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**AGRIBUSINESS INVESTMENT OPPORTUNITIES  
IN JAMAICA**

**Prepared by  
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36 Washington Street  
Wellesley Hills, Massachusetts 02181**

**Prepared for OICD/USDA  
Funded by USAID**

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**SECTION I**  
**INTRODUCTION**

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## CONCLUSIONS AND SUMMARY

Jamaica is a country with many undeveloped agribusiness opportunities. The next few years will present U.S. agribusiness investors a unique opportunity to benefit from the wide variety of production and marketing ventures possible in this country.

Successful investment in Jamaican agribusiness requires a special kind of investor. The investor must be able to see beyond the problems of an economy which has suffered seven consecutive years of decline. The investor must have a high level of commitment. The investor must have patience because there is little fast money to be made. The investor must have a willingness to work with the ambiguity that arises when a government tries to implement its policies as quickly as it is doing in Jamaica. The investor will frequently be required to innovate in marketing, product development, financing and logistics, sometimes assuming a developmental role in his<sup>1</sup> commodity system. The investor, in many cases, must be willing to participate directly in farming. For the investor with these characteristics, Jamaica offers a fascinating environment to run profitable businesses. The most important resources a U.S. investor can bring to new ventures in Jamaica are, in order of importance, access to a market he understands, technical and management expertise and financing.

### THE OPPORTUNITIES

The Jamaican government changed in October, 1980, and this has favorably affected the environment for private investment. The foreign investor has been identified as one of the critical elements in the revitalization of the Jamaican

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<sup>1</sup>Male pronouns in this report are used in the generic sense and include both female and male investors.

economy. The agribusiness investor is to play a key role in providing an understanding of markets, technical expertise, management and capital. Consequently, attitudes toward prospective U.S. investors are positive. Most Jamaicans, from the upper levels of government to the laborer, show heartfelt enthusiasm toward potential foreign investors. The current U.S. administration strongly supports private investment in Jamaica which further increases the attractiveness of investing.

Agriculture, especially export agriculture, has been selected as one of the critical areas for development. In support of its policy to promote agribusiness, the government has created attractive investment incentives including tax holidays, reduced tax rates, special foreign currency accounts, preferential treatment in obtaining resources, import duty reductions, support from government organizations and inexpensive land leases.

One of Jamaica's greatest attractions is its geography. Jamaica lies only 500 miles from the United States, which gives it an advantage over many Caribbean and Latin American countries as a location for export-oriented businesses. The country is served by air and sea transportation and can be reached from the eastern United States within several hours. Flights to Europe, other Caribbean countries and Latin America are available.

The island offers a variety of unique ecological regions (micro-climates) within a small area. Many combinations of soil, temperature, rainfall and sunlight can be found, giving investors a range of production possibilities normally found only in larger countries.

Many agricultural goods produced in Jamaica are of high quality with unique flavor and performance characteristics. This allows Jamaican products to command a premium price in certain markets.

Labor for agribusiness enterprises is usually abundant, and labor-intensive projects are encouraged by the government. Labor costs are low by world standards although not the lowest in the Caribbean.

Infrastructure in Jamaica is among the best in the developing world. Roads are good, especially between major urban areas. Two major airports service the country. Port facilities are good for importing, exporting and transshipping. Communication systems, both domestic and international, usually work well. Hospitals, hotels, restaurants, housing and services are available and of good quality. Jamaica offers a pleasant operating environment for the businessman.

The language in Jamaica is English. This facilitates communication for U.S. investors and allows them to actively participate in management.

Jamaica enjoys marketing privileges in large international markets, notably the United States and Europe. U.S. investors can take advantage of privileged access to EC markets by producing in Jamaica and exporting to them. Caricom, the Caribbean economic community, gives the investor a larger market for his goods.

Jamaica provides the small and medium size investor a good opportunity to operate businesses beneficial to both him and the country. Smaller investors are likely to receive good support from the government.

Investors who come to Jamaica in the near future may gain an advantage over later entrants by locking-in growing markets, buying and leasing land at comparatively low prices, buying assets below their replacement cost, benefiting from the enthusiasm that currently typifies much of the business community. Investors can expect the support of both the Jamaican and U.S. governments to develop this important region of the world.

## THE PROBLEMS

Jamaica's problems have dominated the perceptions of most investors in the recent past. Many problems have stemmed from seven consecutive years of economic decline during the 1970's coupled with a negative attitude of the past government toward the private sector.

Jamaica currently suffers from a shortage of foreign exchange. Most Jamaicans, including government officials and business executives, are quick to point out that foreign exchange is scarce and the country can provide little financing for new investors. This will cause several problems for the investor, including difficulty in importing goods, constraints on movement of capital--notably immediate repatriation of dividends and principal--and negative attitudes toward Jamaica from certain members of the international business and banking community. One should note, however, that provisions have been made to give the investor more control over his own foreign exchange through special retained hard currency accounts.

Jamaica's government has only recently begun to formulate policies on issues that will affect foreign agribusiness investors; in some cases, such policies have been announced but not implemented. Prioritization of foreign exchange allocations for dividend repatriation, land use and lease policy, (especially for agricultural land in sugar) divestiture policy, and delineation of responsibility between various government and promotional organizations are some areas which need further clarification. A planned investment incentives program that will affect agribusiness enterprises has not yet been put into operation.

Much of Jamaica's agriculture is underdeveloped. Investors in Jamaica may have to assume a quasi-developmental role which private companies do not normally assume. This role might involve training, building transportation and marketing systems and building special coordinating and trading institutions.

Agricultural theft (praedial larceny) is a problem. Crop loss due to praedial larceny can significantly reduce the profitability of an operation. Some regions and crops are more prone to theft than others. This report presents several suggestions on how to minimize the effects of praedial larceny.

Jamaica is short of good middle and upper management. This shortage complicates the implementation of new agribusiness ventures and demands greater attention from the investor. Jamaica has a strong history of trade unionism and labor disputes intensified during the past decade of economic problems. Many common operating problems in Jamaica, including labor problems, can be minimized by improved management practices.

Agribusiness investors may find it difficult to find qualified, experienced joint venture partners. The largest, most sophisticated Jamaican companies are already planning new ventures and may become temporarily overextended in the future. Foreign investors may be obliged to ally themselves with relatively inexperienced local partners.

With a population of only 2.2 million, Jamaica does not have a large domestic market to provide a base of sales to the investor. Investors may find that their production during peak periods floods the domestic market and reduces prices. Projects may have to depend heavily, or exclusively, on export markets which can be competitive and capricious.

Few agribusiness ventures in Jamaica promise the investor fast money. Any investor who demands a quick payback, i.e., less than two years, or who is not willing to put personal effort into his project is advised to look elsewhere. This attitude is held widely both by Jamaicans involved in private and public sectors.

## PROJECT PREPARATION

THIS DOCUMENT WAS PREPARED FOR BUSINESSMEN BY BUSINESSMEN. THE DOCUMENT WAS RESEARCHED BY AGRIBUSINESS ASSOCIATES, INC. WITH THE OBJECTIVE OF HELPING BOTH FOREIGN AND JAMAICAN AGRIBUSINESS INVESTORS TO EVALUATE INVESTMENT OPPORTUNITIES IN JAMAICA. A BROAD BASE OF INFORMATION OBTAINED FROM INTERVIEWS AND PRINTED MATTER WAS USED.

1. Research was conducted in Jamaica and the United States by a team of consultants from Agribusiness Associates, Inc. Team members included Thomas Craig (project manager), Ray Goldberg, Leonard Wilson, Alice Howard, John Burns, Douglas Orane, David Shaw, Michael Balick (of The New York Botanical Garden), Doug Braithwaite, Marian McClure, William Mason, Ann Peckenpaugh Lund, Maria Arteta, Lyn Pohl, Roberta Ferguson and Andrew Craig. Agribusiness Associates, Inc. is a private consulting firm specializing in agribusiness. Almost all of its clients are private firms. About half of the company's work is international.
2. The project draws heavily on the opinions and insights of participants in U.S. and Jamaican agribusiness. The most important source of information was field interviews. The consultants benefited from conversations with the following:
  - a. Executives in U.S. firms with experience in Jamaica;
  - b. Government officials in Jamaica;
  - c. Private Jamaican agribusiness investors;
  - d. Prospective Jamaican agribusiness investors;
  - e. Officials working for Jamaican statutory organizations;
  - f. Farmers in Jamaica;
  - g. Officials with the USAID and U.S. Embassy staff in Jamaica;
  - h. Consultants, bankers, intermediaries, traders, brokers and other third parties in Jamaica and the U.S.

3. Agribusiness Associates, Inc. used documents published by government and private agencies. Over 200 major documents were used in the preparation of this report.
4. Field research and interviews was conducted in Jamaica and the U.S. between August and October, 1981.
5. Agribusiness Associates, Inc. would like to extend its thanks to the many individuals who generously gave their time and thought in the preparation of this report. Their help is greatly appreciated.

## PURPOSE OF THIS DOCUMENT

THE PURPOSE OF THIS DOCUMENT IS TO PROVIDE PRIVATE U.S. FIRMS A REALISTIC ANALYSIS OF INVESTMENT OPPORTUNITIES AND PROBLEMS IN JAMAICAN AGRIBUSINESS.

1. This document provides the U.S. agribusiness decision-maker with important introductory information about Jamaican agribusiness. This information is intended to help him decide whether or not to further investigate investment in Jamaica and to give him insights on how to conduct his investigation in the case he decides to look further. The document provides a realistic assessment of both the problems and opportunities to help investors screen themselves in order to avoid wasting their time and that of the Jamaicans.

To provide a proper understanding of the agribusiness system, the consultants of Agribusiness Associates, Inc. made the following analyses:

- \* A subjective assessment of the business environment in Jamaica.
  - \* A review of government policies affecting agribusiness investment.
  - \* A review of laws affecting agribusiness investment.
  - \* An analysis of the politics and history of the country as they affect the investment environment.
  - \* An analysis and evaluation of selected commodity systems.
2. This document does not present a detailed analysis and description of business regulations and laws. Several good documents already have been written on this subject. Two documents which provide detailed background on

tax law, the legal system, ownership regulations, foreign exchange regulations, accounting regulations, general incentives and labor laws are listed below:

\* Investors Guide to Jamaica, prepared for the Jamaican National Investment Company by Paul Chen-Young and Associates, Kingston, Jamaica, 1981.

\* Doing Business in Jamaica, Price Waterhouse, Scotiabank Centre, Duke Street, Kingston, Jamaica, 1981.

3. This document focuses only on agribusiness. Wherever laws and regulations affect the agribusiness investor, the report analyzes them. Therefore, some areas covered in general investment documents (such as the ones cited above) may also be covered herein. This is done to give the investor needed information in one document rather than requiring him to spend time gathering other research material. This report draws on work done in specialized areas by other government agencies, private businessmen and consultants. The report makes reference to specialized studies where appropriate.
4. This document covers most of the major commodity systems in Jamaica. The level of detail in each commodity system analysis varies according to the promise for profitable foreign investment and the importance of the crop in Jamaica's agriculture. This report does not intend to be exhaustive and investors are encouraged to investigate investment possibilities not addressed herein.
5. This document was written exclusively for an audience of U.S. investors. Subsequent to its writing, it was decided that the document would be used more broadly, including all potential agribusiness investors. Although the language of the document frequently addresses the U.S. investor, almost all of the information and analysis should be useful and relevant to non-U.S. investors.

## PROJECT BACKGROUND

THIS DOCUMENT WAS WRITTEN TO SUPPORT INITIATIVES TO INCREASE U.S. INVESTMENT IN JAMAICA. THESE INITIATIVES WERE PROMPTED BY THE ELECTION OF THE NEW BUSINESS-ORIENTED GOVERNMENT OF PRIME MINISTER EDWARD SEAGA WHO HAS ASKED FOR THE SUPPORT OF THE U.S. TO DEVELOP THE JAMAICAN ECONOMY. SEVERAL ORGANIZATIONS ARE ACTIVELY INVOLVED IN BUSINESS PROMOTION, INCLUDING THE U.S. BUSINESS COMMITTEE ON JAMAICA, INC., THE JAMAICA NATIONAL INVESTMENT PROMOTION, LTD. (JNIP) AND THE OICD OF THE USDA.

1. The USDA's Office of International Cooperation and Development (OICD) has certain responsibilities for coordinating the activities of private U.S. agribusiness investors in Jamaica. This report was commissioned in partial fulfillment of that mandate. For further information contact:

Lynn Kinkead Engstrand  
OICD/USDA  
Room 1080  
South Building  
Washington, DC 20250  
Telephone: (202) 447-2568

2. The U.S. Business Committee on Jamaica, Inc., headed by David Rockefeller, has been charged with the task of facilitating U.S. investment in Jamaica. This committee was formed at the request of President Reagan after Jamaica's Prime Minister, Edward Seaga, visited the United States and asked for help in developing his country through private sector initiatives. The committee has several sub-committees in areas important to the Jamaican

economy, including mining, tourism and agriculture. There are corresponding committees and subcommittees in Jamaica. Information about the activities of the U.S. agricultural subcommittee can be obtained from the secretariat:

Nancy Sherwood Truitt  
U.S. Business Committee on Jamaica, Inc.  
684 Park Avenue  
New York, NY 10021  
Telephone: (212) 744-6650

3. Caribbean-Central American Action (CCAA) is a non-profit, non-governmental organization funded by major U.S. businesses. CCAA formed to harness private sector resources to meet development needs in Central America and the Caribbean and to promote cooperation between people of the U.S. and the peoples of the region. Much good information about business in Jamaica can be obtained at the following address:

CCAA  
1333 New Hampshire Drive, NW  
Suite 1010  
Washington, DC 20036  
Telephone: (202) 466-7464

## ADVICE FOR DOING AGRIBUSINESS IN JAMAICA

This section offers advice to firms interested in agribusiness opportunities in Jamaica. Admittedly subjective, the advice is included to help orient those who are not familiar with the country and to facilitate preliminary decisions about investment. Agribusiness Associates, Inc. has compiled this list from the most frequently heard comments, complaints and suggestions in the hope that it will help companies decide how to approach investment in Jamaica.

The challenge to succeeding in Jamaican agribusiness is not so much the challenge of business culture, physical comfort and access to decision-makers as it is in many developing countries. To the contrary, the business environment is pleasant and the country usually functions well: hotels are available; phones work most of the time; traffic is not bad; corruption is not a serious problem; the people speak English and are hospitable; restaurants are good; recreation is abundant. The issues that will dominate the U.S. agribusiness investor are fundamental issues such as whether or not markets have been properly identified, whether proper facilities and services to support a business exist or can be created, whether Jamaica is the best location for his purpose and whether his probable returns--which can be high--sufficiently compensate him for the risk of investment.

Many of the suggestions made by Jamaican businessmen address the nature of what an investor should bring to a deal. As in any developing environment, three things are commonly sought: money, expertise and market. Although money was the most frequently sought resource, the most important determinant of success is a proper identification and understanding of the markets for the variety of agricultural products which can be produced.

Some of the key points for doing agribusiness in Jamaica are presented in the following paragraphs.

1. Stay Home If You Are Not Serious

Responding to the new investment climate in Jamaica, many foreign companies have submitted preliminary project proposals. A majority of these proposals are not realistic or well thought out. This creates a problem for the individuals and organizations in Jamaica charged with soliciting foreign investment and facilitating the creation of new agribusiness ventures. Serious investigation of agricultural ventures is costly for both U.S. and Jamaican businessmen. The Jamaicans are serious about gearing their economy around private sector investment and agriculture and are trying to give adequate consideration to all serious inquiries. Companies should be sure of their willingness to invest before they make inquiries which require a commitment of Jamaican resources.

2. Joint Venture If At All Possible

The law regulating foreign ownership of companies in Jamaica is liberal compared to most developing countries. Foreign companies are not required to joint venture to do business. However, most analysts of the Jamaican business environment, both Jamaican and non-Jamaican, recommend joint ventures, especially in agribusiness.

A Jamaican partner can be invaluable in helping a foreign investor maneuver in the local environment. Jamaica's business community is small, and personal relationships are very important. The government bureaucracy involved in establishing new businesses is slow unless personal attention is given to procedures, preferably from influential Jamaicans. Jamaican executives spend much of their time expediting paperwork and procedures. Based on the strengths of personal relationships, a Jamaican partner can usually work with government, private institutions and regulations more

effectively than can a new foreign businessman. Jamaican partners may also be able to negotiate lower prices on important purchases such as land. If the Jamaican partner owns more than 50%, the company usually can obtain more local financing.

3. Bring Your Own Money (Or Most Of It)

Capital is scarce in Jamaica. Foreign investors are usually expected to bring most of their own financing. Investors may find that they must rely heavily on equity capital since some U.S. banks are reluctant to loan to foreign agribusiness ventures. Although most observers agree that capital is scarce, especially in large quantities, others believe that there is more capital available than is commonly perceived. Banks should be anxious to fund well-conceived agribusiness projects.

4. Come With A Market

Of all the contributions sought by Jamaicans from U.S. agribusiness partners, access to and understanding of markets is the most important. Because past agricultural policies were designed to support the substitution of imports with locally produced goods, there is generally an inadequate understanding of export markets. Many of the markets into which Jamaica wants to sell are competitive and require sophistication in timing, product definition, quality control and logistics. Without a thorough understanding of markets, export ventures in Jamaica are unlikely to succeed. Because Jamaica's local market is small, the country's primary attraction is that it offers both a good location and substantial resources to produce for external markets. An understanding of the dynamics, participants, structure, trends, risks and opportunities in those markets is critical.

5. Be Prepared To Deal With Ambiguity

Jamaica is changing fast. Most of this change is good because it is intended to create a better environment for business. However, the speed with which the country is trying to reorient itself is causing an unavoidable amount of ambiguity for businessmen. Many of the policies that affect the investor have either not been promulgated or are not understood by those who must interpret and implement them. Ambiguity also arises because the responsibilities of the various organizations important to agribusiness investors have not been finalized. Investors should understand that Jamaica's policies affecting the private sector will continue to evolve over the next two years.

The ambiguity caused by rapid changes should not unduly hamper the investor. Jamaica is a small country, and serious investors should have no problem getting access to necessary people and information. Investors should ask for written commitments from officials on policy issues which will significantly affect their operations. Within Jamaica's many institutions are competent individuals who can give the U.S. agribusiness investor much help. Investors who cannot resolve ambiguous situations should present their problem to the Jamaica National Investment Promotion, Ltd. (JNIP).

6. Be Ready To Innovate And Assume A Developmental Role

Jamaica is a country of undeveloped potential. To develop the country's agribusiness potential, investors will have to assume a developmental role in many instances. U.S. firms may have to develop farming systems, incentive systems, infrastructure, coordinating institutions and arrangements, management systems, markets and management teams as part of their undertaking. Investors should seek assistance from the government or international development agencies who may provide financial and technical support.

7. Come Committed

The previous point suggests investors should make a personal commitment to their project in Jamaica. Because most agribusiness projects require innovation, it is critical that the investor be actively involved. Investors are well advised to live in Jamaica for the early phases of the project or find a competent manager who will do so. One factor that most successful agribusiness projects share is active participation from a manager who is often the owner himself.

8. Share The Pie

If one accepts the premise that Jamaican participation in agribusiness projects is desirable, then ownership becomes an important issue. Most Jamaicans interviewed by Agribusiness Associates, Inc. expressed a strong desire to own a majority of the company. U.S. investors normally share a similar goal, thus creating an important point for negotiation.

9. Get Organized Early

Establishing a new business in Jamaica can be facilitated by taking certain actions early in the process. Among those actions which are best done early are the following:

\* Form a corporation. Forming a corporate entity makes it easy to process the paperwork for certain licenses, permits, exemptions and incentives.

Get a work permit. Businessmen can receive significant discounts at hotels, restaurants and other service institutions with work permits.

Establish contact with the Bank of Jamaica. The Bank of Jamaica affects the foreign investors in many critical areas. Many common problems associated with establishing a new business can be avoided by understanding the documentation, regulations and procedures of the Bank of Jamaica.

## EXPORTS VERSUS THE DOMESTIC MARKET

BOTH THE EXPORT AND DOMESTIC MARKET PRESENT SPECIAL OPPORTUNITIES AND PROBLEMS. WHILE THE JAMAICAN GOVERNMENT'S NEW ECONOMIC REVIVAL PROGRAM EMPHASIZES EXPORTS, IT IS IMPORTANT FOR THE INVESTOR TO UNDERSTAND THE DOMESTIC MARKETS AND USE THEM TO HIS BENEFIT WHEN POSSIBLE.

### 1. Advantages Of The Domestic Market

Prices in the domestic market are often higher than prices in the world market. Regional and seasonal shortages of certain products can drive up prices giving the farmer lucrative returns.

The domestic market may provide some cash contribution for excess production, providing distribution is adequate. Non-export grade produce can be sold through the domestic market which has lower quality standards.

Some domestic products are protected against competition from imports.

Demand in many domestic markets is not satisfied. Producing for these markets can provide a useful service by reducing imports and increasing consumption.

### 2. Disadvantages Of The Domestic Market

One major problem with the domestic market is that it is small. With a population of 2.2 million people, it is difficult to justify a sizable business on the promise of this market alone.

Selling into the domestic market is complicated by the poor wholesale distribution system. It is difficult to profitably sell large quantities of agricultural goods locally. Prices frequently fall significantly when modest volumes of product reach the market. Even though aggregate national demand for many products is rarely met, it is difficult to satisfy potential demand. This difficulty arises because the distribution system is partly constrained by the limited amount of food the higgler is able to market (higgler is a generic term for one of several types of persons involved in the marketing and distribution system). Distribution problems are covered in greater detail in the section entitled "Assembly and Distribution Systems".

Local prices are controlled by the government in certain basic commodities, especially those with a high imported raw material content. This restricts returns possible to the U.S. investor and the use of price as a competitive tool.

Domestic consumer purchasing power is low. Many producers of agricultural products, especially high value protein products, complain that Jamaicans can no longer afford their goods. This is a result of the steady decline in real income and falling purchasing power that has occurred over the past decade. This problem will only be rectified if the economic recovery program succeeds.

The domestic market is sometimes harmed by imports which depress prices. This problem has been particularly acute since the election. Some experts believe that this problem should become less serious in the near future as the initial enthusiasm for imported goods decreases and local producers respond better to market needs. Others believe, however, that new government policies on imports will be needed to correct the problem.

Although regulations allow foreign companies to sell into the domestic market, high-level officials have expressed their preference that U.S. investors not produce exclusively for certain domestic markets, particularly those which are supplied by small farmers. One should note, however, that investments to displace imported foods are encouraged.

Although Jamaica is an IMF Article 8 member (Article 8 specifies guidelines for profit repatriation), U.S. companies who sell into the domestic market may have difficulty repatriating their profits quickly. Since profits from domestic sales are earned in Jamaican dollars, a company must depend on the Bank of Jamaica, the central bank, which controls foreign exchange, to obtain hard currency to repatriate profits. The country is currently short of foreign currency, and profit repatriation is a relatively low priority use of foreign exchange. Foreign exchange will remain scarce for at least two more years, probably beyond then. To repatriate profits quickly, investors must convince the government that they have saved the country foreign exchange by replacing imports.

### 3. Advantages Of The Export Market

The government of Jamaica has identified export-oriented agribusiness ventures as one of the keys to their economic revitalization. U.S. agribusiness firms that establish export operations can expect much support from the government. Benefits to U.S. investors are discussed in greater detail in another section of this document.

Export-oriented agribusiness ventures generate hard currency. This gives the investor two important advantages. First, it allows one to repatriate profits more easily since one need not depend on the Bank of Jamaica for foreign exchange allocations. Second, it increases the chances that banks will offer financing.

Export-oriented operations have greater marketing flexibility. Many of the products which can be successfully grown in Jamaica have broad markets in the U.S., EC, and Caricom (Caribbean community).

Export-oriented ventures give U.S. agribusiness firms a stronger position in their commodity system. U.S. firms which participate both in production and export have influence over three of the critical components of their system: production, transportation and marketing.

Funds for export-oriented businesses are available through the Export Development Fund which is currently underutilized.

Export-oriented operations provide opportunities for barter arrangements.

#### 4. Disadvantages Of The Export Markets

Many of the export markets into which Jamaica could sell are competitive and unpredictable. Certain fruits, vegetables and ornamental horticultural crops face stiff competition from Latin American and U.S. producers.

Jamaica's farm systems and export channels cannot currently meet the exacting quality standards of the export market for certain commodities.

Jamaica's production costs--notably land and labor--are high relative to other countries for some export products.

## AGRICULTURAL SECTOR OVERVIEW

AGRICULTURE IS AN IMPORTANT SECTOR OF THE JAMAICAN ECONOMY, PROVIDING ABOUT 34% OF TOTAL EMPLOYMENT AND 13% OF EXPORTS IN 1980. HOWEVER, AGRICULTURE ACCOUNTS FOR A SMALL PERCENTAGE OF TOTAL GDP, ONLY 8% IN 1980, REFLECTING THE UNDERDEVELOPMENT OF THIS SECTOR.

- \* Primary food products for the domestic market account for 48% of agricultural production, followed by livestock (26%), export agriculture (14%), fishing (11%) and forestry (1%).
- \* Over the past decade, Jamaica's agricultural exports have declined in real terms. Between 1970 and 1979, GDP in export agriculture declined 25% from J\$40 million to J\$30 million (in 1974 dollars). In contrast, GDP in domestic agriculture grew over 75% from J\$50 million in 1970 to J\$87 million in 1979. Domestic food production was boosted by price supports, farm credit programs, and restrictions on food imports during periods of tight foreign exchange.
- \* The structure of agriculture in Jamaica has historically been divided between estate production of major export crops and livestock and small farms (less than 10 acres) producing food crops, selected export crops, and smaller herds of livestock for domestic consumption. This structure has changed somewhat over the past two decades, with estate production declining in importance and the emergence of more medium-sized farms (25-100 acres).
- \* The distribution of land in Jamaica is skewed. According to the most recent census, there are approximately 190,000 farms on 1.5 million

acres of agricultural land. About 79% of the farms are smaller than five acres and account for 15% of the total acreage. In contrast, farms over 100 acres account for less than 1% of all farms, but occupy over 53% of the agricultural land.

- \* Most small farms are located on steep hillsides where erosion is a problem. These farms are the primary producers of domestically consumed food crops as well as export crops such as bananas, coffee, cocoa and pimento. Most small farmers sell some portion of their production into commercial channels, earning a cash income. Large farms are the major producers of citrus, coconut, beef and dairy products.
- \* Most land in Jamaica is held under a freehold system. An estimated 90% of farm land is owned and operated by farmers, with the remaining land operated by a renter or non-owner.
- \* For the small farmer, title of land ownership is unclear in many cases, since land is inherited jointly by all members of the family. Land may be occupied by "squatters". Small farms often consist of several separate tracts of land.
- \* On small farms most land preparation is manual. The farmer uses only basic tools such as fork, hoe and machete. Farmers typically practice intercropping and multi-cropping to ensure year-round production and to minimize the risk of crop failure.

- \* Agricultural productivity is low. The value-added per worker was US\$862 in 1980. Productivity on small farms is reduced by a number of factors including the following:
- low yields due to poor land quality and soil erosion;
  - lack of fertilizer and high-yielding plant varieties;
  - limited supply of labor, particularly during planting and harvesting periods;
  - low labor productivity because of shortages of farm equipment and the difficulties farming hillsides;
  - lack of short and long-term farm credit for new investments;
  - few young people are entering farming and many are leaving for the cities.
- \* Medium to large farms (over 25 acres) are located on the coastal plains and in the interior mountain valleys. They occupy the most fertile agricultural land and have better access to roads, irrigation and other infrastructure.

## AGRICULTURAL POLICY

JAMAICA HAS RECENTLY ARTICULATED THE FUNDAMENTAL POINTS OF ITS NEW AGRICULTURAL POLICY, PRIMARILY THROUGH SEVERAL SPEECHES BY THE PRIME MINISTER AND THE MINISTER OF AGRICULTURE. THE REVITALIZATION OF THE COUNTRY'S AGRICULTURE IS A HIGH NATIONAL PRIORITY. THE FOREIGN INVESTOR IS EXPECTED TO PLAY AN IMPORTANT ROLE IN THIS REVITALIZATION.

1. The following points summarize consistently stated agricultural objectives and strategies:

- \* Development of Jamaica's agriculture will emphasize export crops.
- \* Import substitution will still be an important goal since it saves the country scarce foreign exchange.
- \* Foreign investors are welcome in Jamaica and are expected to play a critical role in the supply of capital, technical expertise and marketing skills.
- \* The Government of Jamaica will actively support the efforts of agribusiness investors, both domestic and foreign, through attractive incentives and promotional assistance.
- \* Increased employment and transfer of skills are two important objectives of Jamaica's agricultural policy.

2. The Minister of Agriculture made a speech before Jamaica's Parliament on October 10, 1981, outlining the budget and objectives for Jamaica's

agriculture. Although specific details and policies were not delineated, the speech provides insight into the basic policy environment in which the agribusiness investor must operate. The major points of this address are summarized below.

- \* The proposed budget for the Ministry of Agriculture in 1981/82 is J\$145 million, falling into three major categories.

<u>PROPOSED BUDGET FOR THE MINISTRY OF AGRICULTURE</u>	
<u>1981-1982</u>	
(J\$ million)	
Operating Expenditures	41.6
Locally Funded Capital Projects	59.9
Institutionally Funded Projects	43.6
	<u>145.1</u>

- \* The country's agriculture will be guided by the following policy objectives:

- The development of a comprehensive rural development program to increase the attractiveness of rural living.
- Payment of reasonable prices for commodities to stimulate production.
- Improvement of the land tenure system to give farmers better security than currently exists in order to promote development and investment.
- Implementation of a major soil conservation and forestation program.
- Development of irrigation systems.

- Improvement of the domestic distribution and marketing system for food crops with special attention to reducing post-harvest losses.
- Improvement of agricultural credit.
- Introduction of an agricultural zoning system.
- Expansion of the domestic inland and coastal fishing industries.
- General development of the livestock industries.
- Restoration of the traditional export crops.
- Deregulation of the commodity boards.

- \* A reorganization of the Ministry's personnel is planned to put more technical officers in the field, upgrade the staff, improve working facilities and bolster morale.
- \* The Ministry plans to stress the role of small farmer's who showed the only increase in production throughout the 1970's.
- \* The Ministry stressed the importance of incentives and delineated those it wants implemented (see section on incentives in this report) in order to stimulate agricultural investment.
- \* The Ministry of Agriculture and the Prime Minister both recognize the need to improve the marketing system. Of particular interest to the investor is the policy which allows investors meeting certain criteria to bypass the traditional monopoly export channels of the commodity boards and to market their production directly. The criteria, as they currently stand, are general and have not been tested in practice. These are:

- The investor cannot sell their commodity below the export price of the relevant commodity board.
- The investor must abide by existing quality standards.
- The investor can only market production from land that he developed.

The intention of this policy is to encourage new plantings rather than allowing investors to market existing production. The policy is designed to make it easier for investors to control their marketing and command a premium price, bypassing the often cumbersome, inefficient and bureaucratic commodity boards.

Two cautionary points, however, should be noted by the investor. The first is that this policy restricts the use of price as a competitive tool since the investor cannot undersell the commodity board. This policy could affect the ability of the investor to develop markets by passing on lower production costs to buyers since Jamaica's commodity board prices are often high by world standards. The second problem is that the policy has not been tested. There is evidence that the commodity boards may be able to retain de facto control over marketing through quality, inspection and acreage requirements. An investor for whom direct marketing is important should seek written commitments on prerogatives and constraints before investing.

## DIVESTMENT

THE GOVERNMENT HAS EXPRESSED ITS INTENTION TO DEREGULATE THE JAMAICAN ECONOMY. ONE COMPONENT OF THIS PROGRAM IS TO SELL SOME OF THE BUSINESSES IT OWNS AND OPERATES, INCLUDING SOME AGRIBUSINESS ENTERPRISES.

- \* A Divestment Committee has been established to oversee the divestment process. This committee has 14 members, including accountants, lawyers, businessmen, engineers and representatives of government and labor.
- \* The Committee reviews divestment candidates forwarded to it by the Cabinet. The Cabinet receives proposals from the various ministries responsible for operating government-owned businesses.
- \* The Committee analyzes divestment candidates, solicits bids through the newspapers, reviews bids and makes recommendations to the Cabinet. The Cabinet refers bids back to the relevant Ministry which negotiates with the purchaser. The Divestment Committee gives advice and monitors the progress of the negotiations.
- \* Fifteen businesses have been referred to the Committee for sale. A number of other businesses are being considered for referral to the Committee. Of these, two--Southern Processors and Cornwall Dairy--are agribusinesses.

For more information about the Committee contact:

Mr. R.N.A. Henriques  
Attorney-at-Law  
20 Duke Street  
Kingston, Jamaica  
Telephone: 922-6310

## IMPORTANT PROMOTIONAL AND AGRICULTURAL INSTITUTIONS

THIS SECTION DESCRIBES AND ANALYZES INSTITUTIONS WHICH WILL AFFECT THE U.S. AGRIBUSINESS INVESTOR. JAMAICA HAS BEEN CRITICIZED IN THE PAST FOR ADDRESSING ITS PROBLEMS BY CREATING INSTITUTIONS AND COMMITTEES, AN ARGUMENT SUPPORTED BY THE FACT THAT THERE ARE OVER 1,000 EXISTING PUBLIC ENTITIES.

DESPITE RECENT EFFORTS TO DEREGULATE THE ECONOMY, INVESTORS MUST STILL DEAL WITH NUMEROUS ORGANIZATIONS IN THE COURSE OF THEIR BUSINESS. THIS SECTION IS DESIGNED TO DESCRIBE THE MOST IMPORTANT ORGANIZATIONS AND SUGGEST WAYS IN WHICH THE U.S. INVESTOR CAN USE THEM TO HELP ACCOMPLISH HIS GOALS.

INVESTORS SHOULD REMEMBER THAT DESPITE THE GREAT NUMBER OF INSTITUTIONS, MANY WITH OVERLAPPING RESPONSIBILITIES, IT IS NOT DIFFICULT TO TAKE ADVANTAGE OF WHAT EACH ONE HAS TO OFFER. JAMAICA IS A SMALL COUNTRY, AND IT IS POSSIBLE TO VISIT SEVERAL ORGANIZATIONS IN A DAY. THE MULTIPLICITY MAY EVEN BE HELPFUL IN SOME CASES BECAUSE IT ALLOWS INVESTORS TO GET VARIED OPINIONS ON INVESTMENT ISSUES. ULTIMATELY, AS IN MOST COUNTRIES, IT IS THE PEOPLE WITHIN THE ORGANIZATIONS WHO ARE IMPORTANT. ONE CAN FIND OUT WHO THE KEY DECISION MAKERS ARE THROUGH CASUAL INQUIRIES.

THE SECTION IS DIVIDED INTO THE FOLLOWING PARTS:

1. PROMOTIONAL ORGANIZATIONS
2. THE MINISTRY OF AGRICULTURE
3. COMMODITY BOARDS

1. Promotional Organizations

\* Jamaica National Investment Promotions Ltd. (JNIP)

The JNIP was formed in 1981 as Jamaica's exclusive private investment promotional organization. Some of the functions now performed by the JNIP were performed by a special division of the Jamaica National Investment Company, Ltd. (JNIC). The JNIP was recently split off and given an independent mandate and budget. The JNIP is a "full-service" organization that helps guide investors through the process of investigating and processing new projects. The purpose of the JNIP is to expedite investment by helping investors "cut through red tape," and work through the bureaucracy which affects investors. It also coordinates investment-related activities. Two staff members are currently assisting agribusiness investors. New agribusiness personnel will be added in 1982. Due to renewed investment interest following the change in administration and recent promotional efforts overseas, some of the agency's resources are presently spread thin. However, the company has provided valuable assistance to many potential investors--including members of a recent Overseas Private Investment Corporation (OPIC) mission--who have been strongly impressed with this new group.

\* The JNIP provides the following services to investors:

- Assistance in applying for benefits under government-sponsored incentive schemes;
- Assistance in obtaining import licenses and work permits;
- Locating sources of domestic financing;
- Referral to potential joint venture partners;

- Evaluation and screening of potential Jamaican and U.S. joint venture partners;
- Referral to corporate legal services;
- Organizing business meetings with key private and Jamaican public sector decision makers;
- Maintaining contact with investors to expedite projects and clear bottlenecks;
- Assistance in locating land for lease or purchase.

While the JNIP does not provide direct funding to projects, it may be able to help finance pre-feasibility studies for private sector agribusiness enterprises in the future.

Investors are advised to contact the JNIP in the early phases of their investment inquiries at the following address:

Mr. Hugh Shaw  
Agribusiness Coordinator  
15 Oxford Road  
Kingston 5, Jamaica

Agricultural Development Corporation (ADC)

ADC is a statutory organization under the Ministry of Agriculture created in 1951 to stimulate the development of agriculture, expand the dairy industry, increase beef production, expand the small livestock industry and provide seed material for rice farming. The ability of the

ADC to achieve these objectives has been affected by external policy constraints and financing. The role of the ADC is being reexamined, particularly on how it will coordinate its work with the JNIP which has official responsibility for promoting new investments.

A number of prospective investors have consulted with the ADC during the project development stage since the staff has good information about agribusiness in Jamaica, notably livestock and land. The ADC is responsive to investors' inquiries and requests for assistance. The ADC can be an excellent resource for investors in certain areas of agribusiness.

#### Jamaica Industrial Development Corporation (JIDC)

JIDC is a statutory organization under the Ministry of Industry and Commerce. It was established in the 1950's as the administering authority for the government's import substitution industrial incentive laws. In its consultative role to industry, the JIDC has developed and managed industrial parks, promoted the establishment and expansion of industries and provided training and technical assistance to industrial enterprises. The JIDC's Food Technology Institute has undertaken research and development related to food processing industries and will contract with private sector enterprises to develop new products and processing techniques.

#### Jamaica National Export Corporation (JNEC)

The JNEC was established in 1969 to promote the development of exports and has become an important component of the government's current export drive. Some of the services it offers include:

- Administering the Certified Exporters Scheme, a program designed to help exporters secure import licenses and foreign exchange for purchasing raw materials.
- Identifying export products and export opportunities. The JNEC prepared a National Export Plan for 1981-1983, identifying sectors that showed promise for expanding export sales, earning foreign exchange and having a high proportion of local value added. Sectors included fresh and processed foods, floriculture, alcoholic beverages, tobacco products, coffee, cocoa and spices. The JNEC will be actively involved in promoting exports of these products. The National Export Plan is a useful document to read since it identifies important national priorities in the agribusiness sector.
- Collecting data on exports through its Trade Information Services to provide market information to exporters. Its overseas Trade Commission offices also provide information to importers of Jamaican products.
- Managing export incentive grants for market research, product design, packaging, quality control, advertising and promotions, along with other marketing activities.
- Certifying the value-added content of products shipped to Caricom countries or to countries with a Generalized System of Preferences.

Its Trade Commission offices in the U.S. are listed below:

NEW YORK

Trade Commission Office  
Jamaica National Export Corp.  
866 Second Avenue  
2 Hammerskjold Plaza  
New York, New York 10017  
Telephone: (212) 688-7865

MIAMI

Jamaica Consulate General  
842 Ingraham Building  
25 South East 2nd Avenue  
Miami, Florida 33131  
Telephone: (305) 374-8431

Jamaica Export Trading Company (JETCO)

JETCO is a profit-oriented trading organization owned by JNEC and the Bank of Jamaica. JETCO trades for both government agencies and private sector companies. It exports products either by taking title to merchandise or acting as an agent and earning a commission on sales. Products exported through JETCO include fresh and processed foods, spices, minerals, furniture, handcrafts, garments and horticultural products.

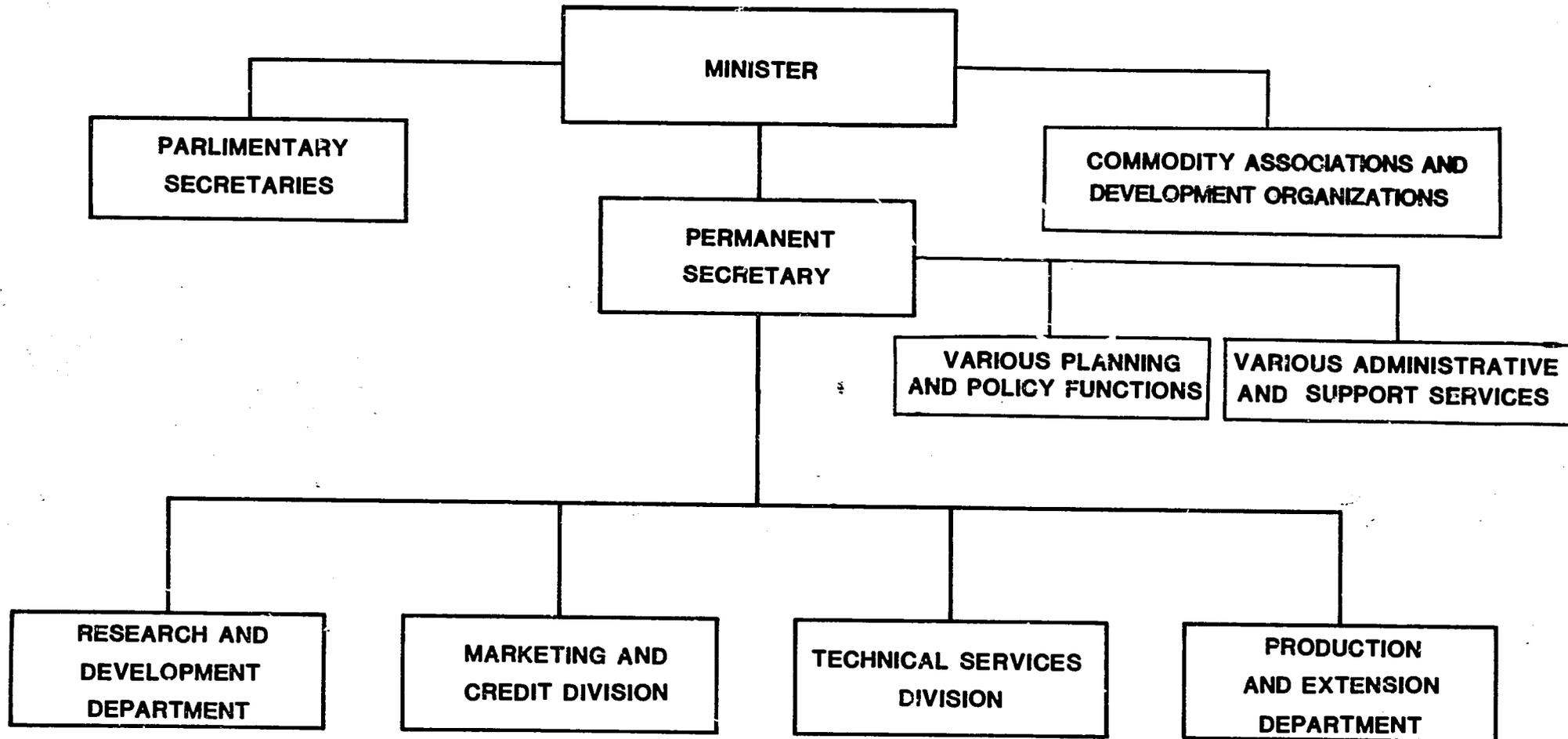
For a given agricultural product, JETCO may negotiate prices and terms of sales annually with producers, coordinate production and purchases, monitor the quality of exported merchandise and facilitate documentation, warehousing and shipping. JETCO can also help secure financing for agricultural producers.

JETCO has been operating since 1978, and in that short time has established a good record for providing reliable services to producers and locating new markets for Jamaican products. Last year JETCO had 89 client companies and sales of over J\$21 million. JETCO's services are available to foreign investors and may be a useful means of expanding markets, reducing market risk and reducing working capital requirements.

## 2. Ministry of Agriculture

- \* The Ministry of Agriculture is the major public organization working in the agricultural sector and is largely oriented toward promoting the production and marketing of crops for the domestic market. The Ministry of Agriculture is largely oriented toward the small farmer which it sees as its major constituency. The Permanent Secretary under the Minister of Agriculture has responsibility for operating five major technical divisions (Planning and Policy, Research and Development, Marketing and Credit, Technical Services, and Production and Extension). The country is also divided into four regions, headed by regional directors responsible for agricultural production and rural development initiatives in their areas. The Ministry is trying to further decentralize its operations by re-establishing land authorities in each of the parishes.
  
- \* The organization of institutions for public sector agriculture is fragmented. The Ministry of Agriculture has responsibility for numerous entities, including commodity boards, development corporations, credit institutions (although the Agricultural Credit Bank (ACB), will soon assume these responsibilities), and other public enterprises. Many of these organizations have developed considerable autonomy since their creation.
  
- \* In addition, there are a number of agribusiness enterprises under the authority of other ministries. For example, the Agricultural Marketing Corporation (AMC) and the Jamaican Industrial Development Corporation (JIDC) operate under the Ministry of Industry and Commerce.
  
- \* With the assistance of a loan from the Inter-American Development Bank, there are efforts to centralize research and development. There are no existing plans to close or merge most of the agencies that operate under the aegis of the Ministry.

# ORGANIZATION CHART OF THE MINISTRY OF AGRICULTURE



Source: Ministry of Agriculture

### 3. Commodity Boards

Government commodity boards play an active role in the marketing and regulation of certain traditional export crops, such as sugar, bananas, coconuts, cocoa and tobacco. Boards usually have the power to regulate exports, recommend annual prices to producers which are set by the Ministry of Agriculture, control distribution and, in some cases, subsidize inputs and carry out research and extension services to growers.

The future role of the commodity boards is uncertain. Several commodity boards have been harshly criticized for impairing the efficiency of their commodity system and for preventing innovation. The government's export-oriented development strategy favors the deregulation of export marketing for new investors in export crops. Recent announcements by the new administration have stated that producers meeting certain requirements will be allowed to export most crops directly rather than market through the commodity boards.

At the same time, the board's consent will be necessary in order for the exporter to obtain a license. The board would still be responsible for ensuring quality standards, shipping, and collecting foreign exchange. The farmer's export price must be above the price established by the commodity board in order to export independently. Thus, while the government's strategy favors the deregulation of export marketing, most analysts expect that, in the future, commodity boards will continue to maintain considerable control over the marketing of traditional export crops.

## USAID PROGRAMS

THE UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID), THE UNITED STATES' PRIMARY DEVELOPMENT ASSISTANCE ORGANIZATION, IS ACTIVE IN JAMAICA. FOR 1982, USAID HAS A BUDGET OF ABOUT US\$100 MILLION IN JAMAICA. MUCH OF THE EMPHASIS OF THE USAID PROGRAM IS ON AGRIBUSINESS DEVELOPMENT. PRIVATE INVESTORS MAY BENEFIT DIRECTLY FROM USAID'S PROGRAMS THROUGH CONTRACTS OR INDIRECTLY BY FINANCIAL AND TECHNICAL ASSISTANCE FUNNELED THROUGH JAMAICAN ORGANIZATIONS.

1. The strategy of the USAID program in Jamaica has four major components:
  - a. to help Jamaica increase exports;
  - b. to increase employment;
  - c. to increase productivity of the private sector;
  - d. to help promote reforms in public sector institutions and policy which affect private investors.
  
2. USAID's major programs are listed below, several of which do not relate to agribusiness. Some are only in the planning stages while others are being implemented.
  - \* A US\$40 million balance of payments support program.
  
  - \* A two-phase program to develop Jamaica's internal marketing system by strengthening the Ministry of Agriculture's marketing services and building regional wholesale and grading stations.
  
  - \* A major agribusiness project which will help the Jamaican government provide investors technical assistance, credit and feasibility studies.

- \* A program to increase conservation and develop alternatives to imported oil.
- \* A program to give loans to very small businesses.
- \* A skills training program.
- \* Financial support to analyze special issues related to productivity and the private sector.
- \* Support to the Jamaica Institute of Management.
- \* Credit assistance to small farmers.
- \* An agricultural planning project to strengthen the capabilities of the Ministry of Agriculture.
- \* An inland fisheries project.

## BANKING AND AGRIBUSINESS

BANK FINANCING FOR AGRIBUSINESS PROJECTS IN JAMAICA IS AVAILABLE FROM SEVERAL DOMESTIC AND INTERNATIONAL SOURCES. MANY DOMESTIC BANKS HAVE POSITIVE ATTITUDES TOWARD AGRICULTURE, ALTHOUGH THEY ARE MORE COMFORTABLE FINANCING TRADITIONAL AGRICULTURE SUCH AS SUGAR AND BANANAS. BANKS ARE MORE CAUTIOUS ABOUT LESS TRADITIONAL AGRICULTURE--THE AGRICULTURE WHICH WILL INTEREST MOST U.S. INVESTORS. INTERNATIONAL FINANCIAL ORGANIZATIONS LIKE THE INTERNATIONAL FINANCE CORPORATION (IFC), THE INTER-AMERICAN DEVELOPMENT BANK (IDB) AND THE OVERSEAS PRIVATE INVESTMENT CORPORATION (OPIC) ARE POTENTIAL SOURCES OF FINANCING. CREDIT FOR FARMING OPERATIONS IS AVAILABLE THROUGH THE NEWLY FORMED AGRICULTURAL CREDIT BANK. INTERNATIONAL COMMERCIAL BANKS MAKE LOANS TO AGRICULTURAL VENTURES BUT ARE CONCERNED ABOUT THE INHERENT RISK OF AGRICULTURE, COUNTRY LOAN LIMITS, DEBT SERVICE, DEVALUATION RISK AND MANAGEMENT.

### 1. Domestic Private Banking

- \* Jamaica has a well-developed private banking system consisting of commercial banks, merchant banks, trust companies and credit unions. Insurance companies play a role in long-term financing, notably for mortgages.
- \* Current commercial interest rates (Fourth Quarter, 1981) fluctuate between 15 and 18%. Most current loans are given at 17 and 18% interest.
- \* Private commercial banks are an important source of credit. Their total agricultural loans totaled US\$90 million in 1981. Most of their loans to agriculture are short-term loans for working capital and longer term loans up to five years. The activities of commercial banks in agriculture are increasing both in absolute dollars and as a percentage

of total loan portfolios. The percent of the commercial banking industry's portfolio in agriculture increased from 10% in 1978 to 12.5% in 1981. Loans to agricultural processing operations account for an additional US\$60 million, or about 9% of total loans. These, too, have been increasing.

- \* Longer-term commercial loans to agriculture (four to ten years) are hard to find. This has been a deterrent to the development of Jamaica's agricultural sector. Long-term loans are made by merchant banks and the government's Agricultural Credit Bank.
- \* Overall, the banking system has a positive attitude toward the agricultural sector. This is reflected in the loan trends cited above. Agribusiness borrowers have a good repayment record with private banks.
- \* Much of the credit to the agricultural sector has been for traditional crops such as bananas and sugar. Banks feel comfortable with these commodity systems because of their size, tradition and the support they have from the government. Banks are understandably more cautious about non-traditional agribusiness undertakings. The major complaint that bankers have with non-traditional agribusiness proposals is that few are well designed, documented or researched. Bankers perceive an increased interest in agribusiness, and they welcome it. Any well researched agribusiness proposal can expect serious consideration from Jamaican banks.
- \* Some banks are more active in agriculture than others. Scotiabank Jamaica, the National Commercial Bank and the Royal Bank are among the more active lenders to agriculture.

- \* Several of the most active banks in agriculture have agricultural credit officers. The presence of these officers is helpful to the agribusiness investor since they can help the investor devise his business plan and interpret the needs of the borrower to the bank's directors.
- \* Two U.S. banks are represented in Jamaica. Only one, Citibank, is active. Citibank has one office in Kingston. Their interest is primarily with larger clients. The bank has expressed interest in reviewing proposals for agricultural loans and believes that the country's agricultural sector will grow over the foreseeable future. Citibank has an advantage over most other international banks because of their ability to approve loans locally. The management of Citibank is competent and has a good understanding of Jamaica. The other U.S. bank in Jamaica is the First National Bank of Chicago which operates a merchant bank divisions, having recently sold its commercial banking operation.
- \* Jamaican banks usually require collateral before they give loans.
- \* Canadian banks are active in Jamaica and have played an important role in developing the country's banking system.

## 2. Government Financing Institutions

- \* Government financing institutions have actively lended to agriculture. These institutions have provided most of the long-term debt to agriculture.
- \* The most important government credit institution for agricultural enterprises is the newly formed Agricultural Credit Bank (ACB). The bank is involved primarily in credit wholesaling to other institutions. The bank also plans to participate in education and credit training programs. The 115 existing People's Cooperative Banks (PCB) will act as the primary retailers of ACB financing.

- \* In the past, the government farm credit programs have had a poor history of collecting debts from small farmers. Accountability and legal recourse for delinquent clients traditionally have been low. The new ACB plans to revise its credit policies to operate more like a commercial bank.
- \* Export credit is provided by the Export Development Fund, a program of the Bank of Jamaica. This program helps export-oriented firms finance their operations using sales orders as collateral for short-term loans.
- \* The Jamaica Export Credit Insurance Corporation, Ltd., provides an ancillary financing function to exporters by ensuring against certain risks and giving business advances on receivables. Their insurance program protects exporters against insolvency of the buyer, non-payment within six months, war and other risks. Their receivables discounting program allows exporters to receive 80% financing on their goods.

### 3. International Finance Institutions

- \* Investors can benefit from other financing and insurance programs available through various international organizations. A good summary of these is available through the U.S. Business Committee on Jamaica, Inc. A brief summary is listed below:
  - IDB Equity Financing: The Inter-American Development Bank (IDB) has created an equity financing program using money from the Venezuelan Investment Fund. This US\$20 million program provides for equity financing up to 33% of the capital stock of a company. Agribusiness is one of the priority areas for the program.

- IFC: The International Finance Corporation (IFC) of the World Bank is a potential source of equity and debt capital. The IFC helps identify and promote projects in which it might eventually participate. The IFC contributes up to 10-25% of total equity and provides long-term (eight to ten year) debt.
- OPIC: The Overseas Private Investment Corporation (OPIC) is a wholly owned U.S. government corporation designed to facilitate the flow of private U.S. capital and management into the developing world. OPIC provides loans and finance insurance to U.S. investors. OPIC is active in Jamaica and eager to review proposals for agribusiness projects.
- Export-Import Bank: The Ex-Im bank provides help to U.S. exporters through loan, guarantee and insurance programs.
- Other Sources: Other sources of financing include the Latin American Agricultural Development Corporation (LAAD), which has been actively investing in the Caribbean; FMO, a Dutch source of capital for business in Jamaica; the Export Development Fund (EDF), a pool of European money for the development of new projects; and the Commonwealth Development Corporation (CDC).

#### 4. Financing Agribusiness Projects in Jamaica

Despite the range of financing possibilities available to U.S. agribusiness investors and the generally positive attitude many of them hold toward agriculture in Jamaica, many investors will find financing a problem. One difficulty with financing is the lack of foreign exchange. Another is a shortage of large local loans. This problem is discussed in greater detail in the following section.

- \* Limited access to Jamaican dollars is another problem. Companies which have a majority foreign ownership are restricted to borrowing Jamaican dollars equal to 25% of their equity. Foreign-owned companies hold about 5% of all domestic commercial loans. The Central Bank of Jamaica will probably maintain borrowing limitations.
  
- \* For joint ventures with majority Jamaican ownership, investors can secure more financing. A three to one debt to equity ratio is not unusual in Jamaica. Many observers believe that local capital is hard to find. Bankers and informed observers privately concede that although money is tight, financing for good projects is available. U.S. investors should understand that large sums of money, e.g., over \$10 million, are not easily found.
  
- \* Some foreign investors may find that they must depend heavily on equity financing, especially if they insist on majority control.

## FOREIGN EXCHANGE POLICIES

THE AVAILABILITY OF FOREIGN EXCHANGE WILL AFFECT MOST AGRIBUSINESS INVESTORS. FOREIGN EXCHANGE USE IS CAREFULLY CONTROLLED BY THE BANK OF JAMAICA, THE COUNTRY'S CENTRAL BANK. ALTHOUGH JAMAICA ABIDES BY ARTICLE 8 OF THE IMF AGREEMENT WHICH ALLOWS REPATRIATION OF CAPITAL, THE REALITIES OF JAMAICA'S FOREIGN EXCHANGE SHORTAGE CURRENTLY PREVENT FREE REPATRIATION. U.S. INVESTORS CAN USE CERTAIN MECHANISMS TO HELP MANAGE FOREIGN EXCHANGE NEEDS SUCH AS NO FUNDS LICENSES AND RETAINED ACCOUNTS. THE GOVERNMENT OF JAMAICA HAS TAKEN ACTION TO CORRECT ITS ARREARAGE ON INTERNATIONAL DEBT SERVICE AND IS ON SCHEDULE TO BECOME CURRENT BY 1983, AT WHICH POINT REPATRIATION OF DIVIDENDS SHOULD BE EASIER.

- \* Jamaica is short of foreign exchange. This shortage stems from two factors. The first is the outflow of money caused by high oil prices, the increasing burden of international debt services, and the flight of private capital throughout the 1970's. A second factor has been a reduction of foreign exchange inflows due to poor export performance, declining tourism, and the completion of major projects in tourism and mining.
  
- \* Most businesses in Jamaica have been affected by the shortage of hard currency. Fertilizer or pesticides were not applied on time, spare parts that could not be ordered, purchases of new machinery and supplies that had to be postponed or canceled are examples of frequently heard laments.

The government of Jamaica is in arrears on current international payments. To correct this, a new program designed as part of the IMF finance package will hopefully put the country current by the end of the second year (this plan began on April 1, 1981).

The plan is intended to build gross international reserves equal to about three months of imports by March, 1984. Although this plan will eventually help restore the country's credibility among investors and the international financing community, it has continued or even aggravated short-term financing problems for some businesses. The government of Jamaica is succeeding in its plan and was ahead of schedule in December, 1981. To meet the terms of the agreement, foreign currency will continue to be scarce for the next two years and probably some time thereafter.

Allocations of foreign exchange from the Bank of Jamaica are made according to established guidelines although they may occasionally be affected by subjective criteria. The officially stated order of priority for use of foreign exchange according to the Bank of Jamaica is as follows:

1. Payment on international debt;
2. Oil imports;
3. Food imports;
4. Imports of raw materials for export industries;
5. Dividend repatriation, essential imports;
6. Other imports.

The Bank of Jamaica makes general allocations to each category. Specific allocations to businesses who need foreign exchange are made by the Trade Administrator's Office.

- \* U.S. investors may be concerned that profit repatriation is relatively low on Jamaica's list of priorities. In the past, inability to repatriate profits has been a deterrent to foreign expansion. Payments to most companies entitled to repatriate dividends are between three months and one year in arrears.
  
- \* Several factors should help reassure prospective U.S. investors:
  - By 1983, dividend payments to foreign investors in Jamaica should be current. The government is succeeding in this plan although its ultimate success depends on the revitalization of the economy.
  
  - Provisions have been made establishing special foreign currency "Retained Accounts". Retained Accounts are personal or corporate accounts in commercial banks which give investors control over their own hard currency. A more detailed description of retained accounts is presented in the next section.
  
  - If companies can demonstrate that their business has saved the country foreign exchange, they are entitled to receive foreign exchange for profit repatriation and may expect preferential treatment by the Bank of Jamaica.
  
  - The process by which foreign exchange is allocated may be affected by subjective factors. Officials at the Bank of Jamaica stress that requests for foreign exchange are screened

on a case-by-case basis rather than by any inflexible criteria. Most analysts of the banking system believe that the allocation of foreign exchange during the Seaga administration has been fair.

Investors can obtain permission to import certain goods and secure financing for these imports outside of the official exchange mechanism through no funds licenses. No funds licenses are analyzed in greater detail in the next section.

Despite several optimistic indicators, U.S. investors should fully appreciate that they cannot be assured they will be able to take their money home at will. The ability to readily repatriate dividends depends on Jamaica reversing past economic trends. Original investment capital will probably not be freed for repatriation until 1984, at the earliest, according to one central bank official.

## NO FUNDS LICENSES AND RETAINED ACCOUNTS

THE FOLLOWING PARAGRAPHS ANALYZE TWO USEFUL FINANCING TOOLS AVAILABLE TO THE U.S. INVESTOR, NO FUNDS LICENSES AND RETAINED ACCOUNTS.

### 1. No Funds Licenses

No funds licenses are import licenses which rely primarily on the unofficial parallel market to finance the purchase of goods. The current administration relies heavily on this type of license to import much of the country's less essential goods. Using this financing tool is part of the new policy to liberalize imports and to make the economy more efficient. When a businessman wants to import merchandise of lower priority in the eyes of the government, he is given a license to import the goods but no foreign currency to pay for them. The businessman then enters into the parallel market and buys foreign currency above the official rate. Recently, the premium for U.S. dollars has been 40 to 100% above the official rate.

No funds licenses have become an important financing tool in Jamaica. Currently, about 25% of all imports are brought in under no funds licenses.

It is illegal to use no funds licenses to import goods not specified on the license.

These licenses are awarded for less essential imports in order to conserve Jamaica's scarce foreign reserves for essential items. Importers who buy consumer goods with no funds licenses can normally recoup higher financing costs through high sales margins.

2. Retained Accounts

Retained accounts are special bank accounts which allow individuals and companies to deposit foreign currency in a Jamaican commercial bank account under their own names. One thus has better control over how the funds are used since one need not rely on the Central Bank of Jamaica for financing. The government requires that one present proof that the funds will be used for their designated purpose (e.g., imports and dividend payments) before withdrawals can be made.

Businesses with export sales paid for in hard currencies can deposit revenue in their account, providing the money is registered through the Bank of Jamaica.

Retained accounts give the investor greater discretion over his financing regardless of the availability of funds at the Bank of Jamaica.

## INCENTIVES

Many investment incentives currently exist for agribusiness investors in Jamaica. These incentives increase Jamaica's attractiveness as a location for agribusiness investment. There is no single agency that administers or coordinates these incentives, and it is likely that the prospective investor will have to spend a fair amount of the investigating incentive schemes, applying for approval, providing information on business plans and, most importantly, following up on the status of his application. A frequent complaint from new investors is that too much red tape is involved in a starting a project, particularly in securing eligibility for benefits under incentive laws and in obtaining import licenses. Frequently, top managers must spend much time on paperwork for a new project since their processing may require extensive knowledge of business plans and persuasive requests for prompt action.

The investor should also be aware that some of the incentive schemes summarized here are under review and that new incentives may be enacted in the near future. The present administration's desire to expand export industries and encourage foreign investment has prompted a review of existing incentives. Changes in line with new policies may be initiated in the near future.

The present range of incentives includes tax holidays, duty-free imports of equipment and raw materials, dividend tax exemption and export marketing grants.

Further information on incentives and eligibility requirements can be acquired through either the administering authority of the incentive scheme or through the Jamaica National Investment Promotion Ltd. The following list is not exhaustive but highlights major incentives provided by the government.

THE AGRICULTURAL INCENTIVES ACT OF 1972

Description of Benefits	Commodities or Industries Affected	Administering Authority
<p>*Exemption from income tax for a recognized farmer for five to nine years, depending on local value added</p> <p>*The above exemption begins on the date of production of approved crop, livestock or fishery activity or other agricultural enterprises</p> <p>*Duty-free import of capital equipment and other specified inputs</p> <p>*Exemption from tax on dividends  a) for residents of Jamaica;  b) for non-residents, the shareholder is taxed at the same rates in his country of residence</p> <p>*Trucks and agricultural inputs may be imported free of retail sales tax and stamp duty</p>	<p>To be decided (see below)</p>	<p>Ministry of Agriculture  Permanent Secretary  Hope Gardens,  Kingston 6</p>

COMMENTS: Benefits under the 1972 act have not been granted, as "approved development areas" were never designated by the Ministry. The present act is to be amended and implemented by the end of 1981 or early 1982. The intention is to declare all of rural Jamaica a development area for the purposes of the Act. Incentives would apply to farmers or agricultural enterprises starting a new venture or significantly expanding an existing one.

To increase the availability of commercial loans to agricultural enterprises and to reduce the costs of borrowing, this act will be amended to exempt interest earned on loans to approved farmers from company tax of 45%. This exemption will apply to loans extended for periods of three years or more.

INDUSTRIAL INCENTIVES ACT OF 1956

Description of Benefits	Commodities or Industries Affected	Administering Authority
<p>*Exemption from income tax payments from five to nine years depending on local value added</p> <p>*Exemption from payment of customs duty on basic raw materials, machinery and equipment</p> <p>*Exemption from tax on dividends to 1) non-resident shareholders if they are not liable to income tax on such dividends in their country of residence, 2) residents, except to the extent that their tax rate exceeds the company's rate.</p>	<p>Manufacturers and processors who market part of all of their output to the domestic market and CARICOM</p>	<p>Ministry of Industry and Commerce The Incentive and Protection Unit 12 Ocean Boulevard Kingston Mall Kingston</p>

- COMMENTS:
- Guidelines exist for "approved products" which are based on the extent to which the domestic market is already being supplied by existing approved manufacturers.
  - The application procedure takes up to three months but is well-established due to the long history of granting these incentives. The present method of computing local value added is under consideration for revision.
  - This was primarily an import-substitution incentive, and the future of the IIA is uncertain.

(Amended in 1965, 1967, 1972 and 1974.)

EXPORT INDUSTRY ENCOURAGEMENT LAW OF 1956

Description of Benefits	Commodities or Industries Affected	Administering Authority
<p>*Exemption from income tax payments for a period of 10 years</p> <p>*Exemption from customs duties on basic raw material, machinery and equipment</p> <p>*Exemption from tax on dividends to shareholders (refer to Industrial Incentives Act)</p>	<p>Manufacturers producing goods for export outside of the CARICOM market</p> <p>Approved agricultural products include:</p> <ul style="list-style-type: none"> <li>*Dairy products</li> <li>*Meat and meat preparations</li> <li>*Fish and fish preparations</li> <li>*Cereal and cereal preparations</li> <li>*Fruits and vegetables</li> <li>*Sugar preparations and honey</li> <li>*Banana preparations</li> <li>*Cocoa, spices</li> <li>*Animal feed</li> <li>*Miscellaneous food preparations</li> <li>*Beverages</li> <li>*Tobacco and tobacco products</li> <li>*Wood and wood products</li> <li>*Animal oils and fats and vegetable oils and fats (excluding edible oils and fats from copra)</li> <li>*Essential oils</li> <li>*Leather and leather products</li> <li>*Floriculture</li> </ul>	<p>Ministry of Industry and Commerce</p>

**COMMENTS:** Administering authority and application procedure is the same as with the Industrial Incentives Act.

Under this Act there is a provision that 100% of business must be in exports to non-Caricom countries, and that products under this law may not be sold in Jamaica except to other manufacturers for use in another product for export.

(Amended 1968, 1969, 1974.)

CERTIFIED EXPORTERS SCHEME

Description of Benefits	Commodities or Industries Affected	Administering Authority
Designed to give exporters preferential treatment in obtaining both import licenses and foreign exchange for the purchase of goods essential to operations	Exporters of traditional or non-traditional goods, excluding bauxite/alumina	Jamaica National Export Corporation 8 Waterloo Road Kingston 10

Export sales must have 40% minimum local value-added content. There are requirements for minimum export receipts (US\$200,000 or 20% of sales, whichever is lower.)

EXPORT INCENTIVES GRANTS SCHEME

Description of Benefits	Commodities or Industries Affected	Administering Authority
Financial grants may be obtained for assistance in marketing certain non-traditional export products. Grants are provided for advertising and promotion, market research, packaging and sales literature, etc.	Products identified by JNEC as having first priority include:  *Fresh and Processed foods *Floriculture *Alcoholic Beverages *Tobacco products *Coffee, cocoa, spices	Jamaica National Export Corporation

KINGSTON FREE ZONE

Description of Benefits	Commodities or Industries Affected	Administering Authority
<p>The Free Zone is an export center located on the Kingston Harbor</p> <p>Benefits include:</p> <ul style="list-style-type: none"> <li>*100% tax holiday on profits, in perpetuity</li> <li>*Exemption from customs duty and import licensing</li> <li>*Minimal exchange control</li> <li>*Preferential treatment under US GSP, LOME, and other bilateral trade agreements</li> <li>*Limited access to domestic and CARICOM markets</li> <li>*No restrictions on repatriation of profits or original investment</li> </ul>	<p>Manufacturing, warehousing, assembly, or distribution operations</p>	<p>Kingston Export Free Zone Box 16 Kingston 15</p>

**COMMENTS:** Sixteen companies are currently located in the Free Zone, including three agribusiness companies. Factory and warehouse rental rates are US\$3.10 per square foot, including maintenance and external security. Some companies in the free zone note that certain less important concessions (e.g., tax exemption relief on gasoline, waiver of excise tax on importation of personal automobiles for resident managers) are difficult to secure. All major concessions, however, are readily given. No capital can be borrowed locally for businesses in the free zone, requiring 100% foreign funding.

## TRADE AGREEMENTS

A NUMBER OF TRADE AGREEMENTS GIVE JAMAICAN PRODUCTS ADVANTAGES IN EXPORT MARKETS. SUGAR AND BANANA EXPORTS ARE THE TWO MOST IMPORTANT AGRICULTURAL BENEFICIARIES OF SUCH AGREEMENTS, RECEIVING QUOTAS AT GUARANTEED PRICES IN EUROPEAN MARKETS. IMPORTANT AGREEMENTS WHICH AFFECT JAMAICAN AGRICULTURAL PRODUCTS ARE LISTED BELOW.

### 1. U.S. Generalized System of Preferences

\* The U.S. General System of Preferences (GSP) offers 140 developing nations preferential export treatment to the U.S. Jamaica is a designated beneficiary country of GSP. Approximately 2,850 product categories are affected by GSP and receive duty-free entry. The current treaty will expire in 1985.

† In order for products to receive preferential treatment, the following requirements must be satisfied:

1. The sum of the cost or value of materials produced in the country plus the direct cost of processing must equal at least 35% of the U.S. customs value of the product.
2. The product must be imported directly to the U.S. and a certificate of origin must be provided.
3. If U.S. imports of the product from a beneficiary country exceed either US\$45.8 million or 50% of total U.S. imports, normal duty on the product must be paid.

- \* Under GSP, Jamaica does not gain any duty advantage over other beneficiary countries, unless the competing country has exceeded the limits listed above.
- \* Certain Jamaican agricultural products are not covered under GSP. The Jamaican government has petitioned to have the following items added to the list of eligible articles for the GSP during specified times of the year:

-Lima Beans	-Cantaloupes
-Eggplant	-Orange Peel
-Yams and Sweet Potatoes	-Essential Oils
-Mangoes	(grapefruit and oranges)

## 2. Canadian Generalized System of Preferences

- \* The Canadian Generalized System of Preferences provides duty reductions for beneficiary countries on selected agricultural products, including rum, liqueur, cocoa products, essential oils, certain processed citrus products and fruit juices, table sauces, jams, jellies, marmalade, coffee beans, confectionery and certain canned food products. The Canadian GSP requirements differ from the U.S. requirements in that inputs imported from Canada for the manufacture of an export product can be considered local in determining value added.

## 3. Lome II Convention

- \* Jamaica is also a beneficiary under the Lome II Convention, an agreement between the European Community and 61 nations of Africa, the Caribbean and Pacific regions (ACP countries). The Lome agreement provides

for lower tariffs and has no quota or market share restrictions compared with the EC's GSP scheme. In addition, the range of products covered under Lome is broader than in GSP covering an estimated 96% of exports from ACP countries.

- \* Products originating from beneficiary countries may be imported duty-free to the EC. The value-added criteria varies between 25 and 70%, depending on the product.

#### 4. Caricom

- \* The Caribbean Community, or Caricom, is a common market trade agreement between Antigua, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, Trinidad and Tobago, St. Kitts-Nervis-Anguilla, St. Lucia and St. Vincent.
- \* A Common External Tariff applies to imports entering Caricom from non Caricom countries. This policy is intended to encourage the industrial and agricultural development of member countries and promote greater regional self-sufficiency.
- \* In 1980, Jamaica's imports from Caricom totaled J\$152 million, with exports to Caricom valued at J\$101 million. Caricom is an important market for certain Jamaican exports. For example, about 60% of all exported processed food goes to this market. Caricom imports and exports were 7% of Jamaican total trade in 1980.
- \* For manufactured products, the Caricom market has been more attractive for Jamaican exporters than third country markets, due partly to the

protection provided by the Common External Tariff. In addition, selling certain products to the Caricom markets requires less advertising and promotional effort since standards for packaging are less strict than for the North American and European markets.

- \* An orderly marketing agreement exists between Caricom governments on the transfer within Caricom of the following 22 crops:

1. Carrots	8. Onions	15. Plantains
2. Peanuts	9. Potatoes, not sweet	16. Pork and Pork Products
3. Tomatoes	10. Potatoes, sweet	17. Poultry Meat
4. Red Kidney Beans	11. String Beans	18. Eggs
5. Black Pepper	12. Cinnamon	19. Okra
6. Sweet Pepper	13. Cloves	20. Fresh Oranges
7. Garlic	14. Cabbage	21. Pineapples
		22. Pigeon Peas

- \* Caricom is administered by the Caricom Secretariat based in Guyana. At a meeting of government representatives every six months, each country declares its projected surpluses and deficits. Based on this mechanism, quotas are allocated for the next six-month period. If a country has an unexpected surplus, it notifies the other countries through the Secretariat. Changes in the quota are approved on receiving responses from interested importing countries.

- \* The system for trading fresh produce is cumbersome, especially when dealing with perishable commodities for which production is hard to anticipate. It has, however, helped the eastern Caribbean territories to some extent in ordering their markets. Jamaica, because of its location, has not participated much in inter-island transfers of produce to date.
  
- \* To expedite disposal of unexpected surpluses, government bodies like the Ministry of Foreign Affairs, Ministry of Industry and the AMC tend to deal directly with their counterparts in the other countries using telex services to arrange deals. The final trading is usually performed by private companies, but they must await the necessary import and export licenses.
  
- \* For the prospective investor, the Caricom market provides a potential export market. One should note that the market is small, and growth may be limited, depending on the type of product and the extent to which other Caricom countries substitute Jamaican imports with domestic production.

## LABOR AND MANAGEMENT

SECURING AN ADEQUATE SUPPLY OF LABOR AT ALL LEVELS--UNSKILLED, SEMI-SKILLED, TECHNICAL, SUPERVISORY AND MANAGERIAL--IS A CRITICAL AREA OF CONCERN FOR ANY BUSINESS OPERATING IN JAMAICA. OVER THE PAST DECADE, MANY SKILLED JAMAICANS HAVE EMIGRATED, CREATING SHORTAGES OF TECHNICALLY AND PROFESSIONALLY TRAINED MANAGERS. IN ADDITION, A LONG HISTORY OF ADVERSARIAL RELATIONS BETWEEN THE LABOR FORCE AND BOTH PUBLIC AND PRIVATE ENTERPRISE HAS LEFT MANY OBSERVERS WITH THE IMPRESSION THAT IT IS DIFFICULT TO IMPROVE EITHER LABOR RELATIONS OR WORKER PRODUCTIVITY, BOTH CRITICAL FOR CREATING CONFIDENCE AMONG INVESTORS.

ONE SHOULD NOTE THAT MANY AGRIBUSINESS ENTERPRISES WERE CHARACTERIZED BY EXCELLENT LABOR RELATIONS. THE SKILL, EFFORT AND ATTITUDE OF LABOR DEPENDS ON THE QUALITY OF MANAGEMENT, MANAGEMENT'S WILLINGNESS TO BECOME ACTIVELY INVOLVED IN OPERATIONS AND SENSITIVITY TOWARD EMPLOYEE CONCERNS.

WHILE IT IS LIKELY THAT THE PROSPECTIVE INVESTOR WILL HAVE TO BRING MANAGERIAL AND TECHNICAL PERSONNEL TO EVALUATE AND OPERATE A PROJECT, PARTICULARLY IN THE EARLY STAGES, CAPABLE EMPLOYEES CAN BE RECRUITED INSIDE JAMAICA. MANY WILL HAVE TO BE TRAINED TO PROVIDE THE NECESSARY LEVEL OF SKILL. MANAGERIAL PERSONNEL MAY BE MORE READILY ACCESSED THROUGH JOINT VENTURES.

### 1. Overview

- \* Unemployment is high in Jamaica, approximately 26% in mid-1981. This figure, however, includes those who wish to work but who are not actively seeking employment, so it is a broader measure than the statistic cited in most developed countries. Unemployment in certain groups, such as young people in urban areas, is much higher. It is the

present administration's policy to increase employment by stimulating job creation in the private sector rather than promoting public sector employment as did the previous government.

- \* Many investors worry about the role of unions in Jamaica. There is a strong tradition of organized labor in Jamaica, with an estimated 35 to 40% of the workforce belonging to unions. The two largest unions, the Bustamante Industrial Trade Union (BITU) and the National Workers Union (NWU) are closely affiliated with the Jamaica Labor Party and the People's National Party, respectively. Each is a general union, not tied to any specific trade or industry, and together they represent about 20% of the workforce. The trade unions have cooperated in forming joint bargaining councils in several industries, but economic provisions have usually been negotiated with individual companies rather than on an industry-wide basis. Significant legislation pertaining to industrial relations, available through the Government Printing Office, includes:

1. The Labor Relations and Industrial Disputes Act;
2. The Employment Termination and Redundancy Payments Act.

- \* The decline of the economy in the 1970's, union rivalry and the increasing polarization of political parties have served to increase the militancy of the unions and adversarial relations with management. The industries that have been most affected by strikes have been the transportation industry, public utilities, services, bauxite, and the sugar and banana industries.

- \* The basic legislation covering industrial relations is not expected to change under the present administration, although the government intends to improve and streamline procedures for arbitrating industrial disputes. The Industrial Relations Tribunal is a government-appointed body which arbitrates disputes that cannot be mediated at the company-union level, but its effectiveness has been widely questioned.
  
- \* There are indications that industrial relations have improved recently. For example, wage demands moderated, and the number of work stoppages declined from 73 during the first six months of 1980 to 33 during the same period in 1981. The JLP government has clearly communicated to the unions its intention to halt the inflationary wage-price spiral. The fact that a new government is in power and that it is affiliated with the largest labor union, along with a sharp decline in inflation, have contributed to the recent improvement in the climate for industrial relations.
  
- \* Foreign-owned companies are often favored as employers by many workers. On the whole, they have had fewer management problems and are generally perceived to provide better benefits compared with local enterprises.
  
- \* One recommended strategy for maintaining good labor relations in Jamaica is to develop small operations where managers know workers personally--and where managers provide a good role model through their own active participation. There is a preference among Jamaican workers for this type of participative structure. Businesses which have followed this strategy often have excellent relations with employees and far fewer productivity problems.

- \* Another recommended strategy is to locate one's business in rural areas which do not experience some of the problems found in urban centers. This approach should be tempered by other plant location factors such as availability of transportation and utilities.

## 2. Labor Availability

- \* There is a shortage of managers, technicians and supervisors. To satisfy staffing requirements, new businesses may have to bring trained personnel to work with local employees.
- \* Work permits for foreigners are necessary for visits beyond a two-week period and are available free of charge. Permits are granted if local skills are unavailable for a period of up to five years and are renewable. If a work permit is needed on short notice, application should be made directly to the Office of Permanent Secretary, Ministry of Labor and Employment. Investors can expect little trouble in obtaining work permits for acceptable agricultural enterprises.
- \* Most employers feel that supplementary on-the-job training works well. Many companies sponsor internal training programs to upgrade employee skills for specific jobs. Most Jamaicans have a very positive attitude toward learning and self-improvement.
- \* With increasing urbanization and higher wages in the manufacturing and services sector, agricultural labor is regarded by many Jamaicans--particularly younger Jamaicans--as low status, less desirable work. Labor is often scarce at peak periods during planting and harvesting. Some agricultural jobs, such as coconut picking, are less attractive to

workers and therefore suffer acute labor shortages. Since shortages are often regional, the investor should make inquiries regarding labor availability when selecting a location for his project.

- \* There has been a long-standing negative attitude toward agricultural work in Jamaica. The new national interest in agriculture and the realization that agriculture can be profitable has started to change this attitude.
  
- \* The national minimum wage, as of October, 1981, was about J\$30 per week. In practice, few regularly employed workers earn less than \$50 per week. Daily agricultural wages tend to vary between J\$7 and 15. Fringe benefits normally provided by employers include contribution to the National Housing Trust (3% of wages by the employer), contribution to the National Insurance Scheme providing basic pension and injury benefits (averaging 2 to 3% of wages), maternity leave and sick leave benefits.
  
- \* The majority of agricultural work and a significant portion of manufacturing work in Jamaica is paid on a piecework basis. In general, workers respond very well to incentive pay schemes, and these schemes have been an excellent means of improving productivity.
  
- \* Potential U.S. investors may find qualified expatriate Jamaicans in the U.S., Canada or Europe to help their ventures. Many of the best managers who left Jamaica in the 1970's and now want to return are reluctant to do so without a secure job. Direct advertising is one way to find interested Jamaicans, particularly in the cities of Miami, New York and Toronto.

## ASSEMBLY AND DISTRIBUTION SYSTEMS

THERE ARE TWO MAJOR TYPES OF ASSEMBLY AND DISTRIBUTION SYSTEMS IN JAMAICA. THE FIRST IS AN ORGANIZED SYSTEM FOR EXPORT CROPS SUCH AS SUGAR, BANANAS AND COFFEE. IN THIS SYSTEM, A GOVERNMENT COMMODITY BOARD IS GRANTED A MONOPOLY ON ALL EXPORTS AND, IN SOME CASES, A MONOPOLY IN PROCESSING. THE OTHER MAJOR DISTRIBUTION SYSTEM IS THE DOMESTIC FOOD CROP SYSTEM COMPRISED OF SEVERAL THOUSAND INDIVIDUAL PARTICIPANTS, NONE OF WHOM ARE LARGE ENOUGH TO SIGNIFICANTLY INFLUENCE THE MARKET. SOME PRODUCTS, SUCH AS FLOWERS FOR THE EXPORT MARKET, HAVE SPECIALIZED SYSTEMS.

### 1. Export Systems

- \* Government commodity boards exist for sugar, bananas, coffee, cocoa and tobacco. In some crops, the regulatory authority is a national farmers' cooperative (e.g., for citrus). These authorities are still influenced by the government through appointees to their boards or through financing.
- \* Sugar is the largest and most highly organized example of this type of distribution system. Its commodity board, the Sugar Industry Authority (SIA), has wide ranging powers to:
  - determine which export markets to supply;
  - recommend to the Ministry of Agriculture the annual guaranteed prices paid to local processors and farmers;
  - recommend prices and determine supply for the local market;
  - decide how much sugar to import in cases of temporary local shortages;
  - subsidize grower inputs such as fertilizers and new planting costs.
- \* The SIA does not own the processing facilities, although another government organization owns most of the sugar factories.

- \* Cocoa and coffee are examples of systems where boards have the exclusive right to own and operate the final processing facilities. For commodities such as pimento (allspice) and ginger whose volumes are too small to justify autonomous boards, the Ministry of Agriculture performs certain market functions, such as setting guaranteed farmer prices, purchasing, assembly and storing the crop.
- \* Jamaica's traditional export crops have more regulated assembly and distribution systems than either newer crops or non-export crops.
- \* Several export crops are typified by strong contractual arrangements between farmers and processors. Delivered product prices are usually announced at the beginning of each crop cycle. Processors try to purchase everything that meets the required grading and quality standards, which are also known in advance. At the end of the crop year, a bonus is usually paid based on the export earnings realized. The sizes of bonuses often become a political issue, especially where there are many small farmers involved. Hence there is a tendency to set conservative guaranteed prices to ensure significant bonuses even when world prices are low.
- \* Grower cooperatives have not been important as a marketing mechanism in Jamaica for cultural and political reasons. Small farmers often believe cooperatives are dominated by medium and large farmers and are subject to political pressures in how they allocate benefits.
- \* On taking office in 1980, Prime Minister Seaga announced that new investors in farming and processing who wanted to integrate forward and directly participate in exporting traditional crops, bypassing commodity boards, would be allowed to do so. As with any exported crop, one is required to secure a produce inspector's certificate and an export license from the Trade Administrator's Department. Normally a

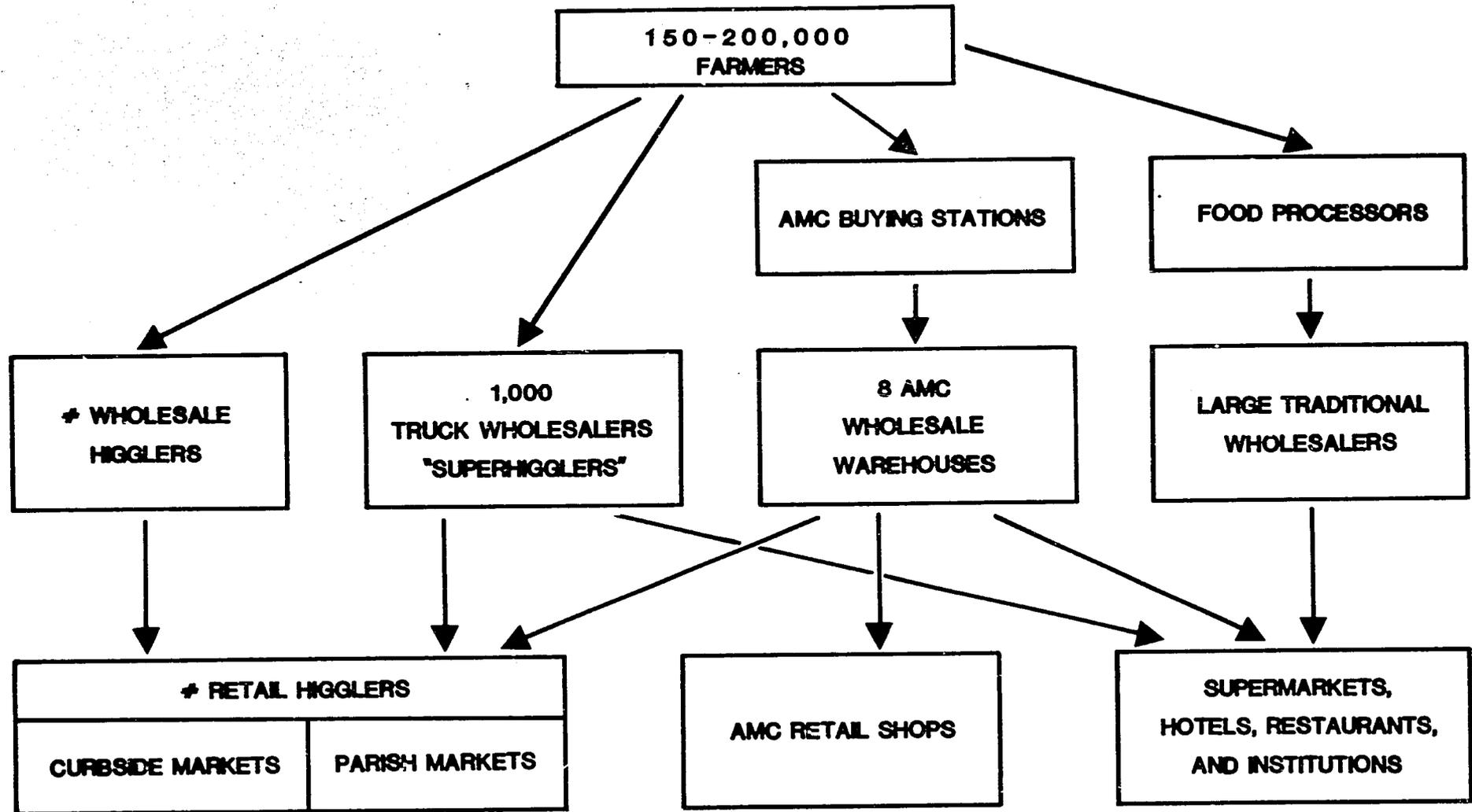
license is granted if the relevant commodity board gives its consent. Commodity boards may well maintain de facto control over exports. Direct exports are therefore legally possible but have not been tested.

- \* Since most export crops--notably sugar--are grown on the best flat land near good roads, transport is usually not a problem. However, unavailability of trucks due to foreign exchange restrictions has become a problem in recent years. Delivery to the assembly stations or processing plants is usually the responsibility of the farmer. Transportation thereafter is the responsibility of the commodity board or growers' association. Storage capacity is either owned by or otherwise arranged by the commodity's monopoly organization.
- \* All fresh produce for export must be inspected and certified by the Produce Inspection Unit of the Ministry of Agriculture.

## 2. Domestic Crops

- \* An estimated 500,000 tons per year of domestic produce now flows through Jamaica's internal assembly and distribution system. This figure has been increasing rapidly for three reasons:
  - i. Rapid population shift from rural areas to urban centers. The urban population is now 45% of the total population.
  - ii. Restrictions on food imports during the 1970's created a need for food which was filled by small farmers' produce. The trend is clear by looking at the increase in GDP contributed by domestic agriculture.

# DOMESTIC DISTRIBUTION SYSTEM - FRESH PRODUCE



# WHOLESALE AND RETAIL HIGGLERS OFTEN OVERLAP AND TOTAL 14 - 20,000

- iii. Government Policies such as land lease programs, credit, price supports and subsidies have helped stimulate production.

Relative Percentage Contributions to GDP

<u>Year</u>	<u>Export Agriculture</u>	<u>Domestic Agriculture</u>
1976	1.78	3.00
1977	1.49	3.81
1978	1.69	4.60
1979	1.54	4.51

Source: World Bank.

- \* The domestic marketing system has the following characteristics:
- High fragmentation. Distribution is dominated by fourteen to twenty thousand small traders called "higglers" and about one thousand wholesale truckers sometimes known as "super higglers". One large participant, the government's Agricultural Marketing Corporation (AMC), handles only about 4% of the market.
  - Bad information. Inefficient transfer of market information and distribution bottlenecks due to the fragmented structure result in localized oversupply and shortages. Regional onion prices illustrate how prices for one commodity can vary:

Prices In Selected Markets  
(1980 First Quarter Average)

J\$1.88/lb	Black River Market
\$2.70	Coronation Market - Kingston
\$3.33	Spanish Town Market
\$3.82	Highgate Market

- High post-harvest losses. Thirty to forty percent of perishables are commonly lost because of poor post-harvest assembly and distribution systems and poor refrigerated storage.
- High margins to cover inefficiencies. Most observers and analysts believe that markups in the food wholesale and retail system are high. Precise data are difficult to find but a range of 30 to 100% is likely, with a weighting toward the latter.
- Recent rapid expansion in unofficial retail outlets, i.e. curbside markets. The dilapidated and congested conditions of the 99 parish markets, consumer demands for convenience and the increase of entrants to the higgler system due to increased unemployment has precipitated the proliferation of informal markets on vacant lots, shopping mall parking zones and street sidewalks.
- No standardized grading for domestic produce. Most grading is by size alone.

### 3. igglers

The higgler system originated 300 years ago in Sunday markets run by slaves selling produce from small plots allocated to them. The higgler system handles over 80% of domestic produce. The term higgler describes one of several types of operator. Several characteristics, summarized from studies by various government organizations, are listed below:

- The majority of higgler are small operators who travel with their produce on rented trucks or country buses. Their typical weekly outlay on purchases is J\$30-100. They net an average of just over J\$20 per week, less than the minimum wage. Other higgler make significantly more.
- Eighty-two percent of higgler are female. Most are middle aged. Many operate part time depending on the season of year and the availability of produce.
- Higgler often help the farmer reap his crop.
- The higgler's pricing strategy is flexible. They usually offer farmers more than the AMC guaranteed prices to secure the best quality products.
- Selling prices vary depending on selling location and even the appearance of the customer.

An estimate (see below) of the volumes moving through this distribution system demonstrates the importance of the higgler system.

The AMC's prices to farmers are generally lower than higgler's prices, except in times of oversupply when the opposite is usually true.

Distribution of Domestic Food Crops By Consuming Segments  
(excluding bananas and oranges)

	<u>Tons</u>	<u>Percentage of net amount distributed</u>
Rural households - through higgler system	125,300	33%
Urban households - through higgler system	188,400	49%
Supermarkets	8,000	2%
Hotels	2,000	1%
Restaurants	21,500	6%
Schools	33,000	8%
Hospitals	2,300	1%
Prisons	500	-
Food Processing Plants	<u>1,500</u>	<u>-</u>
Net Amount Distributed	382,500	100%
30% Post harvest loss	<u>164,000</u>	
Total farmgate production	<u>546,500</u>	

Source: Industry Sources.

\* Opinions about the higgler system vary. Proponents believe the higgler helps agriculture by providing a flexible marketing system. Skeptics cite the system as a poor one because it cannot accommodate large volumes and does not provide enough predictability to either the farmer or the retailer, thus contributing to shortages and price fluctuations.

\* Major types of higgler include:

- a. Direct farm to consumer retailer. A farmer or farmer's relative sells directly to consumers.
- b. Peddler. A person not directly engaged in farming buys from farmers and sells to consumers.
- c. Wholesaler. The higgler buys from farmers and sells to others who in turn sell to consumers.
- d. Retailer. This involves buying from wholesalers and selling to consumers.
- e. Wholesaler/Retailer. Individuals sell both wholesale and retail.

Truck wholesalers are of particular interest to the investor:

- There is a group of middlemen who operate their own trucks and vans. These middlemen serve supermarkets, restaurants, hotels and institutions. In addition, they move produce into parish markets where they wholesale to others. Coronation Market in Kingston has evolved into a defacto wholesale terminal market reportedly handling 50% of domestic produce.
- Truck wholesalers have expanded the flexibility of the marketing system, but there are diseconomies of scale which prevent them from expanding their operations. The constraints are difficulty in

controlling a decentralized operation, limited transportation facilities, lack of assembly and storage infrastructure and a desire to remain small to avoid taxation.

- A potential investor in perishable produce with non-exportable product will need to rely, at least initially, on truck wholesalers as the primary means of distribution, unless he sets up his own distribution and transport system.

#### 4. Constraints in the Distribution System

- \* Entering a traditional export crop probably means foregoing individual control over direct export distribution.
- \* An investor producing an export crop with significant non-exportable quantities will have difficulty moving his product through the existing distribution system.
- \* Freezer and cold storage capacity is available but is concentrated in Kingston. There is no public cold storage available at either international airport. Some businesses make use of refrigerated trailers.

#### 5. Opportunities in the Distribution System

- \* Since much of the marketing risk in traditional export crops is assumed by commodity boards, an investor can concentrate on production.

- \* In the domestic market, opportunities exist to market directly to institutions and supermarkets. Hotels and restaurants represent a small but strong market for high-quality produce.
- \* An investor who establishes a successful export distribution channel may find that local farmers approach him to participate as an outgrower. Provided the entrant is willing to offer extension services and key inputs, contract farming surrounding a pilot project can generate high volumes of crops at lower risk.
- \* The Ministry of Agriculture, with help from a USAID grant, is planning to build four subterminal wholesale distribution markets with cold storage facilities, and 25 pilot assembly and grading stations. These facilities will contribute to the restructuring of the fragmented assembly and distribution system and promote wholesaling. Growers, wholesalers and exporters will be able to rent space in the wholesale distribution markets. The project will not be completed before 1986, at the earliest.

## 6. Major Market Outlets

### Agricultural Marketing Corporation (AMC)

- \* The AMC was established in 1963 to bring order and efficiency to the marketing system. Its mandate included encouraging local food production and providing consumers food at reasonable prices.
- \* With this conflicting mandate, the AMC has had serious problems. Political featherbedding of its staff has increased its overhead. Because of severe financial problems, the AMC has closed its buying stations and most of its retail outlets. The AMC's declining role is illustrated by the percentage of food it handles:

Percentage of Total Domestic Food Production Purchased by AMC

<u>Year</u>	<u>AMC's % Share</u>
1975	9.7
1976	5.4
1977	3.8
1978	4.6

Source: 1980 report on the AMC.

The AMC owns cold storage for 12,300 tons of produce, freezers for 315 tons of produce, and 600,000 square feet of dry storage. These facilities need renovation and are underused.

The AMC has plans for concentrating on hotels, restaurants and the institutional market.

The AMC packages some crops such as yams and dasheens for export by JETCO, the government-owned trading corporation.

Supermarkets

There are about 80 supermarkets with average sales of about J\$50,000 per week. Fresh crops constitute about 5% of sales; meats, 28%. Supermarket sales of fresh produce have risen in recent years but are still below potential because of poor supply continuity, poor grading standards and inadequate cooling facilities.

### Hotels, Restaurants and Institutions

- \* Hotels face similar problems in obtaining continuous supplies of high quality produce, particularly during the winter when many crops are out of season and demand increases.
- \* The hotel segment is price insensitive but requires continuity and quality. Some hoteliers have a car and driver dedicated exclusively to procuring food. Many rely on special procurement arrangements with reliable higglers.

### Transportation and Facilities

#### Trucks

- \* The number of trucks has been declining in recent years because of severe foreign exchange restrictions which have prevented importation. Existing vehicles suffer from inavailability of spare parts.
- \* Few refrigerated trucks are available. Most fresh produce is moved in open trucks, wrapped in banana leaves or similar material.
- \* Investors should note that the Government recently lifted import duties on trucks for agricultural purposes for approved farmers under the Agricultural Incentives Act.

FREEZING & COLD STORAGE AVAILABLE FOR PUBLIC RENTAL

LOCATION	ORGANIZATION	FREEZE 0°-32°F Cubic Ft.	COLD 33°-45°F Cubic Ft.
<u>Kingston</u>	Western Storage Limited 5 Third Street Newport West	405,000	
	Jamaica Cooling Stores Harbour Street	133,000	70,000
	Newport West Cold Storage 124 Third Street	217,500	100,000
	Harbour Cold Storage Third Street	500,000	85,000
	Zero Processing 107 Marcus Garvey Drive	400,000	
	JIDC Fishing Complex Newport East		
<u>Montego Bay</u>	Montego Bay Ice	<u>125,000</u>	<u>2,000</u>
		<u>1,780,500</u>	<u>257,000</u>

Source: Trade sources and interviews.

### Storage

- \* Jamaica has an estimated 2.3 million cubic feet of freezer storage capacity and 1.4 million cubic feet of cold storage. Of this, however, only 1.78 million cubic feet of freezer storage and 257,000 cubic feet of cold storage is available to the public.
- \* Dry warehouse space is readily available.
- \* There is an estimated 35,000 tons of grain silo capacity but none is available for public rental.

### Traditional Wholesaling Companies

- \* Several large companies have built extensive islandwide distribution systems for imported foods such as rice, flour and fish. Grace Kennedy, Musson, T. Geddes Grant and ICD are the largest. Some are integrated backwards into processing, and a few have recently become involved in agricultural production.
- \* Since these companies are among the largest in Jamaica, they represent a major potential force in restructuring the domestic and export food distribution system.

### Sea Freight

- \* Jamaica is well served by container and breakbulk shipping services to North America, Europe, the Far East and the Caribbean. Refrigerated freight to the North is adequate.

SELECTED REFRIGERATED SEA FREIGHT SERVICES FOR FRESH PRODUCE EXPORTS

DESTINATION	CARRIER	DEPARTURE FREQUENCY	DELIVERY TIME	COST OF SHIPPING FRESH PRODUCE	REMARKS
North America	Sealand	Weekly	4-8 days	Approx. US\$3,000 for a full 35 ft. container	Services available into most ports along the Gulf and East Coast
Eastern Caribbean-Caricom Markets	Sealand	Weekly	6-7 days	Approx. US\$3,000 for a full 35 ft. container	-Port charges and potential delays in Trinidad high -Air Freight a realistic option -Transshipment through Puerto Rico causes some delay
	WISCO	Monthly	5-6 days	Available on request	Regular supply of refrigerated containers not guaranteed
Europe	WITASS Conference Lines	Every 10 days	15 days	Flat rate of US\$3,300	Low rate established to encourage exports

Source: Trade sources and interviews.

- \* The Shippers Council, an offshoot of the Jamaica Exporters Association, can help negotiate favorable rates on large volumes.
- \* Conair services (refrigerated containers cooled by the ship's central system) are available from the Columbus Line to the Far East.

Air Freight

- \* Air freight services out of Jamaica are provided mostly through passenger service planes. Hence the volumes that can be handled are small, around 11,000 pounds maximum per shipment, depending on the type of airplane. This maximum declines in the winter as passenger baggage limits space.
- \* Recent entrants to the trade offer air freighter services.

COMPANY	PRIMARY DESTINATION	TYPE PLANE	MAX. CAPACITY
Katco (Miami)	Miami	DC6	30,800 lbs.
Air Canada	Toronto	DC8 Stretch	79,200 lbs.
Caricargo	Barbados & Trinidad	Boeing 707	59,400 lbs.

- \* Air Jamaica runs an air freighter to North America whenever volumes justify it.
- \* AJAS provides ground handling services for the airlines at both international airports.

- \* No refrigerated space is available at either airport. One exporter has resorted to delivering to the airport in refrigerated trailers that serve as temporary storage.
  
- \* At least one agribusiness venture currently backhauls ornamental horticultural products on a flight which delivers hatching eggs to Jamaica. Other opportunities to use empty cargo space may exist.

## AGRICULTURAL THEFT

AGRICULTURAL THEFT, OR PRAEDIAL (PREDIAL) LARCENY AS IT IS COMMONLY KNOWN, IS A SERIOUS PROBLEM IN JAMAICA. A RECENT STUDY SPONSORED BY THE MINISTRY OF AGRICULTURE SHOWS THAT, ON AVERAGE, 10% OF ALL AGRICULTURAL PRODUCTION IS LOST TO PRAEDIAL LARCENY. A 50% LOSS IS NOT UNUSUAL FOR CERTAIN CROPS, AND SOME FARMERS LOSE 100% OF THEIR CROP. MOST FARMERS AGREE THAT THE PROBLEM CAN BE REDUCED BY TAKING CERTAIN PRECAUTIONS IN THE SELECTION OF CROPS, THE VOLUME OF CROP PLANTED AND THE LOCATION IN WHICH ONE PLANTS.

- \* Of the farmers interviewed by Agribusiness Associates, Inc., virtually all recognized praedial larceny as a problem, even if they did not experience it themselves.
- \* The widespread occurrence of praedial larceny can be traced to historical perceptions about land ownership and rights to food produced on the land. Rural inhabitants believe that they have certain claims to what the land yields. Large farmers and plantation owners have always been targets for larceny.
- \* Although this historical perception of rights to production still motivates some of the larceny, it recently has taken on a more alarming dimension. Praedial larceny has become an increasingly organized activity. Thieves sometimes use trucks and elaborate information networks to plan large-scale heists. A recent study of praedial larceny shows that the problem is concentrated around Kingston and Montego Bay.

- \* Praedial larceny is viewed by many as a less serious, even acceptable, offence than other types of theft. In the past there has been little effort to apprehend larcenists, and sentences have been light for those caught.
  
- \* In October, 1981, the government took actions intended to discourage praedial larceny. The Minister of Agriculture has expressed his commitment to reduce the problem which he termed a "scourge". The government proposed amendments to the Trespass Act, the Larceny Act and the Malicious Injury to Property Act to impose stiffer penalties for praedial larceny. The stiffer laws will specify a maximum penalty of J\$1,000 or three times the value of the goods, whichever is highest, and a maximum jail sentence of five years. The new law will also impose a J\$10,000 fine on companies which receive stolen goods from thieves. The government plans to take another measure to counter praedial larceny by creating a 200-man force of agricultural wardens who will be trained as part of the Jamaica Constabulary Force. It is unlikely that these wardens will affect small-scale theft, although they could counter the more serious organized operations.
  
- \* Farmers in Jamaica have varying experiences with praedial larceny. In certain farm areas, praedial larceny is minimal because of strong social pressures. This is particularly true in areas where land ownership is evenly distributed and few alternatives to farming are available. The following chart offers commonly made suggestions for reducing one's vulnerability to this problem.

SUGGESTIONS FOR REDUCING ONE'S VULNERABILITY TO PRAEDIAL LARCENY

- \* Businesses should, if possible, plant crops that are not popular in the domestic market and therefore less prone to theft. Without a ready market, it is less likely that a crop will be stolen. Skeptics of this strategy point out that the Jamaican market quickly finds appetites for new crops.
  
- \* Plant large quantities of crops. By planting large quantities of crops, one achieves two advantages. First, small-scale theft will account for a small and acceptable percentage of the total crop and should not adversely affect the profitability of a venture. Some farmers stated that they planned for a certain amount of theft in their planning by increasing planting above desired harvest levels. Second, evidence suggests large quantities of stolen goods depresses local prices and decreases incentives to steal.
  
- \* Watch crops carefully when they are ripe. Good farmers in Jamaica usually make sure someone stays overnight in their fields when harvest nears. Observers point out that many farmers who complain about theft are not willing to take this obvious measure to reduce their losses.
  
- \* Use fences and gates. The more serious large scale theft requires getting trucks into fields at night and loading them directly. By putting up fencing and locking gates--a common practice by good farmers--one discourages theft. Fences also discourage passersby from taking produce.

- \* Use large fields for raising smallstock. Some farmers reduce praedial larceny by giving their animals room to roam. A running goat is hard to catch.
  
- \* Choose your location carefully. The incidence of praedial larceny varies greatly according to location. Larceny is more likely to occur near large roads, near the major cities and in areas where there is high unemployment. Larceny is less likely to occur in certain parishes where there is a strong tradition for agricultural work and where small, individual farmers dominate agriculture, such as in St. Elizabeth.
  
- \* Community pressure reduces praedial larceny. In farming communities where land is evenly distributed among farmers, theft becomes more of a personal affront than when it is against a large farm or estate whose owners and managers are not visible or who are not perceived as depending on their crops for their livelihood.

## RESEARCH AND EXTENSION

U.S. AGRIBUSINESS INVESTORS MAY NEED RESEARCH AND EXTENSION SERVICES AS PART OF THEIR PROJECT. THIS SECTION PROVIDES AN OVERVIEW OF THESE SERVICES.

1. Agricultural research and extension functions are divided among a large number of government and quasi-government institutions. Some of the commodity boards have assumed primary responsibility for research on traditional export crops, while central departments of the Ministry of Agriculture have focused more on domestic food crops.
2. With the fragmentation of research and extension between different agencies, there has been a lack of coordination of services and, to some extent, a duplication of research efforts. The linkage between research activities and extension services has been weak, with the result that farmers often have not benefited in any practical way from research findings. Extension services have been hampered by the fact that extension officers have had to serve as administrators of various credit and subsidy programs.
3. These problems have been studied extensively by the government and international development agencies over the past five years. The Ministry of Agriculture is undergoing a major reorganization to improve the coordination of research and establish closer linkages between research and practical on-farm application. The government intends to centralize both the allocation of resources and the administration of programs under the Ministry of Agriculture.

4. Despite these problems, research specific and relevant to Jamaican agriculture exists. Research organizations express a willingness to provide private enterprises with information. At the same time, many observers acknowledged that most research organizations do not have adequate systems to respond to requests for assistance. Many organizations do not have an adequate directory of publications, sufficient staffing or photocopying facilities to reproduce wanted documents for investors.
5. Available research focuses more on the agronomic and technical aspects of crop production. There is far less information available on costs of production, returns to the grower or the economics of adopting practices developed by research programs.
6. Several observers have suggested that U.S. companies sponsor specific practical research programs in areas of interest to them as a way of using existing research facilities to support their investments.
7. Market research, for either the domestic or export market, is lacking. The Jamaican National Export Corporation (JNEC) and its trading subsidiary, JETCO, have been the most active in gathering data relevant to the marketing of non-traditional agricultural exports. The Marketing Division of the Ministry of Agriculture, with assistance from USAID, is in the process of improving the market data base for domestic crops.
8. Personal visits to research organizations rather than written requests, are recommended. Copies of reports for general distribution are scarce.
9. A list of organizations conducting research follows:

RESEARCH ORGANIZATIONS IN JAMAICA

ORGANIZATION	DESCRIPTION	AREAS OF RESEARCH
Ministry of Agriculture	Research and Development Department of the Ministry	<ul style="list-style-type: none"> <li>*Varietal improvement and cultural practices</li> <li>*Plant protection</li> <li>*Analysis of soil, water, and plant material</li> <li>*Livestock breeding</li> <li>*Pature research</li> <li>*Animal nutrition</li> <li>*Seed production</li> </ul>
Commodity Boards Banana Coffee Coconut Sugar Industry Research Inst. Tobacco Industry Control Authority	Statutory organizations under the Ministry of Agriculture	Varies by organization, but includes: <ul style="list-style-type: none"> <li>*Plant protection</li> <li>*varietal improvement and cultural practices</li> <li>*soils and fertility</li> <li>*seed production and distribution</li> <li>*irrigation and water management</li> </ul>
Caribbean Agricultural Research and Development Institute (CARDI)	A regional organization, serving the agricultural R&D needs of 12 member countries in the Caribbean	<ul style="list-style-type: none"> <li>*Crop research: Legumes</li> <li>*Intercropping systems</li> <li>*Small farms systems</li> <li>*Coffee pest control</li> <li>*Small farm tools</li> <li>*Forage legumes and feed formulation</li> </ul>
Agricultural Development Corporation (ADC)	Statutory organization under the Ministry of Agriculture	<ul style="list-style-type: none"> <li>*Past areas of research have included smallstock development (pigs, sheep and goats), animal husbandry, and rice production</li> </ul>

RESEARCH ORGANIZATIONS IN JAMAICA  
(continued)

ORGANIZATION	DESCRIPTION	AREAS OF RESEARCH
Scientific Research Council	Office of the Prime Minister	*Agro-industry Division: Research on utilization of crops and by-products (oil seeds, essential oils and spices, medicinal plants) *Food Science and Nutrition Division: Research on composite flours (wheat and cassava) Irish potatoes, guava
Jamaica Industrial Development Corporation (JIDC)	Statutory organization under the Ministry of Industry and Commerce	*Food Technology Division Provide technical assistance to food processing industry, in development of new products
University of the West Indies (Mona campus)	Department of Botany Chemistry and Zoology	*Plant pathology, crop production, physiology *Sugar and rum production *Aquaculture
Inter-American Institute for Agricultural Sciences	Specialized Office of the Organization of American States	*Cropping systems for hillside farming *Rice Production
Storage and Infestation Division	A statutory organization under the Ministry of Industry and Commerce	*Storage *Infestation

10. Some comments on the nature of information in Jamaica are presented below.

- \* More data on agriculture and general economics are available in Jamaica than in most developing countries. The availability of data will help investors understand and evaluate their respective commodity systems.
- \* The reliability of data obtained through government agencies varies. Some research is out of date or not presented in a manner useful to the private investor. Other data are contradictory or incorrectly tabulated.
- \* Statistics relevant to agribusiness are available at the following places, among others:

- Statistics Division, Ministry of Finance
- National Planning agency
- Ministry of Agriculture Data Bank
- ADC
- JNEC
- JNIP

## GANJA

AS AN IMPORTANT UNDERCURRENT TO JAMAICA'S AGRICULTURE AND ECONOMY, U.S. AGRIBUSINESS INVESTORS SHOULD BE AWARE OF JAMAICA'S ILLEGAL GANJA (MARIJUANA) TRADE. THE GANJA TRADE GIVES THE PARALLEL CURRENCY MARKET MUCH OF ITS LIQUIDITY. GANJA GROWING PRESENTS SOME JAMAICAN FARMERS WITH A HIGH OPPORTUNITY COST BUT SHOULD NOT PREVENT AGRIBUSINESS INVESTORS FROM FINDING GOOD FARMERS FOR LEGITIMATE FARMING VENTURES. THE JAMAICAN AND THE U.S. GOVERNMENTS ARE TAKING MEASURES TO COUNTER THE GANJA TRADE.

Ganja is illegal in Jamaica. In spite of this, Jamaica is probably the third largest supplier of marijuana to the U.S. after Colombia and Mexico. A clandestine air and sea trade exists between Jamaica and the U.S. In the past year, increased U.S. surveillance of the southeastern coasts appears to have reduced the volume of the trade. Arrests and seizures have increased significantly in the recent past.

Participation in ganja farming is widespread. Ganja is grown throughout the country although the greatest production is concentrated in St. Ann, St. Catherine and Clarendon.

Ganja is a lucrative crop for the Jamaican farmer. Although the farm gate price may represent a small percentage of the ultimate market value, a farmer can still expect high returns.

Most ganja farmers employ good farming practices. Nurseries, weeding, fertilization, sexing and drying are used to increase yields.

One of the attractions of the crop to the Jamaican farmer is that the commodity system is well developed. A sophisticated system of forward contracting, pricing, assembly, brokering, transport scheduling, and most importantly, marketing gives ganja an advantage over other less developed commodity systems.

The Jamaican government cooperates with the U.S. government to frustrate the trade. However, the government recognizes the difficulties in stopping the trade from within Jamaica because it is a dispersed industry, local authorities sometimes participate in the trade and deterrence is expensive.

The ganja trade provides liquidity to the parallel market in Jamaican dollars. Since Jamaican ganja farmers want to be paid in Jamaican dollars, foreign drug buyers or their agents must exchange U.S. dollars for Jamaican dollars to do business. A ready market for U.S. dollars is found among Jamaicans who want foreign exchange. Estimates on the amount of money provided locally by the trade vary between US\$125 and 500 million. The most probable figure is US\$150 million.

Recently, efforts have been made to find replacement crops for ganja. Alternate crops will have difficulty succeeding because of the high value of ganja and the inherent difficulties in developing new assembly, distribution and marketing systems.

Some U.S. investors may occasionally find attitudes toward their agricultural undertakings unenthusiastic because of competition from ganja. But, since ganja farmers account for a small percentage of all farmers, finding suitable growers should not be a problem.

Consumption of ganja in Jamaica has increased rapidly in the past five years, especially among young Jamaicans. Popularization of the drug through reggae music, general acceptance of recreational drugs throughout western cultures and boredom because of high unemployment are among the reasons why this has occurred.

Some employers complain that ganja has adversely affected their businesses by lowering productivity and altering attitudes. Other employers believe the drug improves performance, for example, by reducing rough handling during packaging of delicate products and by reducing the boredom and drudgery of performing certain tasks such as cutting cane.

SECTION III

COMMODITY SYSTEM REVIEW

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## COFFEE

THERE ARE ATTRACTIVE INVESTMENT OPPORTUNITIES IN THE JAMAICAN COFFEE SYSTEM, ESPECIALLY IN THE PRODUCTION OF WORLD-REKNOWNED "JAMAICA BLUE MOUNTAIN COFFEE" WHICH HAS HISTORICALLY COMMANDED A PRICE PREMIUM. LAND AND EXTENSION SERVICES ARE AVAILABLE TO HELP INVESTORS IN THEIR COFFEE FARMING. U.S. INVESTORS CAN PRODUCE ON PURCHASED LAND, LAND RENTED FROM THE GOVERNMENT OR IN COLLABORATION WITH COOPERATIVES OR PRIVATE INDIVIDUALS. PROFITS FROM COFFEE GROWING CAN BE SUBSTANTIAL, ALTHOUGH A POSITIVE CASH FLOW IS NOT ACHIEVED BEFORE FOUR YEARS AFTER PLANTING. PROCESSING PLANTS ARE OPERATING WELL BELOW CAPACITY, SO INVESTORS SHOULD BE CAUTIOUS BEFORE ENTERING THIS PART OF THE SYSTEM. THERE ARE OPPORTUNITIES FOR NEW INVESTORS TO OBTAIN HIGHER PRICES FOR COFFEE BY MARKETING DIRECTLY TO FOREIGN BUYERS. HOWEVER, GOVERNMENT AND COFFEE BOARD POLICIES ON EXCLUSIVE MARKETING RIGHTS HAVE NOT BEEN TESTED AND MAY CREATE UNDESIRABLE AMBIGUITY UNLESS RESOLVED SOON. JAPANESE PRIVATE INVESTORS ARE CURRENTLY AGGRESSIVELY PURSUING INVESTMENT IN JAMAICAN COFFEE PRODUCTION.

### Production and Consumption

- \* An important factor in analyzing Jamaican coffee is the difference between Blue Mountain coffee, high mountain coffee and other coffee. Blue Mountain coffee receives premium prices and is defined as coffee grown in the Blue Mountains and processed or manufactured at coffee works licensed by the Coffee Board. Processors at Moy Hall, Silver Hill, Mavis Bank, Langley and Wallenford are the only existing producers of Jamaica Blue Mountain Coffee. Before being exported with the "Jamaica Blue Mountain Coffee" name, coffee must also meet taste and appearance standards. "High mountain" coffee is another category established by the Coffee Board for marketing high grade coffee not meeting the requirements of Blue Mountain coffee. Other coffee, mostly from altitudes less than 2,000 feet, fetches lower prices. Each of these three classes of coffee is also divided into five grades for selling purposes. About 10% of Jamaica's exports are Blue Mountain coffee, and another 15% is high mountain coffee.

Prime Minister Seaga has set coffee production as the highest priority use for land suited to it. Production of coffee is low, but gradually rising. Production rose from some 3.2 million pounds in 1961-1962, to around 4.6 million pounds in 1979-1980. Production in bad years has dropped to 2.2 million pounds. Yields have been affected by bad weather and by an initially slow grower responses to the coffee berry borer problem. Blue Mountain plantings have increased from about 800 acres to about 1,300 acres since 1974. Most of this expansion was promoted by the Coffee Industry Board (CIB) through plantings on its own land and through loans to producers. The Coffee Board established on October 1, 1981, a subsidiary company whose plans are to establish another 3,000 acres of coffee in the Blue Mountains. This company, the Coffee Industry Development Company, hopes that 1,120 of these acres will be developed by large farmers (those with more than ten acres) and has allocated US\$1.9 million for loans to such farmers. This expansion program presents attractive possibilities to U.S. investors.

Ninety-five percent of Jamaica's exports go to Japan in the form of green coffee. The United States imports small amounts of green, roasted and soluble coffee, representing some 2% of total exports. Domestic use is low, accounting for about one-third of the crop. Most of the domestic demand is for soluble coffee, which is produced locally by Kellogg/Salada.

## 2. Prices

- \* According to International Coffee Organization data, Jamaica's coffee consistently commands the highest prices on the world market. Since 1974, only twice has any country attained a higher unit value for coffee exports on a FOB origination price. The averages for those years range from US\$1.44 per pound to US\$2.99 per pound, FOB Kingston.

Prices depend on the category and grade of coffee exported. The top Jamaica Blue Mountain coffee category received US\$4.35 FOB Kingston per pound the past two years and is selling for US\$5.00 at the beginning of the 1981-1982 season. High mountain coffee is currently selling for US\$3.70 FOB. Exported non-Blue Mountain coffee received an average of US\$2.15 per pound FOB the past two years and is going for a minimum of US\$2.75 per pound FOB currently. Producers receive 70% of the FOB Kingston prices. The other 30% goes to the Coffee Board to pay for processing, services, overhead and expansion programs.

Consumers pay dearly for Jamaican coffee. In Japan, Jamaican coffee is presently wholesaling for US\$9.09 per pound and retailing for US\$13.63 per pound. Jamaica Blue Mountain coffee has retailed in specialty shops in the United States for as much as US\$26.00 per pound.

### 3. Structure Of The Industry

For thirty years, the Coffee Industry Board has regulated and shaped the Jamaican coffee industry. Its primary role is quality control. All coffee which is exported and all green coffee used by local manufacturers must pass through the Coffee Board's control and grading procedures. The Coffee Board has the power to approve or disapprove exporting licenses. Another major function is to negotiate prices and to set and enforce minimum prices for all exports. Recently, the board has been fairly successful in promoting the establishment of new plantations. The board has been in charge of extension services to all producers except during the period from 1974-1980 when extension to small farmers was delegated to the Ministry of Agriculture. The Coffee Board itself operates 500 acres of coffee land and is thus the largest single producer of coffee in the country. These lands will now be operated by the Coffee Board's subsidiary, the Coffee Industry Development Company.

- \* Most coffee producers have less than one acre planted in coffee. In order to have their coffee collected and to receive extension services, small producers must belong to one of the eighteen coffee producer cooperative societies. There are 65,000 such members. Coffee is picked up at collection points by trucks paid for (but not owned) by the Coffee Board. Coop members receive an advance on their coffee from the Coffee Board and a dividend after Coffee Board expenses are extracted.
  
- \* The largest private producer in Jamaica has 130 acres and plans to plant 170 more. Other owners of substantial coffee lands include the Portland Blue Mountain Coffee Cooperative and the Blue Mountain Coffee Cooperative at Moy Hall. Private investors are looking for, and in some cases finding, contiguous tracts of coffee land in the range of forty to seventy-five acres. Access to good land is a key consideration for the new investor. Finding good land may be complicated by the inability of outsiders, in competition with eager insiders, to learn fast enough which lands are available.
  
- \* Only licensed factories may buy coffee berries in Jamaica, and only one factory out of a total of eleven is owned by a private individual. Processing capacity and flow of coffee berries to factories are monitored by the Coffee Board. All of the eleven pulping factories are presently operating well below capacity, in several instances as low as 25% of capacity. Seven Coffee Board factories process 85-90% of Jamaica's coffee at the pulping, fermenting and washing stages. The factories are geographically dispersed.
  
- \* The coop factories at Moy Hall and Langley undertake finishing and packaging. The Coffee Board factory in Kingston processes virtually all Jamaican coffee at the drying, hulling, sorting and grading stages.

#### 4. Production

- \* Coffee production presents an attractive investment opportunity. Estimates on net profits on a mature, fully planted acre vary according to price of land, labor costs, yield, and proximity to roads and factories. No profit estimate heard by Agribusiness Associates was less than J\$1,080 per acre per year. Some large planters in the Blue Mountains anticipate profits of J\$4,000 per acre from well-managed land coming into production.
  
- \* Land is available to U.S. investors for purchase or rent. Government land is available to rent at J\$30 per acre per year. The Coffee Industry Development Company has a loan program to encourage investors to develop properties within a designated 1,120 acres of Blue Mountain land. Lands owned by FIDCO (the Forestry Industry Development Company) may also be available although there is a controversy over control of FIDCO lands. The JNIP (Jamaica National Investment Promotions) will help investors apply to the Minister of Agriculture for all desired government lands. Some privately owned estates are occasionally available for development, especially on joint venture terms. The private real estate market for buying land in the Blue Mountains goes for about US\$2,000 unplanted. An established coffee acre can sell for US\$5,000. Each parish has a Parish Lands Officer who can help investors look at property. In addition, two cooperatives have substantial acreages as yet undeveloped. The BMCC at Moy Hall has 1,000 acres, of which only 50 are fully in coffee. The PBMCC at Silver Hill has a total of about 500 acres in two properties, not all of which is developed. These cooperatives are willing to consider proposals made by investors.
  
- \* Some potential problems await investors seeking land for coffee. One is the scarcity of large, contiguous tracts. More problematic still is the inadequacy of the transportation infrastructure. Most available high-altitude land is steep and without roads. Trucks are available for hire

at rates based on weight per mile, but many lands are currently impenetrable. No government program for building feeder roads exists at the present time. A Japanese firm recently flew over government lands available for coffee development and determined that not even cable cars were feasible for much of that terrain. Lower altitude properties tend to be more accessible and get higher yields. However, they are less likely to qualify for the highest coffee prices. Another consideration in the choice of land is the labor supply. Wages paid for reaping berries range from J\$2.50 to J\$14.00 per 120 pounds, depending on labor supply in the region.

5. Promotion and Distribution

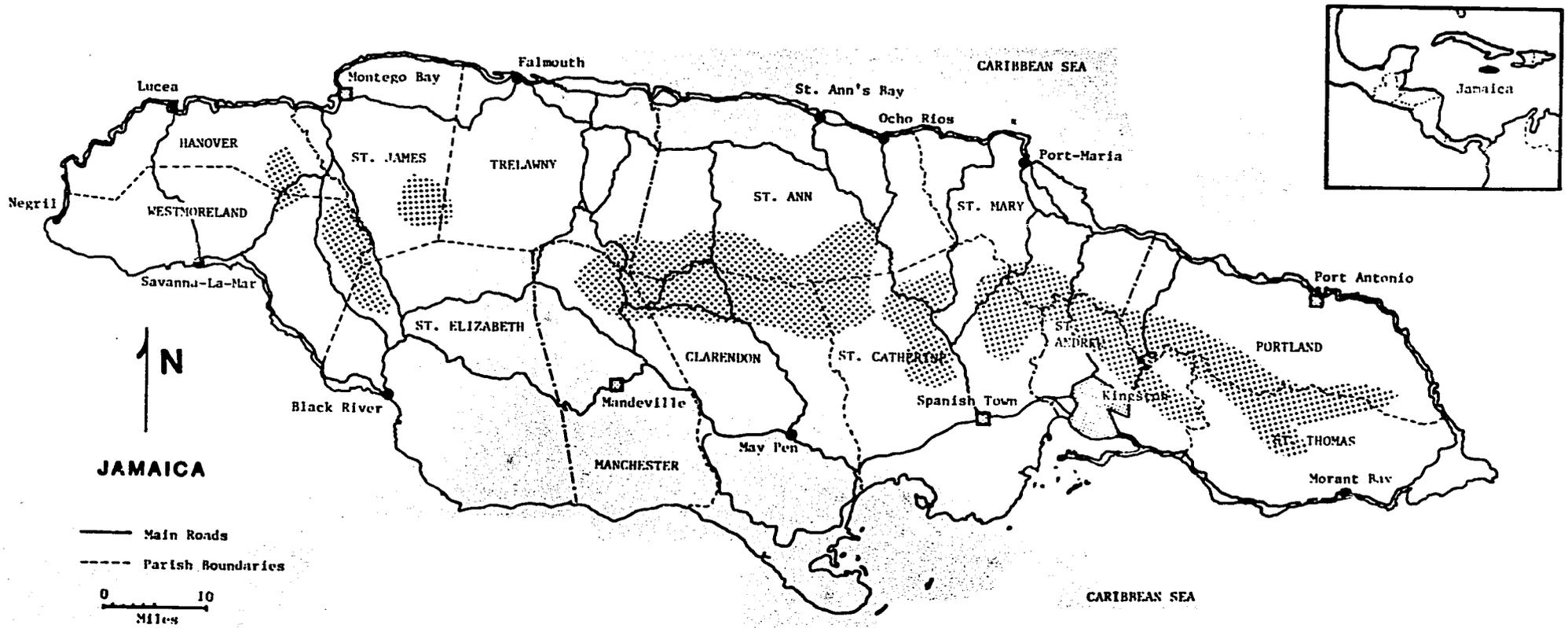
The Japanese, who buy almost all the coffee, appear not to be marketing this coffee outside of Japan. Zabars has exclusive distribution rights in New York. B.C. Ireland has the same rights in San Francisco. It is possible to assure a supply by striking deals directly with individual coffee pulping factories and producers, as long as the would-be suppliers apply to the Coffee Board for exporting licenses. All coffee for export will nevertheless have to pass Coffee Board grading and price floor procedures.

The investor should be aware of some possible pitfalls in the areas of promotion and distribution. Although Prime Minister Seaga's liberalization policies and the terms of Jamaica's IMF agreement promise increased

flexibility in marketing, there are some conflicting signals. The Coffee Board is adamant about maintaining strict quality control and may be distrustful of all but the Japanese to maintain its standards. It is unclear how the Coffee Board will ultimately act in licensing producers to market their own product despite the fact it has initially recommended increased prerogatives.

There is a potential investment opportunity in coffee by packaging retail-sized bags of coffee in Jamaica for export. This concept addresses the fear expressed by top managers in the coffee industry that it is difficult to control quality of Jamaican coffee in the consuming markets. This concern has caused the Coffee Board to restrict exports to certain markets such as the United States. The scheme also allows Jamaica to benefit from the value added of packaging and increases the investor's chance that he will have a predictable source.

# PRIME COFFEE REGIONS OF JAMAICA



Source: Ministry of Agriculture

## COCOA

JAMAICAN COCOA IS RECOGNIZED AS A "FINE" COCOA, INCREASINGLY VALUED BY MANUFACTURERS FOR BLENDING IN PROCESSED FOODS. JAMAICAN COCOA NOW COMMANDS A PREMIUM OF ABOUT US\$500 PER METRIC TON OVER WORLD MARKET PRICES, BASED ON ITS TASTE AND HOMOGENEITY. ABOUT 70% OF JAMAICAN COCOA IS BOUGHT BY ONE COMPANY, ROWNTREE'S OF THE U.K. PRODUCTION TONNAGE HISTORICALLY HAS REMAINED FAIRLY CONSTANT ALTHOUGH IT DROPPED RECENTLY. PRODUCTION IS FRAGMENTED, AND VIRTUALLY NO FARMERS HOLD OVER 50 ACRES EXCEPT THE COCOA INDUSTRY BOARD (CIB). INVESTMENT OPPORTUNITIES ARE LIMITED TO PRODUCTION SINCE PROCESSING AND EXPORT MARKETING ARE CONTROLLED BY THE CIB. THE BEST INVESTMENT IN COCOA MAY BE IN A JOINT VENTURE WITH THE CIB. THE CIB IS SEEKING FINANCING FOR PLANTING 2,000 ACRES OF RECENTLY ACQUIRED LAND. A POTENTIAL INVESTOR FOLLOWING THIS ROUTE SHOULD BE ABLE TO NEGOTIATE EITHER PREFERENTIAL PURCHASES OF JAMAICA'S EXPORTS OR A JOINT EXPORT MARKETING VENTURE.

### 1. Production

- \* Cocoa is a small farmer crop, grown on about 30,000 acres by 24,000 farmers. Cocoa is often intercropped with bananas and food forest trees. The only large operation is 2,000 acres recently developed by the CIB, but even this acreage is spread over six locations. There are no other cocoa farms over 50 acres in Jamaica.
  
- \* There has been a decline in acreage from a high of 34,000 acres in the early 1970's due to clearing of trees for other crops.

- \* Production remained relatively constant at around 1,700 tons per year throughout the 1970's. In 1980, production was lower than this average at 1,369 tons. The CIB has been trying to counter this trend by purchasing and leasing 2,000 acres in four locations. Efforts to develop this land are proceeding, but additional financing must be located to complete planting.
- \* Ideal growing conditions typified by free draining, slightly acidic soils and rainfall of around 80 inches per year exist, particularly in St. Mary, Clarendon, St. Catherine and St. Thomas. The CIB recently paid about J\$700 per acre for a 1,000 acre block of land, but prices have increased since then.
- \* Some experts believe Jamaica holds the world record for the highest observed cocoa yield under experimental conditions at 3,000 pounds per acre of dried cocoa. A well-managed farm can be expected to produce 600 pounds per acre. The average for the industry, however, is only 250 pounds per acre, reflecting the poor farming employed on most plots.
- \* The CIB subsidizes inputs to farmers. Seedlings are offered free of charge and rodenticides are heavily subsidized. The CIB has conducted research and development on improved hybrid varieties and propagation by rooted cuttings. These efforts could potentially double current output and reduce the time between planting and full bearing.

## 2. Prices

- \* The CIB currently pays farmers a total of J\$32.50 per box of wet cocoa (average 56 pounds per box). This represents an effective price of about J\$1.50 per pound of dried cocoa.

### 3. Processing and Marketing

- \* The CIB recommends growers' prices, is the sole authorized processor of wet cocoa and is the sole exporter of dry fermented cocoa. The CIB operates four fermentaries and a central export warehouse in Kingston.
- \* Over 80% of the crop normally is exported. The primary customer for Jamaican Cocoa is Rowntree's of the U.K. which currently contracts to buy 1,200 tons per year for blending in fine chocolates produced in the U.K., Germany and Canada. The price premium for Jamaican cocoa comes from its taste and homogeneity. The table on the following page shows the export trends in recent years.
- \* The balance of the crop is purchased locally by two manufacturers, Highgate Food Products who uses it for chocolates, and Pioneer Chocolate Company who uses it for powdered drink mixes.

### 4. Investment Opportunities

- \* Overseas demand has consistently outstripped supply, thus ensuring a ready market for all Jamaican cocoa. Cocoa generates significant positive cash flows once fully established. For example, fully bearing pure stands yielding 600 pounds per acre will generate revenues of J\$900 per acre. Maintenance and reaping costs will run at around J\$300 per acre. Full bearing is not achieved, however, until the seventh or eighth year which causes cash flow concerns for the investor.

FERMENTED COCOA EXPORT AND LOCAL SALES BY COCOA INDUSTRY BOARD

Destination	1976/77		1977/78		1978/79		1979/80	
	Metric Tons	FOB Value J\$						
Belgium	388	529	132	450	141	1,028	37	272
Holland	194	315	22	98	22	168	64	475
Canada	49	80	123	519	152	1,052	108	754
Germany	333	435	327	1,551	420	2,993	351	2,604
U.K.	570	848	446	2,221	673	4,637	477	3,072
Spain (Cocoa Waste)	--	--	--	--	--	39	--	--
Total Exports	1,534	2,206	1,050	4,840	1,408	9,917	1,037	7,177
Local Manufacturers	63	165	154	710	353	1,923	293	1,648
Grand Total	1,597	2,371	1,204	5,550	1,761	11,840	1,330	8,825

NOTE: Totals may not balance due to rounding.

Source: Cocoa Industry Board

Additional revenue can be generated from the second year onwards by intercropping with bananas or plantains, which provide good shade for young cocoa trees. The returns at current prices are not normally adequate, however, to counter the cash drain in the first seven years.

Jamaican cocoa represents a strategic investment opportunity for an investor intent on a guaranteed supply of fine cocoa for whom return on farm investment is a secondary consideration. The CIB has recently stated a policy that allows foreign investors to market cocoa directly if they invest in new production as part of a joint venture. Investors may be able to negotiate guaranteed purchases of current cocoa production as a term of the new joint venture. Investment in Jamaican cocoa will be attractive to candy producers who have a market for their production and who are concerned about securing a reliable supply of this unique product. Ventures with the CIB would avoid the need to locate large blocks of suitable lands at reasonable prices which are hard to find. The investor will also gain access to the best source of local cocoa technology and expertise. The CIB has operated consistently at a profit and represents a financially sound potential partner.

## ORNAMENTAL HORTICULTURE OVERVIEW

ORNAMENTAL HORTICULTURE, INCLUDING FLORICULTURE AND FOLIAGE PLANT PRODUCTION, IS ONE OF JAMAICA'S MOST PROMISING INVESTMENT AREAS FOR U.S. AGRIBUSINESS COMPANIES. THE CURRENT GOVERNMENT HAS IDENTIFIED THE POTENTIAL OF THIS SECTOR AS A SOURCE OF FOREIGN EXCHANGE AND EMPLOYMENT AND IS ANXIOUS TO HELP INVESTORS DEVELOP IT. A PRELIMINARY NATIONAL PLAN FOR ORNAMENTAL HORTICULTURE HAS BEEN PROPOSED. THE TARGETS OF THAT PLAN ARE SUMMARIZED BELOW:

1. To increase the net foreign exchange earnings of the country by J\$4 million by the end of the second year, and by J\$29 million by the end of the fifth year.
2. To establish and maintain 500 acres of ornamental plants by the end of the fifth year.
3. To establish and operate two research centers for ornamental horticulture.
4. To establish a tissue culture laboratory which will supply high quality plant propagation materials to the industry by the second year of the plan.

Although these are ambitious goals in the context of the problems facing efforts to rapidly expand the industry (discussed below), they reflect the positive attitude toward the industry held by many Jamaicans.

The plan relies heavily on foreign investment in order to succeed. Thirty-four percent of all capital for the program is expected to come from outside investors.

The plan aims to develop 315 acres of cut flowers and 276 acres of foliage plants. Much of the flower acreage is proposed to be in anthuriums. To achieve these goals, the plan correctly recognizes the need for a tissue culture propagation facility and an R&D unit. This includes a plant bank to hold genetic stock.

The total costs for the five-year program are projected at \$J78 million. Financing sources have not yet been identified. The plan anticipates returns of J\$36 million per year after it is operational.

Several things must occur for this plan to succeed:

1. Financing must be finalized.
2. Existing large private horticultural and floricultural businesses must cooperate since they possess much of the country's technical expertise, management skill and market savvy.
3. The industry must aggressively develop its market consistent with a well-conceived strategy. Such a strategy does not currently exist. The industry conceivably could succeed based on unilateral efforts by private entities, but some degree of coordination and cooperation is desirable.

This section occasionally draws on a market study commissioned by the Jamaica National Export Corporation (JNEC) entitled The Export Market in the United States for Jamaican Agricultural and Horticultural Products (Arthur Young and Co.). Investors who want more information on markets and distribution systems for ornamental products should refer to that report, which is available through the JNEC.

Investors may obtain valuable information and assistance from the Jamaican Horticulture Society. This society meets regularly and has as members some of the most active individuals in ornamental horticulture.

A summary of the factors favoring and disfavoring investment in ornamental horticulture in Jamaica is presented on the following pages.

FACTORS FAVORING INVESTMENT IN ORNAMENTAL HORTICULTURE IN JAMAICA

1. The government has given this sector much attention. Investors can expect preferential treatment on import licenses, dividend repatriation and financing.
2. Jamaica is the country closest to the U.S. capable of producing certain ornamental crops. Transportation advantages over producers in places like Hawaii are significant.
3. The climate for ornamental horticulture is good. Locations with rainfall above 60 inches at high altitudes are available. Airports are relatively close to many promising sites.
4. Labor is comparatively cheap, abundant and reliable.
5. Jamaica has some unusual and unique varieties of plants whose market potential has not been exploited.
6. Several ornamental horticultural operations already have succeeded in Jamaica.
7. Ornamental horticulture sales to the U.S. and Europe generate foreign exchange.
8. Praedial larceny is low.

FACTORS AGAINST INVESTING IN ORNAMENTAL HORTICULTURE IN JAMAICA

1. There is a serious shortage of qualified technicians and managers in Jamaica. In the opinion of some observers, there are fewer than five people qualified to operate a large commercial operation.
2. There are no good research and extension services available to help growers.
3. There is inadequate commercial air cargo space to accommodate a large increase in ornamental exports. Current air cargo services do not seem to provide the reliability needed to market some of the more fragile ornamental products. There are few direct flights to the best European markets such as Germany.
4. Capital requirements for fixed assets in ornamental horticulture are usually high.
5. Jamaica does not have a good infrastructure for handling products which require refrigeration. An uninterrupted storage and transportation refrigeration system is required for some products like roses and gerberas.
6. Some of the foreign markets for ornamental horticulture are competitive and occasionally unprofitable. Jamaica must compete with other South and Central American countries who have cheaper land and labor costs or who have been in the business longer.
7. Some commonly cited markets for Jamaican production are small and may become saturated. For example, the present total market for exotics in which Jamaica has good potential is about US\$15 million, according to Arthur Young & Co.

\* A recent survey of the ornamental horticulture industry in Jamaica resulted in the following conclusions:

- The anthurium is the most popular ornamental plant in Jamaica for export;
- Over 56 ornamental plants grow commercially in Jamaica but only 14 kinds are exported;
- The industry has 145 producers of which 9 were exporters;
- Most producers have under two acres;
- Most producers are new to the industry; only 42% of all producers have been commercial for more than five years;
- Most problems faced by farmers are technical problems;
- Farmers are eager to expand and almost 150 acres have been earmarked for expansion;
- Larger farms employ proportionately more workers than smaller farms.

\* There are few qualified people in ornamental horticulture in Jamaica. The following farms and farmers were identified by a recent analysis of Jamaica's export development program as among the most promising:

- |                       |                        |
|-----------------------|------------------------|
| - Samar Limited       | - Glouden Orchards     |
| - Wag Water Farms     | - Noel Gauntlet        |
| - Nat Chandley        | - Mistflora Ltd.       |
| - Church Valley Farms | - Jaflex               |
| - G. Shields          | - Tropiculture         |
| - Christie Farms      | - Palm Court Nurseries |
| - Milden Nurseries    | - Plant Culture, Ltd.  |
| - Ornamentals Ltd.    |                        |

MAJOR JAMAICAN EXPORTERS OF HORTICULTURAL AND FLORICULTURAL PRODUCTS-1981

	<u>LIVE PLANTS</u>	<u>CUT FOLIAGE AND FLOWERS</u>
Jamaica Export Trading Company, Ltd.* 8 Waterloo Road Kingston 10	X	X
Ornamentals Limited 5 Oxford Park Avenue Kingston 5	X	X
Palm Court Ltd. 225 Old Hope Road Kingston 6	X	X
Plant Culture Ltd. 34 Trafalgar Road Kingston 10	X	X
Jamaica Floral Exports, Ltd. 4½ Ivy Green Crescent Kingston 5		X
Tropiculture Limited 5 Oxford Park Ave Kingston 5	X	X

\*Jamaica Export Trading Company (JETCO) handles export trade for a number of smaller growers who are not included in this list but comprise an important segment of the industry.

1. Anthuriums

- \* Jamaica has successfully grown and exported anthuriums. There is room for several new investors to produce and export this flower. Anthurium production accounts for nearly half of all flower production in Jamaica and is the major export flower.
- \* Europe has imported Jamaican anthuriums for several years. Recently, because of transportation disruptions to Europe, a softening of the European economies and because of increasing demand, Jamaica has actively begun exporting to the U.S.
- \* The market for Jamaican anthuriums in the United States is strong, and brokers indicate that there is potential for substantially increasing sales.
- \* Anthuriums are produced by over 54 growers throughout the island. Most are small farmers who do not export their crop. One firm, Jamaica Floral Exports (Jaflex) dominates the market. Jaflex, located in Blackstonedged, has 24 acres of flowers under shade. Several other smaller producers have a few acres in anthuriums and are planning to expand production.
- \* Anthuriums are attractive as an export flower because they are relatively hearty plants which ship well and have a long shelf life. They do not require refrigeration.
- \* Jamaica currently produces anthuriums of superior color, shape and size. This gives the country a good market reputation.

- \* The export price for anthuriums is good. In September, 1981, a dozen medium-sized first-quality anthuriums sold for about US\$5.50, FOB Kingston. The winter price can be as much as US\$1.00 to 2.00 higher. Although accurate cost data are difficult to obtain, farm costs should be less than 30% of low season prices. Marketing, transportation and administrative overhead vary by the size of the operation and quality of management.
- \* The capital costs for anthurium production are high, as is the case for all flowers under shade. Total capital costs for land, land preparation, house construction, shade, bed preparation and plants are between J\$80-100,000 per acre. Most experts believe that at least 10 acres are needed to realize production economies of scale. This suggests that a minimum capital investment of J\$1 million is required to enter commercial anthurium production although some local growers have begun with only an acre and are apparently succeeding.
- \* The greatest expense in establishing a new farm is the cost of the plants. Plants can be purchased either from Hawaii or within Jamaica. Although Hawaiian propagated plants are usually more expensive, larger quantities of a reliable quality can be purchased. Jaflex is the only potential source for large volumes of new propagation material for anthuriums in Jamaica. Their ability to supply a rapidly growing anthurium industry is limited.
- \* Some anthurium producers in Jamaica are earning about a 20% return on investment. This figure may be conservative since private companies are more likely to show higher expenses for tax purposes.
- \* Anthurium farming does not produce a positive cash flow before the third year.

- \* Anthuriums are harvested several times per week (rather than twice a day as for other kinds of flowers) which gives growers more flexibility in managing their farm.
- \* Anthurium farm locations are dictated largely by altitude, availability of water, availability of flower bed material (e.g., coconut coir) and access to transportation.
- \* Several Jamaicans are anxious to find U.S. partners to joint venture in anthurium production. U.S. investors who are interested should contact JETCO, which has taken an active role in the development of the industry, and the JNIP.

## 2. Gerberas

- \* The gerbera is commonly cited by both Jamaicans and U.S. industry analysts as a flower with good potential for development. The recent development of several hybrid clones with striking color, size and petal arrangement has stimulated interest in this flower.
- \* The prices for the new hybrid clones are about twice that of the normal varieties.
- \* Several farmers in Jamaica are planning to enter commercial gerbera production. The production technology for some new varieties has not been developed.
- \* Gerberas are difficult to grow and require close monitoring to control disease and insects.

- \* Although prices per bloom are lower than for anthuriums, revenue per acre can be greater because of the higher number of flowers produced per plant.
- \* Potential investors should realize that while gerberas may have a lucrative market, the industry is not well developed and risks are greater.

### 3. Other Plants

- \* Other plants which have been identified as having good market potential--but which have not been developed commercially--are Bird of Paradise, Heliconia, flowering gingers and orchids.

### 4. Foliage Plants

- \* Tropiculture, Ltd. currently dominates foliage plant production (horticultural plants as they are known in Jamaica). With 70 acres, this operation is the largest of its kind in the Caribbean.
- \* Jamaica exports largely to the United States where it holds 6% of the imported house plant market. Jamaica's market share has declined over the past few years as a result of increased activities by Central American growers.

- \* Because of USDA regulations, Jamaica is limited to exporting rooted and unrooted cuttings and small plants under 18 inches. This prevents entry into the higher-value specimen plant market. This market is currently dominated by Puerto Rico and Florida. Jamaica therefore has been relegated to the high volume, low-value segment of the industry.
  
- \* The market for ornamental plants is competitive and there is continual pressure on margins. However, the industry has been profitable overall.
  
- \* Jamaica's ability to expand its foliage plant export business depends on its ability to build markets in the U.S.

## FRUITS AND VEGETABLES

### THE MARKET IN PERSPECTIVE

JAMAICA HAS POTENTIAL AS AN EXPORTER OF FRESH PRODUCE TO THE U.S. WINTER MARKET. INVESTORS FACE TWO MAJOR ISSUES IN DEVELOPING THIS POTENTIAL: CREATING A WELL MANAGED SYSTEM OF PRODUCTION AND TRANSPORTATION, AND FINDING A PROFITABLE AND DEFENDABLE NICHE IN A MARKET DOMINATED BY MEXICO. WITH RESPECT TO THE FIRST ISSUE, ANALYSES PRESENTED THROUGHOUT THIS DOCUMENT SUGGEST THAT FARM PRODUCTION SYSTEMS CAN BE DEVELOPED AND THAT A WIDE VARIETY OF CROPS CAN BE GROWN. THE SECOND ISSUE IS THE MORE IMPORTANT ISSUE TO UNDERSTAND, AND THE HARDER OF THE TWO TO SOLVE. TO SUCCEED, ONE MUST UNDERSTAND WHERE JAMAICA FITS INTO THE OVERALL WINTER PRODUCE MARKET AND WHERE OPPORTUNITIES AND PITFALLS LIE. FRUIT AND VEGETABLE EXPORTS HAVE OFTEN BEEN HERALDED BY DEVELOPING COUNTRIES--- INCLUDING JAMAICA--AS A GOOD WAY TO HELP DEVELOP AGRICULTURAL SYSTEMS, GENERATE FOREIGN EXCHANGE AND INCREASE FARM EMPLOYMENT. FAR FROM A PANACEA, MANY EFFORTS TO SELL INTO THE VOLATILE WINTER PRODUCE MARKET HAVE FAILED.

THIS SECTION IS INTENDED TO PUT THE MARKET IN PERSPECTIVE. FEW SPECIFIC CROPS ARE MENTIONED BECAUSE OPPORTUNITIES ARE CONSTANTLY CHANGING AND MUST BE IDENTIFIED BY THE SPECIFIC INVESTOR IN THE CONTEXT OF THE MARKET. INVESTORS WHO WANT MORE INFORMATION ON MARKETING PRODUCE TO THE U.S. SHOULD REFER TO THE REPORT BY ARTHUR YOUNG AND COMPANY ENTITLED THE EXPORT MARKET IN THE UNITED STATES FOR JAMAICAN AGRICULTURAL AND HORTICULTURAL PRODUCTS, AVAILABLE THROUGH THE JNEC IN JAMAICA.

#### 1. The U.S. Market for Produce

- \* U.S. per capita demand for most fruits and vegetables has been relatively stable. There has been a moderate increase in certain products like tomatoes, onions, peppers and cucumbers.

Some comparative per capita consumption data for the high volume produce are listed below:

U.S. PER CAPITA CONSUMPTION OF  
SELECTED VEGETABLES AND MELONS  
(pounds)

<u>Fresh</u>	1967-69	1973	1980
Tomatoes	12.0	12.5	13.4
Onions	12.1	8.8	13.4
Cucumbers	3.0	3.1	4.3
Peppers	2.7	2.8	3.6
Beans	1.9	1.5	1.4
Egg Plant	0.4	0.6	0.6
Watermelons	14.1	13.8	11.4
Cantaloupes	8.6	8.0	7.2
<u>Processed *</u>			
Tomatoes	15.7	18.2	19.0
Pickles	7.6	8.0	7.1
Beans	6.4	7.0	7.3

Source: USDA, Economic Research Service

\* Product Weight.

\* The market opportunity for fresh winter produce is a relatively brief one. U.S. production is at its lowest between December and March providing the most promising market for Jamaica.

- \* Although the market is not growing fast, it is large. The market for traditional fresh fruit and vegetables in 1980 was over US\$300 million.

## 2. Profile Of A Competitive Market

- \* Mexico is the dominant supplier to the U.S. winter produce market, supplying 95% or more of most traditional fruits and vegetables. The Mexican winter export system is well established, drawing its strength from several factors:
  - Most farming operations are joint ventures with U.S. importers who have a strong interest in the financial success of the operation.
  - U.S. partners financed the risky start up years with working capital and mid-term capital. This allowed operations to weather loss years.
  - Mexico can ship its products overland by truck. This allows it to provide a smooth and continuous flow to the market at competitive prices.
  - Mexico has a good infrastructure (roads, irrigation, port of entry into the U.S.). The development of this infrastructure was supported by the Mexican government.
- \* These factors have allowed Mexico to displace other producers and have helped reduce the average winter price premium over non-winter prices.

- \* Florida dominates much of the East Coast winter produce market. Although Mexico is a low cost supplier to the South and West, Florida retains a transportation cost advantage in Eastern markets. Neither supplier has a decisive advantage in the Midwest markets.
- \* Although Mexico and Florida are formidable competitors, market opportunities for Jamaican products exist. Some traditional products such as cantaloupe melons cannot be shipped by either Mexico or Florida during an eight to ten-week period in the winter. Another opportunity exists in non-traditional crops. Although non-traditional crops are a small part of the market, they can present significant investment opportunities for individual small, specialized producers.
- \* Data on selected non-traditional imports for 1979-1980 are presented below:

U.S. IMPORTS OF NON-TRADITIONAL PRODUCE  
(1979-1980)

	Mil. Lbs.	US\$Million
Dasheens	26.0	\$4.6
Okra-Fresh	20.1	1.7
Okra-Frozen	9.6	2.7
Radishes	15.1	1.6
Chayotes	4.8	0.9
Jicamas	8.9	0.9
Avocados	3.1	0.3
Mangoes	44.2	11.9
Papayas	3.9	1.0

Source: USDA.

\* Brokers and growers from Florida and the East Coast traditionally have looked to Central American and Caribbean countries to diversify their production risk and broaden their product line. Unlike Mexico, most ventures in these countries have failed. Several countries have exported to the United States for short periods of time but few have developed lasting market positions. Among the principal reasons for the failure of Central American and Caribbean winter export projects have been the following:

- The countries lacked suitable fruit and vegetable varieties for local production conditions;
- Much of the crop did not meet export standards;
- The domestic market for non-export quality output was small;
- Losses from handling and shipping were large because of poor logistics and management;
- There has been a poor understanding of the U.S. market and its needs;
- There have been scheduling difficulties in shipping to the U.S. because of infrequent or unpredictable transport;
- Bottlenecks at the port of entry and exit have caused product quality to deteriorate;

- Technical assistance from U.S. partners was not provided;
- Financial assistance was not provided to allow the operations to weather unprofitable years (which are frequent even under the best of circumstances).

A U.S. investor in Jamaica must address several problems to supply the U.S. East Coast winter market, besides the ones described above:

- Reliance on ocean transport for most products means that the product will flow to market unevenly;
- There are not enough well-established and reputable import brokers in Florida and New York, the two ports of entry for a Jamaican export venture;
- The ability of the Jamaican domestic market to absorb non-export quality produce is limited because the market is small and wholesaling is poorly developed. A good wholesaling system will not be in place before 1984 at the earliest;
- Crops for export during the summer months are limited;
- The current system for exporting produce is undeveloped and cannot handle large volumes.

- \* A successful produce export venture should preferably have several characteristics:
  - The U.S. partner must understand the fresh produce market and be involved in the system. This guarantees access to market and access to information which will help select products in demand.
  - The venture should be well-financed and able to survive several consecutive loss years.
  - The venture should have a Jamaican partner with experience in agriculture and trading. Companies like Grace Kennedy and T. Geddes Grant are examples of qualified companies. They are already planning to expand their agricultural export operations and would consider joint ventures.
  - Land in Jamaica must be secured at a low price.
  
- \* One should remember that Jamaica is a small country and that a small part of the U.S. winter market will support a relatively large and meaningful project.
  
- \* Although there is much enthusiasm about winter export, few specific examples of such ventures exist from which to predict the outcome of new businesses. Several recent shipments to the U.S. and Europe have demonstrated the promise of winter produce exports. Among the most frequently discussed export ventures are the following:

- Kaiser Aluminum: Kaiser has begun exporting green peppers to the United States. The project will plant 225 acres this year, relying primarily on small farmers for production. Peppers are transported on the company's alumina ships which gives the operation a cost advantage that most businesses do not enjoy. Farmer enthusiasm for the program is high and productivity has improved yearly. Kaiser assumes marketing, extension and financing functions. Last year's exports were profitable.
  
- Grace Kennedy & Company: Grace Kennedy has made a commitment to fruit and vegetable farming and consequently has rented a farm at Halse Hall, in Clarendon. The farm plans to produce export and domestic crops. A shipment of melons which were successfully marketed was sent to the United States last year. Grace Kennedy plans to plant 1,000 acres of other crops, including tree crops, and welcomes equity partners for new ventures.
  
- Project Oasis: This is a mutual undertaking of the government of Jamaica, several international organizations and the Israeli Government. The goal of the project is to settle 200 families in cooperative farm units, producing crops for export to Europe and the United States. Sweet potatoes and pumpkins were exported to Europe last year.
  
- United Estates and T. Geddes Grant: United Estates has planted about 25 acres of papaya for sale to Europe through T. Geddes Grant, a large diversified company. The trees will start to bear in 1982.
  
- Mathias Farm: Mr. Mathias in Adelphi, St. James, exports mangoes to North America from his 80-acre farm.

\* Several companies are currently exporting produce, albeit in small quantities. Among these companies are the following:

- JETCO
- McNair, Ltd.
- Barry Pottinger, Ltd.

## CITRUS

FRESH CITRUS AND CITRUS PRODUCTS HAVE BEEN EXPORTED FOR THE PAST 50 YEARS. TOTAL ACREAGE IN CITRUS HAS DECLINED OVER THE 1970'S, AND YIELDS ARE PRESENTLY LOW DUE TO LACK OF PROPER CULTIVATION AND MANAGEMENT, SHORTAGES OF INPUTS AND ADVERSE WEATHER CONDITIONS. EXPORTS OF FRESH ORANGES, GRAPEFRUITS, AND ORTANIKUES, AS WELL AS THE PROCESSING OF THESE FRUITS, IS CONTROLLED BY THE CITRUS GROWERS ASSOCIATION, A GROWERS' COOPERATIVE. THE CITRUS PROCESSING INDUSTRY IS CHARACTERIZED BY OVERCAPACITY DUE TO SHORTAGES OF FRUIT.

THE MOST PROMISING AREA FOR INVESTMENT IN CITRUS IS IN THE PRODUCTION OF CERTAIN FRESH FRUITS FOR THE EXPORT MARKET. BECAUSE ESTABLISHING NEW ORCHARDS IS A LONG-TERM UNDERTAKING, THE INVESTOR MIGHT CONSIDER RESUSCITATING EXISTING ORCHARDS AND INTERCROPPING WITH ANNUAL CASH CROPS AS A MEANS OF REDUCING RISK AND OBTAINING EARLIER RETURNS. AMONG THE POSSIBLE FRUITS FOR THE FRESH EXPORT MARKET ARE ORTANIKUES, WHICH HAVE PERFORMED WELL IN THE U.K. AND EUROPEAN MARKETS, AND UGLI FRUIT, WHICH IS NOT REGULATED BY THE CITRUS GROWERS ASSOCIATION. OPPORTUNITIES IN PROCESSING ARE LIMITED IN THE NEAR TERM DUE TO EXISTING OVER-CAPACITY.

AN INVESTOR MUST UNDERSTAND EXPORT MARKETS AND HAVE A WELL CONCEIVED ENTRY STRATEGY TO COMPETE WITH LARGE LOW-COST CITRUS PRODUCING COUNTRIES THAT DOMINATE THE INTERNATIONAL MARKET.

### 1. Production

- \* The principal areas of citrus production are in the parishes of Manchester, Clarendon and St. Catherine. Most of the existing trees were planted in the 1950's. Between 1968 and 1979, acreage in citrus fell from 18,200 to less than 15,000 due to poor tree maintenance, lack of inputs such as fertilizer and pesticides, and inadequate rainfall, as well as little replanting.

- \* Total citrus production has fluctuated between 62,000 and 90,000 metric tons over the last five years. Sweet oranges comprised the largest share of citrus, varying from 51 to 60% of the total crop.

CITRUS PRODUCTION IN JAMAICA  
1976-1980  
(metric tons)

Year	Total Production	Oranges	Grapefruit	Ortaniques	Other Citrus
1976	83,444	43,722	31,394	5,960	2,368
1977	80,546	44,580	27,107	6,777	2,082
1978	87,935	52,663	25,352	7,757	2,163
1979	62,419	33,108	24,290	2,980	2,041
1980	89,731	45,764	29,189	12,492	2,286

Source: Department of Statistics, Production Statistics, 1980

- \* Improved yields and increased production have been constrained by:
- The predominance of old, low-yielding trees and lack of replanting. Over half of the acreage consists of trees over 30 years old.
  - Poor cultivation practices and general neglect of orchards, with lack of proper inputs.
  - High fruit drop losses and unavailability of labor for tree maintenance and harvesting.
  - Increases in praedial larceny.

- Periods of drought between 1972 and 1979 (no groves are irrigated).

\* Several larger well-managed groves have attained yields up to 20 metric tons per acre, approximately four times the average yield.

## 2. Structure of the Industry

\* Citrus is grown on larger farms in groves as well as on smallholdings, often in mixed stand. The major portion of production comes from medium and large farms. A 1975 survey by the Citrus Growers Association (CGA) showed that only 34 out of the 904 suppliers of fruit to the CGA had orchards larger than 400 acres. These 34 suppliers accounted for 61% of total acreage in citrus. In contrast to these larger holdings, 726 farmers, or 80% of the CGA suppliers had between one and ten acres in citrus. The number of farmers growing citrus is much higher since smallholders with less than one acre in citrus were not included in the survey.

\* Approximately 50% of total citrus production is sold fresh on the local market, largely through higglers. The Citrus Growers Association is authorized by the government to be the sole buyer of oranges, grapefruit and ortaniques for processing or for fresh export.

\* The CGA sets prices to growers annually for fruit delivered to packing and processing plants. Processing fruit is allocated between two factories, one of which is owned by the cooperative. Exportable fresh fruit is washed, waxed and packaged by the CGA. Last year, exports of certain citrus products were handled by JETCO, the government-owned trading corporation, rather than by the cooperative.

- \* Lemons, limes and ugli fruit are not regulated by the CGA. These citrus fruits have been exported in small quantities by growers.
- \* The percentage of the total citrus crop that is delivered to the CGA for processing or export has fluctuated in the past five years, dropping to a low of 666,000 boxes in 1977 and increasing to 1.1 million by 1980.

DELIVERIES OF CITRUS  
TO THE CITRUS GROWERS ASSOCIATION  
1976-1980  
( '000 boxes)

Year	Deliveries to CGA	Deliveries to CGA as % of Total Production
1976	1,000	49%
1977	666	34%
1978	886	41%
1979	703	46%
1980	1,112	51%

Note: One box equals 90 pounds.

Source: Department of Statistics, Production Statistics, 1980;  
Economic and Social Survey, 1980.

- \* Besides variability in total production, strong local demand and higher prices on the unregulated local market have diverted citrus from either the fresh export or processed market. Prices for first-quality sweet oranges on the local market averaged J\$12.00 per box in 1980/81 compared

with the CGA price of \$10.00 per box. Fruit for processing into straight juice, concentrates and canned segments is allocated by the CGA to the two processing factories (one of which is owned by the cooperative) on a pre-determined basis. Both are currently operating at about 50% capacity.

### 3. Crop Utilization And Exports

- \* Sweet oranges: The Valencia orange is grown in Jamaica with 55 to 60% of production sold on the local fresh market. An insignificant amount is exported fresh. The remainder is processed into straight juice and juice concentrate. Straight juice is marketed locally and exported to Caricom. Frozen orange concentrate is exported primarily to West Germany, the U.K. and several Caricom countries. The value of orange concentrate and straight juice exports in 1980 was J\$2.1 million.

The cost of processing and shipping Jamaican frozen concentrate to Europe are above world prices for orange concentrate. (In 1981, ex-factory prices in Jamaica were about equal to c.i.f. import prices in Rotterdam.) Low throughput in the two factories has resulted in high unit costs, but concentrate continues to be manufactured and sold for prices below cost on the world market in order to earn foreign exchange.

Grapefruit: Less than 1% of total grapefruit production is exported fresh. Most production is processed into straight juice, concentrate, and canned segments. Value of exported processed products was a little over J\$2 million in 1980. Sales of concentrate were to the U.K. (33%), West Germany (20%) and the Netherlands (19%), with the balance going to Caricom countries. Straight juice was marketed primarily to Caricom, and canned segments were marketed exclusively to the U.K.

- \* Ortanique: Strong local demand exists for this hybrid between the orange and tangerine, and it has also been successfully marketed overseas. About half of the total ortanique crop is sold on the local fresh market. Of the remainder, a small amount is used to upgrade orange concentrate, but most is exported fresh. The value of exports in 1980 was J\$2.8 million, with over 50% shipped to the U.K., 28% to West Germany, and the remainder exported to the Netherlands (10%), Canada (9%) and the United States (1%). Demand for the ortanique in Europe and the U.K. has been strong, although there is evidence that the ability of markets to absorb significantly greater amounts is limited. Cuba has begun to market a similar hybrid at a lower price, and Jamaica may face stiffer competition in the future. The potential for marketing the ortanique on a larger scale in the U.S. and Canada has not been tested and presents an opportunity for expanding exports of this unique fruit.
  
- \* Ugli fruit: "Ugli fruit" is a registered trademark. This hybrid citrus was developed by a Jamaican citrus grower who currently has 250 acres in production. Yields have been severely affected by recent droughts, and the existing groves are mostly young trees, five to seven years old. Ugli fruit is currently exported to Europe and the U.S. A Chicago importer of the fruit indicated that demand is strong, particularly in several U.S. supermarket chains and that exports would find a ready market. The grower of ugli fruit is seeking a partner to provide capital for expanding production and exports. He can be contacted through Jamaica National Investment Promotion, Ltd.

#### 4. Investment Possibilities

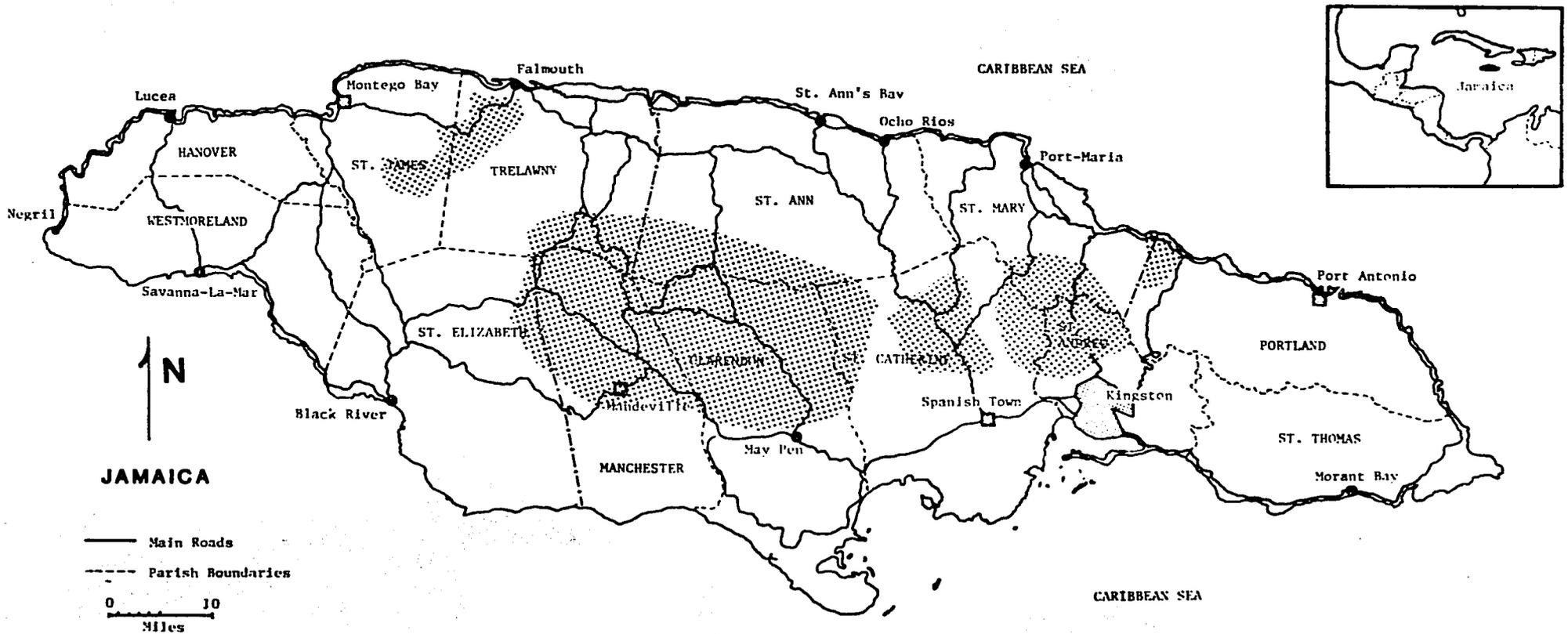
- \* Outside of production for the local market, the most promising area for investment in citrus is production of fruit for the fresh export market. Investors should note that Jamaican citrus exports have been hampered by irregular supply, low quality and inadequate transportation. Most of these problems can be overcome in well-managed operations.

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- \* Since establishing citrus groves is a long-term undertaking, the investor may reduce the inherent risk of the investment by resuscitating selected existing orchards or using intercropping with short-term cash crops in new orchards as a strategy for offsetting high initial establishment costs. There are a number of larger citrus producers in the country seeking partners for joint ventures to expand production and improve yields on existing acreage.

# CITRUS GROWING AREAS OF JAMAICA



Source: Ministry of Agriculture

## FRUIT TREE CROPS

DESPITE JAMAICA'S GOOD CLIMATE AND SOIL CONDITIONS FOR GROWING "NON-TRADITIONAL" FRUIT TREE CROPS, THIS HAS BEEN A RELATIVELY UNDEVELOPED AREA OF THE ISLAND'S AGRICULTURE. OPPORTUNITIES EXIST IN THE PRODUCTION OF CROPS SUCH AS MANGOES, AVOCADOS, PAPAYA AND GUAVA, EITHER FOR FRESH EXPORT OR PROCESSING. ALL OF THESE TREE CROPS CURRENTLY GROW IN JAMAICA, BUT FEW ARE PLANTED IN ORCHARDS. MOST TREES ARE SCATTERED ON SMALL PLOTS OR ARE FOUND GROWING WILD THROUGHOUT THE ISLAND. COLLECTION METHODS ARE INEFFICIENT, AND TRANSPORTATION METHODS ARE INADEQUATE FOR BRINGING FRUIT TO PROCESSORS AND EXPORTERS. FRUIT IS OFTEN PICKED AT THE WRONG TIME, AND PROCESSORS INDICATE THAT LESS THAN 25% OF WHAT IS HARVESTED IS USEABLE. MOST OF THESE PROBLEMS CAN BE OVERCOME THROUGH ORCHARD PRODUCTION AND ON-FARM PACKING.

WHILE THE OVERSEAS MARKET FOR TROPICAL FRUITS IS STRONG, EXPORTERS FACE STIFF COMPETITION FROM PRODUCERS IN MEXICO, CENTRAL AMERICA AND OTHER CARIBBEAN COUNTRIES. DUE TO THE LONG-TERM NATURE OF TREE CROP INVESTMENTS, AN UNDERSTANDING OF TRENDS IN PLANTINGS, EXPORT MARKETS AND POSSIBLE ENTRY POINTS IS ESSENTIAL.

- \* In 1979, the Ministry of Agriculture undertook a development program to establish "non-traditional" fruit tree crops for both domestic consumption and the export market. Recommended crops for development included mango, papaya, avocado, naseberry, guava, soursop and annato. Approximately 300 acres were established through this initiative, mostly through the Land Lease and Pioneer Farms programs, on small lots of less than 10 acres. Additionally, the planting program intended to provide private producers with planting material, although this never materialized due to a lack of financing.

- \* Orchard production of most of these tree crops in Jamaica has been widely discussed but never implemented. Since there are few organized commercial growers of these crops, little information exists regarding on-farm yields, actual costs of production and returns to the grower. Some of this information may be obtained through discussion with several larger growers, staff from the Ministry of Agriculture and the Caribbean Agricultural Research and Development Institute (CARDI). A list of research publications on tree crops in Jamaica can be obtained through the Research and Development Department of the Ministry of Agriculture ("Seminar on Research and Development of Fruit Trees," June, 1980).

1. Mango

- \* While Jamaica is a small exporter of mangoes, the technical aspects of mango production on the island are well-known. Several well-established commercial growers with 60-80 acres each have demonstrated the feasibility of profitable export. The Tommy Atkins (season from May-July) and Keitt (season from July-October) are two varieties grown for the export market. Yields could not be established with certainty, but are estimated to be about 1,000 dozen per acre (85 trees per acre) for a good farm.
- \* Fruit is boxed on the farm by the larger growers, and some is exported through JETCO, the government-owned trading company. JETCO will contract with growers at the beginning of the season for a fixed price and has also assisted in obtaining inputs, such as pesticides, when these have been difficult to secure.

- \* Total volume of fresh mango exports in 1980 was 173 metric tons, valued at J\$281,904. Exports were sent to the United Kingdom (44%), Bermuda (40%), Canada (11%), U.S. (4%), Cayman Islands (less than 1%) and the Netherlands (less than 1%). Mangoes are also fermented and packed in brine for export, with over 85% of the export volume of 147 metric tons in 1980 going to the United States.
- \* Given that production methods are well known and Jamaican mango exports have been successful in the fresh export market, this is a promising area for expanded development. Competition in the North American market from producers in Mexico and Haiti is likely to be strong.

## 2. Avocado

- \* This tree grows wild in many areas of the island, and most of production is consumed on the local market. Exports of the Simmonds variety, mostly to the U.K. and Bermuda, in recent years have fluctuated between 33 tons in 1977 and 76 tons in 1979. More work is needed on growing suitable varieties for the export market and developing adequate transportation systems for assembling the crop. Because production is not concentrated in any particular area, this crop has not been developed for the export market.

## Papaya

- \* The prospect for expanding papaya production for the export market is good. The local variety, "El Salvador", is too large for the export market and is often damaged during transportation to processing factories. Twenty-five acres of smaller "Solo" variety is being grown by United Estates--one of the largest farms on the island--for eventual trial export to the United Kingdom. Planting material for the Solo

variety must be imported, and frequent spraying is necessary to prevent viral diseases. The success of exports to the overseas market will depend on securing timely air transportation in special containers that prevent damage to the fruit.

- \* Further processing of papaya provides another investment opportunity. At present, canned papaya products are not competitive in export markets due to the high cost of canning and inadequate supplies of fruit. Packaging methods which would reduce current costs are likely to increase the competitiveness of papaya exports.

#### 4. Guava

- \* Mostly growing wild in pasture land, guava has potential for development as an orchard crop. Fresh fruit collected is primarily used in the processing of guava products, such as nectars, jams, and purees. Because the trees are not cultivated, the quality of the fruit is often poor due to lack of spraying or maintenance. Exports of guava products to the U.K., Canada, the U.S. and Caricom countries were valued at J\$115,918. Jamaica currently imports guava paste for use in certain processed products.

#### 5. Kola Nuts

- \* Almost all production of kola nuts is concentrated in the high rainfall Linstead watershed area, covering sections of the parishes of St. Catherine, St. Mary and St. Andrew. Used locally in brewing "tea", the kola nut is also exported to the United States where it is further processed to extract flavoring for cola drinks. Exports have fluctuated between 300 and 600 tons in recent years, and the prospects for expanding production for the export market are good. Jamaican kola nuts

sell for a 10% price premium over varieties imported from West Africa due to their higher quality and flavor characteristics. The prices to farmers are currently J\$0.50 per pound. Import prices (c.i.f.) in 1981 averaged US\$0.53 per pound.

Factors limiting increased production of kola nuts include the following:

- Kola nuts have been grown almost exclusively by small farmers and little research has been conducted to develop it as an orchard crop.
- Kola is a long-term tree crop that does not come into full bearing until eight years after planting from seed.
- \* There are two exporters in Jamaica who ship most of the kola nuts collected for export. Practically all exports of Jamaican kola nuts are purchased by one manufacturer of cola flavoring in the U.S. One of the exporters has entered into production and has also tried to stimulate small farm production by distributing seedlings for planting.
- \* Given Jamaica's proximity to the U.S. market, the unique quality features of the Jamaican kola nut and strong export market potential, this appears to be a promising area for investors who are willing to wait.

## ROOT CROPS

ROOT CROPS OFFER SOME OPPORTUNITIES FOR THE FOREIGN INVESTOR IN JAMAICA BY EXPORTING TO THE FOREIGN ETHNIC MARKET ESPECIALLY IN THE U.K. AND U.S. YAMS, CASSAVA, SWEET POTATOES AND DASHEENS ALSO HAVE A STRONG DOMESTIC MARKET.

### 1. Production

- \* From 1970 to 1979, production of root crops increased over 85% from 157,177 tons to 285,901 tons. Most of this increase was due to expanded acreage, which increased over the period. Average yields for all root crops improved from 4.4 to 5.3 tons per acre.
- \* Yields in Jamaica are low by world standards. Potential for increased productivity is good. For example, trials carried out with new higher yielding yam varieties and improved agronomic techniques show 100% improvements over average yields. Mechanized farming methods could also improve yields.
- \* Root crops are often intercropped with other crops such as bananas and plantains.
- \* Root crop production in Jamaica is normally profitable.

## 2. Distribution and Exports

- \* Almost 95% of all root crops are handled by higglers and sold in the domestic market. The AMC purchases between 5-10% of all root crops which it sells locally or packages for export through JETCO. Inadequate storage and distribution systems cause occasional shortages of root crops.
  
- \* There is little root crop processing in Jamaica. Most "bitter" cassava is made into bammy (a kind of cake) by small cottage industries. The government owns a cassava flour plant at Goshen, which opened in 1979. The plant has never worked properly because of insufficient cassava supplies and technical difficulties. The plant has capacity to process 51,000 metric tons of cassava per year. Yams are canned in small quantities in other plants.
  
- \* Less than 2% of local root crop production is exported. Root crops represent 33% of all fresh produce exports including citrus. Jamaica accounts for 80% of the U.K.'s root crop imports. Jamaican root crop exports to the U.K. are duty free. A small percentage is also exported to Caricom countries. High costs of production make these Jamaican products less competitive in the U.S. market.
  
- \* Cassava flour is currently added to baking flour (3%).

AVERAGE PRODUCTION AND YIELDS OF SELECTED ROOT CROPS  
(1970, 1975, 1979)  
(Short Tons)

	1970			1975			1979		
	Acreage	Production tons	Yield tons/acre	Acreage	Production tons	Yield tons/acre	Acreage	Production tons	Yield tons/acre
Coco	2,667	12,531	4.7	4,120	12,900	3.1	4,576	18,699	4.1
Dasheen	3,141	10,092	3.2	3,870	21,909	5.7	3,151	19,394	6.2
Cassava	5,791	22,224	3.8	5,390	20,550	3.8	6,215	31,521	5.1
Irish Potato	2,216	9,304	4.2	4,590	14,913	3.2	2,970	13,878	4.7
Sweet Potato	4,206	13,976	3.3	5,060	16,625	3.3	5,839	29,159	5.0
All Yams	17,589	89,050	5.1	29,550	144,579	4.9	30,785	173,250	5.6
Negro	3,592	23,174	6.5	4,990	28,197	5.7	5,956	34,157	5.7
Renta	2,678	12,432	4.6	5,830	25,704	4.4	4,855	27,992	5.8
Yellow	5,803	27,690	4.8	9,600	46,197	4.8	9,500	54,468	5.7
TOTAL ALL ROOT CROPS	35,610	157,177	4.4	52,580	231,476	4.4	53,536	285,901	5.3

Source: Data Bank, Ministry of Agriculture.

3. Investment Opportunities

- \* Export opportunities exist for Jamaican root crops, notably yellow yams, yampies, dasheens and sweet potatoes. The market for "ethnic" produce in the U.S., Canada and the U.K. has been slowly but steadily expanding. There are sizable West Indian communities in these countries not supplied by present export marketing channels.
- \* High production costs limit Jamaica's ability to compete in the high volume, price-sensitive markets (e.g., in white yams).
- \* Proper storage could help producers take advantage of seasonal price premiums.
- \* An investment for production exclusively for the local market would probably not be favored by the Jamaican government since a relatively small increase in production would saturate the local market and depress prices for small farmers.
- \* Local production opportunities may exist for cassava. An investor could grow cassava for the Goshen processing plant if favorable arrangements could be made with the government to use the plant.

## FOOD PROCESSING

U.S. AGRIBUSINESS FIRMS CAN FIND ATTRACTIVE JOINT VENTURES IN PROCESSING AS A COMPLEMENT TO BASIC PRODUCTION. CURRENTLY THERE IS LITTLE EXCESS FARM PRODUCTION TO SUPPLY NEW PROCESSING VENTURES. THIS IMPLIES A NEED FOR PROCESSORS TO BACKWARD INTEGRATE INTO FARMING OR CONTRACT DIRECTLY WITH FARMERS TO SECURE A PREDICTABLE SUPPLY. THE MARKET FOR CERTAIN TYPES OF PROCESSED FRUITS AND VEGETABLES, ESPECIALLY EXOTIC TROPICAL FRUITS, IS STRONG IN THE UNITED STATES AND EUROPE. THE PRESENCE OF ENTRENCHED COMPETITORS REQUIRES THAT NEW VENTURES KEEP COSTS LOW AND MARKET AGGRESSIVELY. THERE ARE OVER 267 PROCESSING FACILITIES IN JAMAICA ALTHOUGH ONLY SEVERAL HAVE COMMERCIAL EXPORT POTENTIAL. THE PROCESSING INDUSTRY IS TYPIFIED BY EXCESS CAPACITY (WHEN CAPACITY IS MEASURED BY THEORETICAL OUTPUT), HIGH COSTS, LOW THROUGHPUT, VARIED PRODUCT LINES, UNPREDICTABLE AVAILABILITY OF CANS AND BOTTLES, OLD PLANT AND EQUIPMENT AND WEAK EXTERNAL MARKETING. U.S. COMPANIES SHOULD CONSIDER ENTERING PROCESSING WITH EXPERIENCED COMPANIES WHO CAN HELP ESTABLISH SECURE SOURCES OF SUPPLY THROUGH BACKWARD INTEGRATION INTO FARMING.

### 1. Overview

- \* There are 267 processing firms in Jamaica. Most of these firms are small and cater to the domestic market. A list of selected larger food processing companies in Jamaica is presented on the following page.
  
- \* The government is a major participant in processing. In the 1970's the government built and acquired plants and entered strategic processing areas.

EXISTING JAMAICAN FOOD PROCESSORS WITH EXPORT SALES

<u>COMPANY</u>	<u>SELECTED PRODUCTS</u>	<u>COMPANY</u>	<u>SELECTED PRODUCTS</u>
Grace Kennedy & Co., Ltd. 64 Harbour Street Kingston, Jamaica  Telephone: 922-3440	Hot Tomato Ketchup/ Pepper Sauce Canned Carrot Juice/ Nectar Canned Fruit Juices Mango Chutney Canned Ackees Guava Jelly Orange Marmalade Processed Meats	Fletcher Bowman Ltd. Oxford House Kingston 5, Jamaica  Telephone: 929-2976	Mango Chutney Hamburger Relish Canned Ackees Hot Mango Pickle Canned Callaloo Red Peppers
Roberts Products Company, Ltd. 7 Norwich Avenue Kingston 10, Jamaica  Telephone: 923-9048	Canned Callaloo Canned Mango Canned Ackees Carrot Juice/Nectar Canned Breadfruit Fruit Juices Guava Jelly Orange Marmalade	Apollo Packers Ltd. 69-71 Water Lane Kingston, Jamaica  Telephone: 922-3658	Pork Products: Bacon, Bologna, Frankfurter, Salami, Ham, Vienna Sausages
Scott's Preserves Limited Spanish Town St. Catherine, Jamaica  Telephone: 984-2610	Hot Pepper Sauce Canned Callaloo Canned Ackees Fruit Juices Canned Paw-Paw, Nectar/Chunks	Jamaica Citrus Growers Ltd. Bog Walk St. Catherine, Jamaica  Telephone: 985-2279	Grapefruit Concen- trate/Juice Orange Concentrate/ Juice Orange/Grapefruit Squash Guava Jelly Seville Orange Marmalade
		Gray's Pepper Products Strathbogie Road Sav-la-Mar, Westmoreland, Jamaica  Telephone: 955-2700	Brown Sauce Ground Red Peppers Hot Pepper Sauce

EXISTING JAMAICAN FOOD PROCESSORS WITH EXPORT SALES

<u>COMPANY</u>	<u>SELECTED PRODUCTS</u>	<u>COMPANY</u>	<u>SELECTED PRODUCTS</u>
Jamaica Biscuit Co., Ltd. 206 Spanish Town Road Kingston 11, Jamaica  Telephone: 923-6477	Cream Crackers	The Citrus Company of Jamaica Ltd. 45-52 Harbour Street Kingston, Jamaica  Telephone: 922-8340	Grapefruit Juice/ Concentrate/Segments Orange Juice/ Concentrate Lime Juice
The Pickapeppa Company, Ltd. Shooters Hill Mandeville, Jamaica  Telephone: 962-2928	Hot Pepper Sauce Pickapeppa Sauce (Brown)	Highgate Food Products Ltd. 34 Old Hope Road Kingston 5, Jamaica  Telephone: 926-4520	Cocoa Powder (bulk) Chocolate Confectionery Breakfast Cocoa
Agro Industries (Jamaica) Ltd. Bog Walk St. Catherine, Jamaica  Telephone: 985-2380	Bacon, Bologna, Vienna Sausages, Ham, Salami, Pork and Beans	*Guinness (Jamaica) Ltd. 234 Spanish Town Road Kingston 11, Jamaica  Telephone: 923-6141	Ting Grapefruit Drink Ting Grapefruit Concentrate Malt Guinness Stout
Mussons (Jamaica) Ltd. 178 Spanish Town Road Kingston 11, Jamaica  Telephone: 923-8922	Canned Fruit Juices Canned Carrot Juice/ Nectar Guava Jelly Hot Pepper Sauce Mango Chutney	Lannaman's Confectionery Ltd. 4 Arnold Road Kingston 4, Jamaica  Telephone: 922-5680	Sugar Confectionery Canned Ackees Canned Breadfruit Canned Callaloo Guava Jelly Orange Marmalade Hot Pepper Sauce

\*Market Restricted

EXISTING JAMAICAN FOOD PROCESORS WITH EXPORT SALES

<u>COMPANY</u>	<u>SELECTED PRODUCTS</u>	<u>COMPANY</u>	<u>SELECTED PRODUCTS</u>
Tropic Foods Ltd. 38 Beachwood Avenue Kingston 5, Jamaica  Telephone: 926-0410	Guava Jelly Marmalade Hot Pepper Sauce Whole Peppers Crushed Peppers Tomato Ketchup Mango Chutney Syrups	McNair Ltd. 40 1st Street Newport West Kingston 13, Jamaica  Telephone: 923-6576	Canned Ackees Canned Callaloo
Southern Processors Ltd. Bull Savannah St. Elizabeth, Jamaica	Canned Ackees Canned Carrot Juice Canned Mango Nectar Canned Pineapple Slices Canned Tomato Juice	Butterkist Limited 2 Valentine Drive Kingston 8, Jamaica  Telephone: 925-9417	Biscuits (sweet, semi-sweet crackers)
Food Specialties (Jamaica) Ltd. Mitchelton Bog Walk, St. Catherine, Jamaica  Telephone: 926-1300	Maggi Chicken Noodle Soup Nestles Sweetened Cocoa Milo Tonic Drink	Darliston Community Foods  Jamaica Flour Mills	Paw-Paw  Flour products

- \* Limited opportunities exist in processing for the domestic market, although some U.S. investors have found promising opportunities in certain snack foods. Several large firms, e.g., Grace Kennedy and T. Geddes Grant, already dominate the domestic processed market. Many products produced in Jamaica use imported bulk stock which is repackaged and distributed. Local processors compete with imports in a competitive market despite the existence of some protective tariffs and import restrictions.
  
- \* Most processors of fruits and vegetables in Jamaica are forced to produce a wide range of products in small quantities. Local procurement of agricultural produce for processing is often difficult. The major reasons for procurement difficulties are summarized below:
  - Few farmers are large enough to produce large quantities of food.
  
  - Demand for fresh produce is strong. Therefore, processors must compete with the fresh market for their sourcing but cannot offer the same high prices. Processors typically offer farmers about one-third to one-half of what farmers receive in the fresh market. Farmers therefore use processors as the market of last resort.
  
  - Transportation systems for assembling and delivering produce to the factory are poor. Factories often depend on farmers for delivery.

- \* Any investor interested in processing in Jamaica should count on developing his own supply source. Two obvious means are available: contracting with farmers and backward integrating into production. Experiences with contracts for produce usually have not been successful since farmers and processors alike are frequently unable to fulfill their terms of contract. The incentive for farmers to sell their produce outside of the contract when prices are high has been the main failing of the farmer. Unavailability of working capital to pay farmers, poor transportation and refusal to accept production when factories are operating at capacity have been the processors' major faults.

A more detailed analysis of supply contracts is presented in the next section.

- \* Processing costs in Jamaica are high. The reasons for this are summarized below:
  - Processors are required to make short runs of many products.
  - Jar and can prices are high and sometimes must be imported to meet the standards of foreign markets.
  - Containers are frequently unavailable. Can and glass jar production is dominated by two monopoly companies, Jamaica Metal Box and West Indies Glass. These companies often have production problems.
  - Labor is frequently used inefficiently because of poor management and inadequate planning, among other reasons.

- Many factories are old and inefficient. Poor layouts complicate materials handling and shipping.
- \* Despite high costs, processing firms on average have been profitable. Prices charged in the domestic market are high and allow processors to recover their costs.
- \* Recently, the profitability of the processing industry has been hurt by imported goods. Most goods can be imported for significantly less than local goods and are of a higher quality.
- \* The domestic processing industry is operating at between 40 and 50% of capacity, by most estimates. These figures do not accurately indicate the ability for the processing sector to expand since many factories are old and cannot operate at theoretical capacity.

## 2. Processing for Export

- \* Processing for the export market is complicated by many of the same problems that plague processing in the domestic market. Among the most serious problems are low availability of raw materials, high costs and poor management.
- \* Export to the U.S. market is complicated by several factors.

Jamaica cannot compete on most high volume canned and processed goods. This limits the country to the processing of lower volume products.

- Jamaica may have difficulty conforming to U.S. government labeling requirements. Because producers in Jamaica are forced to frequently change their formulation according to availability of raw materials, they would have to print different labels at great cost in order to meet strict U.S. labeling requirements.
- Export of non-traditional products, the most promising niche for Jamaica, first requires successful production which demands expertise in farming. Therefore, the processor must assume a developmental role in production as well as in processing. Timing will be a concern for U.S. investors. It may take several years before proper production is achieved. Processors may therefore want to devise a two-phased plan whereby farms are developed first, and the processing plant is planned to accommodate production as it comes on stream.

\* U.S. investors must compete with existing processing companies outside of Jamaica who have well-developed production and marketing systems. For example, Goya, a company specializing in tropical foods, already exports canned foods and juices to the U.S. market and has processing facilities in the U.S. Companies like Goya have a strong brand image in the non-traditional processed markets and are well positioned to protect some of their markets from new competitors.

\* U.S. firms can find opportunities for processing joint ventures with existing Jamaican companies. Several Jamaican processors express interest in starting combined farming and processing ventures. U.S. companies are strongly recommended to join with experienced companies. Processing in Jamaica is particularly vulnerable to the operational difficulties discussed throughout this report, although it offers some of the best long-term business opportunities.

As with many agribusiness ventures, Jamaican processors look to the U.S. investor to provide access to the markets. Several major processors expressed their hope that the U.S. help Jamaica develop its export business by increasing quality and reducing costs.

One possibility in processing which avoids problems associated with canning is to export bulk processed foods (e.g., fruit concentrates or segments) to the U.S. and to package them there. Some companies in other parts of the Caribbean are already using this technique to take advantage of lower U.S. canning costs.

Several processing operations potentially attractive to U.S. companies may be available for acquisition. The government, for example, recently offered Southern Processors, Ltd. and Cornwall Dairy for sale as part of its divestment program. Other processing operations, e.g., National Cassava and Agricultural Processing Co., are scheduled to be divested in the near future.

## SUPPLY CONTRACTS WITH FARMERS

INVESTMENT PROJECTS USING DOMESTICALLY PRODUCED AGRICULTURAL PRODUCTS FOR FURTHER PROCESSING MAY SECURE A PORTION OF THEIR SUPPLIES BY CONTRACTING WITH SMALL AND MEDIUM-SIZED PRODUCERS. IT WILL BE NECESSARY TO TAKE AN ACTIVE POSITION IN PLANNING AND ADMINISTERING RELATIONSHIPS WITH SMALL-SCALE PRODUCERS. PROCESSING PLANTS IN JAMAICA HAVE SEEN THEIR SUPPLY SOURCES DRY UP AS SUPPLIES ON THE DOMESTIC FRESH MARKET TIGHTEN AND PRICES INCREASE ABOVE THOSE SET BY THE PROCESSOR. PROCESSORS ALSO COMPLAIN OF A LACK OF PRODUCE OF AN ACCEPTABLE LEVEL OF QUALITY DUE TO POOR CULTIVATION PRACTICES, POOR HARVESTING METHODS AND LACK OF PROPER HANDLING. THE RECORD INDICATES THAT SMALL AND MEDIUM-SIZE FARMERS WILL RESPOND TO MARKET DEMAND IF IT IS RELIABLE AND PREDICTABLE.

- \* While contracting with farmers is a potential method of securing an adequate flow of raw materials, one should note that contracting in Jamaica has frequently failed in the past. Contractual agreements tend to fail when the contract does not guarantee a market and the producer delivers produce during a period of oversupply, only to find it is turned away. Contracting has, however, been successful in some commodities such as tobacco and broilers.

The most successful contractual arrangements in Jamaica are characterized by the following:

- They provide farmers with necessary inputs to ensure a crop of acceptable quantity and quality (e.g., financing, seeds, fertilizer). In short, the processor or exporter must be prepared to function as an extension agent to the producer.
- They ensure a guaranteed market at a guaranteed price for at least a portion of the farmer's production for a specified time period.

- They devote time and resources to carefully selecting producers, educating them about their contractual obligations, organizing harvesting and arranging transportation.
- \* Processors usually have better experiences contracting with full-time farmers who live on their land.
- \* One successful company provided further incentives to contract farmers by giving them equity shares in the company.
- \* Crops for which there is little local demand, or which cannot be marketed without further processing, are less susceptible to contract problems. One should note, however, that it is desirable to have a local market for a portion of one's crop that does not meet export standards.
- \* Some observers believe that farmers are more willing to innovate and learn new farming practices for non-traditional crops than for traditional crops.

## SUGAR

ONCE AMONG THE WORLD'S BEST SUGAR-PRODUCING COUNTRIES, JAMAICA'S INDUSTRY IS NOW IN CRISIS. 1981 PRODUCTION WAS ONLY 201,000 TONS COMPARED WITH 357,000 TONS IN 1976 AND OVER 500,000 TONS IN 1965, A RECORD-SETTING YEAR. LOW PRICES, POOR CULTIVATING PRACTICES, MILLING INEFFICIENCIES, DISEASE INFESTATION AND ORGANIZATIONAL INADEQUACIES HAVE PRODUCED SERIOUS FINANCIAL LOSSES. THE INDUSTRY IS NOW LARGELY CONTROLLED BY GOVERNMENT-OWNED INSTITUTIONS. THE NATIONAL SUGAR CORPORATION (NSC) OWNS EIGHT OUT OF TWELVE FACTORIES, AND THE SUGAR INDUSTRY AUTHORITY (SIA) HAS THE MONOPOLY ON THE DOMESTIC AND EXPORT MARKETING OF SUGAR. THE INDUSTRY CONTINUES TO BE FINANCED BY THE GOVERNMENT BECAUSE OF ITS STRATEGIC POSITION AS THE LARGEST EMPLOYER OF LABOR IN THE COUNTRY AND ITS CONTRIBUTION TO EXPORT EARNINGS, WHICH WERE J\$95 MILLION IN 1980. BOLD INVESTORS CAN LEASE OR POSSIBLY BUY SUGAR OPERATIONS FROM THE GOVERNMENT BUT MAY RISK SIGNIFICANT LOSSES. MANAGEMENT CONTRACTS MIGHT POSSIBLY BE NEGOTIATED.

### 1. Cane Production

- \* Sugar cane is grown primarily on the coastal plains. Cane is grown both on estates owned by factories and on privately held cane farms. The largest cane farmers are the sugar cooperatives at Frome, Monymusk and Bernard Lodge, formed by the PNP Government in the 1970's using land purchased earlier from Tate and Lyle and United Fruit Company subsidiaries in Jamaica. The cooperative structure has been a failure. The government recently announced that they were discounting the cooperative sugar operation. The total number of independent cane farmers has declined from nearly 15,000 in 1978 to 13,900 in 1981. Overall, about 30,000 acres have come out of cane since the peak years in the 1960's and are now in cattle, miscellaneous food crops or lying ruinate.

- \* Cane productivity is down to an average 24 tons per acre from previous levels of about 30 tons per acre. Smut and rust diseases have affected productivity, as have foreign exchange constraints which forced a reduction in the use of fertilizer. A Sugar Industry Authority replanting grant is now being offered and increased fertilizer supplies are now available, but their effect will not be seen until the 1983 crop.

## 2. Price

- \* Farmers received about J\$28 per ton cane in 1981, with variations dependent on the sucrose content of their cane. The cane price formula allocates to the farmer two-thirds of the raw sugar price received by the processor. The raw sugar price is set by the SIA and was J\$504 per long ton in 1981. Since the cane/sugar ratio was 12:1 in 1980, cane farmers' returns were low, with most losing money.

## 3. Processing

- \* Of the country's twelve factories, only Worthy Park, Appleton, Hampden and New Yarmouth are privately owned. The first three are the only profitable sugar processing operations in the industry. A decision is in the offing to close Gray's Inn and Holland factories so the industry capacity will be 390,000 tons for the coming crop. Since the 1982 crop will probably only be 205,000 tons, most of the factories will lose money.
- \* There are six distilleries which are attached to the following sugar factories:

Appleton	New Yarmouth
Hampden	Monymusk
Long Pond	Innswood

Total molasses production was 90,000 tons in 1981, down from 101,000 tons in 1980. All molasses sales are handled by Caribbean Molasses Limited, which is wholly owned by the Spirits Pool Association (which in turn is controlled by the distilleries). Molasses has not been exported in significant quantities for several years, and if the sugar industry does not recover, imports may be necessary. The price of molasses is based on the New Orleans spot price, and most of the commodity is sold to the distilleries. The Jamaican price has been fluctuating in the range of J\$70 to J\$122 per ton. Small quantities are sold for mixing into cattle feed, for making yeast and for use in the Government's school feeding program.

#### 4. Marketing

The SIA has controlled marketing since the mid 1970's, when the government removed this responsibility from the processors' Sugar Manufacturers' Association. The Sugar Industry Research Institute, which provides services for both cane growing and processing, was also transferred to the SIA.

Jamaica has an EC quota of 125,000 tons at preferential prices and an International Sugar Organization (ISO) allocation of 75,000 tons at world market prices. Since local demand is now approaching 120,000 tons and local production is declining to 200,000 tons, the balance is not adequate to meet the EC quota. Jamaica has resorted to importing sugar, mainly refined, at world market prices for local consumption, while exporting its domestically produced raw sugar to satisfy the EC quota. The EC quota goes exclusively to the U.K. The average export price realized in 1980 was J\$710 per metric ton.

5. Opportunities in the Sugar Industry

- \* The government may lease NSC factories and their surrounding estate lands to any interested private group. Since the lessee would be assuming heavy negative cash flows at the outset, his negotiating position might be strong to request concessionary lease rates and government loan guarantees.
  
- \* An alternative approach is to enter the industry by negotiating a management agreement with the NSC for one or more of its factories. An entrant would be at an advantage if he could put together a financing package for capital equipment inputs using international financial institutions. A management agreement will not produce results unless a plan is clearly established in advance to break the cycle of low capital investment.
  
- \* A foreign entrant should seriously consider a joint venture if he wants to enter the industry. Besides being more politically acceptable, it is the best way to acquire an indigenous management team with the requisite skills and understanding of the local bureaucracy.
  
- \* With cane productivity per acre so low, a short- to medium-term production increase of one-third will be relatively easy if the necessary inputs, particularly fertilizer, can be arranged.

6. Constraints in the Sugar Industry

- \* It is unlikely that the government will allow any foreign or local company to bypass its own commodity board, the SIA, in exporting sugar. A return to export marketing by a processor-controlled association is possible but will probably still be under the supervision of the SIA.
  
- \* Since the sugar industry is the most regulated commodity system in Jamaica, a private investor's options once in the industry are limited by factors outside his direct control.

SUGAR INDUSTRY SUMMARY DATA, 1976-1980

	CROP YEAR				
	1976	1977	1978	1979	1980
CANE MILLED ('000 TONS)					
Total	3,570	3,177	3,515	2,931	2,736
Farmers	2,805	2,460	2,822	2,268	2,196
Estates	765	717	693	663	630
SUGAR PRODUCTION (COMMERCIAL)					
('000 TONS)*	353	285	295	261	236
('000 TONS)	357	288	288	279	247
ACREAGE REAPED ('000 TONS)					
Total	139	128	128	112	114
Farmers	114	104	104	90	93
Estates	25	24	24	22	21
TONS CANE PER ACRE					
Total	25.60	24.82	27.59	26.17	24.0
Farmers	24.61	23.65	26.43	25.20	22.6
Estates	30.61	29.88	32.65	30.14	30.00
TONS CANE PER TON 96° SUGAR	9.93	10.91	11.69	10.97	11.03
TONS SUGAR PER ACRE	2.53	2.23	2.36	2.33	2.16
PRODUCTION OF RUM AND ALCOHOL					
Liquid Gallons ('000)	3,567	3,903	3,481	4,043	4,489
Proof Gallons ('000)	5,515	6,090	5,487	6,194	6,733
PRODUCTION OF RUM					
Liquid Gallons ('000)	2,950	3,260	2,766	3,360	3,667
Proof Gallons ('000)	4,475	5,005	4,278	5,040	5,532
RUM EXPORTS*					
Proof Gallons	2,215	2,177	1,872	2,449	2,723
Value (\$'000)	5,981	6,370	7,687	13,710	17,086
MOLASSES PRODUCTION ('000 TONS)	118	117	133	102	101
MOLASSES EXPORT ('000) LITRES	43,052	30,590	52,116	23,725	7,000
(\$'000)	2,339	1,203	3,291	4,292	1,295
*Calendar Year					

Source: Economic and Social Survey, 1980.

ESTIMATED CAPACITIES AND CAPACITY UTILIZATION OF  
JAMAICAN SUGAR FACTORIES IN 1981

	Capacity '000 tons	1981 Raw Sugar Production '000 tons	1981 Percentage Utilization
Frome	100	47	47%
Monymusk	85	39	46%
Bernard Lodge	50	25	50%
Innswood	25	9	36%
New Yarmouth	25	15	60%
Appleton	20	11	55%
Duckenfield	20	11	55%
Long Pond	20	10	50%
Worthy Park	20	14	70%
Hampden	15	12	80%
Sub-Total	380	193	51%
*Gray's Inn	15	5	33%
*Holland	10	4	40%
TOTAL	405	202	50%

\*Likely to discontinue production

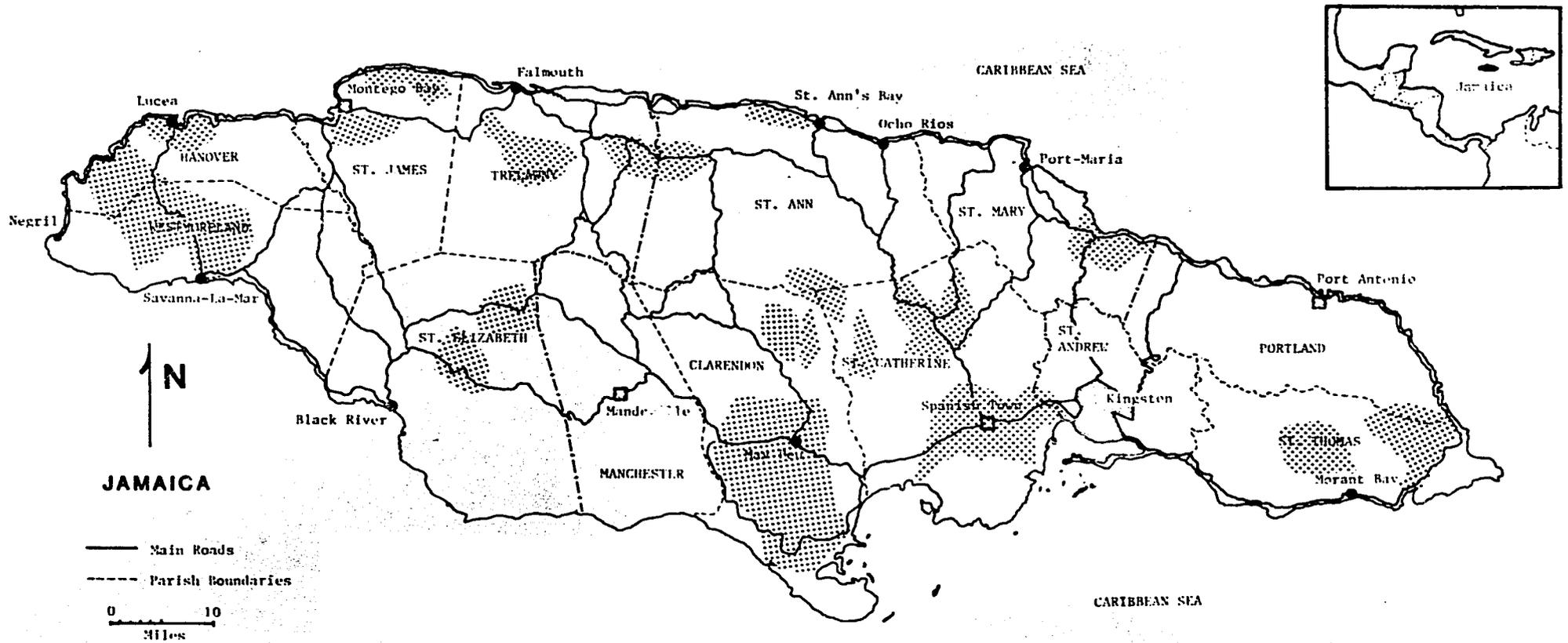
Source: Sugar Industry Authority and field interviews.

SUGAR CONSUMPTION AND EXPORT STATISTICS  
( '000 metric tons)

Year	1976	1977	1978	1979	1980
Local Consumption	106	113	115	101	117
Total Exports comprising shipments to:	233	217	199	188	134
U.K. (EEC)	143	32	148	85	91
USA	56	28	40	57	43
Canada	24	46	11	32	--
Eire	10	--	--	--	--
Portugal	--	11	--	--	--
Morocco	--	--	--	14	--

Source: Sugar Industry Authority.

# JAMAICA'S SUGAR LANDS



Source: Ministry of Agriculture

## BANANAS

THE DECLINE OF BANANA PRODUCTION AND EXPORT EARNINGS DURING THE LAST TWO DECADES HAS BEEN A MAJOR PROBLEM IN JAMAICAN AGRICULTURE. WHILE THE POSSIBILITY FOR INVESTORS TO ENTER THIS SYSTEM IS PRESENTLY LIMITED, A JOINT VENTURE BETWEEN UNITED BRANDS, THE JAMAICA BANANA PRODUCERS ASSOCIATION AND THE GOVERNMENT OF JAMAICA TO RESUSCITATE THE INDUSTRY WILL PROVIDE A MODEL FOR OTHER PRIVATE-PUBLIC PARTNERSHIPS IN JAMAICA'S AGRICULTURAL SECTOR.

### 1. Trends and Structure

- \* Historically, bananas have been Jamaica's second largest export crop behind sugar. However, the banana industry has declined significantly during the last two decades. Banana exports fell from a level of about 200,000 metric tons per year during the 1950's and early 1960's to 150,000 tons by the late 1960's and to only 69,000 tons in 1979. Production in 1980 was decimated by Hurricane Allen which struck the east and north coasts of the island. Total exports were only 33,000 metric tons, and shipments to the U.K., the only current export market, were suspended in mid-season.
  
- \* Exports (pre-Allen) represented a little less than 33% of estimated banana production. The export share has lagged slightly during the last six years, although the trends of both production and exports were relatively static as shown in the following table:

Banana Production and Utilization  
(000 Long Tons)

Year	Total Production	Domestic Consumption	Exports	Export % of Production
1974	222	150	72	32%
1975	218	148	70	32%
1976	253	174	79	31%
1977	277	197	80	29%
1978	265	187	78	29%
1979	248	179	69	28%

Source: Department of Statistics.

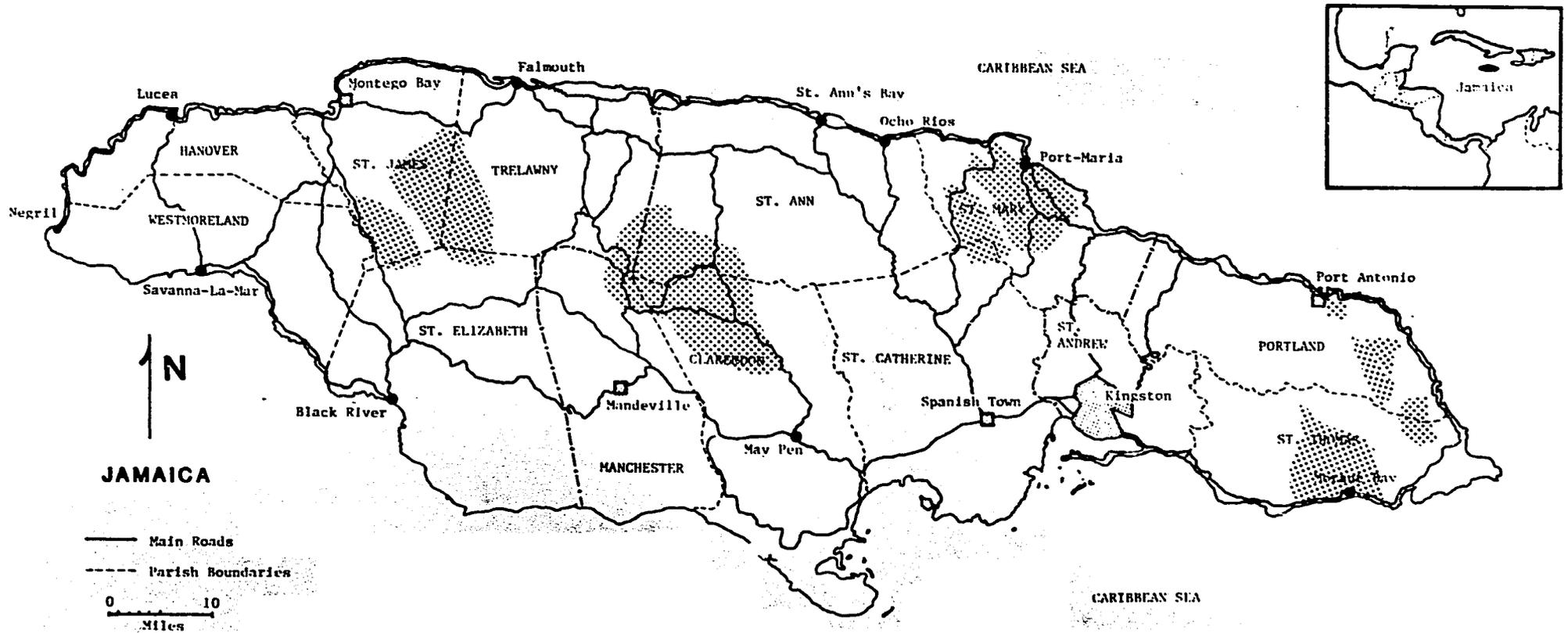
- \* The major problem in the banana industry is its inability to produce a sufficient quantity of export quality fruit to fill an assured quota in the U.K. Under the current U.K. preference scheme, Jamaica is guaranteed a market for 150,000 tons which represents about 50% of the U.K.'s normal annual consumption. The only other preferred suppliers are the Windward Islands and Belize.
  
- \* The decline in banana production was caused by a combination of technological, structural and economic factors. Both total acreage and average yields have fallen significantly. Lower yields reflect reduced use of inputs, especially fertilizer and aerial spraying, due to their relatively high cost and limited availability. Yields are much lower on small to medium-sized farms than on larger estates. Government estimates indicate that yields on non-irrigated small holdings average about 2-3 tons of export quality fruit per acre compared to 10-12 tons per acre on larger plantations. In 1977, over 50% of total banana acreage was in plantings of five acres or less. By contrast, only about 20% of the acreage was in holdings of 100 acres or more.

- \* In addition to low yields, a high percentage of fruit delivered to boxing stations is rejected for not meeting export quality standards. Under the present marketing system, producers are not paid for fruit rejected at the boxing station. There have been proposals to establish a two-price system under which rejected fruit would have some value for sale in the domestic market or for use in processed products such as chips, flour, puree or cattle feed.
  
- \* The Banana Company of Jamaica functions as an operating company which supplies inputs (aerial spray, polyethylene bags, boxes, etc.), operates boxing stations, arranges both internal and ocean transport and markets Jamaican bananas in the U.K. Technical advice is provided to producers through the All-Island Banana Growers Association (AIBGA). The Banana Company also manages about 3,000 acres of banana production. Due, in part, to the decline in production, the Banana Company has suffered serious financial losses for several years.
  
- \* Sales in the U.K. for the Banana Company of Jamaica are handled through JAMCO, a JNEC subsidiary. There are two importers of Jamaican bananas. The largest is Elders and Fyffes, a subsidiary of United Brands. The second importer is Jamaica Banana Producers Marketing Company. It is about one-half as large as Fyffes. Sales are made on the basis of the so-called "Green Boat Price" (GBP) which is delivered price on the dock in the U.K. Despite the reduction in export volumes, the value of shipments increased between 1976 and 1979 due to a sharp rise in the GBP.

## 2. Outlook

- \* The major thrust of public policy toward the banana industry is to restore exports to a level which will permit Jamaica to utilize its quota in the U.K. market. Given the current depressed state of the industry, it is not realistic to think in terms of other potential export markets. Jamaica cannot compete in most markets on the basis of either quality or cost. There are three major parts to the rehabilitation program.
  - Reorganize both the Banana Company and AIBGA to assure that losses are eliminated and that they function effectively in providing services to producers and shippers.
  - Replant and/or upgrade about 14,000 acres of existing cultivations to bring them to export quality standards with yields of at least 8-10 tons per acre.
  - Bring an additional 5,000 acres into production for the export market.
  
- \* The project designed to accomplish this last goal is a recently announced joint venture involving the Government of Jamaica (60%), Jamaica Banana Producers Association (20%) and United Brands (20%). The total investment required to develop the acreage and provide the necessary infrastructure is estimated to be about US\$25 million. United Brands will manage the project and will also provide technical assistance in reorganizing the Banana Company and helping it to carry out its functions. There appears to be a firm commitment to this project by both the government and the companies. If it is successful, Jamaica should be capable of shipping 150,000 tons of bananas to the U.K. by 1984.
  
- \* There may be attractive opportunities to use lower grade bananas for animal feed, snack foods and biomass.

# JAMAICA'S BANANA LANDS



Source: Ministry of Agriculture

## COCONUT

ONCE AN EXPORT CROP, ALMOST ALL COCONUTS IN JAMAICA ARE NOW CONSUMED IN THE DOMESTIC MARKET. EXPORT OPPORTUNITIES FOR COCONUT AND COCONUT-DERIVED PRODUCTS ARE LIMITED, DUE TO INCREASING LOCAL DEMAND, FAVORABLE PRICES IN THE DOMESTIC MARKET FOR FRESH COCONUTS AND STRONG LOCAL DEMAND FOR COCONUT OIL. SUPPLY IS CURRENTLY CONSTRAINED BY THE IMPACT OF THE LETHAL YELLOWS DISEASE ON THE ISLAND'S TREE POPULATION AND THE LONG LEAD TIME (FOUR YEARS) REQUIRED FOR NEW PLANTINGS TO BEAR COCONUTS.

### 1. Production And Consumption

- \* The coconut industry has been hard hit by the Lethal Yellows Disease which has exterminated over 85% of the Jamaican Tall variety on the island. At present, the island's bearing tree population is estimated to be 4.5 million, and the government-sponsored crop expansion program is currently planting two disease-resistant varieties, the Malayan Dwarf and the hybrid Maypan, at a projected rate of 350,000 seedlings a year.
- \* Due to replanting scheme efforts, coconut production has increased from 17,000 tons (expressed in copra equivalent weights) in 1976 to 29,000 tons in 1980. During this period, the percentage of the crop being processed into copra (the dried meat from which coconut oil is extracted) declined from 5,674 tons, or 33% of production in 1976, to 1,738 tons, or only 6% of production in 1980.

PRODUCTION AND USE OF COCONUT  
1976-1980  
(Production expressed as copra equivalent weights)

Year	Total Production (short tons)	Used for Copra	Used for Planting and Processing	Used as Dry and Water Coconuts
1976	17,100	5,674	454	10,972
1977	18,100	3,406	336	14,258
1978	22,140	2,124	195	19,821
1979	25,385	2,023	153	23,209
1980	29,900	1,738	139	28,023

Source: Economic and Social Survey of Jamaica, 1980.

\* Factors contributing to this decline in copra production are:

- An increasing share of the crop is being bought by higglers who sell dry and water coconuts on the local market. Prices paid to growers on this unregulated domestic market may be up to 50% higher than prices set by the Coconut Industry Board for coconuts delivered for processing into copra.
- Coconuts are also being diverted to the local market to "oil-boilers" who are producing quantities of coconut oil greater than what is allowable by law. Strong local demand for coconut oil has stimulated this cottage industry which is difficult, if not impossible, to control.

## 2. Structure Of The Industry

- \* The production of coconut for copra and the processing of copra into edible oils and other products is regulated by the Coconut Industry Board, a statutory body under the authority of the Ministry of Agriculture. The Board is currently administering a copra production acceleration program. The Coconut Industry Board also owns SEPROD, Ltd., Jamaica's only refiner of edible oils and fats and a major processor of animal feeds.
  
- \* Coconuts are grown by both small and large farmers on the island. The total number of coconut growers on the island is estimated to be 7,500. In 1979, there were 430 growers registered with the Coconut Industry Board, approximately 60% of whom cultivated less than 500 bearing trees accounting for about 2% of deliveries to the board. There were 16 growers cultivating over 10,000 trees, producing over half of the coconuts used in copra production.
  
- \* Most copra is not made by the farmers, but is manufactured by 50 copra manufacturers on the island. Due to the decline in coconuts available for processing, only 27 of these manufacturers are currently operating, most at only 30 to 50% of capacity.

- \* Market channels and prices for copra production are regulated. All copra production is sold to SEPROD for both refining edible oils and the manufacture of soap products. Prices to growers are set periodically by the government on the recommendation of the Coconut Industry Board and are currently set at J\$1,339 per ton. The price paid by SEPROD to the copra manufacturer, currently at J\$1,579 per ton, is also regulated. With the decline in coconuts available for copra manufacturing, there has been a corresponding increase in unit costs of copra production. This situation is likely to improve only when new tree plantings come into bearing, probably not until the late 1980's.
  
- \* Due to the lack of available domestic oil seeds for processing, SEPROD imports over 95% of their raw materials, primarily soybean oil, in bulk form. SEPROD produces edible oils, margarines, shortening, hard soaps, toilet soaps and powdered detergents, primarily for the domestic market. Last year, approximately 100 tons of coconut products valued at J\$350,000 were exported, consisting mostly of edible oils and toilet soaps for the overseas ethnic market. In addition, a small amount of seeds, shell and shell charcoal were exported.

### 3. Investment Opportunities

- \* Most participants in the coconut-copra-edible oil system see few opportunities for export through the 1980's for foreign investors. Expanding domestic demand for fresh coconuts and coconut oil throughout this period, along with limited supply, will constrain most export possibilities. While SEPROD estimates that the overseas market potential for edible oils and toilet soaps produced in Jamaica might be ten times its current size (1,000 tons), SEPROD, as the sole processor of edible oils and soaps using coconut oil, would be the exclusive supplier to this market. Entry into production would require a closer look at longer-term potential of Jamaica's coconut-derived products.

## SPICES

JAMAICA'S CLIMATE AND SOIL CONDITIONS ARE IDEAL FOR GROWING SPICES, MANY OF WHICH ARE NOT PRESENTLY CULTIVATED ON THE ISLAND. THE MARKETING OF PIMENTO (ALLSPICE) AND GINGER IS WELL-DEVELOPED SINCE THESE HAVE BEEN MAJOR EXPORT CROPS FOR MANY YEARS. OTHER SPICES ARE PRODUCED ONLY IN SMALL VOLUMES, MAINLY FOR THE LOCAL MARKET.

DESPITE THEIR PREMIUM POSITION, PIMENTO AND GINGER HAVE BECOME LESS COMPETITIVE ON THE WORLD MARKET BECAUSE OF HIGH COSTS IN RELATION TO OTHER PRODUCING COUNTRIES. ONE STRATEGY FOR BUILDING ON JAMAICA'S ESTABLISHED REPUTATION FOR HIGH QUALITY SPICES WOULD BE TO FURTHER PROCESS WHOLE SPICES CREATING BRANDED PRODUCTS FOR THE EXPORT MARKET. HOWEVER, THIS STRATEGY REQUIRES THAT ONE COMPETE AGAINST ESTABLISHED MANUFACTURERS IN THE DEVELOPED COUNTRIES.

ENTRY INTO PRODUCTION OF SPICES NOT CURRENTLY CULTIVATED ON THE ISLAND IS UNTESTED BUT PROMISING. AT LEAST ONE MAJOR NORTH AMERICAN SPICE MANUFACTURER IS CONSIDERING ENTERING PRODUCTION IN A JOINT VENTURE WITH A LOCAL SPICE PACKAGING HOUSE.

### Pimento (Allspice)

- \* Jamaica is the largest producer and exporter of pimento (allspice) in the world. Pimento trees, producing the pimento or "allspice" berry, are found in most areas of the island, with over three-quarters of production located in the parishes of St. Ann, Westmoreland, St. Mary and St. Elizabeth. Over 20,000 farmers harvest the island's estimated 2.5 million trees. The leaves are usable for the distillation of pimento leaf oil. The Pimento Growers Association is an association of 200 larger growers who produce about 70% of the total crop.

Production of pimento has fluctuated sharply between a high of 4,181 tons in 1976 to a low of 928 tons in 1980, which is probably the lowest harvest on record. Damage from Hurricane Allen, adverse weather conditions in previous years, rust disease, aging and low-yielding trees have all been factors contributing to the recent production decline.

Over the 1976-1980 period, export volume has fluctuated between 2,019 tons valued at US\$4.6 million and 1,854 tons valued at US\$3.8 million, partly due to USSR procurement policies which dictate large purchases in some years and not others. Jamaican pimento is regarded as the highest quality produced and it has been able to command a premium over other types. New York spot prices in March, 1981 were US\$1.07 per pound for Jamaican allspice, \$1.00 for Guatemalan and Honduran, and \$.80 for Mexican. According to U.S. import statistics, Jamaica's share of total U.S. imports, on a sales dollar basis, has declined from 81% in 1973 to 50% in 1980 because of competition from the lower-priced varieties. In an effort to increase exports, the JNEC and JETCO are developing a marketing strategy to maintain their price premium based on branding, developing new uses for the spice and improving product merchandising.

The Ministry of Agriculture purchases all pimento berries from growers at a guaranteed price set annually. This price was J\$1.00 per pound for the 1980/81 crop. A very small portion of the total crop is consumed on the domestic market. Pimento is bagged and stored in a government-owned warehouse which releases it for export. JETCO, the government trading corporation, is presently the sole exporter of the spice.

- \* Since pimento can be stored for a period of time without deterioration, warehouse stocks have been adequate to meet export demand, and stocks have accumulated. The Ministry of Agriculture is undertaking a resuscitation program to increase pimento production, but there is a period of three to five years before grafted plants produce berries, and the program is unlikely to increase production significantly in the near term.
- \* Pimento is exported whole, primarily to West Germany and COMICON countries. Use of the spice is linked with the food processing industry, and household consumption accounts for a relatively small percentage of total consumption. In the USSR and Europe, the whole berry is used in the packing of canned fish.

IMPORTING COUNTRIES' SHARE OF JAMAICA PIMENTO EXPORTS  
(Based on average of total sales, 1972-1976)

West Germany	26%
COMICON Countries	25%
United States	19%
Scandinavia	13%
U.K. and Western European Countries	10%
Canada	4%
Other	3%

Source: Jamaican National Export  
Plan, 1981-1983.

## Ginger

Ginger is Jamaica's second largest spice export. Ginger is grown primarily in the Christiana mountains by small farmers on plots of less than five acres. Total production has declined over the last five years due to increasing production costs and reduced export demand.

### PRODUCTION AND EXPORTS OF GINGER 1976-1980 (metric tons)

	<u>Production</u>	<u>Exports</u>	<u>Exports, as a % of Production</u>
1976	903	535	59%
1977	384	215	56%
1978	623	174	28%
1979	616	133	22%
1980	397	150	38%

Source: Economic and Social Survey of Jamaica, 1980.

Over the past decade, world growth in consumption of ginger has been strong. Exports from major producing countries increased over 80% from 13,214 metric tons in 1973 to 24,222 metric tons in 1979. During the same period, however, Jamaica's ginger exports declined from 479 metric tons, or a 3.6% share of the world market to 133 metric tons, roughly .5% of the world market.

- \* Jamaican ginger has historically commanded a price premium because of its superior quality and flavor. However, in the opinion of several spice importers in New York, Jamaican ginger is gradually pricing itself out of the market, especially as other countries improve their quality grading. The price of Jamaican ginger fell from US\$3.00 to US\$1.90 between 1979 and 1981 although it still commands a large price premium over Chinese and Indian ginger.
- \* Dry, peeled ginger is purchased from farmers by private exporters at a price determined by free market conditions. Last year the state trading company, JETCO, intervened to purchase ginger from farmers after private exporters prices dropped significantly.
- \* Jamaica's ability to compete on price is limited by high costs of production compared with other exporting countries. Production of hand-peeled ginger is labor-intensive, and Jamaica's labor costs are high in comparison to those in China and India.

#### Tumeric

- \* Tumeric, an annual crop currently not cultivated, is found growing on marginal lands principally in the western part of the island. It is purchased green from farmers at a price established by the Ministry of

Agriculture (presently J\$0.05 per pound.) A factory in Hanover processes the spice and is currently over-inventoried due to a decline in exports. At one time tumeric was exported to the United States, but exports have fallen due to competition from lower-cost producing countries. Jamaican tumeric is less favored than other varieties because of its low curcumin content, the substance which gives the spice its characteristic yellow color. There has been little effort to develop tumeric production in Jamaica, but the introduction of improved varieties would increase the competitiveness of exports. Investors should note that the government presently controls the marketing of tumeric.

#### Sarsaparilla

- ' A small quantity of sarsaparilla root is purchased green from farmers by private exporters, dried and packaged in bales for export. According to one exporter, potential for expansion is good if production and assembly could be organized. The current price to farmers for sarsaparilla root is J\$1.80 per pound. The f.o.b. export price in late 1981 was about US\$1.50 per pound.

#### Vanilla

- \* Vanilla is not currently produced for export. However, Jamaica offers promise as an exporter because of its proximity to the large U.S. market. The major problem in the development of this spice is that production is very labor-intensive, requiring hand pollination and harvesting, and there is a lack of workers trained in these techniques.

### Nutmeg

- \* Whole nutmeg is sold largely on the local market, but a significant portion of domestic consumption is imported from Grenada. The major obstacle to the development of this permanent tree crop is the length of time it takes to propagate bearing trees.

### Essential Oils and Oleoresins

- \* Pimento leaf oil, pimento berry oil and ginger oil are produced in Jamaica by seven privately-owned essential oil distilleries. The export volume of pimento oil has declined from 38 metric tons in 1977 to 29 metric tons in 1980. The Scientific Research Council a statutory organization under the Ministry of Industry and Commerce has undertaken research to further develop the essential oil and oleoresin industry in Jamaica. There are good possibilities to use existing local spices and citrus fruits to expand this industry.

### Investment Opportunities

Jamaica's climate and location offer excellent conditions for investment in spice production and processing, and this has been an under-exploited area of the island's agriculture.

- \* Opportunities for entry into pimento may be limited by the fact that the government controls the marketing of this crop. However, given the current decline in production and the slow addition of new plantings, there are possibilities for entry directly into production. A more promising area for investment would be further processing of the whole spice to use in branded products for the export market. For example, a popular pimento liqueur has been developed by a local firm.

- \* Similarly, Jamaican ginger could be used in branded products, thus capitalizing on the spice's international reputation.
- \* In addition, ginger exports would be revitalized if a means were found for reducing labor costs in production, for example, processing unpeeled ginger and exporting a higher value-added product.
- \* Many other spices can be successfully produced in Jamaica, most of which have not been tested. Foreign investors may consider entering into joint ventures with local spice packaging houses that presently rely heavily on imported spices to supply their raw material needs. This is being considered by at least one major North American spice manufacturer who is seeking to backward integrate into production.

## BEEES

AN OPPORTUNITY FOR A SMALL INVESTMENT IN BEES EXISTS. THE BEE INDUSTRY IN JAMAICA ONCE WAS ACTIVE BUT RECENTLY HAS DETERIORATED. SEVERAL SMALL ENTREPRENEURS ARE NOW INTERESTED IN REVIVING THE INDUSTRY. HONEY HAS A GOOD DOMESTIC MARKET AND POTENTIAL IN THE EXPORT MARKET. JAMAICA IS AN IDEAL LOCATION FOR RAISING BEES BECAUSE OF THE AVAILABILITY OF FLOWERS, THE PRESENCE OF A MARKET AND THE ABSENCE OF BEE DISEASES.

- \* Production of honey in Jamaica has fallen over the past few years. Once a widespread industry, the number of active beekeepers has decreased.
- \* Jamaica produces a high quality honey from a multitude of flowers. Several exotic monofloral honeys can be produced.
- \* Jamaica has several factors which favor the bee industry including good climate, no bee diseases, a good local cabinetry industry for building hives.
- \* A local market exists for both fresh honey and honey for processing (notably by Global Foods, Ltd.).
- \* The going local price for honey is about \$2,000. Margins at this price are attractive.

Honey can be profitably bottled in Jamaica which can add significant value to a honey production operation. Finding adequate quantities of bottles and quality labels presents a problem.

Several entrepreneurs are actively pursuing the development of the bee industry. One investment opportunity exists with Wild Flower Honey Company, Ltd. Clem Goldson, the Managing Director, is seeking foreign partners with technical expertise in bees and market knowhow for a modest but promising joint venture.

## ALCOHOLIC BEVERAGES

THE ALCOHOLIC BEVERAGE INDUSTRY REPRESENTS A WELL-DEVELOPED AND HIGH VALUE SECTOR OF JAMAICA'S FOOD AND AGRIBUSINESS ECONOMY WITH A RELATIVELY HIGH DEGREE OF EXISTING FOREIGN INVESTMENT. THE EXPORT OF DISTILLED SPIRITS HAS LONG BEEN AN IMPORTANT SOURCE OF VALUABLE FOREIGN EXCHANGE AND IN 1980 WAS THE SECOND LARGEST AGRICULTURAL EXPORT PRODUCT. LOCAL BEER PRODUCTION APPEARS TO SATISFY THE DOMESTIC MARKET. INVESTMENT AND DEVELOPMENT PROSPECTS IN DISTILLED SPIRITS WILL BE CLOSELY LINKED TO TRADE BARRIERS IN IMPORTING COUNTRIES AND TRENDS IN THE SUGAR INDUSTRY WHICH SUPPLIES RAW MATERIAL TO DISTILLERIES. THE OUTLOOK FOR THE BREWERY SECTOR DEPENDS ON LOCAL ECONOMIC CONDITIONS INCLUDING THE HEALTH OF THE TOURIST BUSINESS. U.S. INVESTORS MAY FIND OPPORTUNITIES TO ENTER THE INDUSTRY AS A PRIMARY BUYER PRODUCING SPECIALTY LIQUORS.

### 1. Distilled Spirits

- \* Jamaica has a long history and worldwide reputation in distilled spirits. Jamaican rum is particularly well-known with a reputation for high quality and distinctive taste. Annual rum production during the past decade has fluctuated in the 2-4 million liquid gallons range (4-6 million proof gallons), a modest increase over levels of the 1950's and 1960's.
- \* Production of other potable alcohol has increased more rapidly than rum. Annual production of 400,000-700,000 liquid gallons (600,000-1,200,000 proof gallons) is more than double the levels achieved in the 1950's. Much of the increase is due to sharp expansion of liqueur production in the 1970's.

At the top of the Jamaican distilled spirits complex are twenty so-called "primary buyers" who buy finished products from local distilleries. A half dozen of these dominate purchasing. These primary buyers include firms such as J. Wray & Nephew, Estate Industries, Seagram Distillers Co., and others who produce brands such as Tia Maria, Gordon's Gin, Myer's Rum and Appleton Rum.

Foreign investment and influence in the primary buyer and finished product sector of the distilled spirits industry is relatively high. Foreign investors include Booker McConnell of England, Gordon's of England, Seagrams of Canada and Hiram Walker of Canada.

At the distillery level, ownership is mostly local with several distilleries actually owned and operated by the Government of Jamaica. While not all primary buyers own distilleries, all distilleries are owned by primary buyers. In some cases distillers are also integrated backward into major refining operations and even sugar cane production.

All Jamaican distillers including the government-owned companies are members of the Spirits Pool Association which effectively controls the availability and price of domestic molasses and raw alcohol. Caribbean Molasses Company, a subsidiary of the Spirits Pool Association, purchases all molasses produced in Jamaica. Molasses and the alcohol

derived from it is owned by the Pool until the alcohol is packaged as a liquor by a primary buyer. Prices are set annually based on average Gulf of New Orleans prices plus a distillers margin. Surplus molasses is sold in world markets although little has been available in the past several years due to poor sugar crops and expanding domestic demand for molasses.

Two factors appear to be of particular importance in determining the outlook for the distilled spirits business. The availability and price of domestic molasses is clearly an important issue. With the Jamaican sugar economy in poor condition, there may be a need to bear the additional expense of importing molasses in the future to maintain or expand alcoholic beverage production. Secondly, import tariffs in developed countries affect the market potential for Jamaican liquors. In the crucially important U.S. market, Jamaica carries a tariff of US\$1.75 per gallon while the market leader, Bacardi of Puerto Rico, enters duty free. Any reduction in the tariff structure would undoubtedly improve investment and development prospects for the Jamaican industry.

## 2. Malt Beverage and Wine

The malt beverage and wine sectors are differentiated from distilled spirits in two respects: the critical inputs are principally imported, and the market is almost exclusively domestic.

Two brewers, Guinness Jamaica Ltd. and Desnoes and Geddes Ltd. (D&G), produce nearly all of the beer marketed in Jamaica. Guinness is in partnership with a Jamaican liquor firm. D&G, a well-established Jamaican firm is also involved in soft drink and liquor bottling and distribution and is partly owned by Heineken.

Guinness, an affiliate of Arthur Guinness Son and Company Ltd. of England, constructed a small brewery in Jamaica in 1972 to fill a perceived void in the premium beer market. Like D&G, Guinness is also a bottler and distributor of soft drinks in Jamaica and, to a lesser extent, the broader Caricom region.

The two existing breweries have enough capacity to serve the relatively static domestic malt beverage market.

Wine production in Jamaica is based on concentrate imported from the U.S., Mexico and Europe. Local production and bottling for the domestic market is a relatively recent joint venture of a local brewer with a multinational liquor firm. Exports are minimal and are not expected to expand significantly. Furthermore, the production of wine from Jamaican grapes is not promising compared to other ventures.

## TOBACCO AND TOBACCO PRODUCTS

JAMAICA'S SMALL TOBACCO AND TOBACCO PRODUCTS INDUSTRY HAS BEEN EXPANDING RECENTLY DUE TO STRONG OVERSEAS DEMAND FOR PREMIUM HAND MADE CIGARS, AS WELL AS SHARPLY INCREASED LOCAL LEAF INCLUSION IN DOMESTICALLY MANUFACTURED CIGARETTES. THESE TRENDS CREATE A FAVORABLE ENVIRONMENT FOR LIMITED INVESTMENTS IN CIGAR MANUFACTURING. FOREIGN INVESTMENT HAS BEEN AN IMPORTANT FACTOR IN THE DEVELOPMENT OF BOTH THE CIGAR AND CIGARETTE INDUSTRIES. GROWTH IN THIS INDUSTRY HAS BEEN ACHIEVED DESPITE A NUMBER OF OBSTACLES INCLUDING FOREIGN EXCHANGE RELATED PROBLEMS IN OBTAINING CRUCIAL IMPORTED INPUTS SUCH AS FERTILIZER, AGRICHEMICALS, BOX MATERIALS AND CERTAIN TYPES OF TOBACCO. PROSPECTS FOR NEAR-TERM EXPANSION OF THE INDUSTRY ARE FAVORABLE IN TOBACCO PRODUCTION AND CIGAR MANUFACTURING.

### 1. Tobacco Production

- \* Domestic production of tobacco has doubled in five years to more than 3 million pounds (1,500 mt) dry weight, approximately 80% of which is cigarette tobacco. The production system is closely linked with manufacturing through a contract system. Small farmers produce tobacco under contract to the government-chartered tobacco industry control authority or directly to tobacco product manufacturers who provide technical assistance and necessary production inputs, except labor. Expanded production will be driven by both increased cigar manufacturing and the prospect of leaf tobacco exports.

As with several of Jamaica's commodity systems, Jamaica produces small quantities of a quality product which is in great demand. Jamaica is a small producer of both cigarette (flue-cured) and cigar (dark leaf) tobacco. 1980 production of 1,300 mt represented less than one percent of the world's total tobacco production of over 5 million metric tons. Jamaica's dark leaf production in 1980 was 165 mt; flue-cured production was 1,150 mt.

1981 acreage will consist of nearly 540 acres of dark leaf and 2,000 acres of flue-cured tobacco. Dark leaf acreage has dropped moderately since the mid-1970's due to blue mold problems and financial difficulties stemming from Jamaica's economic condition. Flue-cured tobacco acreage has increased steadily from nearly nothing less than a decade ago. The Cigarette Company of Jamaica (Carreras), the only domestic cigarette manufacturer, has provided the impetus for this growth through a strong production support program designed to achieve a high level of local leaf inclusion. Domestic tobacco currently accounts for 75% of its total tobacco use.

Production of both flue-cured and dark leaf tobacco is accomplished almost exclusively through an efficient contractual system between tobacco buyers and farmers. Flue-cured tobacco is produced by over 700 farmers, each with an average of less than three acres. Most of this acreage is owned by independent landowners, leased by Carreras and subleased to farmers. Carreras, as part of the contract system, provides extensive technical assistance and all inputs other than labor. Contracts are typically for a two-year period.

For dark leaf tobacco grown for cigar manufacturers, 35-50 farmers contract for production in a similar fashion, usually with the Tobacco Industry Control Authority (TICA), a government-sponsored commodity board. One cigar manufacturer is active in farming and has direct contractual arrangements with growers to assure a source of suitable tobacco. The contractual system has worked well, and has prevented the need for manufacturers to enter farming directly.

Most observers feel that TICA has been helpful in increasing dark leaf tobacco production, particularly through its extension activities. TICA's role in financing new acreage and increasing efficiency and coordination in the production sector has been less successful. The real success story in tobacco production is in flue-cured tobacco where quality and efficiency have been raised to world standards in less than a decade.

1980 farm prices averaged J\$1.36 per pound for flue-cured tobacco and J\$1.65 per pound for dark leaf tobacco. With yields of up to 1,500 pounds per acre, gross sales have ranged upwards of J\$1,500-2,000 per acre. Farm prices for both flue-cured and dark leaf tobacco have increased steadily, more than doubling during the past decade.

## 2. Opportunities in Production

- \* The potential for expanding domestic tobacco production is good. Trade sources report net returns of up to J\$1,200 per acre from farming. Expansion of flue-cured tobacco will be largely based on the export of manufactured leaf. Expansion of dark leaf production is likely to be for both the domestic cigar trade and for export of unmanufactured leaf.

The principal constraint to expansion is credit availability. Other factors such as the availability of land, water and interested farmers appear to present no significant problems. Industry sources often comment that there is a lot of potentially good tobacco land in marginal cane production. Production economics may be further improved through the development of a suitable rotation crop with the relatively short tobacco season. Peanuts are currently being explored in this regard although there is little domestic expertise in this crop.

## CIGAR MANUFACTURING

JAMAICAN CIGAR MANUFACTURERS HAVE ESTABLISHED A DISTINCTIVE REPUTATION IN U.S. AND EUROPEAN MARKETS. EXPORT SALES AND UNIT PRICES ARE INCREASING STEADILY AS JAMAICAN MANUFACTURERS EXPLOIT MARKET OPPORTUNITIES, INCLUDING THE VOID CREATED BY UNAVAILABILITY OF CUBAN CIGARS. IMPROVEMENTS IN JAMAICA'S OVERALL ECONOMIC CONDITION--WHICH WILL ALLOW THE INDUSTRY TO OVERCOME ITS OPERATING PROBLEMS--COUPLED WITH STRONG PERFORMANCE BY THE CIGAR INDUSTRY CREATE INTERESTING INVESTMENT POSSIBILITIES IN CIGAR MANUFACTURING.

### 1. Production and Consumption

- \* Jamaican cigar sales have increased from less than 10 million in the early 70's to 25-30 million cigars in the past several years. All but 3 million cigars are exported. Demand is mostly from the U.S., although England and West Germany are also important markets.

### 2. Price and Market

- \* Jamaican cigars are positioned favorably in the premium cigar market--the only segment of the cigar market with an attractive growth record. Jamaican cigars compete in the marketplace with products from Cuba, the Canary Islands, the Dominican Republic, Honduras, Mexico and Nicaragua, among others.
- \* Jamaican products normally command a higher retail price than products from competing areas. Market opportunities have been enhanced by unavailability of Cuban cigars due to trade embargoes and severe blue mold problems.

### 3. Structure of the Industry

- \* There are four major cigar manufacturers in Jamaica. Three are relatively small Jamaican-owned firms. The fourth, with sales slightly greater than those of the other three combined, is a subsidiary of a large U.S.-based agribusiness firm. All manufacture and export premium hand-rolled cigars.
  
- \* Jamaican manufacturers use Jamaican tobacco to meet the bulk of their filler needs. Wrappers and, to a lesser extent, binders are imported largely from Cameroun, Mexico, Indonesia and the Dominican Republic. In recent years Jamaica's imports of manufactured tobacco have ranged from 100-500 mt per year. There is little prospect of displacing expensive foreign wrappers with domestically produced leaves in the near future because of technological, economic and climatic factors.

### 4. Opportunities for Investment

- \* Future expansion of the Jamaican cigar industry will require improvements in both marketing and production. In both cases, the benefits of economics of size and the advantages of appropriate foreign investment are readily acknowledged by the trade. Management and working capital requirements in tobacco production and procurement is an increasing concern to smaller manufacturers. Likewise, modest expansion for small volume producers in the highly concentrated U.S. and world cigar market presents a significant development obstacle to smaller firms. The clear market and financial advantages obtained by Cifuentes through its relationship with General Tobacco has been demonstrated by the company's rapid growth and market performance. The company has announced its intention to expand production 20% or more in the near future.

The most promising possibility for U.S. participation in the Jamaican cigar industry is to work with existing manufacturers rather than starting new operations. Most of the smaller Jamaican cigar manufacturers suggested that they would be receptive to proposals for expanding production, provided U.S. partners could provide them with access to markets and financial assistance. U.S. companies can benefit from the well-established production and manufacturing systems in Jamaica. New investors who do not want to work with existing manufacturers are also welcome.

PROFILE OF EXISTING JAMAICAN CIGAR COMPANIES

Company	1980 Production (million cigars)	Company Brands
Combined Tobacco	5.0	Pride of Jamaica Macanudo (UK) Flor de Jamaica Lord of Jamaica Jamaica Heritage
Jamaica Tobacco	6.5	Royal Jamaica St. Andrew La Rena Caribe
Palomino Brothers	2.2	Mario Palomino Savana Ligunea
Cifuentes (General Cigar)	15.0	Macanudo Ramonallones Creme de Jamaica Temple Hall Partagas

Source: Trade sources and interviews.

## CIGARETTE MANUFACTURING

JAMAICA PRODUCED JUST OVER A BILLION CIGARETTES IN 1980. CARRERAS IS THE ONLY DOMESTIC CIGARETTE MANUFACTURER. OVER 95% OF ITS SALES ARE IN THE LOCAL MARKET AND FURTHER DOMESTIC MARKET DEVELOPMENT OPPORTUNITIES ARE LIMITED. THERE IS EXPANSION POTENTIAL IN EXPORT SALES TO CARICOM BUT LITTLE PROMISE TO EXPORT TO THE GENERAL WORLD MARKET.

- \* The Jamaican cigarette market and manufacturing business is dominated by the Cigarette Company of Jamaica, an affiliate of Carreras, which in turn is owned by Rothman, the huge English-based tobacco products firm. The Cigarette Company of Jamaica was formed in a merger of two competing manufacturing firms several years ago.
- \* Nine cigarette brands are produced. All are filtered and of English blend type. Craven "A" holds 75% total domestic sales. A pack of 20 retails for J\$2.20. Cigarette imports to Jamaica in competition with domestic products are negligible.
- \* A concerted effort to increase local tobacco production and utilization has led to a current level of local leaf inclusion of approximately 75%, up from only 15% less than a decade ago. Any significant increase over this level is unlikely due to blend requirements for meeting Rothman taste standards.

While over 95% of sales are domestic, exports to Caricom are increasing modestly with 1980 export sales of over 50 million cigarettes. Cigarette exporting beyond Caricom is unlikely due to a cartelized world market and existing worldwide manufacturing overcapacity. There have been no significant exports of unmanufactured cigarette tobacco in the past, but trade sources believe that the potential for expansion in this area is good.

## AGRI-ENERGY

DEVELOPING DOMESTIC ENERGY SOURCES--INCLUDING AGRI-ENERGY--IS A HIGH PRIORITY IN JAMAICA. BUSINESS OPPORTUNITIES IN AGRI-ENERGY FOR FOREIGN INVESTORS, OUTSIDE OF TECHNICAL ASSISTANCE AND EQUIPMENT SUPPLY, ARE LIMITED. ANY AGRI-ENERGY PROJECT MUST BE APPROVED BY THE MINISTRY OF MINING AND ENERGY FOR CONFORMANCE WITH THE NATIONAL ENERGY PLAN.

- \* Over 90% of Jamaica's total energy consumption depends on imported oil and oil products. In 1980, 22% of foreign exchange expenditures went toward the purchase of petroleum products, and the government views alternative energy, including agri-energy, as a high priority area for development. Research in agri-energy is being conducted under the auspices of the Ministry of Mining and Energy with the assistance of foreign aid. Agri-energy areas currently being explored include peat extraction, biomass, charcoal production and dendro-thermal electricity generation. The government is interested in participation by private sector businesses in the production and marketing of low-technology, less-conventional energy sources for domestic and commercial application.

Peat: The mining of peat for the generation of electricity is the responsibility of the Jamaican Petroleum Corporation. Over 28 million tons can potentially be extracted from wetlands in the western area of the island. Since they are found at sea level, these wetlands cannot be drained. The cost of extracting, transporting and drying the peat, as well as the environmental impact of mining is currently being studied.

Charcoal and Dendro-Thermal: About one-third of the population in Jamaica depends upon charcoal for cooking, with 21,250 tons now consumed annually. In the domestic market, expansion of charcoal use in the home would depend upon the development of stoves that are acceptable to consumers.

The expanded use of charcoal, both for home and industry also depends on the production of tree crops for this purpose. The Forestry Department has conducted investigations on rapidly maturing tree species usable for fuel wood. Trial areas have been established with Leucaena leucocephala and Calliandra calothyrsus; both can be harvested within three years of planting. Portable kilns designed by the Tropical Products Institute are being used in the charcoal program. Expanded production to supply a dendro-thermal electricity generating plant has also been studied by the Scientific Research Council. A large source of readily available wood for fuel can be found in the trunks of coconuts killed by the Lethal Yellows Disease.

Biogas Digestors: Under the Latin American Energy Organization Regional Program, biogas digestors are being constructed. In addition, a 70 cubic meter biogas generator has been built by the Scientific Research Center. Efforts are under way to determine the type of digester most suitable to Jamaica. The digestors presently being constructed are too costly for practical use by individual households.

Alcohol: There is increasing interest in developing an alcohol production industry to supply fuel and feedstock for chemical uses. Bananas and sugar, especially from areas where factories are being closed, are commonly cited as sources for alcohol distillation. The success of any alcohol development effort would depend on the local price of alcohol, the size of the market and the availability of feedstock.

## LEGUMES

PRODUCTION OF LEGUME CROPS HAS INCREASED SIGNIFICANTLY OVER THE PAST DECADE DUE TO STRONG LOCAL DEMAND AND RESTRICTIONS ON IMPORTS. SOYBEANS ARE AN EXCEPTION, WITH NEARLY ALL THE COUNTRY'S SUPPLY IMPORTED FROM THE UNITED STATES. WHILE EXPORT OPPORTUNITIES FOR LEGUMES ARE LIMITED, INVESTMENT IN PRODUCTION FOR THE LOCAL MARKET IS FEASIBLE. LOCAL SUPPLIES ARE OFTEN LOW, AND PROCESSORS OFTEN CANNOT SECURE ENOUGH RAW MATERIALS FOR CANNED PRODUCTS. INVESTORS SHOULD NOTE THAT CURRENT DOMESTIC PRICES FOR LEGUME CROPS ARE WELL ABOVE WORLD MARKET PRICES DUE TO RESTRICTIONS ON PRODUCTION AND HIGH LOCAL PRODUCTION COSTS.

### 1. Production

- \* Legumes such as red peas, pigeon peas, cow peas, peanuts, sugar beans and broad beans represent about 3% of the total production of food crops in Jamaica. Over the past ten years production of these major legumes has practically doubled, increasing from 5,900 short tons valued at J\$1.8 million in 1970, to 11,600 short tons valued at J\$33.8 million in 1979 (values reflect prices to the farmer).
- \* Most of this increase was due to expanded acreage of legume crops. Yields improved an average of 24% between 1970 and 1979, but are still low by world standards.
- \* Increased plantings were largely a result of strong local demand and attractive prices to farmers. In addition, imports of peas and beans have been restricted in order to encourage local production. Imports of legumes other than soybeans are currently limited to planting material.

PRODUCTION, ACREAGE, AND YIELDS OF MAJOR LEGUME CROPS

1970-1979

	1970			1975			1979		
	Production (tons)	Yield Acreage (tons/acre)	Yield (tons/acre)	Production (tons)	Yield Acreage (tons/acre)	Yield (tons/acre)	Production (tons)	Yield Acreage (tons/acre)	Yield (tons/acre)
Broad Beans	204	572	.36	126	450	.28	247	734	.34
Sugar Beans	158	515	.31	203	730	.28	200	629	.32
Cow Peas	516	1,069	.48	773	2,290	.34	979	2,660	.37
Gungo Peas	2,200	7,342	.30	2,362	6,920	.34	2,505	6,311	.40
Red Peas	2,150	6,837	.31	2,257	7,530	.30	4,957	13,043	.38
Peanuts	736	1,536	.48	1,171	2,430	.48	2,770	4,994	.55
<b>Total</b>	<b>5,964</b>	<b>17,871</b>	<b>.33</b>	<b>6,892</b>	<b>20,350</b>	<b>.34</b>	<b>11,658</b>	<b>28,371</b>	<b>.41</b>

Source: Data Bank, Ministry of Agriculture.

- \* In 1980, the Ministry of Agriculture estimated national requirements for major legume crops at 18,000 tons compared with the 12,000 tons currently produced. Expansion of legume production is a priority with the Ministry, both to improve the protein content of the local diet and to improve land fertility through rotations with nitrogen-fixing crops.
- \* Prices for legumes are unregulated and have increased more rapidly than prices for most staple foods. Several popular legumes command high prices on the local market. Red peas sell retail for J\$4.00 per pound, about four times what the cost of imported peas would be.
- \* Legumes are grown almost exclusively by small farmers on plots of less than 10 acres. Yields are low due to poor seed material, plant diseases (especially the mosaic virus) and lack of proper storage facilities. Legumes are a risky crop for the farmer.
- \* The Ministry of Agriculture has achieved yields up to four times those obtained by farmers using improved planting material. However, most trials have been conducted on irrigated land in the southern plains area while most legumes are grown on hillsides where climatic conditions may be different. The parishes of St. Catherine, Clarendon and Manchester produce the most legumes.

## 2. Peanuts

- \* Unlike most legume crops, peanut production is concentrated on flat lands in the parish of St. Elizabeth in the southwest. Farms on which peanuts are produced are under ten acres in size, usually with less than three acres planted in peanuts. Land is prepared by mechanized tillage, while other operations are done manually.

- \* On farm yields for peanuts have varied between 700 and 1,000 pounds per acre. Yields of over 2,000 pounds per acre have been achieved in pilot projects sponsored by the Ministry of Agriculture using applications of fertilizer and improved seed material.
  
- \* At present, all peanut production is marketed locally. Higglers buy the unshelled nuts from farmers and sell them roasted to the public, largely to what is termed the "Ball Park Market". The Agricultural Marketing Corporation also buys unshelled nuts from farmers at a guaranteed price (J\$1.20 per pound in 1981). Inadequate drying and storage methods have caused incidents of aflatoxin mold to occur, and improved collective storage facilities are necessary for future prevention.
  
- \* Over the past decade, the Ministry of Agriculture has tried to increase peanut production, both on existing smallholdings and on larger tracts of land (over 50 acres) using mechanized planting methods. Part of the impetus for this effort was to substitute for over 2 million pounds of peanuts imported by the government-owned food processor, Jamaica Frozen Foods.
  
- \* Problems arose due to lack of a proper collection and storage facility, inadequate grading and the low quality of the local crop for processing, as well as the high farmgate prices, and Jamaica Frozen Foods eventually discontinued peanut products. The possibility of growing peanuts for local processing is again being considered, and the Jamaica Industrial Development Corporation is currently sponsoring a 135-acre peanut growing project initiated by a local private investor in order to expand the production of high quality varieties. The economic feasibility of using locally produced peanuts for products such as canned peanuts,

peanut butter and peanut oil will depend on improving production efficiency and collection, since the cost of peanuts purchased on the local market is more than twice what peanuts would cost if imported from the United States.

- \* Staff from the Inter-American Institute of Agricultural Sciences (IICA) and the Caribbean Agricultural Research and Development Institute (CARDI) recently issued a report on the development of the peanut industry in Jamaica, concluding that there was considerable potential for increasing production of peanuts suitable for processing. In addition to the products for home consumption (roasted nuts, butter, oil, margarine), the peanut meal, hulls and hay could be used for animal feed. The possibility of using peanuts for intercropping with sugar cane and tobacco has also been considered, although there are conflicting opinions on whether this is either technically or practically feasible.

### 3. Soybeans

- \* Soybeans have not been grown in significant quantities in Jamaica, although there has been varietal testing and small-scale production since 1942. So far, efforts to develop soybeans for larger scale commercial production have not succeeded. Recently there has been increasing interest in local production to substitute imports. Soybean imports from the United States have increased over 80% in the last five years, from 34,862 metric tons in 1976 to 63,022 metric tons in 1980. During the same period, imports of soy flour and meal declined substantially due to the development of a local processing capability. The total value of soy imports in 1980 was reported to be J\$37.6 million, approximately 20% of the value of all food imports.

SOYBEAN IMPORTS  
(1976-1980)  
metric tons

<u>Year</u>	<u>Soybeans</u>	<u>Soy Flour or Meal</u>	<u>Value of Shipments (J\$ million)</u>
1976	34,862	39,474	6.7
1977	35,526	32,819	15.2
1978	47,362	15,137	24.1
1979	71,728	3,638	38.5
1980	63,022	6,597	37.6

Source: Department of Statistics, External Trade, 1977-1980.

- \* Imported soybeans are used almost exclusively for livestock, poultry feeds and edible oil for local consumption. A small amount is further processed into foods such as soy sauce. In the early 1970's, the Caribbean Food and Nutrition Institute, in cooperation with the government of Jamaica, developed a plan for improving the nutrition content of the local diet through enrichment with proteins such as soybeans in the form of textured vegetable protein, concentrates or isolates. This plan, requiring a minimum of 20,000 tons of soybeans for processing has not been implemented, but was a major impetus for establishing a domestic soybean processing operation.
- \* Jamaica Soya Products Industries (JSPI), a joint venture between the government-owned Jamaica Nutrition Holdings and the I.S. Joseph Company

of the United States, is the sole processor of soybean meal and bulk soybean oil in the country. It operates a plant at Old Harbor with a crushing capacity of 90,000 tons per year. Ex-factory prices for soybean meal and soybean oil are controlled by the Government Prices Commission and are based on JSPI's production costs and a crushing margin.

- \* JSPI will conduct a feasibility study to support the long-term goal of planting 30,000 acres of soybeans in rotation with sugar cane. In this pilot project, 1,000 acres will be planted to test varieties suitable for a tropical climate, to determine appropriate water and fertilizer applications and to test reaping and drying methods. JSPI expects to achieve yields of up to one-and-one-half tons per acre using irrigation and mechanization. Preliminary estimates show that costs of production may be as low as US\$180 for 30 bushels compared to the September, 1981 import price of US\$270.
  
- \* Thirty thousand acres of soybeans would supply one-third of current domestic consumption which is largely dependent on the livestock and poultry industry. Development of more food products from soybeans for human consumption would create additional local demand.

#### 4. Investment Opportunities

- \* The major investment in legumes is in production for the local market. Domestic demand is currently unsatisfied by small farm production in many food crops such as red peas. The prospects for raising yields and lowering production costs through improved technology and storage are good. Planting materials for local and imported varieties of legumes may be available through the Ministry of Agriculture, depending upon the quantity needed.

- \* A producer could also contract directly with processors to supply peas and beans for canning. Present production of some legumes does not meet processing demand. T. Geddes Grant has expressed an interest in purchasing local peanuts for processing various peanut products if adequate supplies of a suitable quality could be assured.
  
- \* The feasibility of producing legume crops for the local market depends on the government's policy on import restrictions. Elimination of these restrictions would no doubt result in cheaper imports supplanting local supplies. The future of import restrictions on legumes is uncertain, given the government's dual objective of both stimulating local food production and allowing cheaper foods to be imported in order to reduce food costs to the consumer.
  
- \* Jamaica Soya Products Industries is in the forefront in expanding soybean production on the island. There are additional opportunities to enter soybean production, provide technical assistance in production, or process high protein foods for human consumption. Investment in these areas is likely to generate strong government support, given the amount of foreign exchange that could be saved through local production of soybean products.

## FEEDS

THE FEED INDUSTRY IN JAMAICA IS WELL DEVELOPED AND MAY OFFER AN INVESTMENT OPPORTUNITY FOR ONE FOREIGN INVESTOR, AT MOST. THE TONNAGE OF FEED SOLD HAS REMAINED FLAT DURING THE PAST FIVE YEARS. INDUSTRY PARTICIPANTS EXPECT DEMAND TO INCREASE WITH THE ANTICIPATED GROWTH OF THE POULTRY AND LIVESTOCK SECTORS AS THE ECONOMY IMPROVES. LIVESTOCK PRODUCERS WELCOME INCREASED COMPETITION IN THE FEED INDUSTRY BECAUSE OF THE HIGH COST OF LOCAL FEEDS. EXPORT OPPORTUNITIES TO THE CARICOM REGION ARE LIMITED BECAUSE OF THE HIGH COST OF TRANSPORTATION. OPPORTUNITIES EXIST TO REPLACE COSTLY IMPORTS OF FEED INGREDIENTS WITH LOCALLY GROWN FEED CROPS SUCH AS SORGHUM.

### 1. Production

- \* Production of animal feed has remained steady at about 450,000 short tons a year since 1977. Approximately 67% of feed tonnage is for poultry, 25% for pigs and 7% for cattle.
  
- \* Production has increased only marginally over the past four years:

#### Production of Animal Feed 1977-1980 (000 pounds)

<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
436,463	458,549	448,376	443,852

Source: Economic and Social Survey, 1980.

- \* Availability of feeds has been unpredictable. Shortages have caused major disruptions in the poultry and pig industries. Pig and livestock producers also complain about the quality and reliability of the products.
- \* Lack of adequate grain storage facilities has aggravated the disruption of raw materials. Because storage capacity is low, Jamaica depends on prompt arrivals of ships, which does not always occur. To address this problem, feed manufacturers have expanded their storage capacity. At present grain storage capacity in the feed industry totals 28,000 tons, which represents approximately 12% of annual production.
- \* These problems have affected the quality of feed, as manufacturers try to change formulations according to the availability of raw materials.

## 2. Prices

- \* The price of feed is controlled by the government at all stages. The government subsidizes the imports of grain and tries to ensure that the subsidy is passed on to consumers. Prices are set for producers, distributors, wholesalers and retailers. A maximum price for each stage is determined according to the cost of production of individual companies, so prices vary by brand and type of feed.

## 3. Structure of the Industry

- \* There are three feed manufacturers in Jamaica: Master Blend (Hi-Pro Feeds), Caribbean Milling (Larro Feeds) and Jamaica Feeds Ltd. (Purina Feeds). The government through Jamaica Commodity Trading Co. is the monopoly importer of corn and soybeans. Jamaica Soya, a joint venture between the government-owned Jamaica Nutrition Holdings and I.S. Joseph Company, is the only processor of soybeans.

- Master Blend is wholly owned by Jamaica Broilers. This company has been gaining market share aggressively at the expense of the other producers. Approximately 75% of their business is in poultry feed. They have recently expanded their storage capacity and are planning to expand their milling capacity.
  - Jamaica Feeds in Kingston is a joint venture between SEPROD, Purina and the Jamaica Livestock Association. They are the oldest feed mill in the country.
  - Caribbean Milling in Rio Bueno is wholly owned by Musson (Jamaica) Ltd, a large trading house. Musson stores are the only distributors of Larro Feeds. They are the newest company and purchased equipment from the Pillsbury mill when it closed two years ago.
- \* Feed manufacturers, with the encouragement of the government, are trying to increase usage of local raw materials.
- The government, together with Jamaica Soya, has started the development of soy production. Initially 1,000 acres will be planted as a pilot. The goal of this program is to ultimately plant 30,000 acres of soybeans in rotation with sugar cane.
  - Sorghum seems to be the best opportunity for feed grain production in the island. The government, with the help of IICA, is conducting field trials at BRUMDEC, near Black River. Grace Kennedy, a major Jamaican agribusiness firm, is going to grow approximately 300 acres of sorghum at its Halse Hall farm.

- Master Blend has been conducting field trials of sorghum.

#### 4. Opportunities

- \* One opportunity in the feed system is to build a mill as part of an integrated livestock operation. The Jamaica Livestock Association and Caribbean Broilers are two possible candidates for such an undertaking.
- \* Another opportunity lies in developing the use of unconventional feed materials by the livestock industries. A business could be built to systematically procure and process byproducts for use in animal feeds. Although some byproducts are already used by several livestock producers, much is still wasted. This waste could profitably be used to displace imported feeds.

## FISHERY PRODUCTS

JAMAICA IS A SURPRISINGLY STRONG MARKET FOR FISHERY PRODUCTS WITH DEMAND RANGING FROM 40-80 POUNDS PER CAPITA DURING THE PAST DECADE. THIS HIGH LEVEL OF CONSUMPTION IS PARTICULARLY SURPRISING IN VIEW OF RELATIVELY LOW DOMESTIC PRODUCTION AND THE NEED TO IMPORT HEAVILY. THE ADVERSE FOREIGN EXCHANGE BALANCE CREATED BY THESE IMPORTS GENERATES CONSIDERABLE INTEREST IN DOMESTIC FISHERIES DEVELOPMENT. DESPITE RECENT AGREEMENTS FOR FOREIGN FISHING RIGHTS AND OTHER DEVELOPMENT INITIATIVES, MARINE CAPTURE FISHERIES ARE LIKELY TO REMAIN DOMINATED BY SMALL FISHERMEN WITH HEAVY EXPLOITATION OF SCARCE INSHORE RESOURCES. FEW INDUSTRY OBSERVERS FORESEE MAJOR INVESTMENT OPPORTUNITIES DEVELOPING IN MARINE CAPTURE FISHERIES.

CULTURE FISHERIES PRESENT CONSIDERABLY BRIGHTER BUSINESS DEVELOPMENT PROSPECTS. A LARGE-SCALE DEVELOPMENT PROGRAM FOR PERCH IS UNDER WAY. THERE ARE SEVERAL VENTURES IN VARYING STAGES OF PLANNING AND IMPLEMENTATION FOR FRESHWATER SHRIMP PRODUCTION, FISH CANNING AND FREEZING FILETS.

### 1. Consumption and Production

- \* Total consumption of fishery products declined steadily in the 1970's, from over 75,000 mt to less than 40,000 mt, due to rising prices and import quotas imposed on many foodstuffs. However even presently depressed levels of fish reflect relatively high per capita demand--averaging roughly 40 pounds per capita over the past several years (compared to about 13 pounds in the U.S.).
- \* Strong demand for fish is met by imports which have accounted for more than 70% of consumption in recent years. Imports consist largely of cured products, principally salt cod, or products for domestic curing.

## MARINE CAPTURE FISHERIES

THE JAMAICAN MARINE CAPTURE FISHERIES CONSIST MAINLY OF INSHORE TRAP AND LINE OPERATIONS WITH THE BASIC HARVESTING UNIT BEING AN OUTBOARD-POWERED CANOE. A LIMITED NUMBER OF LARGER VESSELS FISH SEVERAL OFF-SHORE BANKS IN TRADITIONAL JAMAICAN WATERS OFF THE SOUTHEAST COAST, ALTHOUGH JAMAICA HAS NOT YET ESTABLISHED A 200-MILE MANAGEMENT ZONE. THERE IS STRONG EVIDENCE, INCLUDING DECLINING CATCH-PER-EFFORT RATIOS, THAT MOST FISH STOCKS SUPPORTING BOTH THE INSHORE AND OFFSHORE FISHERY ARE FULLY EXPLOITED. GOVERNMENT ATTEMPTS TO EXPAND THE JAMAICAN FISHING INDUSTRY BY NEGOTIATING FISHING RIGHTS WITH CARICOM OR CENTRAL AMERICAN NEIGHBORS HAVE BEEN LARGELY UNPRODUCTIVE, ALTHOUGH ONGOING DISCUSSIONS WITH COLOMBIA MAY LEAD TO A MODEST EXPANSION IN OFFSHORE FISHING. OTHERWISE, THERE ARE LIMITED PROSPECTS FOR THE DEVELOPMENT OF ATTRACTIVE INVESTMENT OPPORTUNITIES IN THE HARVESTING OR PROCESSING OF DOMESTIC LANDINGS.

- \* The marine fisheries fleet consists primarily of three to four thousand outboard-powered or non-motorized canoes manned by nearly 10,000 fishermen who fish from approximately 160 beaches. Most of these vessels are less than 35 feet in length with motors of 40 hp or less. A smaller fleet of several hundred decked vessels fishes a number of banks 50-100 miles off shore to the southwest. Forty-five to eighty foot carrier vessels are used to transport the product to market from the Pedro Cays, the principal offshore fishing grounds.
  
- \* Important commercial fish include jacks, goat fish, snapper, grouper, grunts, spiny lobster and other open sea fish. Landings often include a high percentage of very small, immature fish--reflecting over-exploitation of the inshore shelf.

- \* Landings are very decentralized with roughly 75% received at the 160 fishing beaches located mostly on the south coast. Beach landings are distributed through higglers, and consumption tends to be localized. Up to 2,000 higglers are estimated to play a role in rural fresh fish distribution. Kingston landings are received through a new port complex which includes berthing, storage and marketing facilities. Kingston landings are sold locally since there is little distribution capability.
- \* Domestic landings appear to have reached a plateau at the 10,000 mt level. Opportunities for expanding inshore landings are minimal. Offshore landing could increase based on exploitation of more distant areas of the Pedro Bank, or through the negotiation of fishing rights in the better-endowed waters of Colombia, Nicaragua, Honduras or other countries. A 1978 UNFAO report proposed programs for harvesting more distant regions of the Pedro Bank but little initiative has been taken in this area. The Government of Jamaica, after years of frustration in negotiating with neighboring nations, appears to have reached an agreement which will allow Jamaican vessels to harvest up to 800 mt from Colombian waters.
- \* The major processor and sole drier of fish in Jamaica is Jamaica Frozen Foods Ltd. (JFF), a limited liability company wholly owned by the government. Established in 1967, JFF imports large quantities of hake, pollock, cod, mackerel and other species for salting and curing. Another government-owned firm, Jamaica Nutrition Holdings, is the major importer of pre-processed fishery products such as canned mackerel and sardines.
- \* The principal government agency involved in marine fisheries is the Fisheries Division of the Ministry of Agriculture. The division is involved in a number of technical assistance, research and regulatory functions but its most prominent role has been in facilitating credit to fishermen.

## CULTURE FISHERIES

FISH FARMING HAS BEEN EXPANDING IN JAMAICA RECENTLY IN RESPONSE TO FAVORABLE NATURAL RESOURCE AND ECONOMIC CONDITIONS AND PUBLIC SECTOR SUPPORT PROGRAMS. THE CULTURING OF PERCH, IN PARTICULAR, HAS BEEN BROADLY ENCOURAGED AS A WAY OF IMPROVING RURAL NUTRITION, INCREASING FARM INCOME AND REDUCING IMPORTS. HIGHER-VALUED SPECIES SUCH AS SHRIMP HAVE GOOD DEVELOPMENT POTENTIAL DUE TO FAVORABLE GROWING CONDITIONS AND ATTRACTIVE MARKET OPPORTUNITIES IN THE EXPORT MARKET, THE TOURIST TRADE AND HIGHER INCOME DOMESTIC MARKETS. THE NEED FOR OVERSEAS CAPITAL AND TECHNICAL EXPERTISE IN JAMAICA'S FLEDGLING AQUACULTURE INDUSTRY IS WIDELY RECOGNIZED. THE GOVERNMENT OF JAMAICA STRONGLY SUPPORTS PRIVATE SECTOR DEVELOPMENT OF ACQUACULTURE.

- \* Aquaculture development efforts in Jamaica during the past decade have included work with carp, catfish, oysters, kingfish, perch and shrimp. Most public sector work so far is focused on varieties of African perch (*Tilapia nilotica* and *Tilapia mossambica*) that are widely cultured in the tropics and which were introduced wild to many Jamaican waters in the 1950's.
  
- \* An ongoing US\$9 million, four-year *Tilapia* development program has a goal of producing 6 million pounds per year by 1983. The program includes training of Jamaican farmers in basic aquaculture, the construction of research and pilot facilities, and providing small farmers with technical assistance in the development of culture ponds throughout the country. Yields have been as high as 2,500 pounds per acre per crop. It is possible to take off two to three crops per year.

- \* While the principal focus of the Tilapia program has been on subsistence-level operations, urban hobby farms and commercial-sized ventures have also developed. There are, for example, 15 acres of Tilapia on sugar estates and 100 acres at an Urban Development Corporation site in St. Catherine. The Agricultural Marketing Corporation, Jamaica Frozen Foods, Grace Kennedy and other entities including higglers are able to effectively market commercial quantities of cultured Tilapia.
  
- \* New commercial interest in aquaculture appears to focus primarily on freshwater shrimp and the Malaysian prawn which has been cultivated on a commercial scale in Hawaii, southern states in the U.S., Ecuador, Honduras, Costa Rica, Guatemala and other areas. There have been at least three recent attempts to cultivate freshwater shrimp in Jamaica. One ongoing venture in Savanna-la-Mar with a hatchery and more than 20 acres of ponds is scaling up for commercial production. Several large U.S. agribusiness companies are actively investigating shrimp production for export.
  
- \* The principal market for cultured shrimp is the U.S., and to a lesser extent, Europe. A modest volume of shrimp can be profitably sold in domestic markets including the tourist trade. Cultured freshwater shrimp enjoys a relatively small market compared with marine shrimp, but this market is expanding as availability increases in terms of both volume and reliability. Prices appear comparable with marine shrimp for similar sizes and grades--recently running in the range of US\$3.50-4.50 per pound for 30 count CIF Miami.
  
- \* Start up costs for freshwater shrimp, according to industry sources in Hawaii and Latin America, should be roughly US\$3,000 per acre for a typical 10-acre farm. Grow-out time is six to nine months with yields

of up to 2,000-3,000 pounds per acre per year. Major expense items other than initial capital costs include labor, feed and stocking costs for post-larvae shrimp. Given a feed ratio of 3:1 or better, and ingredient costs of US\$300 per ton or less, feed costs should be approximately US\$.45 per pound. Post larvae costs will be high initially, decreasing as local hatcheries are developed and hatching volumes expand.

- \* A likely development scenario based on experience in other areas will involve central feed, hatchery, processing and marketing facilities, with decentralized grow-out. Farmers generally own the shrimp during grow-out and sell to processors at world prices less processing and marketing margins of 25-40% plus adjustments for meat yield in processing. Despite a relatively small world market, freshwater shrimp are likely to remain the principal candidate species in the foreseeable future due to well-developed culture characteristics including reproduction capabilities. Marine shrimp have very favorable grow-out and hatchery characteristics and a slight advantage over freshwater shrimp in meat yields. However, brood stock for marine shrimp must be constantly purchased from wild sources as reproduction in culture environments has not been successful. Additionally, marine shrimp present more difficult siting problems.
  
- \* Operating cost for a shrimp operation will vary greatly by location and from venture to venture, but several North American and Latin American shrimp farming ventures are achieving sufficiently high margins to satisfy U.S. corporate sponsors.

- \* Investors should be aware that although pro forma returns on aquaculture usually look promising, many ventures in other parts of the world have failed because of disease, natural disaster, and mismanagement. Praedial larceny is also a potentially serious problem which must be addressed. If one recognizes these risks, Jamaica is as promising a location for this industry as any Caribbean or Central American country.
  
- \* In summary, based on experience elsewhere in Latin America and other areas, there appears to be an opportunity to successfully culture a high-valued product such as shrimp in Jamaica. Any investor undertaking such a venture will need to have a relatively self-sufficient operation as technical assistance for species other than Tilapia will be hard to find.

## BEEF

THE BEEF INDUSTRY IN JAMAICA HOLDS SEVERAL INVESTMENT POSSIBILITIES FOR U.S. INVESTORS WHO ARE WILLING TO TAKE THEIR PROFITS LARGELY IN JAMAICAN DOLLARS. PROFITABILITY AT DIFFERENT STAGES OF THE BEEF SYSTEM IS SKEWED. ALTHOUGH BEEF PRODUCTION IN JAMAICA HAS BEEN PROFITABLE FOR SOME PRODUCERS, U.S. INVESTORS WITH HIGH LAND COSTS PROBABLY WILL LOSE MONEY ON BEEF RAISING. PROCESSING AND MARKETING, HOWEVER, OFFER A BETTER OPPORTUNITY. THERE IS A GOOD MARKET IN THE HOTEL AND RESTAURANT BUSINESS FOR SUPPLYING HIGH-QUALITY BEEF. THE ATTRACTIVENESS OF BEEF PROCESSING IS CLOUDED BY PROCUREMENT UNCERTAINTIES AND THE LOBBYING STRENGTH OF SMALL BUTCHERS.

DEVELOPING A PEDIGREE BEEF HERD FOR EXPORT HAS PROMISING LONG-TERM POTENTIAL. JAMAICA HAS SEVERAL GOOD BREEDS OF BEEF CATTLE SUITED TO THE TROPICS. POOR PEDIGREE DOCUMENTATION PREVENTS JAMAICA FROM REALIZING ITS POTENTIAL IN THE NEAR FUTURE.

### 1. Production and Consumption

- \* Domestic production of beef in Jamaica has been relatively flat since 1975. Total consumption of beef increased over the last decade although it dropped sharply in the recent past because of import restrictions. Increases in domestic production have been tempered by the strong emergence of cheaper poultry meat. Imports have more than doubled in the last decade.

Production, import and consumption data are presented in the following chart.

PRODUCTION, CONSUMPTION AND IMPORTS OF BEEF IN JAMAICA, 1969-1980  
(million lbs.)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Production	30	27	26	29	28	31	28	27	27	26	25	27
Imports	12	17	11	18	16	16	23	23	16	28	9	4
Consumption	42	45	37	45	45	45	54	51	43	53	34	31

Note: Numbers may not add due to rounding.

Source: Jamaica Livestock Association and ADC.

\* The total size of the beef herd in Jamaica was estimated at 290,000 animals in 1979. Approximately 100,000 animals are in the "commercial" herd (animals raised by larger farmers in managed cattle operations), while the remaining 190,000 animals belong to smaller farmers who sell their animals when they need cash or when the market is strong. Offtake from the commercial herd is estimated at about 35% per year; offtake from the non-commercial herd is estimated at about 12%. The annual kill through registered facilities is about 60,000 head.

2. Prices

\* Representative prices in late 1981 are presented below:

Live Weight	J\$1.50
Retail (Kingston)	J\$3.50 (average of all cuts)
Retail (rural)	J\$2.50

- \* Prices are under pressure because of the availability of less expensive animal proteins, both domestic and imported.

### 3. Structure Of The Industry

- \* The beef system is diversified in all areas of production, processing and marketing. There are strong pressures to modernize the industry through the concentration of functions, notably at the processing level.
- \* Beef is raised by two types of farmers. The first is the commercial farmer who raises beef as his primary business. Most commercial farmers have between 20 and 500 head. Some have sophisticated breeding operations. Commercial farmers sometimes use a combination of grass and lot feeding. Many use good pasture management techniques to increase the carrying capability of their land. The commercial farmer accounts for only 34% of all beef raised on the island. The second type of farmer is the non-commercial farmer who raises beef cattle as a sideline to other agricultural undertakings, although beef may be the most important part of his economic activity. The non-commercial farmer may keep his cattle for many years, selling his animals when he needs cash or when prices are favorable.
- \* Beef farming is marginally profitable for most commercial operators. Returns vary significantly according to the quality of the managers. Some good operators reportedly make over 20% return on sales.

- \* Although marginally profitable for existing operators, beef raising is not profitable for entrants into the industry who must pay for land and pasture development. Good grazing land in Jamaica currently sells for between J\$500 and 1,000 per acre. Pasture development costs generally range between J\$300 and 500 per acre, usually closer to J\$500. Since a grass-fed head of beef requires between three quarters of an acre and five acres of pasture, depending on the condition of the pasture, and usually returns at least J\$200 per head, it is easy to see why cattle ranching will not be attractive to most U.S. investors. One could conceivably obtain a return by keeping land costs low (say by renting unused pasture), but the land would probably still have to be improved.
  
- \* Feed lots are sometimes used to supplement pasture feeding because of the high cost of feed (as high as J\$.20 per pound for formulated feed). Some cattle operations feed their cattle byproducts from local agricultural processes (e.g. wheat middlings, brewers grains, citrus pulp, molasses and cane from old fields) at a significantly lower cost, about J\$.05 to .10 per pound. Conversion on these feeds is usually low and thus increases the effective cost. Certain byproducts are becoming increasingly scarce as more producers turn to this lower cost source of feed.
  
- \* Although most animal feeding programs are uneconomical, it should be noted that one beef farmer raised animals on a combination of high energy feed and pasture at a cost of J\$.50 per pound of gain which yielded a handsome profit.
  
- \* Farmers receive a disproportionately low percentage of the profits in the beef system.

\* Slaughtering is performed by thirteen approved slaughter facilities or 1,000 local butchers. There are no abattoirs which meet international standards. Lydford is the best plant in Jamaica.

\* Data on the country's three largest abattoirs are presented below:

Plant	Daily Capacity	Condition
Kingston	120 head	Poor
Spanish Town	25 head	Very Poor
Lydford	200 head	Better

About 11% of the country's cattle are processed in these abattoirs. The Kingston plant was recently shut down for health reasons.

\* Most of the country's beef is slaughtered and cut by the 1,000 local butchers who slaughter on a kill slab or "under the tree". Some butchers actually take ownership of the animals, while others charge a flat fee for their work. Butchers sometimes demand the right to purchase the fifth quarter (innards and offal) as part of their service or will take it as their sole payment.

\* All carcasses must be inspected and stamped. Since beef is killed at many locations, inspectors spend much of their time traveling. Inspections are usually brief, consisting of a cursory examination of the liver, carcass and occasionally the head.

\* Differences between cuts are generally not recognized, and most consumers pay one price regardless of cut. Kingston is the exception to this where the price between cuts can vary by J\$1.00. In smaller towns and rural areas, the price of meat for all cuts, be it steak or stew meat, is about the same.

- \* Slaughtering and marketing is profitable. It is not uncommon for butchers to make J\$400 for selling meat from an animal on which a farmer made a profit of J\$100. Butchers in Jamaica normally have retail margins of 15 to 25%.
- \* There are no good facilities for aging and storing beef in Jamaica.

#### 4. Opportunities in the Beef System

- \* U.S. investors may find opportunities in the beef system by constructing and operating a combined abattoir, aging and storage facility. This system might be a small operation designed to cater to the high-quality hotel beef market, or a larger--and more risky operation--for a larger market such as the Kingston/Spanish Town market where most of the population is centered. There has been discussion in the recent past about building a set of abattoirs throughout the country to correct the deplorable condition of existing facilities.
- \* Building a large abattoir would have the advantages of scale, but would be more susceptible to problems in maintaining a proper supply of animals, political visibility (especially with butchers) and high fixed costs. The advantages of such a scheme are that an investor could benefit from the value added in processing. A private operator could revolutionize standards by operating an efficient new plant. A new plant could use byproducts, such as blood that are currently wasted.
- \* A more cautious approach would be to devise a system of procurement, slaughtering, aging, cooling and delivery to the quality-sensitive hotel and restaurant trade. The hotels and restaurants are now importing much

of their meat to satisfy the special tastes of the affluent foreign consumer. There is much political pressure to fill this segment of the beef industry with local supplies thus saving the country foreign exchange.

- \* Hotels and restaurants have indicated that they would be willing to pay high prices for good quality aged beef delivered on a predictable schedule. One hotel manager said that he would pay as much as J\$9.00 per pound, his current cost for imported portion control meat.
- \* Animals raised for this market would have to be finished on feed lots to satisfy "prime" grade standards.
- \* A scheme to displace costly imports would probably have high priority in the allocation of foreign exchange.

#### 5. Opportunities in Pedigree Beef

- \* Jamaica has several advantages for the development of tropical pedigree cattle:

- Jamaica has three good breeds of cattle:

- Jamaica Red Poll
  - Jamaica Black
  - Jamaica Brahman

- Each of these varieties gains weight well and does well in the tropical climate;

- Jamaica has an established beef industry;

- Jamaica is relatively free of cattle diseases;
  - Jamaica is in a good location for exports to other tropical countries, notably the Caribbean and Latin America.
- 
- \* The Jamaican beef industry is interested in establishing Jamaica as a source of tropical pedigree stock. The Agricultural Development Corporation currently operates several pedigree herds. Animals are currently exported to the Caribbean and Latin American countries. Fifty-five head were shipped to Barbados in November, 1981. Animals have sold for as much as J\$8,000.
  - \* There is an opportunity for a U.S. firm to create a long-term relationship in the development of the pedigree herd by providing management, technical expertise, a transportation system and marketing experience. The major problem with the efforts to develop a pedigree herd is poor documentation. It will take a decade of consistent effort before the pedigree herd will be properly documented.
  - \* There is also a promising market in expanded semen export and embryo export to other tropical countries.

## PIGS

THERE ARE CURRENTLY FEW GOOD INVESTMENT POSSIBILITIES IN THE PIG INDUSTRY IN JAMAICA. PRODUCTION IS DOMINATED BY FARMERS WITH OVER 20 PIGS WHO PROVIDE AN ADEQUATE SUPPLY TO THE MARKET. PROCESSING IS DOMINATED BY SEVERAL PLANTS WHICH HAVE EXCESS CAPACITY AND ARE CURRENTLY LOSING MONEY. THE DOMESTIC MARKET FOR PORK HAS BEEN LEVEL FOR THE PAST DECADE. JAMAICAN PORK CANNOT COMPETE ON THE WORLD MARKET, EXCEPT FOR CERTAIN CANNED PRODUCTS.

### 1. Production and Consumption

- \* Local pork production has varied over the past decade. In 1969, 13.2 million pounds of pork were produced. In 1979, 13.8 million pounds were produced. Production peaked in 1973 at over 21 million pounds.
- \* Jamaicans consumed less pork in 1979 than in 1969. Total pork consumption in 1969 was 17.3 million pounds, including imports. In 1979, under 14 million pounds were consumed.
- \* Pork production as a percentage of total meat consumption has fallen.
- \* Jamaica is now virtually self-sufficient in pork, importing only about 1% of its needs in 1980.

### 2. Prices

- \* Pork prices are normally comparable to other red meats. Recently, prices have come under pressure because of overproduction. Pork was retailing for about J\$2.50 per pound in November, 1981.

### 3. Structure of the Industry

- \* The industry has two tiers. The first is comprised of a large number of smaller producers (e.g., less than five pigs). This tier contains 65% of all farmers but accounts for only 16% of production. The second tier is comprised of a relatively small number of medium and large-scale "quality" producers. While only 6% of all farms have over 20 pigs, they produce 52% of all pigs.
  
- \* The number of farmers in the industry and the number of hogs produced has dropped. In 1943 there were approximately 218,000 pigs in Jamaica and over 45,000 pig farmers. In 1980, the number of pigs was 96,500 while the number of farmers was 12,000.
  
- \* Despite this contraction, the efficiency of the industry has increased. Virtually all indicators--pigs reared per litter, time to reach market weight, feed conversion, carcass quality and methods of production--have improved significantly in the past 25 years.
  
- \* As with beef, much pork is handled through informal channels controlled by local butchers. Some hogs are slaughtered at large abattoirs and meat processing plants, but most are slaughtered at small locations throughout the country.
  
- \* Two private meat processing companies dominate processing, Agro-Industries, Inc. in Bog-Walk and Grace Kennedy's plant in Savanna-la-Mar. The meat processing industry has not been profitable in the recent past because of low prices for all pork products.

4. Opportunities for Investment

- \* There are no good investment opportunities in pork production. Production is adequate, processing capacity is sufficient, demand for pork products is stable, export opportunities are limited in the near term and hotel sales are satisfied.
- \* One opportunity in pigs is to slaughter them and produce specialty products, both fresh and processed, as part of a larger slaughtering facility for beef.
- \* Some opportunities exist to export high-quality breeding pigs to South America and the Caribbean. Because Jamaica is free of swine disease, the country holds good long-term potential as a source of replacement pigs for islands currently affected with swine fever. Efficient producers could also export meat to these areas at a lower price than can the U.S. or Canada.

## BROILERS

THE POULTRY INDUSTRY IN JAMAICA IS WELL DEVELOPED AND OFFERS LIMITED OPPORTUNITIES FOR INVESTORS. JAMAICA BROILERS LTD. DOMINATES THE INDUSTRY WITH 60% OF THE MARKET. DEMAND FOR POULTRY PRODUCTS, AFTER INCREASING AT AN AVERAGE OF 11% PER YEAR THROUGHOUT THE 70's, HAS BEEN WEAK IN THE PAST TWO YEARS. DOMESTIC PRODUCTION HAS BEEN DAMAGED BY IMPORTS OF CHICKEN NECKS AND BACKS AND OTHER INEXPENSIVE PROTEINS, AND BY THE ERODED PURCHASING POWER OF THE JAMAICAN CONSUMER. INDUSTRY EXPERTS EXPECT THE DEMAND FOR POULTRY TO INCREASE IN THE NEXT FEW YEARS. LOCAL COMPANIES ARE POSITIONING THEMSELVES TO TAKE ADVANTAGE OF INCREASED DEMAND BY INCREASING THEIR INVESTMENTS. IT WOULD BE DIFFICULT FOR A U.S. INVESTOR TO COMPETE AGAINST EXISTING PRODUCERS WHO ARE WELL ESTABLISHED AND AGGRESSIVE. INVESTORS MIGHT SUCCESSFULLY PARTICIPATE IN THE INDUSTRY BY JOINT VENTURING WITH CARIBBEAN BROILERS OR THE JAMAICA LIVESTOCK ASSOCIATION. FEW EXPORT POSSIBILITIES EXIST FOR POULTRY PRODUCED IN JAMAICA.

### 1. Poultry Consumption and Production

- \* Consumption of poultry meat has increased steadily over the past decade. Total consumption of poultry meat increased from about 35 million pounds in 1969 to about 118 million pounds in 1980. (Note: Broilers account for almost all 100% of poultry meat in Jamaica.)
- \* The popularity of poultry meat has increased markedly relative to other meats. Poultry in 1969 accounted for 20% of all meat consumption; by 1980 poultry accounted for 51% of consumption. This increase was largely at the expense of beef which has steadily declined as a percentage of the market.

\* Local production of poultry meat has increased steadily for the past decade. In 1969, 26 million pounds of poultry meat were produced increasing to 69 million pounds in 1980. Imported poultry meat (mostly chicken necks and backs from the United States) increased quickly in the early 1970's and has held a large part of the market. Imported poultry increased from about 8 million pounds in 1969 to about 50 million pounds in 1980. The following chart shows consumption, local production and imports for poultry meat.

<u>Year</u>	<u>Local Production</u>	<u>Imports</u>	<u>Consumption</u>
-----Million Pounds-----			
1969	26	8	35
1970	32	14	45
1971	40	17	57
1972	34	14	48
1973	45	18	62
1974	51	22	73
1975	60	35	94
1976	59	41	100
1977	66	42	108
1978	68	43	111
1979	75	43	118
1980	69	42*	111
1981	62*	43*	105*

Note: figures may not add due to rounding

\* Estimate

Source: Jamaica Livestock Association and trade sources.

## 2. Prices

- \* The processors' selling price of whole broilers is currently controlled by the government and is calculated according to the cost of production. The current price to processors for dressed chicken is J\$1.69 per pound. Retail prices are not controlled and are currently about J\$2.00 per pound.

## 3. Structure of the Industry

- \* The broiler industry in Jamaica is dominated by three participants, two of which are privately owned companies.

Jamaica Broilers, Ltd. Jamaica Broilers, Ltd. is among the best-managed companies in Jamaica. The company has continuously increased its production and share of market over the past decade. The company's current market share is 60%. The company is fully integrated with hatcheries, the most efficient feed mill in the country (the mill's brand name is Hi-Pro/Master Blend), a system of contracting with 300 farmers and a marketing system. The company is currently planning to build a breeding operation which will provide 50% of the country's hatching eggs. Hatching eggs are currently flown in from the United States. Management also plans to expand its feed milling capacity.

- \* Jamaica Broilers is owned by 600 people. Twenty-five percent of the company is owned by the unionized and salaried employees, and thirty-five percent is held for contract farmers and contract truckers. This equity policy has been helpful in maintaining efficiency and a good work environment.

- \* Jamaica Broilers is one of the most innovative companies in Jamaica and is currently exploring the possibility of using its contracting/integrator model developed in the broiler industry on dairy and aquaculture. The management has expressed interest in entertaining proposals for new ventures from agribusiness investors, assuming the U.S. investor is willing to take a minority equity position. The company is optimistic about the overall agribusiness sector in Jamaica, both for its domestic and export potential.

#### Caribbean Broilers, Ltd.

Caribbean Broilers controls approximately 15% of the Jamaican broiler industry. This company is not as integrated as Jamaican Broilers, buying its feed from the outside. The company has in the past considered expanding and integrating into feed production. This may present an investment possibility for U.S. agribusiness companies.

#### Small Farmers

Small farmers account for the remaining 25% of broiler production. These farmers sell live birds to the local markets and to butchers for processing. Most have flocks of under 500 birds.

- \* Much of the locally produced chicken--especially chicken produced by the two large companies--moves through refrigerated channels. Almost half of the country's broilers move through frozen channels; almost a third moves through chilled channels; the remainder is sold fresh or live.
- \* Feed is supplied to the industry by three major mills: Master Blend (Jamaica Broilers), Caribbean Milling and Jamaica Feeds.

- \* The industry has been hurt by government import policies. Cheap imports have curtailed growth over the past four years. There is pressure in Jamaica to restrict imports of chicken meat since the industry has the capability of producing 100% of the country's poultry needs.
- \* The broiler industry in Jamaica is profitable for most growers and processors, partly because the industry is efficient (conversion ratios for the best producers are comparable to the U.S.), partly because of pricing policy.
- \* Export opportunities for poultry products are limited, even to other Caricom countries. The attractiveness of Jamaican-produced poultry is reduced because of the availability of cheap U.S. imports.

#### 4. Opportunity for Investors

- \* The opportunities for U.S. investment in the broiler industry are limited. The industry is dominated by one large, efficient producer which has the ability to expand to meet new demand. It is unlikely that an outside investor could enter the industry since sales would have to come from increased primary demand for poultry--which is limited--or by taking market share from existing producers, who will strongly resist new entrants.
- \* Several observers have suggested two possible opportunities to participate in this system:

1. Joint venturing with Caribbean Broilers to improve current production systems and to backward integrate into feed milling.
  
2. Joint venturing with the Jamaica Livestock Association which is considering building an integrated feed and poultry operation. Although the feed business component of this project may be attractive, poultry production is risky, as suggested above. It may be possible to combine the interests of the Jamaica Livestock Association with those of the Caribbean Broilers and form a single new venture.

## DAIRY

THE DAIRY INDUSTRY IN JAMAICA IS COMMONLY CITED FOR ITS DEVELOPMENT POTENTIAL, BUT IT IS UNLIKELY THAT FOREIGN INVESTORS WILL FIND ATTRACTIVE INVESTMENT OPPORTUNITIES IN THIS COMMODITY SYSTEM. DOMESTIC DEMAND FOR DAIRY PRODUCTS HAS GROWN IN TOTAL VOLUME OVER THE LAST DECADE. THE INDUSTRY DEPENDS HEAVILY ON IMPORTED MILK SOLIDS WHICH ARE LESS EXPENSIVE THAN LOCAL FRESH FLUID MILK. THE DEVELOPMENT POTENTIAL IN THE INDUSTRY DEPENDS ON THE RESOLUTION OF SEVERAL CRITICAL POLICY ISSUES, NOTABLY PRICING AND THE REGULATION OF IMPORTED MILK SOLIDS. DAIRY FARMING AS AN INDEPENDENT UNDERTAKING IS UNATTRACTIVE TO FOREIGN INVESTORS BECAUSE OF HIGH LAND COSTS, LOW FARM PRICES FOR FLUID MILK AND THE STRONG PREFERENCE PROCESSORS HAVE FOR USING POWDERED MILK. THERE ARE POSSIBILITIES TO RATIONALIZE EXISTING PROCESSING OPERATIONS, BUT TWO OF THE MOST PROMISING OPPORTUNITIES ARE ALREADY BEING INVESTIGATED. BUILDING A NEW PROCESSING PLANT IS NOT ATTRACTIVE.

### 1. Production and Consumption

- \* Domestic production data are questionable because much milk is marketed before it reaches the processors. The best estimates of domestic milk production, according to the Agricultural Development Corporation are presented below:

<u>Domestic Production of Milk</u> (million quarts)					
1975	1976	1977	1978	1979	1980
18.2	20.9	22.7	23.9	27.8	27.8

Source: Jamaica Livestock Association.

- \* Jamaica imports large quantities of inexpensive milk powders which account for about 80% of total domestic consumption.

Imports of Milk and Cream  
(short tons)

1975	1976	1977	1978	1979	1980
8,765	13,653	10,149	13,701	12,082	12,992

Source: Jamaica Livestock Association.

- \* There are currently about 18,000 dairy cows in Jamaica. Yields per head are low, averaging only about 1,700 quarts per year.

2. Prices

- \* Prices in the Jamaican dairy industry are controlled by the government at all stages and are periodically reviewed by the government. Current prices are presented below:

	J\$/quart	% of Retail Price
Price to the producer	J\$ .98*	(59%)
Price to the processor	1.00	(87%)
Retail price	1.15	(100%)

\*This price includes a J\$.25 subsidy.

- \* Many participants at all stages of the milk system are unhappy with prices. Many lose money at these price levels, partly because of low yields. However, efficient operators earn a modest return at current price levels.
- \* The price of imported milk powder is about \$J.15 less per quart equivalent than domestic fresh guaranteed prices. This has created a disincentive for processors to use fresh milk and is largely responsible for the larger percentage of total consumption claimed by imported milk products.

- \* Second-quality milk or milk that the processors cannot handle is sent to the condensory. Farmers receive J\$.69 per quart for milk sent to the condensory.

### 3. Structure of the Industry

- \* Most farmers are small and inefficient producers, although much of the volume is provided by larger farmers. Production costs are high because of improper animal nutrition--notably in blending feeds to complement forage nutrition, inadequate supply of equipment and credit, and inadequate extension and veterinary services.
- \* There are five milk processing plants in Jamaica:

Plant	Functions	Notes
United Dairy Farmers	Milk processing	Also produce juices, flavored milks and ice creams. United Dairy Farmers and Cremo are increasing their use of powder.
Crema	Milk processing	
Shaw Park	Milk processing	
Bybrook	Condensing	
Cornwall	UHT	Also produces ice cream. Has been offered for sale by the Government Divestment Committee. Has increased its use of fresh fluid milk.

\* The industry has been hampered by some structural problems. Foremost among these are low incentives for processors to buy fresh fluid milk from farmers because of its price relative to powders. Among the other important problems are the following:

- Disruptions in fluid milk collections because processors cannot buy milk cartons, refrigerants, spare parts for factories and tanker trucks and other raw materials;
- Power outages on the farm which cause milk spoilage and prevent machine use;
- Labor disputes;
- Protests by retailers over low retail prices causing them to refuse milk supplies;
- Farmer dissatisfaction with prices and services provided by the processors.

#### 4. Opportunities in the Industry

\* Profitable entry into the Jamaican dairy industry depends on the ability to accomplish several goals:

1. Acquire an existing processing facility;

2. Formalize the relationship between production and processing by creating a set of predictable relationships;
  3. Obtain enough working capital, of which foreign exchange would be a significant portion, to ensure the proper maintenance of production facilities, transportation and assembly systems and procurement systems;
  4. Provide extension assistance to farmers to increase their production;
  5. Significantly change price policies to allow producers, processors and retailers to make a profit and to provide incentives to buy from local dairymen.
- \* The dairy industry in Jamaica has no export potential for fresh fluid milk although UHT milk is currently exported to the Caribbean.
  - \* Several Jamaican companies are currently investigating the possibilities of entering the dairy industry and rationalizing it.
  - \* Because of the market limitations and structural problems in the industry, investors will probably find this system less attractive than others.

## GOATS AND SHEEP

GOAT AND SHEEP RANCHING OFFERS A CHANCE TO MAKE A GOOD RETURN FOR THE INVESTOR WHO IS WILLING TO EARN PROFITS IN JAMAICAN DOLLARS. LOCAL DEMAND FOR MUTTON--A GENERIC TERM FOR GOAT AND SHEEP MEAT--IS STRONG, AS EVIDENCED BY THE HIGH PRICE OF THE MEAT. FEW EFFORTS HAVE BEEN MADE TO RAISE GOATS AND SHEEP ON LARGE COMMERCIAL RANCHES. SEVERAL SUCCESSFUL RANCHES HAVE CLEARLY DEMONSTRATED THE FEASIBILITY OF LARGE-SCALE GOAT AND SHEEP RAISING. LAND COST AND PRAEDIAL LARCENY ARE TWO MAJOR PROBLEMS OF SUCCESSFUL GOAT AND SHEEP RAISING.

### 1. Production

- \* Goat and sheep meat in Jamaica is sometimes collectively called mutton. Goat meat is preferred over sheep meat.
  
- \* Official statistics indicate that Jamaica produced 780,000 pounds of goat and 42,000 pounds of sheep in 1980. In the same year, Jamaica imported 779,000 pounds of sheep and goat meat, or 49% of total production. Consumption and production data are probably inaccurate because much of the buying and selling in the industry goes unrecorded.
  
- \* Most observers agree that demand for mutton in the short run is virtually insatiable. Mutton, notably goat, is popular for holidays, especially Christmas and Easter.

## 2. Price

- \* The price for mutton is high, about J\$3.00 to 3.50 per pound. This is comparable to beef prices and higher than other meats. Liveweight prices are about J\$1.40 to 1.60. A large goat in Jamaica brings about J\$100 at the farmgate.

## 3. Structure of the Industry

- \* Most goats and sheep are raised by small farmers and ranchers. Most goat tenders have between one and ten acres. Only 30% of all ranchers have more than ten acres. Several large ranches with as many as 800 head currently exist.
- \* Most goats and sheep are bought on the farm. Strong demand for the product has lessened the need for farmers to engage actively in marketing.
- \* Most farmers do not practice animal husbandry, herd planning or feed management. Goats are usually allowed to roam free.
- \* Slaughtering and breaking is done by butchers who usually own the animals they market. Meat is sold through butcher stores, supermarkets and town markets.
- \* Some farmers are making efforts to improve animal husbandry and ranching techniques. Several successful crossbreeds--notably a Jamaican/Anglo Nubian goat variety and crosses using the St. Elizabeth and Black Belly sheep crossed with imported breeds--have improved the size and endurance of the animals. These crosses resist disease and put on weight well.

#### 4. Investment Opportunities

- \* Large scale goat and sheep raising is profitable if land costs are not excessive. Several large operators have demonstrated that smallstock raising is responsive to good management and innovation. Pasture feeding is usually used although some ranchers use feed to supplement grazing.
- \* Goat and sheep raising is more attractive than other livestock operations because the gross margins for the animals are higher and the life cycle is shorter. Goats and sheep can also survive on less lower-grade pasture compared with cattle and are better adapted to lowland climates.
- \* Praedial larceny is a serious problem with goats and sheep. The best deterrent to this problem is to locate one's ranch in areas where agricultural theft is less of a problem, such as in south St. Elizabeth. The risk of praedial larceny requires that ranchers build good fences. Unfortunately, this increases the cost of land by as much as 50%.
- \* Two individuals--Mr. Henry in St. Elizabeth and Mr. Delrymple in Trelawny--have made significant contributions to the science of goat and sheep ranching in Jamaica and should be consulted before investing in this commodity system.
- \* Large-scale development of sheep and goat enterprises would require input of technology in management assistance and veterinary skills, currently not easily available.
- \* There may be opportunities to export goat meat to West Indian communities in the U.S. such as those in southern Florida.

## RICE

RICE HAS BEEN A FOOD CROP IN JAMAICA FOR THREE CENTURIES, BUT PRODUCTION HAS NEVER MET LOCAL DEMAND. PRODUCTION IS CURRENTLY LOW, LESS THAN 2% OF DOMESTIC CONSUMPTION. POOR YIELDS, THE HIGH COST OF LAND PREPARATION AND IMPORTS OF CHEAPER RICE HAVE DISCOURAGED LOCAL PRODUCTION. GIVEN THE CURRENT LOW DOMESTIC PRICES AND AVAILABILITY OF IMPORTED RICE, THERE ARE FEW SHORT-TERM OPPORTUNITIES FOR INVESTORS. HOWEVER, THIS COULD CHANGE IN THE FUTURE IF THE GOVERNMENT DECIDES TO ENCOURAGE LOCAL SUBSTITUTION OF IMPORTS AND DESIGNS POLICIES TO SUPPORT THIS EFFORT. SHOULD THIS OCCUR, FOREIGN INVESTORS COULD PROVIDE TECHNICAL ASSISTANCE IN RICE GROWING AND MILLING.

### 1. Production

- \* Although rice production has always been low relative to demand, it has fluctuated widely. In recent times, production peaked in 1975 at 5.2 million pounds, roughly 5% of the nation's total consumption of 113.7 million pounds. The value of rice imports in 1980 was equal to J\$44.6 million.
  
- \* The government has made sporadic attempts to stimulate rice production. The Agricultural Development Corporation has provided seed material and extension services to rice farmers. However, the cost of land development, lack of technology and the availability of cheaper imports of rice from Guyana have prevented expansion. Yields are low, averaging approximately 2,500 pounds of paddy per acre on the better farms. The major obstacles to increased yields are poor weed control, lack of suitable farm equipment, poor land preparation and substandard water practices.

RICE PRODUCTION AND IMPORTS  
1970-1980

<u>Year</u>	<u>Local Production</u> ( '000 lbs.)	<u>Imports</u> ( '000 lbs.)	<u>Total</u>	<u>Local Production</u> as a % of <u>Total Consumption</u>
1970	1,120	70,996	72,116	1.6
1971	739	79,813	80,552	.9
1972	116	80,182	80,298	.1
1973	336	69,715	70,051	.5
1974	639	86,995	87,634	.7
1975	5,157	108,591	113,748	4.5
1976	4,281	100,988	105,269	4.1
1977	1,263	63,160	64,423	2.0
1978	1,498	100,200	101,698	1.5
1979	1,341	61,560	62,901	2.1
1980	2,554	116,772	142,326	1.8

Source: Data Bank, Ministry of Agriculture and Agricultural Development Corporation records.

2. Prices

\* Prices to the farmer for paddy are set by the Ministry of Agriculture and are currently J\$.25 per pound. According to some observers, prices would have to be raised to at least J\$.35 to stimulate production.

### 3. Structure of the Industry

- \* Rice is grown by small farmers on plots averaging less than five acres. Production is concentrated in the parishes of St. Catherine, Clarendon, Westmoreland and St. Elizabeth. The government-sponsored Black River Upper Morass Development Corporation (BRUMDEC) project aimed at developing 11,000 acres of swampland in St. Elizabeth plans on planting rice. Rice is currently growing only on experimental plots at BRUMDEC.
  
- \* Rice milling capacity in Jamaica has been declining, from over 6,000 tons in 1957 to 100 tons in 1974. The Agricultural Development Corporation which formerly purchased rice from farms closed its milling plant in Spanish Town due to lack of paddy. BRUMDEC now operates a small Japanese-designed mill which purchases paddy from farmers nearby.

### 4. Investment Opportunities

- \* The attractiveness of investment in the rice system depends on the government's future policies on imported rice prices, research and development, and land availability. There is moderate interest in official quarters to adapt high yielding varieties suitable to conditions in Jamaica in order to revive and expand the industry. Both the Japanese government and the Inter-American Institute for Agricultural Sciences are providing assistance in research and development.
  
- \* There is at least 6,500 acres of good rice land available in Jamaica, some of which is unsuitable for other crops.
  
- \* Given the country's foreign exchange shortage, investment in rice farming is likely to generate strong support from the government.

SECTION IV  
COUNTRY BACKGROUND

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JAMAICA: COUNTRY DATA

<u>Population</u> .....2.2 million	<u>Value of Major Agricultural Exports - 1980</u> (J\$ million)
<u>GDP Per Capita in 1980</u> .....US\$1,330	Sugar 97.5
<u>Increase in Consumer Price Index</u>	Rum 17.1
1979.....19.8%	Bananas 16.3
1980.....28.6%	Coffee 9.5
6 months ended June, 1981..... 1.4%	Cocoa 8.0
<u>Official Rate of Exchange</u>	Pimento 6.9
As of October, 1981:	Root Crops 6.4
US\$1.00 = J\$1.782	Citrus 3.2
J\$1.00 = US\$0.561	Molasses 1.3
	Ginger .8
	<u>TOTAL</u> 167.0
<u>Labor Force Employment, April, 1981</u>	
Agriculture, Forestry	<u>Value of Food Imports</u> J\$128 million
Fishing.....277,000	1980
Other Services.....113,700	<u>Volume of Selected Food Imports</u>
Public Administration.....104,800	1980 ('000 kilos)
Commerce.....100,400	Cereals 123,755
Manufacturing..... 79,500	Meat and Fish 39,720
Transportation..... 31,800	Dairy Products 17,256
Construction..... 26,000	Vegetables 2,417
Mining, Quarrying, Refining.. 7,100	
TOTAL 740,300	

Source: Economic and Social Survey, 1980.

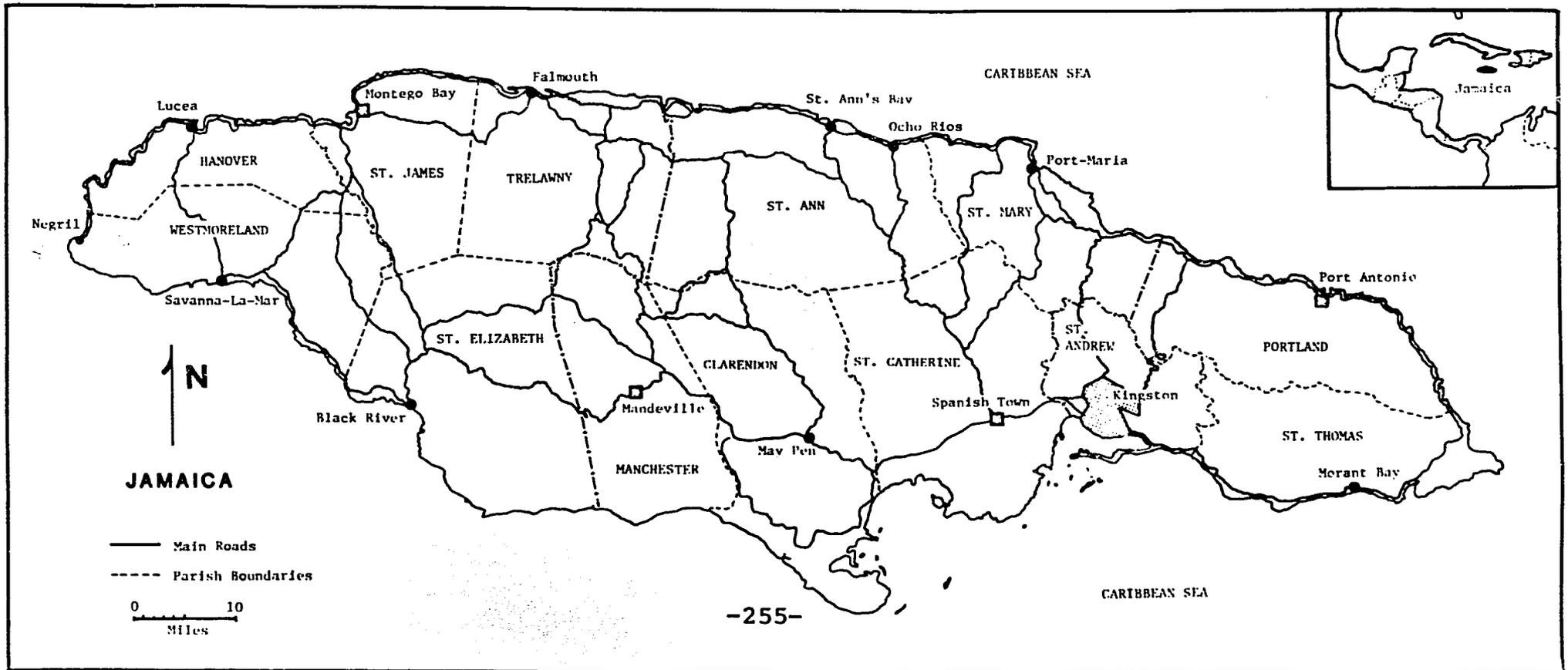
CURRENCY

THE CURRENCY IN JAMAICA IS THE JAMAICAN DOLLAR (J\$).

- \* The official rate of exchange for the Jamaican dollar was J\$1.78 = US\$1.00 as of October, 1981.
  
- \* A well-developed but thinly traded parallel market exists for the Jamaican dollar. In the second half of 1981, the market traded the range J\$2.40-3.00 to US\$1.00.

## MAP OF JAMAICA

JAMAICA ENJOYS A FAVORABLE LOCATION IN RELATION TO THE WESTERN WORLD. LOCATED IN THE GREATER ANTILLES OF THE WESTERN CARIBBEAN, THE ISLAND IS 600 MILES FROM MIAMI AND LESS THAN 2,000 MILES FROM NEW YORK CITY. THE AREA OF JAMAICA IS ABOUT 4,400 SQUARE MILES, THE THIRD LARGEST CARIBBEAN ISLAND. THE COUNTRY IS 146 MILES LONG AND HAS A MAXIMUM WIDTH OF 51 MILES. THE COUNTRY HAS 550 MILES OF COASTLINE. JAMAICA IS DIVIDED INTO THREE COUNTIES AND FOURTEEN PARISHES. KINGSTON IS THE LARGEST CITY WITH ABOUT ONE-THIRD THE POPULATION OF THE ISLAND. SPANISH TOWN, MONTEGO BAY AND MANDEVILLE ARE THE OTHER LARGE CITIES.



## POLITICS

JAMAICA HAS ONE OF THE MOST STABLE PARLIAMENTARY DEMOCRACIES IN THE DEVELOPING WORLD. ELECTIONS HAVE TAKEN PLACE AT REGULAR FIVE-YEAR INTERVALS SINCE INDEPENDENCE IN 1962. A VOTING PATTERN HAS EMERGED WHERE EACH OF THE TWO MAJOR PARTIES HAS HELD POWER FOR TWO CONSECUTIVE TERMS. CHANGES OF GOVERNMENT TOOK PLACE IN 1972 AND 1980. THIS SECTION ANALYZES THE EVOLUTION OF JAMAICA'S POLITICAL SYSTEM TO GIVE THE INVESTOR A HISTORICAL PERSPECTIVE ON THE CURRENT INVESTMENT CLIMATE.

### 1. Pre-Independence

- \* Jamaica was a British colony for over 300 years. During the colonial era the groundwork was laid for a legal system based on British law and a political system based on the British Parliamentary model, with a Senate and House of Representatives.
- \* A strong Civil Service developed as part of the British colonial system. A relatively strong public bureaucracy still exists.
- \* A sizeable Jamaican middle class developed from as early as the eighteenth century. Also a political force of land-owning religious small farmers emerged after the emancipation of slaves in 1838. Both classes have given the country a conservative political flavor despite the recent rapid growth of a sizeable urban working class which is more politically radical.
- \* Jamaica was rocked by political unrest in 1938 in a reaction to severe economic depression, exploitative working conditions for virtually all the working classes and the absence of voting rights, except for property owners. Universal adult suffrage took effect in 1944.

- \* From this period of ferment, a strong trade union movement emerged along with a two party political system. Each political party developed with strong links to one of the two major trade unions. This phenomenon has been a major factor in the political stability of the country, since each party derives considerable strength from its respective union. Particularly when in opposition, the trade unions provide a power base from which to regroup the defeated party's political forces. Three of Jamaica's five Prime Ministers have been former trade union leaders. As evidence of the political system's stability, no party has ever won more than 56% of the popular vote.
- \* Independence was won from Britain in August, 1962, by peaceful negotiation.
- \* The Jamaica Labour Party (JLP) held power from 1962-72 and from 1980 to the present. The People's National Party (PNP) was in power for the intervening period, 1972-1980.
- \* Jamaican elections have traditionally been hotly contested. The electorate perceives the outcome of elections as important to influencing not only broad political policy but the allocation of scarce benefits such as jobs, housing and social services. As unemployment has increased since the early 60's, so has the informal structure for political favoritism in urban ghettos and poor rural communities.

## 2. JLP Government: 1962-1972

- \* Jamaica gained Independence on August 6, 1962. Sir Alexander Bustamante, the nation's most outstanding trade unionist and founder of the Bustamante Industrial Trade Union, was Prime Minister. The leader of the opposition was Norman Manley, his cousin and Jamaica's most outstanding lawyer.

- \* This period was marked by a high level of consensus between the political parties. Foreign policy was based on close links with the western powers. Domestic policy was based on encouraging light industrial growth through import substitution. Import substitution was encouraged by establishing high tariff barriers, quotas for competing imported goods and liberal tax incentives for new industrial companies. Inflows of foreign direct investment were high, particularly in the bauxite industry.
- \* Much political energy was spent during the mid 1960's educating the population about the implications of independence. Awareness of Jamaica's freedom to develop national policies evolved slowly after such a long period of colonization.
- \* Jamaica withdrew from the British-orchestrated West Indies Federation after a national referendum in 1961. The government inched back towards a policy of regional integration with the establishment of Caribbean Free Trade Area (CARIFTA).
- \* The JLP government won a second term in 1967 under the leadership of Donald Sangster with virtually the same percentage of the popular vote as in 1962. On Donald Sangster's death from natural causes later in 1967, Hugh Shearer, a trade unionist, became Prime Minister. Edward Seaga became Finance Minister and was soon noted for improving the Ministry's efficiency and for strengthening the implementation of long-term planning.
- \* Jamaican foreign policy assumed a more assertive tone under Shearer's leadership. The government moved towards regionalism and tried to establish economic links outside Jamaica's major trading partners, the U.K. and the U.S.

- \* Despite heavy capital inflows and successful industrialization, unemployment doubled from 11% to 22% between 1962 and 1972 as migration continued from rural areas to urban centers and emigration to the U.K. was reduced.
- \* The two years prior to the 1972 elections were marked by political infighting between three eminent ministers in the JLP. This weakened the party considerably.

### 3. PNP Government: 1972-1980

- \* The new government swept to power in 1972 with Michael Manley, the son of Norman Manley, as Prime Minister.
- \* The electorate's swing to the PNP was based on dissatisfaction at growing unemployment, an increasing disparity in the division of wealth between classes (aggravated by conspicuous consumption) and unhappiness by the business community with signs of government corruption.
- \* From 1972 to 1974 the PNP's domestic policies differed little from the previous government's. The PNP continued in its role of the previous 20 years of being at most only slightly left of center. In foreign policy, however, links were steadily built with socialist and third world countries. The political policies of Nyerere in Tanzania and Castro in Cuba were perceived as attractive models. The PNP's public statements gradually became more radical.

- \* In September, 1974, Michael Manley announced a radical shift to democratic socialism as the appropriate ideology for the country. He advocated a mixed economy with significant government control.
- \* A flight of capital and emigration of skilled Jamaicans began. The politics of the period were typified by frequent barrages of radical rhetoric, much of which was never implemented but which curtailed long-term investments. As unemployment increased, the government increased taxation, including that on land. In response to the 1974 oil crisis and deteriorating balance of payments, a bauxite levy was introduced.
- \* In June, 1976, the government declared a state of emergency, and several opponents were placed in detention on unspecified charges of subversion. Elections were held in December, 1976, and the PNP won with a massive majority. Their victory was aided by heavy government spending in the previous years, labor legislation specifying a minimum wage and distribution of land through Project Land Lease.
- \* In January, 1977, the government announced that the country's foreign exchange position was in a precarious state. The government developed a strategy to "go it alone" without the IMF and to restructure the economy along socialist lines. They backed down from this position in March, 1977. A subsequent IMF program produced a 37.5% devaluation in June, 1977, followed by several mini-devaluations thus exacerbating internal inflation.

- \* In the ensuing period, the government instituted further socialist measures such as extending the role of the State Trading Corporation to be the monopoly importer of all food and other key commodities like lumber and drugs. Forty-five thousand acres of prime sugar lands were put into worker cooperatives, and large blocks of land were subdivided and distributed on a leasehold basis to small farmers.
  
- \* From 1978 onwards, support for the PNP declined steadily as the economic situation deteriorated further. With popular support at an ebb, severe budgetary problems and foreign exchange shortages, the government called an election for October, 1980, more than one year before it was required by law.

## CURRENT POLITICS AND ECONOMIC POLICIES

### 1. JLP Government: 1980 to Present

- \* The JLP swept to victory with the largest majority in Jamaican history, winning 51 out of 60 seats in Parliament. Edward Seaga became Prime Minister.
  
- \* The key points in the JLP's campaign were:
  - Encouraging a free market system to restore growth in the economy;
  - Reducing government controls;
  - Divesting selected government-owned enterprises;
  - Encouraging foreign investment to assist economic recovery;
  - Changing foreign policy to strengthen links with the U.S. and other democratic trading partners and to break the close links with Cuba;
  - Increasing government revenues, not by new taxation, but by more efficient tax collection;
  - Controlling expenditures by greater accountability within the government.
  
- \* The new government immediately implemented short-term foreign exchange financing from foreign banks to support the balance of payments. Edward Seaga is regarded by many financial and business institutions as a competent political leader and economist. This bolstered attitudes toward Jamaica.

- \* The JLP's victory was greeted with a wave of relief. A new sense of confidence and excitement about the future spread throughout the country. Expectations, particularly by the working class and unemployed, were high despite muted warnings that economic recovery might take several years.
- \* Edward Seaga was the first leader of a foreign country to meet with President Reagan. This underscored the increased interest of the U.S. in the Caribbean. Seaga emphasized the significance of the election as a watershed which demonstrated that the democratic Caribbean countries were rejecting socialist models. He called for a plan to counterbalance the influence of Cuba in the region.
- \* After the Seaga/Reagan meeting, the U.S.-Jamaican Business Committee was formed with David Rockefeller and Carlton Alexander, Jamaica's most prominent business leader, as counterpart Chairmen. The organization was designed to become an important tool for expediting foreign investment.
- \* To control unemployment and to break with a growing tradition of political victimization in the country's political system, the JLP announced there would be no major layoffs within the government even though it was estimated the bureaucracy was overstaffed.
- \* Public debate began about the role of the import substitution industries which had been built up over the past 20 years as they began to suffer severely from the new competition from imports. The long-term issue developing is how to identify and preserve those industries which have a comparative advantage in non-traditional exports.

- \* The government signed a US\$698 million package with the IMF as part of their recovery policy. Declines in export earnings from sugar, bananas and bauxite have forced the government to delay their promised easing of bureaucratic controls, particularly in the allocation of import licenses.
  
- \* The rate of implementation of the JLP's manifesto has been slower than expected. For eight years, the civil service bureaucracy has had much control over the activities of the private sector. Deeply entrenched bureaucratic attitudes towards private investment must change before the program gains momentum.
  
- \* The tremendous short-term pressure for jobs for the unemployed poor is beginning to conflict with the government's implementation of tight controls on recurrent expenditures. Opposition leftists are prematurely claiming that large inflows of foreign investment are not materializing. These two phenomena are shortening the new government's "honeymoon" period. The government has been holding to its long-term policy of increasing capital expenditure as a percentage of the budget despite the short-term temptation to make quick political points by inflationary spending.
  
- \* Skilled Jamaicans who had migrated during the years of decline are returning. The first to do so have been mainly entrepreneurs and professionals attracted by the developing opportunities. Any resentment by those Jamaicans who "stuck it out" through the 70's is likely to be temporary since the need for skills is great.

- \* A dramatic decrease in crime has occurred since the election. Criminal activity is highly localized around depressed urban areas in Kingston and rarely experienced by the middle class. The government has paid particular attention to strengthening the security forces. The tourist areas, which are all geographically isolated from Kingston, were always relatively crime free and still are.

## AN OVERVIEW OF THE ECONOMY

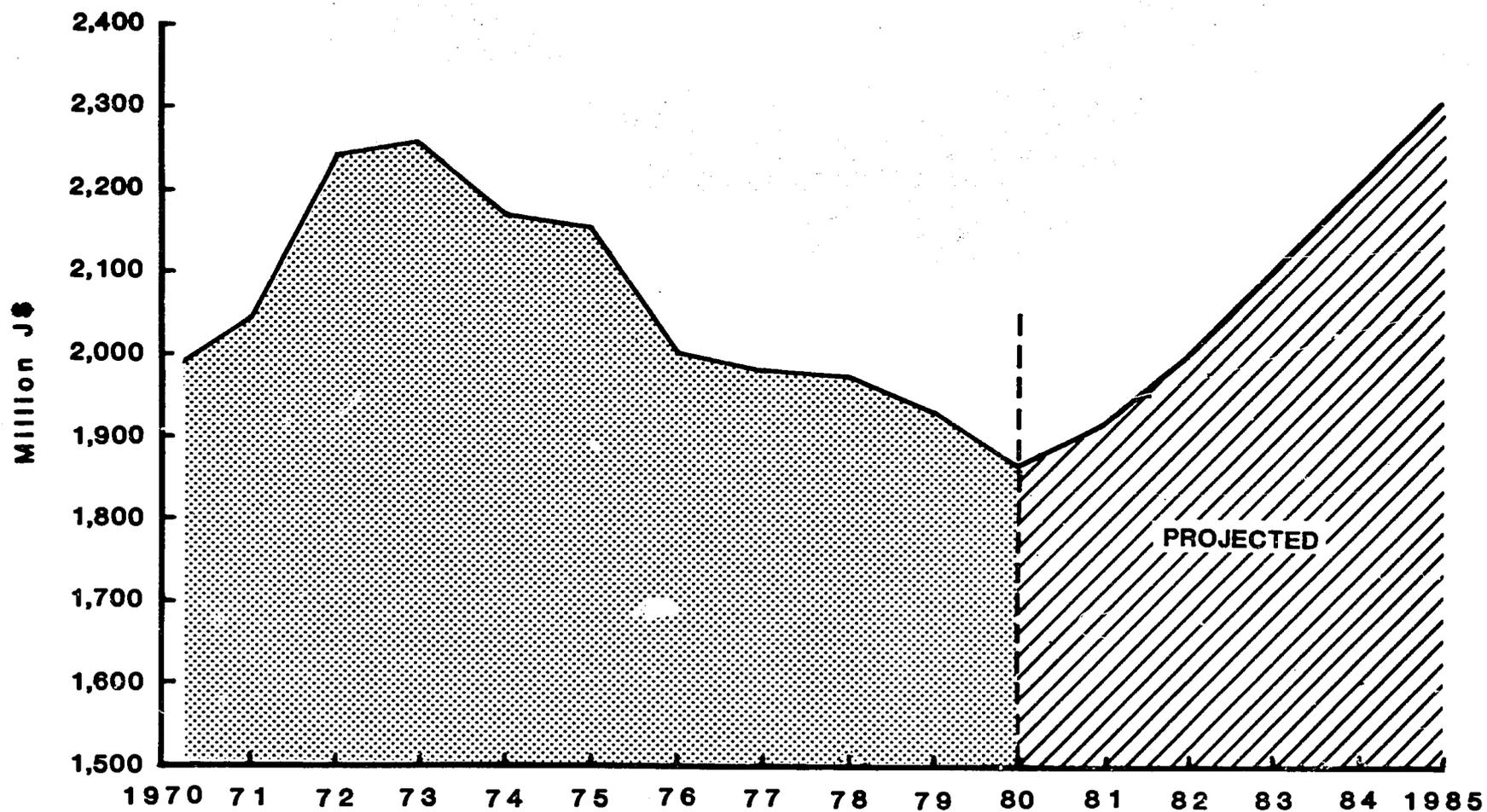
1. Throughout the 1950's and 1960's, the Jamaican economy grew at an impressive rate, averaging 6-7% real growth annually. The agricultural base of the economy diversified during this period with the development of the bauxite and alumina, manufacturing, construction and tourist industries.
  
2. The 1970's brought a dramatic shift from the earlier record of growth. Gross domestic product peaked at J\$2,265 million in 1973 and fell every year thereafter to an accumulated decline of over 18% by 1980. Per capita real GDP in this country of 2.2 million people fell from J\$1,276 in 1972 to J\$945 in 1980, contributing to labor unrest and creating further hardship for the urban and rural poor. Unemployment increased from 20% in 1975 to over 30% in 1980. The rate of inflation peaked at 49% in 1978 following devaluation of the Jamaican dollar. Inflation was as high as 28% prior to the recent election. Factors contributing to this prolonged decline include the following:
  - \* The Jamaican economy is open, with the total value of imports and exports equal to 91% of GDP in 1979. Changes in world prices for basic commodities or declines in exports can cause sharp dislocations in the economy. This has occurred over the past decade with increases in the price of oil, which provides over 99% of the island's commercial energy, and negative trends in major exports, including bauxite, alumina, sugar and bananas.
  
  - \* Throughout the 1960's, Jamaica's negative current account balances were financed largely by inflows of private capital. This situation reversed itself in the mid 1970's when foreign investment declined and private

# JAMAICA'S GROSS DOMESTIC PRODUCT

## ACTUAL AND PROJECTED

1970 - 1985

( 1974 PRICES )

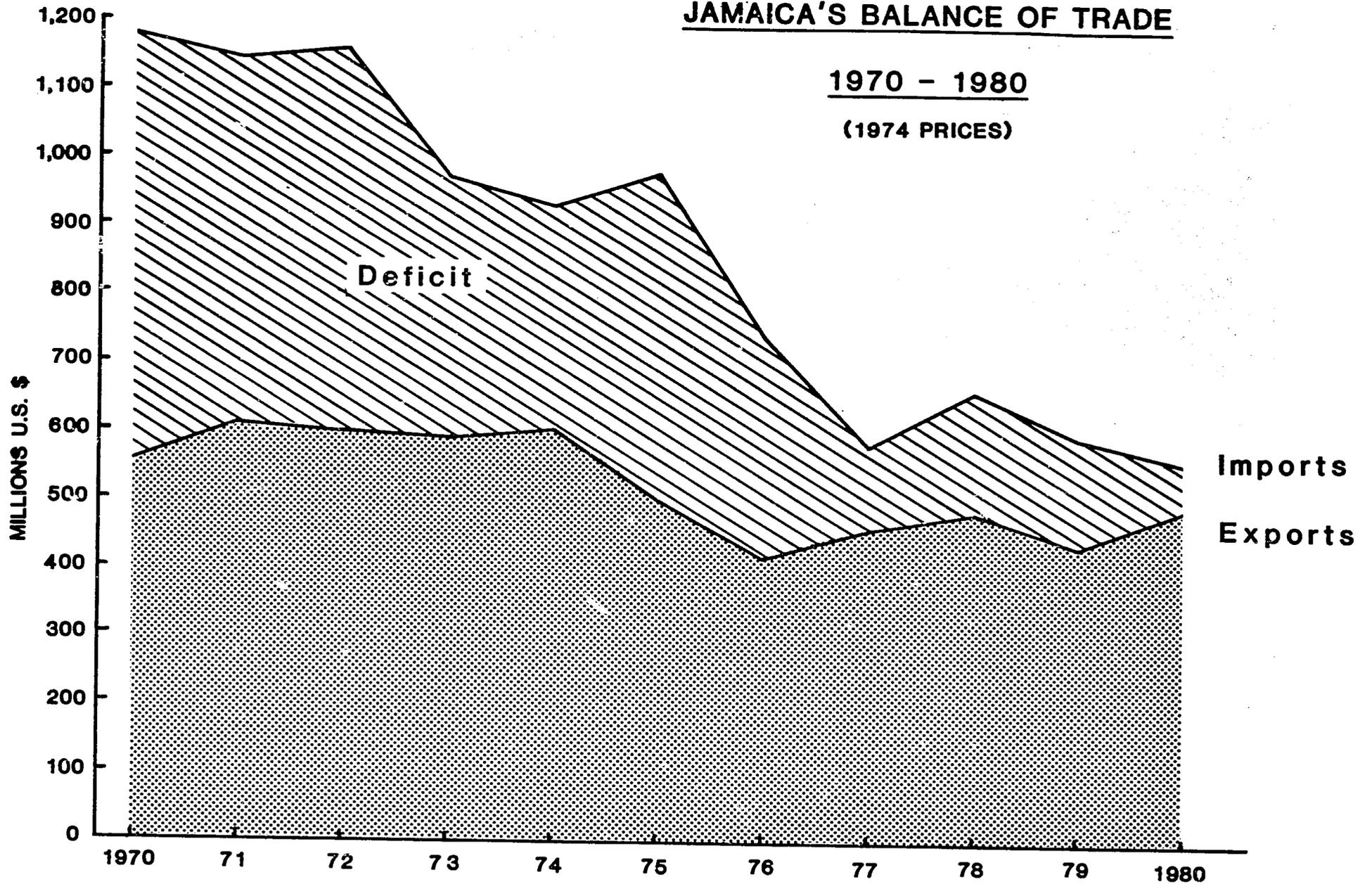


Source: World Bank

# JAMAICA'S BALANCE OF TRADE

1970 - 1980

(1974 PRICES)



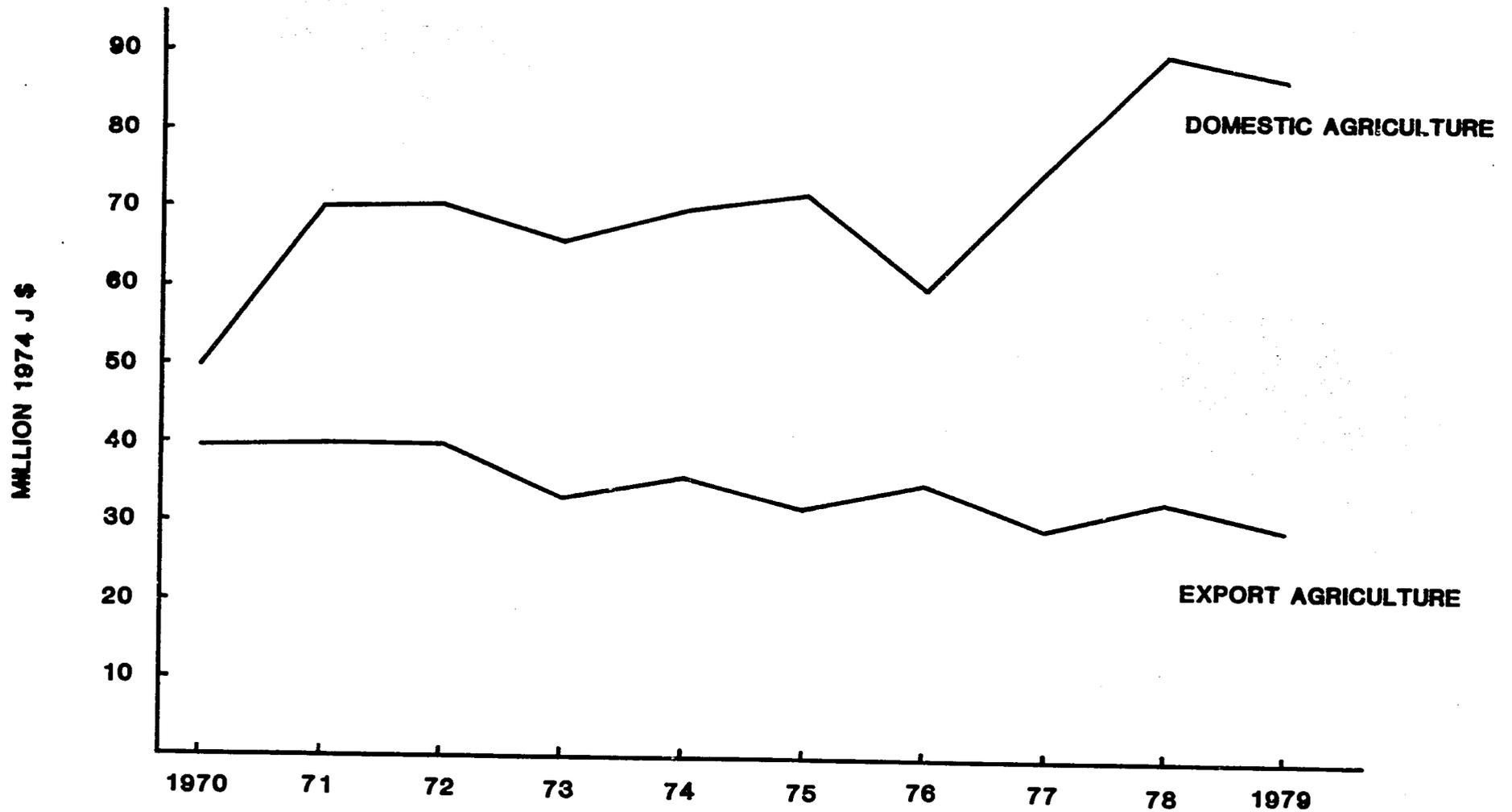
Source: World Bank

capital began to flow out of the country in reaction to political uncertainty and a poor climate for investment. Public borrowing, both domestic and external, replaced private capital during this period, contributing to the growing debt burden and increasing government spending. From 1972 to 1980, government expenditure increased from 20% to 50% of GDP.

- \* Two decades of import substitution policies helped to create an unusually diverse manufacturing sector for a country the size of Jamaica. The small scale of industry and the continuation of protectionist policies have discouraged the export of manufactured goods which are uncompetitive in markets outside of the Caribbean. At the same time, growth in the domestic and Caricom markets is limited by their small size. The manufacturing sector has also been hurt by the emigration of skilled Jamaican managers and the lack of raw material supplies during periods of strict import controls and shortage of foreign exchange.
  
- \* The bauxite and alumina industry entered a period of decline after 1974 with real value added falling from a high of J\$187 million in 1974 to J\$151 million in 1980, corresponding with a decline in Jamaica's share of the world market for these commodities. A bauxite levy imposed by the government in 1974 along with a depressed market in the industrialized countries contributed to this decline.
  
- \* Agriculture was one of the few sectors that grew during the 1970's. Real value added increased from J\$150 million or 7.5% of GDP in 1970 to J\$187 million or 9.5% of GDP in 1978. A comparison of export agriculture and domestic agriculture shows a marked contrast in trends, with the former declining 25% during the 10-year period, while production for the domestic market grew over 74%.

# GDP IN AGRICULTURE

( MILLION OF 1974 J \$ )

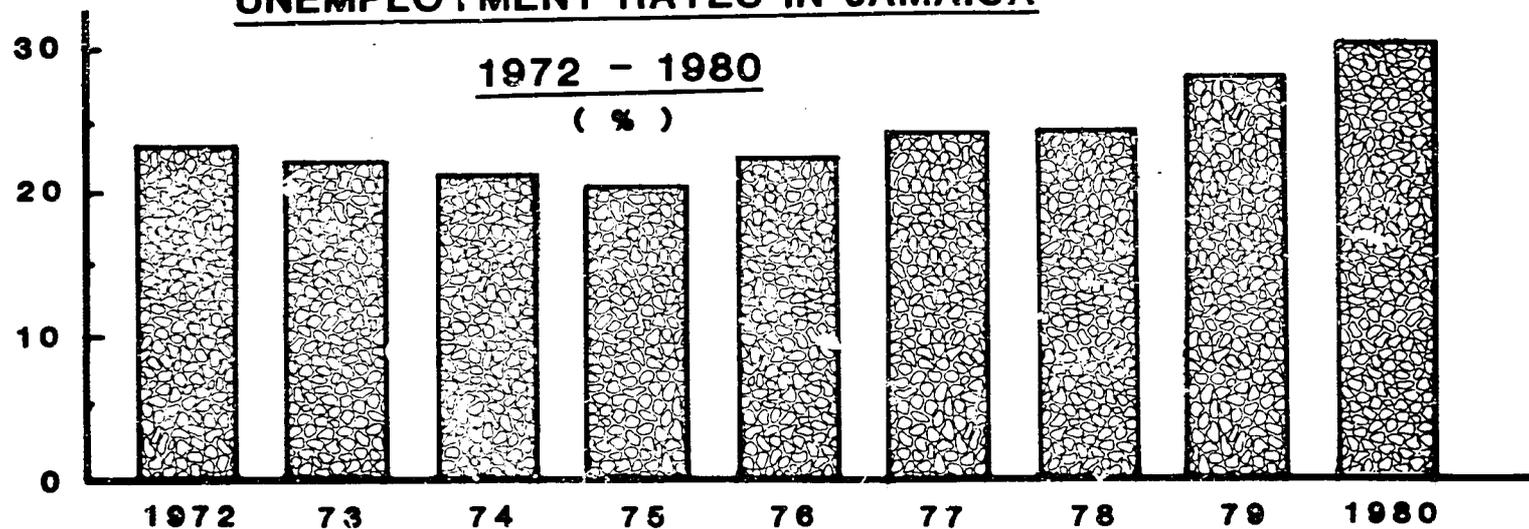


Source: World Bank

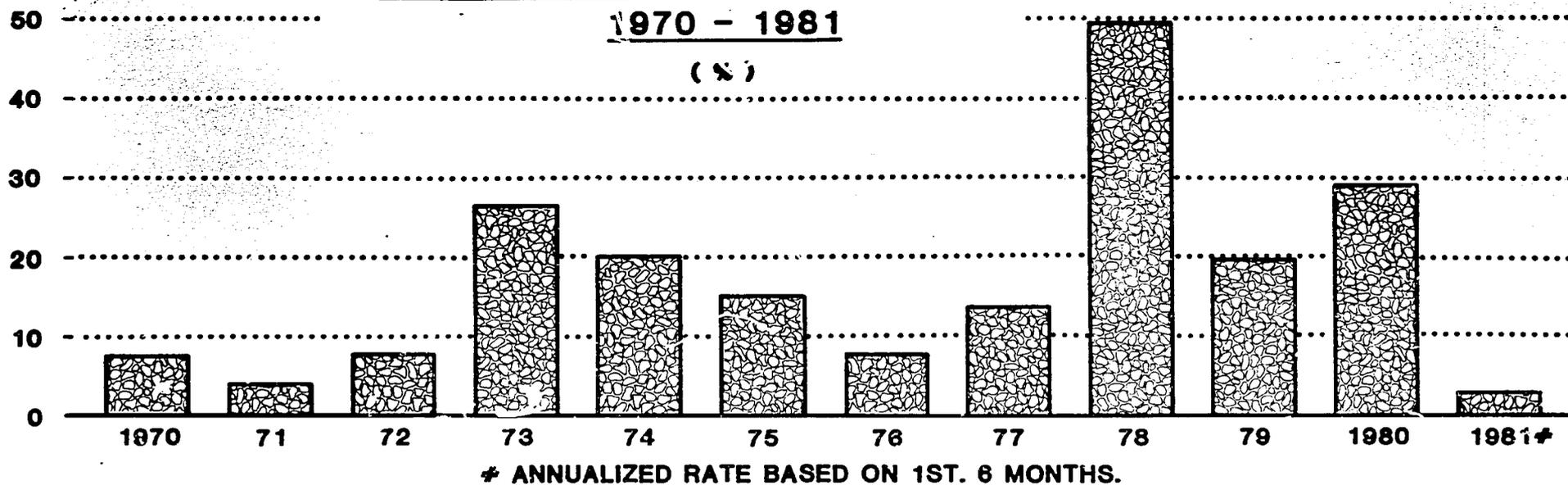
- \* Export agriculture was severely hampered by shortages of inputs and materials, labor problems, poor weather conditions and inefficiencies in the commodity boards which regulate the marketing of traditional export crops. Increasing domestic demand and favorable prices to farmers in the domestic market also diverted some traditional export crops to the local market. Domestic agriculture was also stimulated by attractive support prices, credit to farmers and restrictions on food imports.
  
  - \* The Jamaican economy lacks linkages between sectors which could stimulate economic growth. For example, the tourist industry is highly dependent on imported foods which could be produced locally. Similarly, many of the raw materials used in manufacturing must be imported, and the bauxite industry is not linked to other sectors of the economy as far as providing inputs.
3. By 1977, Jamaica's net foreign exchange reserves and other assets had an accumulated negative balance of J\$240 million. The government's response to this crisis included devaluation of the Jamaican dollar, import restrictions and wage and price controls, all of which formed the basis for a US\$240 million IMF Extended Fund Facility agreement. Economic performance continued to decline throughout 1980, when negotiations were broken off with the IMF, precipitating further crises and shortages of essential goods before the elections.
  
  4. Since the election of the JLP government in October, 1980, and the negotiation of the new US\$698 million IMF facility, the economic outlook has improved. The IMF agreement sets targets for eliminating the deficit on Jamaica's current account and arrearages on international debt service over the next two years. Ceilings have been placed on both domestic bank credit and government spending.

5. Real GDP is projected to increase approximately 1% in 1981, reversing the negative trend of the past seven years. Leading sectors are expected to be construction (6%), services (2.9%), agriculture (2-3%), and distributive trades (2%). Public consumption and investment is expected to decline 2% as the government attempts to control recurrent expenditures and delays the implementation of certain public investment projects.
6. The annual rate of inflation dropped to 2.8% during the first six months of 1981 due to a flood of cheap imports and greater availability of all types of goods. The commercial sector of the economy, as of the fourth quarter of 1981, holds large inventories due to imports and sluggish domestic demand. Unemployment declined slightly to 26.2% as of April, 1981.
7. While the recovery of the economy is expected to be slow, there has been a notable improvement in the investment climate reflected by increased inquiries and proposals from both foreign and domestic investors.

## UNEMPLOYMENT RATES IN JAMAICA



## JAMAICA'S RATE OF INFLATION



Source: World Bank

## INFRASTRUCTURE

JAMAICA'S INFRASTRUCTURE IS GOOD. RECENT PROBLEMS EXPERIENCED IN THE 1970'S, SUCH AS LONG INTERRUPTIONS IN THE SUPPLY OF ELECTRICITY AND DIFFICULTIES IN OBTAINING NEW TELEPHONE EQUIPMENT WERE CAUSED LARGELY BY SHORTAGES OF FOREIGN EXCHANGE. THE CONDITION OF JAMAICA'S INFRASTRUCTURE IS IMPROVING AS FOREIGN EXCHANGE CONSTRAINTS EASE. AN EXCELLENT HIGHWAY SYSTEM LINKS ALL MAJOR TOWNS. A NETWORK OF SECONDARY ROADS GIVES ACCESS TO MOST RURAL AREAS. THE KINGSTON TRANSSHIPMENT PORT HAS GROWN TO BECOME THE SECOND LARGEST CONTAINER TERMINAL IN THE CARIBBEAN. THERE IS A GOOD RANGE OF AIR PASSENGER SERVICES BUT LIMITED AIR CARGO FACILITIES FOR EXPORTS TO SOME COUNTRIES.

### 1. Roads

- \* Any point in Jamaica can be reached by road within four hours driving from Kingston or Montego Bay. The primary highway system of 3,000 miles has been recently upgraded by building bypass roads circumventing the major rural towns. Maintenance standards are good. The secondary system of 6,000 miles, while extensive, has been plagued by lack of repairs in recent years. Traffic congestion in Kingston and Montego Bay is minor.
  
- \* Most business appointments in Kingston can be reached within 15 minutes. With the improved highway system it is increasingly common for agribusiness managers to live in Kingston or Montego Bay and commute into the country.

## 2. Ports

- \* The island's major ports are in Kingston and Montego Bay. Kingston's Port Bustamante, situated in the world's seventh largest harbor, is unrivaled in the Caribbean. It contains a container transshipment terminal having two gantry cranes (with two more on order), nine breakbulk wharves and two new cruise ship piers. Waiting time for unloading is short. Kingston Harbor also has several smaller terminals for handling grains, oil, cement, lumber and gypsum.

## 3. Airports

- \* About ten airlines currently use the country's two international airports at Kingston and Montego Bay. There are daily flights to Miami, New York, Philadelphia, Toronto and Chicago and less frequent direct connections to Europe, the rest of the Caribbean and Latin America. The 80-minute flight to Miami has made business daytrips to the U.S. possible. There are seven official airstrips within the island and many more unofficial landing areas. Trans Jamaican Airlines operates a domestic service between six towns. Charter planes allow access to most points within 45 minutes.

## 4. Railroads

- \* There are 242 miles of government-owned railroads, carrying both freight and passenger services. Most of the tonnage is derived from bauxite and alumina. Much of the railway system was originally built to haul agricultural produce, especially bananas. Recently this business has been lost to trucking. The railway system offers a possible alternative for shipping agricultural produce in some commodity systems but significant expenditures would have to be made.

5. Telecommunications

- \* Direct dialing to North America, as well as within Jamaica, is possible with the telephone system. There is a long waiting list for residential phone lines in some areas. New businesses are given priority and can expect to have a line installation with a switchboard system within three to four months of application. International cablegram and telex services are available through Jamintel, a government-owned company.

6. Electricity

- \* The electrical grid has been rapidly extended through a rural electrification program. The regular supply is 110 volt, 50 cycle. Power supplies up to 440 volts in three phases are available. Power cuts are fairly common--although sometimes announced in advance--lasting usually for a few hours. Larger industrial users frequently have emergency standby generators. Unpredictable power is frequently lamented by businessmen, especially those in processing.

7. Hotels and Restaurants

- \* Jamaica has a wide selection of hotel accommodations, many catering to the tourist industry. For business purposes, there are several medium and large hotels located near major commercial areas. Intercontinental advance reservations can be made reliably. Kingston has a wide selection of interesting ethnic and gourmet restaurants.

8. Housing

- \* Virtually no middle and upper income housing was built in the late 1970's, and demand has now exceeded supply. Although rents have doubled in the last year, an executive three-bedroom house still rents for around US\$1,200 per month. Finding housing for new managers, especially in Kingston, is a problem but should become easier by 1982 as housing construction revives.

## CLIMATE

JAMAICA'S TROPICAL CLIMATE IS ONE OF THE COUNTRY'S GREATEST ASSETS BOTH AS A BASIS FOR AGRICULTURAL DEVELOPMENT AND IN PRODUCING A GOOD LIVING ENVIRONMENT. TEMPERATURES ARE WARM THROUGHOUT THE YEAR. AVERAGE RAINFALL IS HIGH BUT SOMETIMES IRREGULAR. A WIDE RANGE OF MICRO-CLIMATES EXIST WHICH ACCOMMODATE MANY DIFFERENT CROPS.

- \* Jamaica lies between the sub-tropical high pressure and equatorial low pressure belts of the Atlantic. Winds blow regularly throughout the year.
- \* Temperatures in the lower elevations vary little. Kingston, for example, has an average high temperature of 90.7°F in July compared to an average high of 86.7°F in January. The corresponding average low temperatures are 75.1°F and 69.1°F. The summits of the Blue Mountains occasionally have light frosts. Daily temperature variation in the mountains is about 15 degrees.
- \* Jamaica experiences irregular rainfall. Droughts have occurred frequently throughout the country's recorded history. Recent severe droughts occurred in 1967-68 throughout the country and in 1975-77 in the St. Ann area.
- \* The relative humidity in Jamaica is typical of sub-tropical islands, ranging from 63% in February to 75% in October in Kingston.

- \* Hurricanes present a perennial threat to Jamaica. An analysis of Caribbean hurricanes and tropical storms between 1886 and the present shows that 20 have hit Jamaica. Ninety-eight have had centers within 150 miles of the island. About one-third of these storms caused flooding and damage. The hurricane season is from July to November. Most hurricanes occur in August, September and October. The destructive forces of hurricanes are extremely high winds (75 to 200 miles per hour), intense rains and high waves. Hurricanes should be factored into any agribusiness investment decision. Hurricane insurance is available although premiums can be expensive.
  
- \* Hurricane Allen hit the north and east coasts of Jamaica in 1980 and caused considerable damage to the country's agriculture.

## LAND

BECAUSE MANY AGRIBUSINESS VENTURES IN JAMAICA WILL INVOLVE PRODUCTION, THE U.S. INVESTOR MUST BE FAMILIAR WITH THE COUNTRY'S TOPOGRAPHY, LAND USE AND LAND POLICY. THIS SECTION PROVIDES THIS INFORMATION AND IS DIVIDED INTO THREE SECTIONS:

1. TOPOGRAPHY
2. LAND USE
3. LAND AND THE INVESTOR

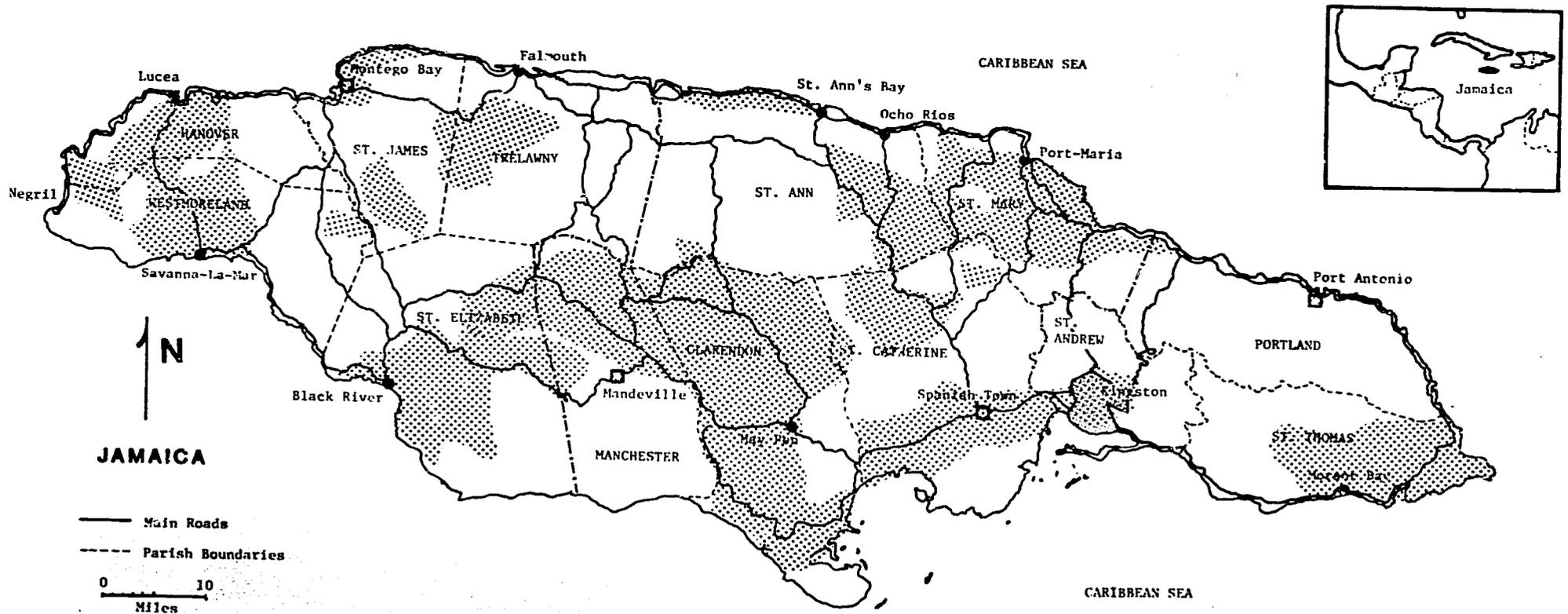
## TOPOGRAPHY

JAMAICA'S TOPOGRAPHY IS LARGELY MOUNTAINOUS. ALMOST HALF THE ISLAND IS 1,000 FEET ABOVE SEA LEVEL. MUCH GOOD LAND FOR FARMING IS AVAILABLE NEAR THE COASTS. THE THREE MAIN TOPOGRAPHICAL CATEGORIES ARE LISTED BELOW:

### 1. The Coastal Plains and Interior Valleys

- \* These are the best lands for agriculture. The coastal plains are broader in the south and are narrower on the north side of the island. The largest lowlands stretch from the plains of Kingston westward to include the plain of St. Catherine. Much of these plains are comprised of alluvial deposits which are excellent for farming. Much of this good land is used for sugar cane. Some of the coastal plains are covered by large swamps, particularly in the western and southwestern parts of the island. Rich flat-bottomed valleys suited to agriculture lie between many hills and mountain ranges.

# JAMAICA'S BEST AGRICULTURAL LAND



2. The Interior Mountain Ranges

\* The interior mountain ranges form the spine of Jamaica. The highest and most rugged terrain is in the east where the Blue Mountains rise to over 7,000 feet. The central and western sections of the mountains are lower, seldomly exceeding 3,000 feet.

3. The Limestone Plateau and Hills

\* This topographical area covers much of the central part of Jamaica. Here the mountains are lower but still rugged. The limestone plateau and hills flank the higher interior ranges on all sides and cover more than half the island. The unusual Cockpit country, where innumerable conical hills and enclosed circular depressions dominate the landscape, is part of this topographical zone.

LAND USE

DATA ON LAND OWNERSHIP, USE AND AVAILABILITY ARE CONTRADICTORY AND INACCURATE. MUCH LAND IS UNDERUTILIZED IN JAMAICA.

1. There has been a sharp drop in farm acreage over the past two decades.

<u>Year</u>	<u>Acres</u>	<u>% of Land in Farms</u>
1959	1,822,800	67
1961	1,711,430	63
1968	1,489,200	55
1980	1,180,203*	43

\*Does not include farms of less than one-half acre. Farms under one-half acre probably do not exceed 15,000 acres.

2. The composition of farm land utilization has also shifted over time. Less land is now dedicated to one crop (pure stand):

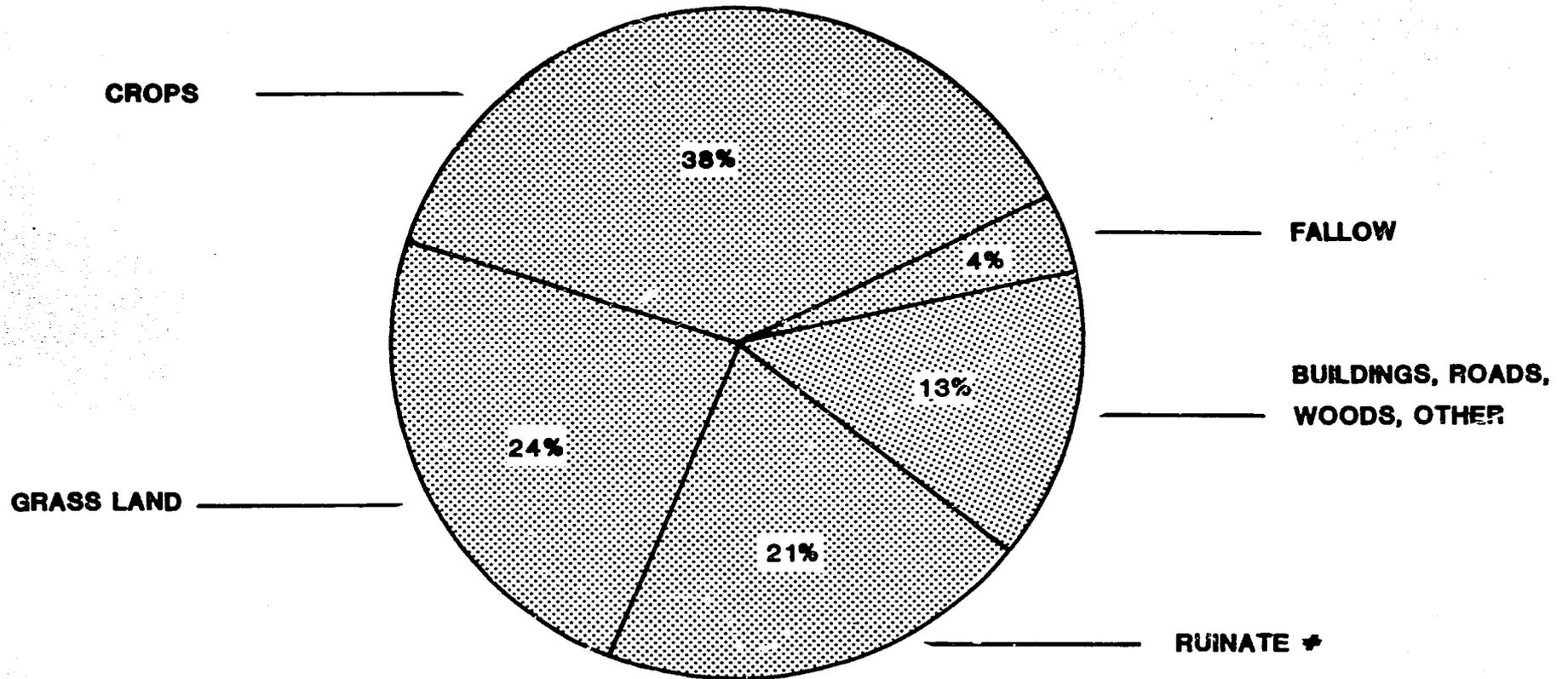
Land Utilization	Second Quarter 1980	Second Quarter 1979	1968 Census
	-----acres-----		
Pure Stand	307,767	367,977	357,412
Mixed Stand	142,723	99,659	200,478
Grassland	278,371	378,640	321,457
Fallow	46,169	31,282	34,377
Ruininate	246,189	228,046	221,613
Other	159,116	144,880	353,851
<b>TOTAL</b>	<b>1,180,335</b>	<b>1,250,484</b>	<b>1,489,188</b>

Source: Ministry of Agriculture.

- \* Production has been dropping for a variety of reasons:
- Vital inputs such as fertilizer, pesticides, herbicides and machinery have been in short supply.
  - The average age of the farmer has increased to over 50 years.
  - Some land owners have not developed their holdings for agriculture. Others have held onto their real estate for speculation.
3. The government is encouraging increased productivity and trying to reverse the trend in land use. The Land Development and Utilization Commission has responsibility for monitoring the productivity of all farms above 50 acres.

# LAND USE IN JAMAICA

1980



† Formerly managed land which has reverted to natural vegetation.

- \* The Commission inspects farms and serves idle notices when appropriate. If low production persists, the Ministry of Agriculture is entitled to lease or buy the land.
  - \* The goal of the Commission is to make the land productive, not to acquire land.
  - \* Since 1967, when the program became operational, 121 farms have been judged idle. An additional 510 farms and 172,554 acres have been redeveloped by the owners as a result of encouragement by the commission.
4. The government owns considerable agricultural land although exact numbers are unknown. Under the Manley administration this land could not be sold and was leased to farmers in small (one to five acre) lots under the Land Lease program. The present administration is revising this program but the final direction is not clear at this time.
- \* The Land Lease program has three components.
    - Short-term (five-year) leases to farmers. These farms are usually one to three acres.
    - Forty-nine year leases designed to augment existing farmers' land, with one to three acres of additional land.

- A settlement program with forty-nine year leases for farmers of about five acres.
  
- In the early 1970's these programs expanded rapidly to include 30-40,000 farmers or about 130,000 acres, of which 60-70,000 are arable. Much of the distributed land has been abandoned.
  
- The Seaga government is considering leasing some of these abandoned lands to private investors.

## LAND AND THE INVESTOR

DESPITE THE UNCERTAINTY WHICH SURROUNDS LAND OWNERSHIP AND LAND USE POLICY, LAND IS READILY AVAILABLE FOR AGRICULTURAL PROJECTS IN JAMAICA. INVESTORS SHOULD PROCEED CAUTIOUSLY WHEN INVESTIGATING LAND BECAUSE QUALITY, LOCATION AND COST WILL HAVE A MAJOR IMPACT ON THE SUCCESS OF THEIR VENTURE.

### 1. Availability

A quick drive through the countryside or flight over the country will confirm statistics that show land is available in Jamaica. Because of the inactivity of the agricultural sector, much land is available for purchase or rent.

Investors can find out about land in one of several ways:

- Consult the Commissioner of Valuation who has much of the private and public land in Jamaica registered in a computer.
- Describe your needs to a real estate broker who can help you find land. Brokers are listed in the Yellow Pages and advertise frequently in the newspapers.
- Work through investment assistance organizations like the JNIP and ADC. They are willing to help investors find land.
- Advertise your needs in the newspapers.

Consult the Land Utilization and Development Commission for information on available lands.

There is currently no good national soil survey to help investors narrow their search. A study has been commissioned by the JNIP to study topography and soils but will not be ready until late 1982. General soil classification maps are available through the Ministry of Agriculture.

## 2. Government Land Policy

The government has not made any definite policies about use of the land that it controls.

There are several areas of government policy that will affect land use and the investor. The most important ones are discussed below.

Sugar Lands. Jamaica's best agricultural land is currently in sugar production. As the country's largest employment industry, the government has expressed its policy to keep land in sugar. In reality, much land is coming out of sugar, especially land far from factories and land marginally suited for cane production. Private investors can negotiate agreements with individual sugar companies for the use of land. Many businessmen and bureaucrats are encouraging the government to change its sugar land use policy because higher profits and employment per acre are available in other crops.

Government Land Lease. The government controls much land in Jamaica and has expressed its intention to make this land available to investors. Exactly how much land the government and its agencies control is not known, but most observers believe it could be 40% of all lands. Forty-nine year leases at about J\$35 an acre per year are available. The government must still resolve issues of how to prioritize allocation of land and whether or not certain types of land, e.g. forest land and new developments such as the Black River Upper Morass Development Corporation (BRUMDEC), will be leased for private development.

3. The Market For Land

- \* Foreigners are allowed to own land in Jamaica.
- \* The current land market in Jamaica is speculative, unsettled and volatile. Land prices have increased quickly over the past year as interest in real estate and agriculture have strengthened.
- \* Land prices in Jamaica vary widely. Prices are determined by location, soil quality, availability of water, slope, access to roads and electricity, potential for real estate development and cash needs of the seller.
- \* At the moment, land is generally overvalued relative to the economic returns that can be generated from the land. With these land prices, it is difficult to make money in land-extensive agribusiness ventures such as livestock and grains. Average land prices are listed on the next page:

AVERAGE LAND PRICES

	Price (J\$/acre)
Pasture Land	500-800
Farm Land	700-1,200
Irrigated Farm Land	1,000-2,000

- \* Prices asked from foreign buyers can be as much as triple the local going rate. Several potential investors were given quotes as high as \$J5,000 per acre for average quality land.
- \* U.S. investors should use agents or local partners to purchase land. Many current land owners are losing money on their land and are actually anxious to sell it. The prospect for making a significant profit on sales to foreigners frequently causes sellers to distort their prices.
- \* One alternative to buying land is to negotiate long-term land leases, perhaps on a profit-sharing basis. This minimizes risk to the investor and will significantly reduce his cost since lease payments are usually far below equivalent carrying costs for owned land.
- \* Many potential joint venture partners in Jamaica are willing to provide land as part of their contribution to the venture.
- \* Clearing land titles usually takes about two months. A 10% deposit on the selling price is normally required of the seller.

## WATER

THIS SECTION SUMMARIZES THE AVAILABILITY OF WATER RESOURCES. WATER IS AVAILABLE FOR MOST AGRICULTURAL PROJECTS, ALTHOUGH SERIOUS SHORTAGES EXIST.

### 1. Groundwater

- \* Groundwater is plentiful in Jamaica's large areas of permeable limestone, the alluvial plains in the north and south central parts of the island and the eastern coastal regions. Well capacity is low in some areas.
- \* Water depth becomes a major factor in the development of water systems, especially in the limestone uplands where the water table is as far as 2,000 feet below the ground. The groundwater level at Mandeville is 1,000 feet below the surface. Groundwater is more accessible in the limestone aquifers at lower elevations.
- \* Alluvial aquifers are also an important water source. They are less productive but more predictable than some other groundwater sources. The largest developed alluvial aquifer is in the Clarendon Plains. Sea water intrusion in coastal areas is a problem when groundwater is pumped out too fast. The safe yield limit has probably been reached and perhaps exceeded in the Clarendon Plains.
- \* Extensive areas in the central and western parts of the island are dry because of rapid drainage through permeable limestone. Periodic droughts affect the entire country.

## 2. Irrigation

Good irrigation is available in Jamaica although much of it supplies sugar lands.

Some major irrigation schemes are listed below:

1. The Rio Cobre Irrigation Scheme was established over 100 years ago. It embraces 56 miles of canals and irrigates about 30,000 acres. It is critical to the economy of the region.
2. The Mid Clarendon Irrigation Scheme was started in 1950 to provide irrigation water for approximately 25,000 acres of arid lands in the northwest section of the Vere plains.
3. The St. Dorothy Irrigation System serves about 20,000 acres in the St. Dorothy Plains of St. Catherine. It consists of four bore-hole wells and a 17-mile canal system.
4. The Pedro Irrigation Project was designed to irrigate 2,000 acres of land in the Pedro Plains of St. Elizabeth. This system may be expanded.

Water from government irrigation systems is usually subsidized. In one case farmers are charged J\$8 per cubic yard although production costs are J\$70.

3. Rainwater

- \* On average, most of Jamaica is supplied with adequate rainwater although the amount varies. Average precipitation is about 77 inches per year. The driest area at the parish of St. Catherine averaged 57 inches of rainfall per year between 1968 and 1977. In comparison, Portland averages 153 inches.
  
- \* Local and nationwide droughts are common. Parts of the south coast are affected by "rain shadows", notably parts of St. Elizabeth and parts of St. Thomas.