand in the Dominican Republic and presents longrun projections of food and agricultural trade. The report is aimed at officials responsible for export market development programs, the agribusiness community, and the general public.

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## SUMMARY

The Dominican Republic imports only about 20 percent of its food, but its agricultural imports have increased more than eightfold since 1970 and are now over \$250 million (16 percent of total imports) making it one of the leading food importers within the Caribbean region. <sup>1/</sup> U.S. products account for \$220 million of the Dominican Republic's farm imports. The U.S. share of the agricultural import market could easily reach \$450 million by 1990. This report examines the prospect for expanded U.S. agricultural exports to the Dominican Republic during the eighties.

The Dominican Republic has established strong preferences for U.S. products, and production and trade policies largely favor U.S. farm product imports. With some year-to-year fluctuations, U.S. exports to the Dominican Republic will be dominated by wheat, corn, and soybeans. Vegetable oils, rice, milk, and meat will also be important. The United States will provide a lesser share of such basic products as day-old chicks, hatching eggs, malt, dried beans, and animal fats (see table). The potential also exists for a greater U.S. share of the emerging high-value agricultural product market. However, the United States has strong competition for some specific commodity markets. For example, canned olives and canned peppers have traditionally been imported from Spain, while dairy products and an increasing amount of canned soups come primarily from the European Community.

While trade prospects are good, the Dominican Republic's economic environment may challenge the U.S. market development effort in the next 5 to 10 years:

- o Much of the population is very poor with diets comprised of the least expensive staple foods. Without substantial economic development or assistance, these people will purchase very little in the commercial market, and few imports will reach them. An improved internal marketing system with adequate facilities for storage and transportation would probably increase accessibility to imported foods.
- o A precarious balance of payments position will continue to suppress imports of all but basic foods in the next 5 years. Underlying the balance of payments position is a growing foreign debt and a continuing lag in the recovery of world markets for sugar and basic metals, the Dominican Republic's major foreign exchange earners. The use of Public Law 480 and short-term credit could help maintain purchasing power for U.S. commodities.
- o The tariff system generally favors the current set of U.S.-supplied commodities but it is not conducive to

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<sup>1/</sup> Agricultural products include food and live animals, beverages and tobacco, hides and skins, oilseeds, natural rubber, textile fibers and other crude materials, animal fats, and vegetable oils.

expanding the market for high-value products. Reductions in the high protection given to domestic food processing industries could open up the high-value market. Although the high-income segment of society is aware of high-value products, their buying power is somewhat limited by the restrictions on availability of foreign exchange that make high-value products more expensive.

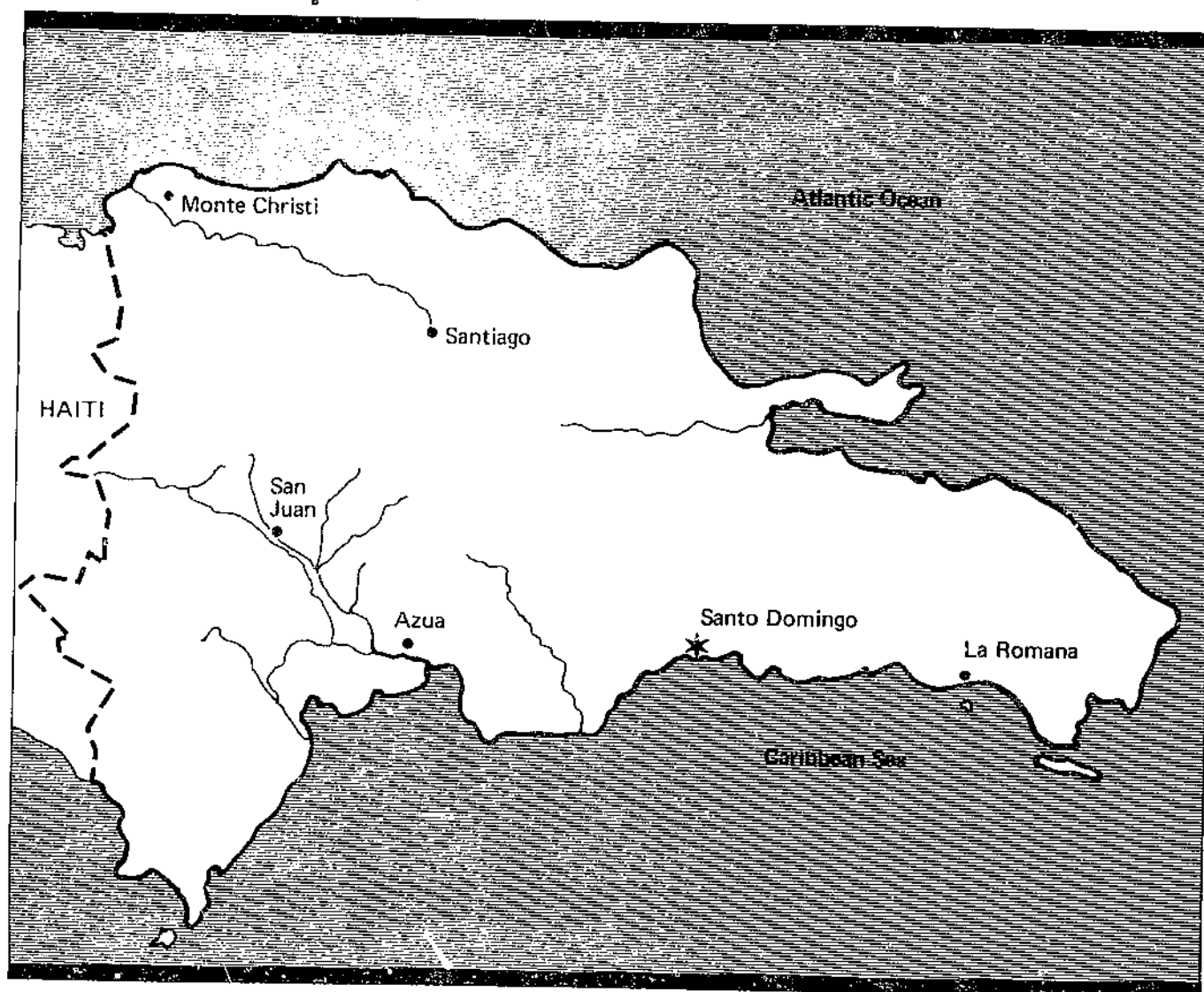
#### Imports of basic commodities

Commodity	1979-81 average	1982	Projected	
			1985	1990
			1,000 metric tons	
Wheat	156	166	193	240
Corn	175	208	239	290
Rice	36	25	45	45
Dried milk	10	10	10	10
Vegetable oil	25	29	27	40
Soybean meal	28	45	0	0
Soybeans	30	30	110	130
Meat	10	14	8	10

#### Conversion Chart

This report uses metric units throughout.  
 1 metric ton = 2,204.62 pounds  
 1 hectare = 2.471 acres

## Dominican Republic



# Dominican Republic

## An Export Market Profile

H. Christine Bolling  
Nydia Rivera-Suarez

### INTRODUCTION

The Dominican Republic is a significant and growing market for U.S. agricultural products; its agricultural imports from the United States reached \$220 million in 1980, compared with less than \$25 million in 1970. Growth in agricultural imports has occurred despite the Dominican Republic's role as an agricultural producer; the country imports only 20 percent of its food. Agricultural imports account for 16 percent of the country's total imports.

This study focuses on the Dominican Republic as an import market with growth potential. The major factors that generated growth during the sixties and seventies (mainly population, income, and domestic food production) are examined as is the country's external purchasing power as reflected by a changing foreign reserve position, food aid, and import prices.

This analysis determines the import potential for U.S. products to 1990, thus providing data for developing a U.S. market strategy for the country. It also identifies some institutional constraints limiting U.S. exports.

### GENERAL ECONOMY

The Dominican Republic's strong economy throughout the seventies increased food demand and food imports. In 6 years of the decade, the country had real economic growth exceeding 5 percent per year. In 1972 and 1975, annual growth exceeded 10 percent and agricultural imports rose accordingly. This demand slowed in the late seventies in the wake of more expensive petroleum imports and depressed world markets for sugar and primary metals, the country's major sources of foreign exchange. More than half of the national income originates in trade, finance, manufacturing, and agriculture, although mining and construction were the real growth industries through the midseventies. However, recent weakened world prices for bauxite, ferro-nickel, gold, silver, and sugar have caused domestic production to slow, thus thwarting economic growth. The lower petroleum prices of the early eighties could be a harbinger of economic recovery, and if the sugar and primary metals markets recover, the country's demand for food imports could resurge.

Unemployment and underemployment continue to be serious problems. Unemployment runs as high as 20 percent and World Bank estimates place underemployment as high as 60 percent. Much of the labor is unskilled and a third of the population is illiterate. The number of urban jobs grew during rapid economic growth, but so did the rural exodus to the city. Unemployment remained high because most of the growth centered on highly mechanized activities, such as mining, and created few new jobs for the unskilled.

# Income

The gross domestic product (GDP) was about \$6.6 billion in 1980, compared with about \$4.5 billion (1980 dollars) in 1970, and a projection to about \$10 billion (1980 dollars) by 1990. A recent 3-percent-per-year growth in population has eroded much of the growth of national income (table 1). <sup>2/</sup> This erosion will continue through the eighties since population growth is projected to continue at nearly 3 percent. Thus, per capita income is expected to grow 2 percent annually at best in the 1983-90 period.

Apart from population growth, the rise in per capita income has been the most important economic determinant of food imports. Earlier studies have indicated that the income elasticity of demand for food imports is about 1.5, meaning that a given percentage increase in per capita real income generates 1.5 times that increase in per capita food imports. Per capita income was \$1,200 in 1980 and is expected to increase to \$1,370 (1980 dollars) by 1990. This increase will depend heavily on the rate at which the U.S. and world economies recover from the current recession.

The distribution of income among the 5.5 million people is highly skewed. The poorer half earns only 13 percent of the nation's income and less than \$50 per month. These people consume more domestically produced foods than the higher income groups and contribute little to growth in import demand.

Table 1--Gross domestic product annual growth rates

Year	Total	Per capita
		<u>Percent</u>
1980	5.6	1.6
1981	3.5	.5
1982	1.0	-4.0
1983-90 (projected)	5.0	2.0

<sup>2/</sup> Income is expressed as gross domestic product (GDP).

Many rural people are in a chronic state of malnutrition even though they spend half of their income on food.

People with monthly incomes of \$50-\$100 consume 20 percent more fruit; 45 percent more cereals and vegetables; twice the amount of bread, vegetable oils, sugar, meat, and fish; and three times more milk and eggs than people with lower incomes. This is important from a market development point of view since bread, vegetable oils, and poultry products are largely imported. Except for sweetpotatoes and cassava, per capita consumption of most foods is higher for people with higher incomes.

At the high end of the income spectrum, 6 percent of the population (about 300,000 persons) earn more than \$300 a month and receive more than 45 percent of the country's total income. This group should be the primary cause for growth in demand for high-value products including meats, dairy products, fruits, vegetables, and prepared foods. They spend about a fourth of their disposable income on food.

#### Inflation

Inflation has been less of a problem than in most other Latin American countries during the seventies. Even when the inflation rate in the Dominican Republic accelerated to 10 percent per annum during 1979-81, it was still low by Latin American standards. Food prices generally increased less rapidly than nonfood prices, attesting to the effectiveness of Government policies to keep food prices low. Prices for imported foods also rose less rapidly than overall prices. A continuation of these food price policies is expected to keep food price rises below 10 percent per year at least through the mideighties; the general price level will also rise about 10 percent per year.

#### Investment

Investment made a significant contribution to the economy and the growth in purchasing power through the late seventies and totaled about \$100 million in 1979. About half of the investment during the seventies was from foreign sources. Many foreign companies, mostly U.S. based, operate in the Dominican Republic, including the ferro-nickel and bauxite industries.

#### Population

Despite strong overall economic growth, the standard of living has not improved as rapidly as one might expect because of the rapid population growth. The population is young and mostly rural; nearly half are under 15 years old and about 60 percent live in rural areas. The urban population has grown faster than the rural population as people have migrated to the cities for work.

The urbanization has affected food consumption patterns. Urban people tend to purchase more highly processed foods and more potatoes, sugar, poultry, meat, fresh milk, and vegetable oils than do rural people who tend to eat more rice, beans, sweetpotatoes, cassava, and plantains.

IMPORT PURCHASING  
POWER

The Dominican Republic depends heavily on agricultural exports to earn foreign exchange to pay for imports (table 2). Sugar and byproducts alone contribute 33 percent of the value of all exports. When coffee, cocoa beans, and tobacco are included along with small quantities of beef and tomatoes, agriculture provides about half of total export earnings. Ferro-nickel, a newcomer to the list of exports, contributes about 11 percent of total export earnings and dore (gold and silver) contributes about 27 percent. Bauxite exports and remittances from workers abroad constitute much of the remainder of the nation's foreign exchange inflow. Thus, as the world market goes for agricultural and nonagricultural raw materials so goes the external purchasing power of the country. The Dominican Republic's current prospects are not good. World market prices are the major determinants of the foreign exchange earnings from these exports, but current prices of these major commodities are down.

Demand for imported food persists without regard to the fortunes of the export markets. Agricultural products, accounting for about 20 percent of total imports during the seventies, are now overshadowed by petroleum which accounts for 25 percent of imports. Machinery and equipment together accounted for another 25 percent while plastics and chemicals amounted to about 14 percent.

Table 2--Value of major commodity exports, 1980

Commodity	Export value	Export share
	Million dollars	Percent
Crude sugar	290	30
Furfural <sup>1/</sup>	21	2
Molasses	15	1
Coffee, green	51	5
Coffee, roasted	25	3
Cocoa beans	51	5
Raw tobacco	35	4
Bauxite	19	2
Ferro-nickel	101	11
Dore (silver and gold)	259	27
Other products	94	10
Total	961	100

<sup>1/</sup> A sugar byproduct ultimately used in the production of nylon.

## Balance of Payments

The balance of payments situation was favorable during the seventies, enhanced largely by foreign loans and investments. The current situation is potentially troublesome as export prices remain low while payments on previously contracted debt continue unabated. The trade balance was negative through the seventies, registered its largest deficit (\$558 million) in 1980, and then declined slightly in 1981 (table 3).

Prospects for world market prices for major exports like sugar, bauxite and ferro-nickel, and dore are highly uncertain with little recovery expected before the mideighties. European Community (EC) stockpiles of sugar (the major depressant of world sugar prices) will not be worked off for several years. U.S. industrial production will have to turn around before ferro-nickel and bauxite export prices rise again.

Through the seventies, the large infusion of foreign capital included long- and short-term loans from foreign banks and

Table 3--Balance of payments

Item	:	1979	:	1981	:	1982	:	Projected	
								1985	1990
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international lending institutions; private citizens' holdings of foreign exchange; and the increased remittances from Dominican workers employed in the United States. These have been the primary sources of foreign exchange used to balance the deficit in the external trade account.

Despite recent reverses, the country is still considered credit worthy. Its current debt service ratio, at 14 percent of foreign exchange earnings and 3 percent of gross national product (GNP), is not considered high when compared with many other Latin American countries. The main problem is that the debt service ratio is increasing. At the current rate, debt service would grow to \$300 million by 1990 and reach 20 percent of total foreign exchange earnings. This assumes no recovery in world markets for export products that might help reduce the country's burden of payments.

Reserves in 1980, about \$200 million, were equivalent to about 2 months of total imports, or 10 months of food imports. However, the country currently has cash flow problems, since a considerable amount of short- and intermediate-term debt came due in 1982. Main cause of this temporary aberration in an otherwise gradually rising trend in debt service is loans made in 1978 and 1979 by U.S. and Canadian banks for \$185 million. These loans had an 8-year maturity and a 3.5-year grace period with the first installment scheduled for 1982. Commercial banks also held pre-export letters of credit for sugar issued by the Banco Central de la Republica Dominicana (Central Bank), but the Central Bank did not provide foreign exchange to these correspondent banks, exacerbating the debt situation.

The country will have to depend on additional foreign loans to maintain a favorable reserve position through the eighties unless alternative measures like import restrictions (already in place), export promotion, devaluation, increased incentives for investment, or refinancing are implemented. Agricultural and mineral exports will continue to be the country's export earnings base, and oil imports will continue to be a burden despite attempts at energy conservation and cutbacks in high energy consuming industries. The country will nonetheless be able to maintain a sufficiently strong reserve position to continue its agricultural imports, partly because food represents only a small part of total imports. Moreover, food import demand tends to be highly inelastic making food imports less sensitive to changes in the country's foreign exchange position than most nonagricultural imports.

#### Food Aid

Food aid can help alleviate the country's near-term foreign exchange problem. Such aid has come from both multilateral and bilateral sources. In 1982, U.S. Public Law (P.L.) 480 shipments reached \$17 million, after falling to less than \$5 million in the midseventies (table 4).

Wheat, corn, and soybean oil imports were the major commodities financed through P.L. 480 in 1979-81; but, in earlier years, wheat flour, bulgur and rolled wheat, blended

Table 4--Value of U.S. P.L. 480 shipments

Year	Value of shipments	Year	Value of shipments
	1,000 dollars		1,000 dollars
1960	210	1980	20,023
1965	8,537	1981	17,025
1970	12,907	1982	17,186
1975	5,775		

foods, and cottonseed and other vegetable oils were also imported (table 5).

P.L. 480 has been partially competitive with commercial imports. A 10-percent increase in P.L. 480 shipments resulted, on the average, in a less than 1-percent decline in the quantity of per capita food imports as measured during the 1960-80 period, according to a recent study.<sup>3/</sup> This means that, in the early seventies when food imports ranged between \$50 million and \$60 million, each \$1 million of P.L. 480 shipments displaced about \$400,000 of commercial food imports. Alternatively, each \$1 million of P.L. 480 provided an additional \$600,000 of U.S. farm product exports that might not have been made otherwise. P.L. 480 has been an effective program for increasing U.S. exports.

#### AGRICULTURAL PRODUCTION

The Dominican Republic is the most agricultural of the Caribbean islands, providing 80 percent of its food from its own domestic production. Moreover, agricultural export crops are its principal foreign exchange earner.

#### Production Trends

Agriculture has been maintained despite the limited land base for farming. In 1980, 1.2 million hectares were in arable land and permanent crops. Another 1.5 million hectares were in permanent pasture out of a total land area of 4.9 million hectares. Only 20 percent of land is considered good for farming, and only 33 percent of that is considered excellent or very good, according to the Organization of American States' Survey of Natural Resources (table 6). Most of the land in farms is in the coastal plains where irrigation projects are continually being expanded, although some fertile land is in the interior valleys. Nearly 25 percent of the land base is suited only for pasture. By either description of land use, there is little opportunity for real expansion of cultivated land area. Sugar, coffee, cocoa beans, and rice

<sup>3/</sup> Bolling, H. Christine, Dominican Republic: Factors Affecting Its Capacity to Import Food, Econ. Res. Serv., U.S. Dept. Agr., FAER-183, July 1983.

Table 5--Commodity value of P.L.-480 imports

Commodity	1962	1964	1966	1968	1970
<u>Metric tons</u>					
Milk, dry nonfat	251	6,443	7,329	3,688	4,990
Milk, evaporated	--	--	23	--	--
Butter	--	2,574	3	225	--
Cheese	--	36	2	--	--
Tallow, inedible	--	571	246	2,370	65
Wheat	2,912	10,451	14,288	83,334	91,063
Wheat flour	2,606	4,282	7,508	1,737	3,785
Wheat products	--	5,889	7,274	3,373	4,168
Rice	--	49,760	--	--	--
Corn	2,743	1,245	102	4,318	--
Blended food products	--	--	--	682	3,417
Beans, dried	--	74	2,540	907	--
Cottonseed, peanut, and soybean oil	189	806	4,570	25,259	3,404
<u>Metric tons</u>					
	1972	1974	1976	1978	1980
<u>Metric tons</u>					
Milk, dry nonfat	5,500	--	914	--	1,011
Milk, evaporated	--	--	--	--	--
Butter	--	--	--	--	--
Cheese	--	--	--	--	--
Tallow, inedible	670	--	--	--	--
Wheat	104,943	--	--	--	38,291
Wheat flour	3,227	1,019	1,133	388	1,242
Wheat products	4,893	2,868	2,902	1,782	1,815
Rice	--	--	--	--	2,899
Corn	15,011	--	--	14,820	76,879
Blended food products	5,215	7,486	10,729	6,112	3,634
Beans, dried	--	--	--	--	--
Cottonseed, peanut, and soybean oil	12,750	1,292	2,200	712	787

-- = Zero.

Table 6--Land capability classification

Production capacity	Land area	Percentage of total land area
	Hectares	Percent
Good for farming:		
Excellent for cultivation	53,700	1.1
Very good for cultivation	235,000	4.9
Good for cultivation	312,200	6.6
Limited or marginal for cultivation	363,900	7.7
Not good for farming:		
Pasture--no erosion hazard	607,100	12.7
Pasture--erosion hazard	561,100	11.8
Forest	2,516,100	52.7
Wildlife	120,200	2.5
Total	4,769,300	100.0

are the largest users of land area; all expanded during the seventies (table 7).

About 300,000 farms produce most of the country's food. A small percentage is represented by medium-size commercial units employing modern production methods and having respectable yields. Most farms are small with fewer than 15 hectares and primitive production methods. Some 100,000 rural farmworkers own no land at all.

In addition to the 750,000 hectares currently in crops, the Government holds some 250,000 hectares which are largely unproductive but potentially farmable. The Government-owned segment of the sugar industry also has another 100,000 hectares of potentially cultivable land in addition to its 130,000 hectares actually planted in sugarcane. About a third of the 1.2 to 1.6 million hectares of privately held pastures could be cultivated with appropriate development. The potential for increasing crop production is not so much through land expansion but through improved technology and cultural practices such as input subsidies or supported product prices.

The Government has been redistributing land since the early sixties. Some 300,000 hectares had been expropriated by 1975. The first redistribution came from the Trujillo

Table 7--Harvested area

Commodity	1969-71 average	1979-81 average	1982 average	Projected	
				1985 average	1990 average

NA = Not available. Harvested area of mangoes, avocados, and pineapples is not available.

estates, followed by land expropriated from other large and medium estates. Although the pace of redistribution dropped sharply after 1979, owners of the remaining medium and large farms, fearing further expropriation, have kept land in pasture rather than in cultivation since the law allows larger holdings of pasture than of cropland. However, the aims of agrarian reform seem to have changed from redistribution to also include consolidation of inefficient small farms into economically viable units and to provide land to otherwise landless peasants.

Approximately 20 percent of the country requires irrigation. Another 15 percent is in an intermediate zone where supplemental irrigation is desirable, though not essential. The rest receives adequate rain for most crop production. Very high priority was placed on new irrigation systems in the seventies. In 1977, 150,000 hectares were irrigated, an increase of 60,000 hectares from 1966. Rice area alone in 1976 was expanded by 30,000 hectares from these irrigation projects. Nearly half of the irrigated land is now in rice. Irrigated pasture, plantains, and sugarcane also expanded.

Off-farm irrigation facilities are administered by the National Water Resources Institute (INDRI) through a network of six irrigation districts that include nearly 166,000 hectares of irrigated land:

<u>Irrigation district</u>	<u>Hectares</u>
Valle de Azua	14,000
Valle de San Juan	28,400
Yaque del Norte	44,750
Yuma-Camu	41,000
Ozama-Nizio	16,200
Yaque del Sur	21,500
Total	165,850

More than half of the country's work force is employed in farming. Because of the seasonality of such enterprises as sugar, labor is imported from Haiti during the cane-cutting season. Since the labor supply is abundant through other times of the year, farmers have generally employed labor-intensive farming methods.

The use of agricultural credit expanded rapidly in the seventies. It came from both Government and private sources with the Government-owned Banco Agricola and a number of commercial banks providing about 90 percent of it. The Banco Agricola obtains its funds mainly through the Government and some from foreign sources including the Inter-American Development Bank (IDB) and the U.S. Agency for International Development (AID). Commercial banks lending to agriculture obtain funds from their own deposits and Economic Development Investment Fund (FIDE), a Central Bank fund which also is assisted by AID and IDB loans.

The major lenders serve primarily the medium- and large-scale farmers with about 90 percent of the production loans going to rice farmers. The Ministry of Agriculture provides specific loans through various outlets for rehabilitating cocoa and coffee plantations. Small farmers rely primarily on informal credit provided by moneylenders, marketing agents, rice mills, sugar mills, local retailers, and relatives.

Next to Haiti, the Dominican Republic is the lowest user of fertilizer in the Caribbean. Less fertilizer was used in 1980 than was used in the early seventies. The cost of using imported fertilizer became prohibitive when international fertilizer prices rose sharply in the midseventies.

#### Crop Production

Crops account for 65 percent of the value of the Dominican Republic's agricultural production, and sugar alone provides 25 percent of this value.

Sugar dominates the country's agriculture (table 8). Not only is sugar the largest user of land but it also ranks highest in its contributions to national income and to foreign exchange

Table 8--Agricultural production

Commodity	1969-71 average	1979-81 average	1982	Projected	
				1985	1990

earnings, as a raw product and its related industries. Most sugar is raised on 14 large estates, 2 of which claim to be the world's largest cane producers. Twelve of the estates and their mills are Government-owned and are operated by the State Sugar Council (CEA). Two are privately owned: La Romana by Gulf and Western Oil Company and Vicini by Dominican Enterprises.

In addition, a large number of small growers produce cane and sell it to nearby estate-owned mills. Some of the small growers farm outside the estates while others are given permission to farm estate lands without leases or title.

While cane acreage has expanded, processing capacity has limited production. An increasing portion of the cultivated area has not been harvested in recent years because of the downturn in world sugar prices. The price downturn may eventually cause sugar estates to seek alternative uses for sugar land. Plantains, sweetpotatoes, red beans, peanuts, and soybeans are being considered.

Coffee, the second largest agricultural export, is cultivated on small farms that employ migrant workers during harvest. Coffee area expanded during the sixties.

Cocoa is also cultivated on small farms and is grown principally in the northern province of Duarte. It is the third most important export crop (table 2).

Tobacco is grown near Santiago. Considerable efforts are being made to improve quality of the leaf for export.

Bananas for export have been grown on large plantations near Monte Cristi. However, most important banana plantations shifted to other crops when a fungus disease caused severe declines in yields. Banana production has since increased somewhat.

Rice is the main cereal produced and the only crop that increased in production in the seventies. Irrigation and fertilizer have both been applied preferentially to rice. The Government has also used price supports to encourage rice production. Despite these efforts, rice yields are low compared with most Latin American countries because of poor cultural practices, poor soils, and poor water control. Rice yields were only 3.6 tons per hectare in 1982 compared with 4.5 tons per hectare in Venezuela.

Corn, the second most important cereal, is grown on nearly every farm. The area harvested declined during the seventies, but the crop is still the principal cereal of low-income people. In 1965, the Food and Agriculture Organization (FAO) of the United Nations estimated that 55 percent of domestically produced corn was consumed as food and only 35 percent as feed. Most of the additional corn needed for the emerging poultry industry was imported from the United States, which provided assistance in the early seventies by introducing complete poultry production packages consisting of the technology, baby poults, corn, and soybean meal.

Food crops such as plantains, cassava, sweetpotatoes, yams, and other tubers are raised largely in small plots for home consumption. Less than half is marketed domestically, and none are important in international trade. Production usually adjusts itself readily to local demand.

Truck crops including tomatoes, potatoes, lettuce, and peppers have developed at the periphery of the urban centers to supply these markets with most of their needs. There is little likelihood for expanded production for export from current operations.

Pulses are important indigenous sources of protein. Pigeon peas are found on nearly all farms and production has remained constant. Red and black bean production rose during the seventies, but about 5,000 tons were still being imported at the end of the decade to meet growing demand. Peanut



production was encouraged by the Government as a source of vegetable oil but has fallen out of favor in recent years as it was found to be less profitable than alternative crops. As a result, the Government, through the Price Stabilization Institute (INESPRE), increased its vegetable oil imports from the United States.

#### Livestock Production

Livestock production accounts for 35 percent of the value of the Dominican Republic's agricultural production.

Beef production has benefitted from the country's abundant pastureland. Cattle, numbering about 1 million head, are mainly crosses between local breeds and Brahma intermingled with Swiss and German types. These result in dual-purpose animals producing both meat and milk. Beef production has been encouraged since it is viewed as a sure export product to the United States. Nearly 5,000 metric tons of beef were exported to the United States in 1980 under the U.S. meat import law. The promotion of better refrigeration facilities combined with Government assistance to improve breeding stock gave the industry the impetus to expand.

Pork production is negligible. Virtually all 600,000 pigs on farms in 1980 were slaughtered to combat an outbreak of African swine fever. A complete rebuilding program is in progress. Prior to the eradication program, hogs had been raised mainly on small farms. However, during the rebuilding process, more are being raised in large intensive systems. There are currently six hog farms with 150-200 sows each using intensive production methods and feeding commercial rations. The Government plans to encourage development of smaller production units (10 sows) also using modern methods and feeding commercial rations. Private firms are participating in this program.

The rebuilding process provides a good market for U.S. breeding stock. About 3,000 sows (mostly Yorkshire and Landrace) have already been imported, mainly from the United States and Canada. The goal is for 20,000 sows in the next few years.

Broiler production developed rapidly in the seventies. Production was based largely on imported day-old chicks, imported corn, and imported soybean meal. With a continued growth in demand for poultry meat, this industry is expected to continue to grow rapidly through the eighties. With it will grow the demand for imported feed grains and meal.

#### FARM PRODUCT DEMAND

The people's diet, generally, is heavy in carbohydrates. Cereals and other starchy foods constitute about 50 percent of the calories consumed and sugar adds another 18 percent. Fruit makes up only 10 percent of the diet and livestock products the remaining 10 percent (table 9).

#### Consumption Trends

Consumption of many domestically produced carbohydrates like sweetpotatoes and plantains has declined and is expected to

Table 9--Per capita consumption of major foods

Commodity	Consumption per capita					
	1969-71 average		1979-81 average		Projected 1990	
	Kilograms	Calories	Kilograms	Calories	Kilograms	Calories
Wheat	24	240	29	290	34	340
Rice	33	330	47	470	52	520
Subtotal	57	570	76	760	86	860
Sweetpotatoes	18	45	13	32	8	20
Yams	5	12	3	7	2	6
Potatoes	13	117	9	81	25	62
Beans and peas	13	117	9	81	8	72
Cassava	34	85	22	55	25	62
Plantains	117	234	102	204	86	172
Subtotal	190	301	152	386	131	338
Bananas	52	104	45	90	36	72
Mangoes	24	19	21	17	16	13
Avocados	23	47	20	32	16	25
Subtotal	99	160	86	139	68	110
Sugar (raw value)	32	320	37	370	41	410
Vegetable oils	7	175	9	225	12	300
Beef	8	48	8	48	8	48
Pork	3	6	4	8	3	6
Poultry	4	12	10	30	13	39
Subtotal	15	66	22	86	24	93
Fresh milk	62	110	52	92	42	74
Dried milk	2	20	2	20	2	20
Total	464	2,000	436	2,100	418	2,200

continue to do so. Wheat and rice are filling much of the gap. Nearly 60 percent of the protein consumed is from cereals. Very little meat is consumed compared with countries with comparable incomes which are more oriented to meat production. This is so even though poultry consumption has more than doubled through the seventies. Meat and dairy products provide nearly 30 percent of the protein consumed. A few processed foods are gaining prominence in the diets of the higher income strata; pasta, malt products, breakfast cereals and infant foods, canned soups, canned olives, tomato paste, fruit juices, salted and canned fish, and cheese are among these items. The present per capita caloric intake is about 2,100 calories and is expected to increase somewhat in the eighties.

Income growth in the eighties is expected to have different impacts on different kinds of foods. The income effect on locally grown foods like sweetpotatoes, yams, and plantains is very low and even negative. Wheat and rice which substitute for these will be affected more; their elasticities are between 0.5 and 0.8. That is, for each 10-percent increase in the country's per capita real GDP, per capita consumption of wheat and rice is expected to increase 5 percent and 8 percent, respectively. Chicken, of great interest to U.S. farmers because of the derived demand for feed grains and chicks, has a very high income elasticity; about 1.2. About 85 percent of the livestock feed supply is consumed by the poultry industry. This substantial effect may be due to the Government's promotion of poultry consumption throughout the seventies at the expense of other meats. Vegetable oils, too, have an income elasticity of about 2, largely reflecting the changeover from lard and other animal fats to vegetable oils.

The income elasticity for beef is estimated at about 0.9. Even this may be high since per capita consumption has hardly risen in the last decade. However, some of the lack of growth may be due to the strong foreign demand for beef, particularly from the United States. This has restricted the supply for domestic use and caused the retail price to rise to more than double the level of poultry prices.

#### Prices and Policies

The Dominican Republic has made an adequate supply of low cost food a primary policy objective. This has been prompted by the fact that about 40 percent of the population lives in poverty. The lowest quartile of the population receives only 10 percent of the national income and spends half of its income on food.

Prices for many basic foods have been kept low through subsidy programs operated by INESPRE and the Government-owned flour mill, Molinas Dominicanas. INESPRE has the power to influence consumer prices through import controls as well as price controls. In addition, it has the power and resources to set domestic farm prices, to purchase surplus commodities, and to store commodities in its own facilities. INESPRE has been the principal vehicle for implementing a set of food policies that have kept the rise in food prices below the overall Consumer Price Index. Prices of nonfood items rose 128 percent from 1970 to 1979, while food prices increased 105 percent.

#### IMPORTS AND IMPORT CONSTRAINTS

Recent growth in agricultural imports attests to the country's continuing dependence on foreign sources for its food needs. Agricultural imports increased more than sixfold since 1970 to reach \$250 million in 1980 (table 10). They are projected to reach \$500 million by 1990.

A concerted effort to improve the quality of the national diet, the development of a poultry industry dependent on imported inputs, the decimation of the swine herd in 1980, and the construction of additional soybean processing facilities

Table 10--Agricultural imports, 1980

Commodity	All sources		United States	
	1,000 metric tons	Million dollars	1,000 metric tons	Million dollars
Wheat	157	29	155	28
Vegetable oils	51	29	50	28
Corn	171	20	171	20
Rice	33	15	33	15
Soybeans	36	10	36	10
Dried milk	9	9	1	1
Soybean meal	38	8	38	8
Pork	5	8	5	7
Poultry	6	8	6	8
Animal fats	14	8	14	8
Prepared soups	4	8	1	1
Baby formula	6	4	0	0
Malt	12	4	6	2
Dried beans	5	4	5	4
Hatching eggs	1	3	1	3
Tobacco	1	3	1	3
Nonalcoholic beverage preparations	2	3	1	1
Day-old chicks	0	2	0	2
Fresh preserves	3	2	3	2
Other	--	73	--	69
Total	--	250	--	220

-- = Not applicable.

and flour mills have all contributed to an expanding and changing import demand.

The supply of wheat, dried milk, and soybeans is met totally by imports. In addition, about 70 percent of all grain fed to livestock and 13 percent of all rice is imported. However, only about 20 percent of the country's total food supply is imported.

#### Imports

The United States provides almost 90 percent of the Dominican Republic's imported agricultural commodities and is expected to maintain its position in the eighties. This includes grains, oilseeds, vegetable oils, tobacco, and inedible tallow as well as baby chicks, fresh and frozen meat, ham, hatching eggs, apples and grapes, fresh potatoes, dried beans, and canned fruit. The U.S. share is low for dairy products,

Wheat is obtained entirely through imports from the United States and together with rice is filling up the food gap that has occurred as many domestic sources of carbohydrates have declined in production. Imports are expected to continue to climb, mostly because of growth in population and consumer income (income elasticity is measured at 0.5), and growing consumer preference for pasta and breads (table 11).

Dominican millers are considering exports of flour to neighboring countries. However, wheat imports have been paid in part through P.L. 480 loans from the United States which prohibit re-export in any form. Thus, the hope to serve its neighboring markets may be delayed as long as the country's external financial situation remains critical and P.L. 480 loans are welcome.

Rice is a major staple in the diet but does not seem to substitute readily for wheat. The Government has encouraged rice production largely by providing the infrastructure needed to increase the planted area. In 1976, new irrigation projects produced 30,000 hectares of rice area. Additional

[illegible]

irrigated land for rice may be used later in the eighties. However, rice imports should continue at either current levels or somewhat higher levels if the proposed developments are delayed (table 12). Rice consumption is expected to reach 375,000 metric tons because of the growth in income coupled with a moderately low calculated income elasticity of 0.8.

Feed grain imports mainly consist of corn. Feed grain imports have grown rapidly and are expected to continue to do so in the eighties (table 13).

Dominican Republic's hopes of providing adequate meat for its growing population continue to be largely tied to poultry. A rapidly developing broiler industry has been the key factor in feed grain demand since 85 percent of the total feed grain supply is fed to poultry. However, the demand may increase even more if the growth in commercial hog feeding continues as in the last year or two.

Table 12--Milled rice production, consumption, and trade

Item	1979-81 average	1982	Projected	
			1985	1990
			1,000 metric tons	
Production	225	225	270	330
Consumption	261	280	315	375
Imports	36	25	45	45
			Kilograms	
Per capita consumption	47	49	50	52

Table 13--Feed grain production, consumption, and trade

Item	1979-81 average	1982	Projected	
			1985	1990
			1,000 metric tons	
Corn production	45	52	40	40
Sorghum production	32	42	50	70
Total production	77	94	90	110
Total consumption	252	302	340	400
Total imports	175	208	250	290

The country has chosen to import feed grains and other ingredients to be mixed by its own feed manufacturing industry. Thus, corn and soybean meal rather than premixed feeds have been, and probably will continue to be, imported. The recent emphasis on sorghum production could dampen corn imports somewhat.

Oilseed meal import growth has also resulted from the growth of the broiler industry (table 14). Domestically produced copra, peanuts, cottonseed, and imported soybeans have been crushed exclusively to provide the meal needed for livestock feeding. Output kept up with the country's needs until the early seventies. Since then, the gap between production and consumption has widened and increased the demand for imported meal. The outlook through the eighties is for continued growth in U.S. soybean imports from which processed meal will be derived, a fundamental change from the seventies when oilseed meal was imported.

Vegetable oil consumption has taken an upswing and is expected to increase soon even more. Some of the demand is satisfied from domestic sources but the bulk will be satisfied from imports of U.S. soybeans that will be processed into soybean oil in the Dominican Republic (table 15). This is a fundamental change from importing vegetable oils to importing soybeans and processing them domestically.

Vegetable oil is replacing some edible animal fats, particularly domestically produced lard. Vegetable oil generally appears to have a very high income elasticity (about 2.0), so any income growth should generate a continued strong growth in imports. While there are plans to increase crushing capacity, strong domestic demand will still exceed production.

Table 14--Oilmeal production, consumption, and trade

Item	1979-81 average	1982	Projected	
			1985	1990
			1,000 metric tons	
Peanut meal production	14	10	10	10
Copra cake and meal production	5	5	5	5
Soybean meal production	21	24	90	105
Total oilmeal production	42	40	105	120
Total consumption	70	95	105	120
Soybean meal imports	28	45	0	0

Table 15--Vegetable oil production, consumption, and trade

Item	1979-81 average	1982	Projected	
			1985	1990
			1,000 metric tons	
Peanut oil production	12	9	10	10
Coconut oil production	7	8	10	13
Cottonseed oil production	1	--	--	1
Soybean oil production	4	5	16	21
Total oil production	24	22	36	45
Total edible vegetable oil consumption	49	51	63	85
Soybean oil imports	25	29	27	40
			Kilograms	
Per capita consumption	9	9	10	12

-- = Zero.

Meat production has been sufficient mainly because consumption has been extremely low (table 16). Relative prices have increased recently, suggesting a supply shortage despite modest imports. The commercial broiler industry will, however, provide most of the needs for growth.

The growth in income and population suggests potential increased demand for meat. The income elasticity for poultry is about 1.2. Pork and poultry imports, rather than beef imports, will make up most of the shortfall, if any, in meat supply and will probably continue to do so through 1990. Live hogs are now being imported to rebuild the herds.

Strong foreign demand, particularly from the United States, has bid beef supplies away from the domestic market through high export prices. Beef exports have also been encouraged by favorable dollar/peso exchange rates to meat exporters. This has caused internal prices to rise substantially and has encouraged pork and poultry consumption.

In addition to the major imports of wheat and livestock feed, each of which exceeded \$20 million, the country imports substantial quantities of day-old chicks, pork, poultry, baby formula, dried milk, hatching eggs, rice, malt, dried beans, soybeans, prepared soups, soybean meal, animal fats, soybean oil, cottonseed oil, and fresh preserves. Each of these exceeded \$1 million in 1980 (table 17). Many of these high-value items were not imported in the sixties when the



Table 16--Meat production, consumption, and trade

Commodity	1979-81 average	1982	Projected	
			1985	1990
<u>1,000 metric tons</u>				
Production:				
Beef	42	45	48	53
Pork	12	1	12	15
Poultry	53	60	72	92
Total	107	106	132	160
Consumption:				
Beef	42	45	48	53
Pork	19	15	20	25
Poultry	56	60	72	92
Total	117	120	140	170
Imports:				
Pork	7	14	8	10
Poultry	3	--	--	--
Total	10	14	8	10

-- = Zero.

Table 17--High-value food imports, 1980

Product	Value
Million dollars	
Meats	18
Fish	15
Milk	16
Fresh vegetables	5
Malt and related products	6
Animal fats and vegetable oils	46
Canned meat, fish	9
Cereal preparations, malt	5
Other foods	24
Total	144

country imported mostly unprocessed foods. Processed products are beginning to make strong inroads into this market; these include canned soups (valued at \$8 million), fruit preserves, and nonalcoholic beverage preparations.

Marketing in rural areas is hindered by poor roads and transportation. Many isolated farmers have few outlets for their products. This presents a barrier both to movement of domestically produced foodstuffs to urban centers and to movement of imported foods from ports to interior points. The marketing system is generally costly and wasteful. There is often a wide margin between the producer price and the consumer price.

Urban consumers are served largely through a number of small retail stores and by street vendors who buy their supplies from one of two central wholesale markets. These central markets are supplied directly by farmers and by other persons who transport the produce from the farms. There are a few supermarkets buying from these same sources or directly from processors and importers.

The country's food processing industry is developing rapidly and competes effectively against imports even though its raw materials may be of foreign origin. There are about 800 food processing plants of different kinds and sizes that sell to about 300 wholesalers who distribute the products to about 11,500 retailers. Many of these enterprises are owned by the state, through the Corporation for State Enterprises (CARDE).

The flour mills, Molinas Dominicanas, are owned by the state and process imported wheat. They are principal suppliers of processed flour to bakeries and pasta factories. Larger food processors include several dairies; vegetable oil processors; chocolate, liquor, and rum distillers; and two breweries. There are also numerous small-scale processing plants.

### Constraints

The central aim of domestic food and agricultural policy is to continue to provide an adequate supply of food for the country's rapidly growing population. With limited domestic resources, this task is complicated by the strong economic competition between domestic and export crops, a longstanding conflict.

The basic policy is to increase production of traditional export crops to earn foreign exchange while encouraging domestic food production and forcing some import substitution.

Rice has received most of the policy attention in recent years. It has benefited from price supports, input subsidies, technical services, favorable credit terms, priority use of new irrigated land, and a substantial research and extension budget. Abundant supplies have minimized the need to subsidize the consumer price.

Rehabilitation of the traditional export crops, coffee and cocoa, has been underway for several years. Government support has been given to applied research for quality improvement, efficient processing, and improved varieties. A great deal of production control and technical assistance has been provided to the tobacco industry.

An integral part of agricultural policy has been the agrarian reform which dealt with problems of land settlement, fragmentation of holdings, large underutilized areas of public and privately held land, and subdivision of large commercial rice and beef cattle farms for more intensive settlement. The Government has also played an active role in obtaining outside assistance to finance the construction of irrigation works.

Many agencies are charged with implementing the overall food and agriculture policy. These include the Ministry of Agriculture (SEA), Hydraulic Resources Institute (INDRHI), Agrarian Institute (IAD), Agrarian Bank (BA), Cooperative Institute (INDECOOP), Rural Roads Directorate (DCV), State Sugar Council (CEA), National Sugar Institute (INAZUCAR), and the Price Stabilization Institute (INESPRE). In addition, many food distributing and processing plants are state owned and so assist in carrying out state policies.

INESPRE has been responsible for regulating and stabilizing prices of major commodities (sugar, rice, beans, corn, onions, garlic, chick peas, plantains, bananas, potatoes, peanut oil, and soybean oil) at levels permitting reasonable profit margins for efficient producers and distributors. While the old policies tended to favor consumers, price policies in the late seventies leaned more toward producers. Retail prices of a large number of agricultural products, very low in the midseventies, were higher in the late seventies. Current domestic support prices for rice and vegetable oil are considerably higher than the import price.

Tariffs themselves have not been serious barriers for much of the trade with the United States. Duties continue to average around 5 percent while several agro-industries have special arrangements to receive duty-free treatment for raw material imports such as wheat, animal feeds, and vegetable oils. This is consistent with the Government's policy to create employment by encouraging local industry even when they are dependent on imported raw materials. At the same time, tariffs on processed foods and luxury items are high, often as much as 300 percent of the cargo, insurance, and freight (c.i.f.) prices.

The barriers for most of the heavily protected luxury foods are even more insidious than the high tariffs. Such nonbasics are generally subject to an ad valorem tax of 55 percent of the landed cost plus 4 percent of the sum of the tariff and the ad valorem tax.

However, duties are imposed not only for their effects on trade but also for their revenues. In 1981, import tariffs provided one-third of the general revenue for all Government operations. The Dominican Republic is a member of General Agreement on Tariff and Trade (GATT). As a result of the Kennedy and Tokyo Rounds, tariffs have been lowered for many commodities. Current duties on major imported products are shown in table 18.

Until recently, there were few quantitative trade limitations other than those for a few products whose imports were temporarily prohibited. However, import permits are required for practically all products and these can be used to restrain trade when the situation warrants. The Ministry of Agriculture also issues licenses for the import of fruits, plants, flowers, and fresh and dried vegetables to assure that these are free of diseases and pests.

Table 18--Tariff rates for major import products, 1982

Product	Tariff rate
Dried fruit	2-15 cents/kg
Fruit juices and drinks	10 cents/liter
Canned fruits and vegetables	60 cents/kg
Fresh fruits	5 cents/kg
Dried and canned milk	12 cents/kg
Seasoning spices and condiments	\$10.00/kg
Dried beans, peas, and lentils	10 cents/kg
Vinegar	19 cents/liter
Canned meats and stews	60 cents/kg
Breadfast cereals	5 cents/kg
Cookies	15 cents/kg
Salad dressing	15 cents/kg
Instant drinks	30 cents/kg
Instant coffee creamers	\$1.00/kg
Peanut butter	20 cents/kg
Jelly	30 cents/kg
Tea	25 cents/kg
Baby food	30 cents/kg
Cheese, spreads, dips	50-70 cents/kg
Frozen foods	10 cents/kg
Pet foods	12 cents/kg
Butter	60 cents/kg
Packaged meat	25-40 cents/kg
Wine	50 cents/liter
Beer	\$1.96/liter
Pasta	25 cents/kg

In 1978, when international reserves were low, the President issued a decree, still in effect, suspending imports of many food products including noodles, spaghetti, macaroni, preserved vegetables, fish, seafood, fruit juices, spiced sauces, cacao and byproducts, butter, yogurt, and cream. Although these items are only a minor part of the total food import bill, they were nonetheless important individually to some U.S. suppliers. Imports of canned corn, potatoes, and pasta have nearly stopped because of this decree.

Foreign exchange has been rationed through the Central Bank in recent years to limit trade when financial difficulties have arisen. The Central Bank administers a quota system of annual exchange allocations that cover some 120 categories of imported foods. In addition, most imports are financed by letters of credit and these, too, must be issued by the Central Bank. Persons holding their own foreign exchange, however, have been able to import goods freely but at a less favorable "parallel" exchange rate. <sup>4/</sup> Increases in the parallel rate, which in 1982 was RD\$1.45 for US\$1.00, more closely reflect the exchange rate market than the official RD\$1 for US\$1.00 official rate. This in fact makes imported goods imported at the parallel rate more expensive than commodities imported on the official exchange rate.

Grains, oilseed meals, and vegetable oils are imported largely by INESPREE. This agency simply estimates the level of imports needed to maintain its objectives for wholesale and retail prices, and all of its imports are made at the official one-to-one exchange rate for the U.S. dollar.

This agency has to stay within its estimated and approved budget. Once its imports exceed the budgeted amount, all subsequent quantities are valued at the parallel or private market exchange rate of 1.4 pesos per dollar. The parallel rate therefore is applied to some basic food imports as well.

Other limiting factors to U.S. agricultural imports are also evident. While the Dominican Republic is a middle-income country with an adult literacy rate of 67 percent, there is a large population that lives in poverty and whose diet is composed of traditional staples. These people consume few food imports. Moreover, the country's weakened financial position in the international market has already limited food imports to basic necessities. The Dominican Republic also has some commodity-specific trade preferences; dried milk is largely imported from the European Community. Other products like canned olives have been traditionally imported from Spain.

Despite the constraints, the Dominican Republic import market is highly responsive to domestic economic growth and

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<sup>4/</sup> The parallel market rate is a second unofficial exchange rate between the Dominican Republic peso and U.S. dollar that is allowed by the Dominican Republic Government.

development; with reasonable economic growth, the market could reach \$450 million by 1990. The emphasis will still be on raw materials although processed foods also have some potential for growth if an effective market development strategy can be devised.

The United States should continue to be the major supplier of grain and oilseed products and P.L. 480 aid will continue to play an important role in maintaining the U.S. share of basic commodities.

#### APPENDIX

Projections of production, consumption, and trade of the major commodities have come from various sources.

- 1) Principal components regression models were developed for per capita consumption of wheat, rice, beef, and poultry using per capita real GDP, deflated retail prices for beef, bread, rice, poultry, milk, plantains, bananas, and sugar as explanatory variables. The growth rates for GDP and population and the assumption of no change in relative retail prices served as the basis for projecting poultry, beef, rice, and wheat consumption.
- 2) Consumption of other basic foods was projected from the FAO income elasticities presented by FAO in its projections sheets also using the assumed GDP and population growths reported on page 2 of this study.
- 3) Feed consumption of feed grain and soybean meal was based on projected production of hogs and poultry.
- 4) Production projections of agricultural crops were based on past trends of acreage and yields recognizing the implicit constraints of available agricultural land.

## Japan To Increase Imports of U.S. Grains and Meats

*"I am impressed with the quality and thoroughness of this work. It represents a real contribution to our understanding of Japanese agriculture."*

Fred Sanderson, Guest Scholar, Brookings Institution.

Japan has long been one of the most important markets for U.S. agricultural exports, especially grains and oilseeds. A new report by USDA's Economic Research Service, *Japan's Feed-Livestock Economy: Prospects for the 1980's*, helps explain why that has been so and why future farm exports to Japan will probably rise even higher.

Each year, Japan purchases about 20 percent of total U.S. corn exports, 50 percent of U.S. sorghum exports, and more than 20 percent of U.S. soybean exports. By 1990, the United States may be able to increase its grain and soybean exports by a third and quintuple its beef exports, according to William Coyle, author of the report. In contrast, the Japanese market for imported dairy products, pork, and poultry will show little or no growth. The United States provides more than 65 percent of Japan's imports of coarse grains (corn, barley, sorghum), 95 percent of its soybean imports, and 71 percent of its soybean meal imports.



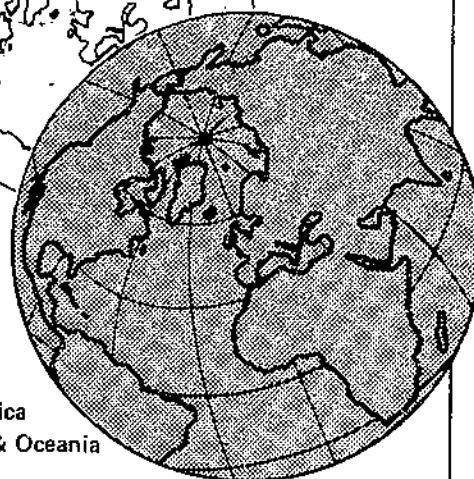
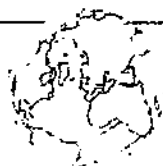
The report includes extensive tables and charts on Japanese consumption, production, and trade of beef, dairy, poultry, fish, and feed grains, including projections through 1990.

*Japan's Feed-Livestock Economy: Prospects for the 1980's* (William T. Coyle; \$5.00; 80 pages, stock no. 001-000-04316-1) can be purchased from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. GPO pays the postage. Make check or money order payable to Superintendent of Documents.

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