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# Countries of the Caribbean Community

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A Regional Profile

*update  
March 1980*

June 1979

Office of Foreign Disaster Assistance  
Agency for International Development  
Washington, D.C. 20523

# The Caribbean



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COUNTRIES OF THE CARIBBEAN COMMUNITY

A Regional Profile

prepared for

The Office of U. S. Foreign Disaster Assistance  
Bureau for Private and Development Cooperation  
Agency for International Development  
Department of State  
Washington, D. C. 20523

by

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Arlington, Virginia  
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This profile of the CARICOM member countries continues the series designed to provide baseline country or regional data in support of the planning, analysis and relief operations of the Office of U.S. Foreign Disaster Assistance (OFDA). Content, scope and sources of the series have evolved over a three year period and will be revised as additional data becomes available.

Unfortunately, it is not always possible to issue updates as soon as changes occur. The bibliography following the text should indicate current sources. Though most of the information in this profile dates from March 1980, political changes, host government and U.S. Mission staff were updated in May 1981.

We invite your comments and corrections. Address these and other queries to OFDA, AID, as given above.

March 1980

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INDIAN OCEAN

Island Countries of the  
Indian Ocean

TO:

COUNTRY PROFILE USER Dear \_\_\_\_\_

Please use this form to note any changes, additions, corrections or suggestions you think would update and improve this country profile. Since our aim is to make these profiles as relevant as possible, your critique is essential and very much wanted. Return comments to Lucy Drobot, OFDA Country Profiles, Room 1262A.

NAME/OFFICE: \_\_\_\_\_ PHONE: \_\_\_\_\_ Date: \_\_\_\_\_

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This profile focuses on twelve English-speaking countries in the Caribbean: the seven independent countries of Jamaica, Trinidad and Tobago, Guyana, Barbados, Grenada, Dominica, and St. Lucia; the three Associated States of St. Vincent, Antigua, and St. Kitts-Nevis-Anguilla\*; and the two crown colonies of Belize and Montserrat. All share a common British Colonial heritage of language, culture, and democratic traditions. With the exception of Belize in eastern Central America and Guyana in north-eastern South America, all are islands. Jamaica, in the Greater Antilles, is the largest island while Trinidad, the second largest, is structurally part of the South American Continent. Those islands in the outer chain of the Lesser Antilles (from Anguilla to Barbados) are low-lying, relatively dry, and of coral formation; those in the inner chain are hilly, volcanic, and receive heavy rainfall. The climate of the region is tropical. All countries experience hurricanes except Guyana which is below the southern limit of Caribbean hurricane tracks. The instability of the earth's crust in much of this region is evident in frequent earthquakes, the epicenters of which are located throughout the entire Antillean arc. Volcanic activity is limited to the inner arc of islands.

In general the population is racially heterogeneous and descended from an early plantation society. Blacks predominate in the Lesser Antilles and Jamaica; Asian Indians make up a large percentage of the populations of Guyana and Trinidad; whites, Amerindians, and others are small minorities. Population densities vary, but the ratio of arable land to labor is low in all countries except Belize and Guyana. Crude birth and death rates have generally been declining; emigration which halved natural growth rate of the region in the 1960's resulted in a population biased toward the young and relatively old. Accelerating rural-urban migration, especially of the young, contributes to high urban unemployment and accompanying social problems. Societies tend to be stratified; family structure is often matrifocal with women as wage earners and heads of families -- a situation though to adversely affect health and nutritional status of the population. The delivery of health services is often inadequate and is hampered by a lack of trained personnel.

The economies of the region (marginally viable in most countries) are marked by small domestic markets, economic fragmentation, vulnerability to external economic events due to heavy dependence on a few export products and a wide variety of imports, and uneven distribution of resources resulting in a dichotomy of more/less developed countries. Industry, relatively undeveloped, is concentrated in those countries having mineral resources (Jamaica, Guyana, Trinidad and Tobago with bauxite, alumina, petroleum). Tourism is a valuable foreign exchange earner in many of the islands. Agriculture, the traditional mainstay of the Caribbean economies,

is still the most important directly productive sector with sugar, bananas, cocoa, citrus, fruit, and spices the principal crops. But agriculture has not realized its potential, as output and farm employment have been declining, in part because of land tenure arrangements, and disincentive wage differentials in urban and rural areas. A need exists in many of the countries for further development of infrastructure and transportation systems to facilitate economic development.

Cooperation appears to offer the best hope for strengthening the economies of the countries and all are committed to the regional integration movement embodied in CARICOM (created 1973). Although the movement has been slowed by economic difficulties experienced by many of the countries in the 1970's, modest progress has been made as a consequence of trade and monetary arrangements which are central to integration efforts.

\* Anguilla, formerly a part of the state of St. Kitts-Nevis-Anguilla, is now under direct British administration and has a separate constitution.

1. General Information1.1 Geographic Codes

AID	541
FIPS	AC
State region	ARA

1.2 Country Names

Official	State of Antigua
Short	Antigua

1.3 Official Holidays

New Year's Day.....January 1  
 Good Friday\*  
 Easter Monday\*  
 Whit Monday\*  
 Labor Day.....first Monday in May  
 Queen's Birthday.....June  
 August Monday and Tuesday  
 (Summer Carnival)  
 State Day  
 Christmas Day.....December 25  
 Boxing Day

\* moveable holidays

Early closing day - Thursday.

1.4 Currency

East Caribbean (EC\$) = 100 cents  
 Notes: 1, 5, 20, 100 dollars  
 Coins: 5, 10, 25, 50 cents

EC \$2.70 = US \$1

### 1.5 Time Zones

EST + 1; GMT - 4

### 1.6 Treaties and Agreements

Member of CARICOM, ISO

### 1.7 Travel and Visa Information

Passport and visa not required for stay up to 6 months.

Yellow fever immunization certificate required of travelers one year of age and over arriving from infected areas. Smallpox vaccination certificate required of: travelers one year of age and over arriving from infected areas; travelers arriving from a country any part of which is infected; travelers who within the preceding 14 days have been in Somalia.

### 1.8 Ethnic and Sociocultural Groups

Nearly all Antiguan are of Black African descent.

### 1.9 Languages

English is the official and commercial language; an English patois is widely spoken and understood.

### 1.10 Religions

The Anglican Church, with about 60,000 members, is largest religious body and Church of State, although there is no legal connection. Several other protestant denominations and the Roman Catholic Church are also present.

### 1.11 Education and Literacy

Literacy level is high (about 80%). However, there is a shortage of skilled technicians and professional workers.

## 2. Government

### 2.1 National Government

Antigua (comprising Antigua, Barbuda and Redonda) became a member of the West Indies Associated States in February 1967. At that time a constitution regulating Antigua's self-government took effect.

The exercise of government is provided for through a Governor, representing the Queen, and a Parliament consisting of an appointed Senate of 10 members and a House of Representatives of 17 members elected in single member constituencies by adult suffrage of 18 years and over. General elections are held every 5 years.

Executive power is vested in a Cabinet headed by a Premier. The legal system is administered by the West Indies Associated States Supreme Court, courts of summary jurisdiction, and magistrates' courts.

### 2.2 Regional Organization

The Island of Antigua is divided into 6 parishes: St. John, St. George, St. Mary, St. Peter, St. Phillip and St. Paul. The islands of Barbuda and Redonda are dependencies.

Local government is administered by 29 community councils in Antigua and one in Barbuda; each has nine members.

### 2.3 1980 Status

Prime Minister Vere Bird and his Labor Party were returned to office in April elections. West Indies Associated States will be replaced by the Organization of Eastern Caribbean States in July 1981.

3. Disaster Preparedness3.1 Host Disaster Plan

No information available.

3.2 US Plan

No Mission plan.

3.3 Food Supplies

The following foods are classed as acceptable for use in disaster situations:

<u>Popular Staples</u>	<u>Accompaniments</u>	<u>Acceptable Alternatives</u>	<u>Accompaniments</u>
sweet potatoes yams	pulses peanuts mung beans vegetables milk	wheat flour	milk powder

3.4 Disaster Types

Hurricane, drought, earthquake.

3.5 Disaster History

Antigua suffered effects of damaging hurricane 9/26/66. Since Antigua is a low-lying island with low annual rainfall, droughts often occur. The country experienced a prolonged drought between 1960 and 1969.

An earthquake occurred 10/8/74, causing considerable damage to buildings.

#### 4. Population

##### 4.1 National Population

The 1970 census arrived at an enumerated population of 65,525. The population in 1978 was estimated to be 73,000. In 1975 both crude birth and death rates were relatively low, the former 19 per 1,000 population, and the latter 7 per 1,000 population. Growth rate is estimated to be between 1.2% and 1.3%. 44% of the population was under the age of 15 in 1970.

##### 4.2 Regional Distribution

The estimated population density was 412 persons per square mile in 1974. About 34% of the population was classified as urban in 1970. The town of St. John's (island's capital) has a population of 24,000; Parham and Codrington (on Barbuda, pop. 1,145) are other towns. Rural settlement tends to be in compact villages of varying sizes.

## 5. Health, Nutrition and Housing

### 5.1 Summary of Diseases

While little information is available on the health status of Antiguans specifically, it seems safe to assume that disease patterns resemble those of other Caribbean countries. Leading causes of death (1972) demonstrate that Antiguans suffer from ailments common in developed countries as well as from communicable diseases, especially gastroenteritis, which are more common in developing countries. The leading causes of death in 1972 were heart disease (22.6%), cerebrovascular disease (16.9%), malignant neoplasms (12.7%), enteritis and other diarrheal diseases (4.4%) and influenza and pneumonia (3.7%). High incidence of gastroenteritis contributed to infant mortality rate of 24 per 1000 live births in 1977.

An eradication program against Aedes aegypti, the mosquito that transmits yellow fever and dengue, has been conducted.

An unusually high incidence of whooping cough has been noted in recent years as well as a relatively large number of cases of yaws. Leprosy is also found in Antigua.

### 5.2 Health Facilities

Health facilities consist of two hospitals, one in Antigua (Holberton) and one in Barbuda, with total of about 230 beds. In addition, there are two specialized hospitals: a 160-bed mental hospital and a hospital for leprosy patients with about 40 beds. Four health centers supervised by district health nurses and 25 multi-purpose satellite health clinics complete health care delivery network.

### 5.3 Health Personnel

Antigua-Barbuda has 30 doctors (20 Antiguans) and about 130 nurses or nurse-midwives. Most nurses trained in three-year program at Holberton. Since 1977, community health aides have been trained in simple nursing, administrative skills; technical staff trained abroad. There is urgent need for at least six pharmacists to fill existing vacancies.

#### 5.4 Diet

The basic diet of Antiguans has traditionally consisted of imported fish, sweet potatoes, yams, and pulses, but food habits may be changing, influenced by consumption patterns of tourists. Little information is available on nutritional status and nutritional disease patterns in the population.

Calories: 2,549

<u>Carbohydr</u>	<u>Protein</u>	<u>Fat</u>	<u>Calc</u>	<u>Phos</u>	<u>Iron</u>	<u>Sodium</u>	<u>Pot</u>	<u>Vit-A</u>
286.8g	46.3g	127.5g	800mg	800mg	14mg	-	-	-

#### 5.5 Food and Drink

The following list of presumably acceptable foods is based on food crops, projected food crops, and other food development projects.

Starches: sweet potatoes, yams, eddows (taro), cassava, plantains, corn, sorghum, arrowroot

Vegetables: pumpkins, tomatoes, carrots, cabbages, cucumbers, table squash, long squash, okra, peas, green beans, onions

Fruits: breadfruit, avocados, mangoes, pineapple

Meat: beef, poultry (sheep, goats, and pigs raised in Antigua are presumably sources of meat in the diet)

Dairy: milk, eggs

Legumes: mung beans, peanuts, pulses

Fish: fresh fish, conch, cockles, turtle meat

Fat: coconut oil

Other: sugar, molasses

### 5.6 Housing

Older houses are often of wooden construction with stone foundation; newer structures in housing developments are likely to be masonry - concrete block. A serious housing shortage exists. Of estimated minimum of 650 housing units needed annually, 70% are for low-income group.

Maintaining an adequate safe water supply has been a problem in Antigua because of relatively low rainfall and few catchment areas. Since 1970 a desalinization plant at Crabbs peninsula with a daily capacity of 1.5 million gallons has improved the situation, but the country's continued development is dependent on an assured water supply. The completed Potswort Dam and proposed Creekside Dam project should provide adequate water supply with some available for irrigation. Water distribution system in Barbuda consists of a town well.

## 6. Economy

### 6.1 Overview of Economy

Antigua has undergone major changes in structure of its economy in past decade, coming to rely heavily upon tourism, which accounted directly for 16% of GDP in 1977 and indirectly for as much again. As a result of unreliable rainfall and unfavorable market conditions, production of major crops, sugar and cotton, declined sharply, leaving agriculture with minor role, contributing only 4.5% of GDP. Since sugar production ceased entirely in 1972, much of sugar land (12,000 acres) has been left uncultivated. Oil refining, main new activity of 1970's, proved nonviable, and with manufacturing in early stages, industry accounts for 8% of GDP. Services (excluding tourism) contribute about 50%, of which government is responsible for one third. Heavy dependence on tourism leaves Antigua vulnerable to fluctuating demand in tourist generating countries as evidenced by economic decline in mid-1970's; upturn in tourist trade in 1977 raised real GDP at market prices 5 to 6% and growth was maintained in 1978. Despite government policy of economic diversification, which includes development of agriculture and industry to rectify imbalance, tourism is seen as key to long-term growth. Accordingly, expansion of facilities is planned which should stimulate construction, while the industry seeks solutions to its major problems: low off-season occupancy rates with resulting under-employment in the sector, leakages abroad, and inadequate promotion. Since closing of oil refinery and a sugar factory, industry has consisted mainly of import substitution enterprises: consumer goods (supplies much of local requirements), building materials (meets most of local demand), motor vehicle assembly, tire retreading, and some export industries. Some 1500 persons are employed by the sector.

The country's weak fiscal situation in 1970's has hampered development efforts. Persistent current account deficits (central government's estimated at EC \$11.5 million or 6% of GDP in 1978 and public sector's at EC \$6.6 million), external and domestic debt service payments in arrears (as of end of 1977, the country's total external debt outstanding and disbursed was EC \$49 million or 29% of GDP) have weakened government credit position. As a consequence of declines in agriculture and industry and high growth rate in working age group, unemployment became serious problem and government became "employer of last resort"; however, unemployment rate remains high at estimated 20%, a figure which does not include seasonal unemployment in tourist sector. A recent major wage increase (40 to 60%) for public employees put further strain on government finances and may rekindle inflation (moderated in 1977 and held at about 8 to 9% since). The challenge in Antigua is one of economic reconstruction as well as economic development.

## 6.2 GNP

GNP per capita in 1977: US \$890

### Gross National Product in 1977

	<u>US\$ mil</u>	<u>%</u>	<u>Annual Rate of Growth</u> <u>(%, constant prices)</u>
			<u>1975-77</u>
GNP at market prices	62.1	100.0	-1.3
Gross domestic investment	11.0	17.7	-21.9
Gross national saving	3.0	4.8	-24.5
Current account balance	8.0	12.9	-
Export of goods, NFS	33.1	53.3	-18.1
Import of goods, NFS	44.1	71.0	-17.9

Source: World Bank, Current Economic Position and Prospects of Antigua.

## 6.3 Imports

Total merchandise imports averaged over three quarters of GDP in 1975-77; foodstuffs (one half of GDP) led non-petroleum imports. Much of food imported goes to tourist industry.

## 6.4 Exports

Merchandise exports were 40% of GDP in 1975 but also less than 20% in following two years after closure of oil refinery cut exports by 70%. Other exports (clothing, rum, lobsters, and cotton) account for small proportion of foreign exchange earnings.

Major trade partners: 30% UK, 25% US, 18% Commonwealth Caribbean countries.

## 7. Agriculture

### 7.1 Overview of Agriculture

Agriculture's role in the economy has undergone drastic change in last two decades. As economic mainstay in early 1960's with production of sugar and cotton for export, agriculture contributed 16% of GDP and employed one third of labor force. With demise of sugar industry in 1972 and decline of cotton production, agriculture's contribution to GDP was reduced to present 4.5%, its share of labor market to 11%, and its main activity to scattered small farming which produces minor amounts of vegetables for export. The island imports EC \$25 million of foodstuffs annually. The government has taken over idle land of large private agricultural estates. The potential for restructuring the sector and increasing production is believed to be considerable and government is interested in two major projects: the reestablishment of sugar cultivation on limited scale for domestic needs and a private sector corn/grain sorghum project which would utilize now idle land. The latter project, begun in 1975 with use of sophisticated agricultural techniques, has had steadily increasing yields on limited acreage but has not yet reached economic scale of operations. Expansion of small holder activity--mainly in vegetable production, tree crops, cotton, livestock, and fish--another development possibility. Among major development problems are lack of effective marketing organization and absence of sound policy for land use and land tenure.

### 7.2 Crops and Production

Vegetable crops, grown throughout the country mainly by smallholders for local consumption, include sweet potatoes, yams, eddoes, cassava, bugaments, plantains, pumpkins, breadfruit, tomatoes, cabbages, carrots, cucumbers, table squash, long squash, antrova, okra, peas, and green beans. Present annual production of about 2 million lbs. could possibly be increased to 9 million lbs. Interest is growing in development of fruit and tree crops (pineapples and other tropical fruit) with increased demand, especially from the UK and tourist trade.

Lint cotton production, down from 1 million lbs. in late 1950's to 10,000 lbs. in 1971, had moved back up to 20,000 lbs. in 1978 with strong demand from Japanese buyers.

Livestock farmers have noncommercial orientation and provide little in way of improved pasture and fodder crops for the relatively large number of small livestock. Increased production, possible with improved methods, could go far toward satisfying domestic meat requirements.

The small fishing industry has considerable growth potential. The development of a deep-sea fishing industry is anticipated over next five years with CDB financing.

## 8. Physical Geography

### 8.1 Climate

Tropical climate is moderated by sea breezes. Temperature ranges from 60° F in January to 93° F in August, although 75° F and 85° F are averages for winter and summer respectively. The mean average temperature is about 81° F.

Annual rainfall is variable but generally low with 46" being the average.

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
Rainfall (inches)	50.85	36.41	28.90	49.64

Antigua experiences hurricanes which usually occur in early autumn.

### 8.2 Land Forms

Antigua and its dependencies, Barbuda and Redonda, are low-lying islands on the outside of the Leeward Islands chain. Situated between 61° and 62° W longitude and 17° and 18° N latitude, they are small in size -- Antigua 108 square miles, Barbuda 62, and Redonda, a rocky islet of less than 1/2 square mile.

A region of volcanic origin in the southwest of Antigua is mountainous and has the island's highest elevation at Boggy Peak (1,330'). It is cut by a number of small alluvial valleys and is bounded on the south and west by a narrow coastal plain.

A northeast limestone region has several steep hills (300' to 400') separated by small valleys. A broken scarpment on southern edge rises in places to over 350'. Between the limestone and volcanic regions is a gently undulating plain of clay soils which occasionally rises to 500'.

Barbuda, 25 miles north of Antigua, is a flat coral island, nowhere exceeding 143' in height.

### 8.3 Land Use

54% arable, 5% pasture, 14% forested, 9% unused but potentially productive, 18% waste land and building sites.

### 8.4 Coasts

Antigua's coasts are deeply indented with many natural harbors. Reefs and shoals surround the island. Barbuda has large lagoon on the west side.

### 8.5 Seismicity

The island lies within seismic belt in the Lesser Antilles portion of the West Indies arc which forms eastern boundary of the Caribbean plate. (See also section 3.5, Disaster History).

## 9. Transportation and Logistics

### 9.1 Road Network

Road network consists of 240 km of asphalted roads and 320 km of gravel and earth secondary roads. Most paved roads in reasonably good condition. Lack of proper drainage provision in many places not a problem because of generally light rainfall.

### 9.2 Vehicles

Registered (1975): 8,112 vehicles; 398 motorcycles.

### 9.3 Railroads

A 46.69 mile railway used for transporting sugar cane to the factory has ceased operation.

### 9.4 Ports

The country's only major port is St. John's, and facilities are judged to be adequate for many years to come. Presently handled tonnage of about 80,000 per year (85% in imports) is well below capacity of possible 150,000 tons per berth per year.

#### St. John's

Coordinates: Lat. 17° 06' N; long. 61° 51' W.

Accommodation: Deep water harbor with berthing dock 365.7 m long; depth of water alongside 10.67 m, and a turning basin 365.7 m wide. The channel cut through the bar is 91.43 m wide, depth 10.67 m.

Container and

Ro/Ro Facilities: Available at Deep Water Harbor at High Point landing.

Towage: Available.

Pilotage: Compulsory.

Airport: Coolidge Field, 8 km.

### 9.5 Shipping

Shipping lines using St. John's include Atlantic, Booker, Booth, French, Harrison, Royal Netherlands, Nepal Lines, Sunrise Shipping, Saguenay, and Caribbean Shipping.

### 9.6 Airports

Antigua's Coolidge Airport has been remodelled and extended to accommodate jet aircraft. Work on a new terminal and apron extension was expected to begin early 1979. There is a small air strip at Codrington on Barbuda.

NB: For up-to-date information consult latest issue of weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

St. JOHNS/  
Coolidge  
Antigua I

Location Coordinates	Eleva- tion M/ Temp C	Runway Characteristics			Aircraft Strength (1,000 kg)	Fuel/ Octane
		NR/Type	Slope %	Aircraft/ Length M		
7° 8' 28" N 61° 47' 8" W	19 30.6	07/25	0.37	2743	A LCN80176 & h50	100JA2

Remarks: REG-S; alternate aerodromes: Bridgetown/Grantley Adams Int'l, Fort-De-France/Le Lamentin, Pointe-a-Pitre/Le Raizet, Port-of-Spain/Piarco, St. Croix/Alexander Hamilton, San Juan/Puerto Rico Int'l.

Aids: ILS(PO), DME, VOR, PA(PO), LSA(07), LVA(07, 25, PO), LR, LTX, LB, LO, MD, MC, MT, MED, MTX, MO. L 6, 7, 9. No telex.  
(See Appendix I for key.)

#### 9.7 Personal Entry Requirements

Passport and visa not required for stay up to 6 months. See also section 1.7, Visa and Travel Information.

#### 9.8 Aircraft Entry Requirements

(Same as for other West Indies Associated States and Grenada).

#### 9.9 Airlines

Domestic: LIAT (1974) Ltd: Leeward Island Air Transport; services to 19 East Caribbean islands from Trinidad to Puerto Rico; fleet of 5 HS-748 and 5 BN 2-24 Islander (owned by LIAT's subsidiaries).

Four Island Air Services Ltd.: wholly owned subsidiary of LIAT; runs scheduled services between Antigua, Barbuda, St. Kitts and Nevis.

Inter Island Air Services Ltd.: wholly owned subsidiary of LIAT; runs scheduled services between St. Vincent, the Grenadines, Grenada, and St Lucia.

Foreign: Antigua is also served by the following foreign airlines: Air BVI (British Virgin Islands), Air Canada, British Airways, BWIA (Trinidad), Caribbean Airways, and Eastern. LIAT operates scheduled and chartered services to Barbuda.

9.10 Air Distances

From Antigua to:	Statute <u>Miles</u>
Houston (via San Juan, New Orleans).....	2,316
Miami (via San Juan).....	1,338
New Orleans (via San Juan).....	2,006
New York.....	1,783
Panama City (via Guadeloupe, Caracas).....	1,451
Washington, D.C. (via San Juan).....	1,861

## 10. Power and Communications

### 10.1 Electric Power

Shortage in power-generating capacity is judged most serious infrastructure deficiency. Installed capacity is sufficient to generate firm power of 17.3 MW with all units operating. However, because of breakdowns or nonavailability of 5 units with total capacity of 9 MW, present capacity from six operative units is 8.3 MW. Two steam generators (combined capacity of 5 MW) have been out of operation for some years. Stopping operative units for occasional maintenance necessitates selective power shutdowns which sometimes affects hotels, so that power situation is seen as hurting tourism as well as creating obstacle to expansion of industry. UK is expected to make funds available to repair two broken generators, but solution to long-term problem, the continuous cash deficit of Public Utilities Authority, lies in sound long-term program and improved financial condition of PUA.

Supply in St. John's and Antigua generally (except Hodges Bay and Parkham Areas) is three phase, four wire, 400 volts between phases, and 2.30 volts between phase and neutral, 60 cycles.,

### 10.2 Telephone System

An automatic telephone system is in operation; 3,500 telephones are in use (4.9 per 100 popl.). Rehabilitation of the telecommunications system covering northern part of the island including St. John's completed in November 1978. Second phase, covering rest of island, and proposed microwave link between Antigua and Barbuda await funding. Cable and Wireless (W.I.) Ltd. provides international telecommunications services (telegraph, telephone, telex).

### 10.3 Radio Network

There were about 15,000 radio sets in use in 1976.

Agency: Antigua and Barbuda Broadcasting Service: P.O.B. 590, St. John's. The station transmits on 483.9 m (620 kc/s, 5.0 kW).

Radio ZDK: Grenville Radio Ltd.: P.O.B. 1100, St. John's. Transmitter at McKinnons (99 Mhz FM-10 watts, 1,100 kHz AM - 10,000 watts). Nineteen hours daily Monday to Saturday 6 AM to 1 AM.

#### 10.4 Television

About 15,000 television sets were in use in 1976.

Agency: ABS Television: P.O.B. 1280, St. John's; government-owned; operates two channels, one to Antigua and one to Montserrat.

1. General Information

1.1 Geographic Codes

AID	547
FIPS	BB
State region	ARA

1.2 Country Names

Official	Barbados
Local	Barbados
Short	Barbados

1.3 Calendar and Holidays

New Year.....	*January 1
Easter.....	March 24-27
May Day.....	May 1
Whit Monday.....	*
CARICOM Day.....	July 3
Emancipation Day.....	August 2
United Nations Day.....	October 4
Independence .....	November 30
Christmas.....	December 25-26

\* moveable holiday

Fiscal year: April 1 - March 3

1.4 Currency

100 cents = 1 Barbados dollar (\$B)  
 denominations: 1, 5, 10, 20, 100 notes  
 1 Barbados dollar = US \$0.50

1.5 Time Zones

EST + 1; GMT - 4

1.6 US Mission and Staff to Barbados (January 1981)

Embassy of the United States  
P.O. Box 302  
Bridgetown, Barbados  
Tel: 63574-7

Ambassador.....	Sally A. Shelton
Deputy Chief of Mission.....	Virgil P. Randolph, III
Economic/Commerical Section.....	Jay L. Dehmlow
Political Section.....	Donald Camp
Political/Economic Section.....	Joseph D. McLaughlin
Consul, Consular Section.....	Karl Danga
Labor Section.....	Donald R. Knight
Administration Section.....	Frank E. Rhinehart
Agricultural Section.....	George J. Dietz (resident in Caracas)
Agency for International Development.....	William B. Wheeler
Public Affairs Officer.....	Robert A. Collinge

1.7 Host Mission and Staff in US (February 1981)

Embassy of Barbados  
2144 Wyoming Ave. N.W.  
Washington, D.C. 20008  
Tel: 387-7374, 7373, 3232

Ambassador.....	Charles A.T. Skeete
Counselor.....	Orlando Marville
First Secretary.....	Athelstan D. Edey

1.8 Treaties and Agreements

Defense  
Economic and Technical Cooperation  
Investment Guaranties

Peace Corps  
Telecommunications  
Visas  
Weather Stations

### 1.9 International Organization Memberships

CARICOM, Commonwealth, FAO, G-77, GATT, IADB, IBRD, ICAO, IDB, ILO, IMCO, IMF, ISO, ITU, IWC (International Wheat Council), OAS, SELA, UN, UNESCO, UPU, WHO, WMO.

### 1.10 Visa and Travel Information

Visas are not required by nationals of Commonwealth countries and Italy, by nationals of the U.S.A. (for periods not exceeding six months), and by nationals of Austria, Belgium, Colombia, Denmark, Finland, the Federal Republic of Germany, Greece, Iceland, Israel, Liechtenstein, Luxembourg, the Netherlands, the Netherlands Antilles, Norway, Peru, Spain, Surinam, Sweden, Switzerland, Tunisia, Turkey (for periods not exceeding three months), and by Venezuelan nationals in possession of return tickets. However, all must have some proof of citizenship.

Smallpox and yellow fever immunization required of travelers over one year old arriving from infected areas. Smallpox certificate required from travelers who within preceding 14 days have been in a country any part of which is infected.

### 1.11 Ethnic and Sociocultural Groups

Barbados originally populated by Arawak Indians who migrated from South American mainland. Carib raids and deportation to Spanish mines of Hispanola have left virtually no trace of them although remains of Arawak settlements still being discovered in shoreline caves. Population today predominantly of African extraction with smaller numbers of whites and mixed peoples, and an even smaller number of East Indians. As of 1970: 224,318 blacks, 9,354 whites, 9,305 mixed, 675 East Indians.

1.12 Languages

Near exclusive use of English. Literacy: over 90%.

1.13 Religions

70% of the population is Anglican. Roman Catholic, Methodist, and Moravian faiths are also represented.

## 2. Government

### 2.1 National Government

Barbados has a long history of representative government, with one of the oldest constitutions in the Commonwealth and a House of Assembly, dating from 1639, that is the second oldest colonial legislative body.

A Governor-General, representing the British monarch, is head of state. Executive power is in the hands of a Cabinet consisting of a Prime Minister and not fewer than five other ministers. Parliament consists of a Senate with 21 members, appointed by the Governor-General, and a House of Assembly with 24 members elected by universal adult suffrage for five years (subject to dissolution). The cabinet is responsible to Parliament.

Barbados Labor Party (BLP) and Democratic Labor Party (DLP) are the two active political parties with the former presently in power.

### 2.2 Regional Organization

Barbados is divided into 11 parishes, all of whose local services are now undertaken by the central government and certain statutory bodies established to administer these services (sanitation, child care, national assistance etc.). Parishes: Christ Church (south-west); St. Michael, St. Peter, St. James (west coast); St. Lucy (north); St. Andrew, St. Joseph, St. John, St. Philip (east coast); St. George (between Michael and John); St. Thomas (immediately north of St. George).

### 2.3 Major Government Figures (April 1981)

Governor General.....	Ward, Deighton Harcourt Lisle, Sir
Prime Minister.....	Adams, J.M.G.
Dep. Prime Minister.....	St. John, H. Bernard
Min. of Agriculture, Food & Consumer Affairs.....	Brathwaite, Lloyd B.
Min. of Caribbean Affairs.....	St. John, H. Bernard
Min. of Communications & Works.....	
Min. of Constitutional Affairs.....	
Min. of Education & Culture.....	Tull, Louis
Min. of External Affairs.....	Forde, Henry De B.

Min. of External Trade, Industry  
& Tourism.....St. John, H. Bernard  
Min. of Finance.....Adams, J.M.G.  
Min. of Health & Natl. Insurance.....Miller, Billie  
Min. of Housing, Lands & Environment...Craig, Lionel  
Min. of Information.....Barrow, Nibel Ansley  
Min. of Labor & Community Services.....Blackman, Donald  
Attorney General.....Forde, Henry De B.

### 3. Disaster Preparedness

#### 3.1 Host Disaster Plan

Barbados' Central Emergency Relief Organization (CERO) directed by Prime Minister who also approves appointments to Coordinating Advisory Council, the overseer of all CERO operations. District-level emergency organizations carry out Council directives and are responsible for local preparedness measures as well as post disaster relief functions. Council membership and district emergency organizations are as follows:

#### Coordinating Advisory Council

Head of the Civil Service - Chairman  
 Chief Training Officer - Deputy Chairman  
 Commissioner of Police  
 Chief Electoral Officer  
 Chief Fire Officer  
 Chief Technical Officer, Ministry of Communications and Works  
 Chief Information Officer  
 Chief Education Officer  
 Chief Welfare Officer  
 Chief Agricultural Officer  
 Chief Medical Officer  
 Permanent Secretary, Defense and Security Division

#### District Emergency Organizations

<u>Area</u>	<u>Headquarters</u>
1. Comprising constituencies of: St. Michael N. West St. Michael West St. Michael S. West	Black Rock Police Station
2. Comprising constituencies of: St. Michael N. East St. Michael S. East	District 'A' Police Station

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<u>Area</u>	<u>Headquarters</u>
3. Comprising constituencies of: St. Michael South St. Michael S. Central City of Bridgetown	Bridge Police Station
4. Constituency of St. Michael North Central	District 'A' Police Station
5. Constituency of Christ Church West	Hastings Police Station
6. Constituency of Christ Church North Central	St. Lawrence Police Station
7. Comprising constituencies of: Christ Church S. Central Christ Church East	Oistins Police Station
8. Comprising constituencies of: St. George North St. George South	District 'B' Police Station
9. Comprising constituencies of: St. Philip North St. Philip South St. John	District 'C' Police Station
10. Constituency of St. James	Holetown Police Station
11. Constituency of St. Peter	District 'E' Police Station
12. Constituency of St. Lucy	Crab Hill Police Station
13. Constituency of St. Thomas	District 'D' Police Station
14. Constituency of St. Andrew	Belleplaine Police Station
15. Constituency of St. Joseph	District 'F' Police Station

In the event of a disaster, an emergency operations center to be set up at central room of police headquarters on Coleridge St. in Bridgetown and to be manned by 3 teams as follows:

## Team 1

Head of the Civil Service	-	Emergency Control Officer 1
Ch. Estab. Officer	-	Asst. E.C. Officer 1
Ch. Electoral Officer	-	Liaison Officer 1
Chief Town Planner	-	Intelligence Officer 1
Chief Information Officer	-	P.R. Officer 1

## Team 2

Ch. Training Officer	-	Emergency Con. Officer 2
P.S. Finance	-	Asst. E.C. Officer 2
Ch. Com. Dev. Off.	-	Liaison Officer 2
Dir. Stat. Services	-	Intelligence Officer 2
Snr. Info. Officer	-	P.R. Officer 2

## Team 3

Chief Personnel Officer	-	Emergency Con. Officer 3
P.S. Min. of Attorney General	-	Asst. E.C. Officer 3
Snr. Executive Officer Electoral Dept.	-	Liaison Officer 3
Dir. Data Processing Info. Officer (Assigned by C.I.O.)	-	Intelligence Officer 3
	-	P.R. Officer 3

Complete plan, along with a list of emergency shelters by parish, on file with Office of Foreign Disaster Assistance, USAID, Dept. of State, Washington, D.C.

### 3.2 Warning System

The emergency telecommunications center is located in the control room, police headquarters, where there is VHF equipment linked to the

eighteen (18) police stations around the country and the police mobile patrol units as well as to control points for the Amateur Radio Society and to a citizen's band base station.

The Amateur Radio Society has accepted responsibility for assigning members to the following seven points:

- Government House
- Government Headquarters
- Ministry of Agriculture
- Ministry of Communications & Works
- Ministry of Education
- Cable & Wireless (Mt. Misery)
- Barbados Regiment

In case of a hurricane members be expected to take up their positions two hours in advance of the estimated hurricane arrival time. They will thus provide communication between police headquarters, the points listed above and the Grantley Adams International Airport, Bridgetown Harbor, the Coast Guard, and the Fire Service.

### 3.3 Disaster Types

Hurricanes the most common disaster type. Others include earthquakes and floods.

#### 4. Population

##### 4.1 National Population

With a land mass of only 431 sq km, Barbados has one of the highest population densities in the western hemisphere. Population estimates as of 1976: 259,000 (Census Bureau); 247,000 (World Bank). Annual growth rate extremely high at 3.7%.

	<u>Population</u> (in thousands)	
	<u>1975</u>	<u>1976</u>
Total population	245.98	247.40
Total births	4.68	4.59
Total deaths	1.99	2.27
Natural population increase	2.69	2.32
Net migration	-1.00	-0.90
Net population increase	1.69	1.42

Source: Population Censuses 1960 and 1970; Barbados Statistical Service; and United Nations estimates.

##### 4.2 Employment

In 1976 the four largest sectors of employment by percentage were: services 36%, commerce 19%, manufacturing 15.2%, agriculture/forestry/fishing 9.8%. Unemployment rate estimated to be 15%: 12% among men, 18% among women.

## 5. Health, Nutrition and Housing

### 5.1 Health Sector

There are three private (acute short-stay) and one government hospitals, 15 day nurseries, and seven children's homes. Also 20 health centers and posts, and 7 clinics and dispensaries as of 1972. A national health service was to be introduced in 1978.

#### Health Data and Other Social Indicators

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Infant mortality per 1,000 live births	33	34	58	47
Hospitals (a)	13	13	13	13
Hospital beds	2,190	2,130	2,161	2,160
Nurses	541	593	645	680
Doctors	160	160	166	170
Dentists	1.6	16	17	17
Nursing students	234	243	212	--
House connections for entire country	61.8	64.7	67.5	--
Easy access to piped water	38.2	35.3	32.5	--

(a) 10 Government-owned, remainder private

Source: Ministry of Health.

### 5.2 Diet and Level of Nutrition

Barbadian diet typical of Caribbean diet in general; based on imported salted codfish, locally grown pulses, imported rice and fruit. Barbadians also prefer imported (canned) fruits and vegetables to high quality and abundant locally grown tropical fruit.

Daily per capita expenditure by nutrients/foods: 50% to protein, 15.7% to cereals, 10% to soft drinks, 3% to sugars, fruits and pulses.

In 1969 average per capita daily caloric intake estimated at 2,334, including 64.4 grams of protein. Of 2,334 calories, 40% were from cereals, 17% from sugar, 11% from fats, 10.7% from meat and fish, and 6.5% from milk and milk products.

Families Meeting Their Calorie and Nutrient Requirements - 1969  
(In percent by parish)

<u>Nutrient</u>	<u>Christ Church</u>	<u>St. Philip</u>	<u>St. Michael</u>	<u>St. Joseph</u>	<u>St. Andrew</u>	<u>Average</u>
Calories	49.3	38.9	33.3	23.8	40.0	35.2
Protein	78.9	61.1	62.1	47.6	53.3	61.1
Calcium	73.7	27.8	42.2	19.0	46.6	41.7
Iron	47.3	33.3	40.9	42.5	25.6	39.5
Vitamin A	68.4	72.2	71.2	33.3	60.0	64.0
Thiamine	52.6	33.3	39.3	28.6	53.3	40.3
Riboflavin	42.1	16.7	22.7	4.7	20.0	21.6
Niacin	21.0	16.7	13.6	9.5	6.7	13.7
Vitamin C	47.3	38.9	37.8	4.7	33.3	33.8

Note: 12% of families in St. Michael (Bridgetown included), and 28% of families in St. Philip received less than 10% of needed quality protein.

Source: Caribbean Food and Nutrition Institute, Barbados Nutrition Survey.

### 5.3 Nutritional Disease Patterns

Under-nutrition, not malnutrition, appears to be chief disease pattern in Barbados. Among prevalent nutritional disorders, anemia found in 33% of pre-school children, 9% of school-age children, 19% of adult women, and in only 1% of adult males; iron and folate deficiencies main causes.

#### 5.4 Staples

Staples: Rice, potato, sweet-potato, wheat-flour

Accompaniment: Pulses, pigeon pea, fish, meat, milk,  
vegetable oil

Acceptable  
alternative: Dehydrated potato, milk powder

#### 5.5 Housing and Related Services

Extent of housing deficit not accurately known but said to be severe. National Housing Corporation receives 1,000 yearly applications for new, low and medium income housing but can only provide for 200 applicants. Land tenure inequalities have favored building of termite-prone wood houses that can be abandoned quickly. Lack of natural resources for housing increases an already high demand for imported goods of all kinds.

Potable water provided by 24 pumping and repumping stations; largest ones at Belle and Hampton. In addition there are 59,000 service connections and 1,300 free standpipes. See section 5.1, Health Sector.

## 6. Economy

### 6.1 Overview of Economy

Barbadian economy characterized as open but small, with a narrow resource base (primarily sugar) that makes it exceptionally vulnerable to external, world market trends. Early 1970's were economically stagnant; moderate recovery in 1976 and even stronger growth in 1977. However, balance of payments and public finances continue with serious weaknesses, challenging government to strengthen fiscal performance without obstructing present momentum of growth.

Current balance of payments weakness developed in 1973-74 when total imports of goods and nonfactor services went up 17.9% and 17.5% respectively, reflecting increased costs of essential imports like fuel and foodstuffs. Despite export increases during succeeding two years, imports remained higher, in part because of consumer spending induced by wage gains and expansion of credit, thereby deepening trade deficit. Then precipitous drop in sugar prices began in latter part of 1975 which, combined with 7.3% expansion of imports, resulted in 1976 trade deficit of \$57.2 million; deficit rose to \$62 million in 1977 as imports increased once again (8.5%). End result is present weakness of external account with net international reserves at little more than 2 weeks of imports. Central Bank, however, has markedly improved management of reserves over past 18 months.

GDP increased 3.8% in 1976 and 4.7% in 1977, with major impetus provided by manufacturing, construction, and agriculture, which grew 17.9%, 13.1%, and 6.7% respectively. Investment promotion by Barbados Industrial Development Corporation also responsible for increases. 1976 also saw domestic inflation rate decline to 5% when Barbados dollar was fixed at US \$.50, ending 350 year link with sterling. However, inflation for 1977 estimated at 11% despite government promises to hold rate at 1976 levels. Sizeable increases in public sector wages awarded in 1976, impact of drought on food prices in June and July 1976, and rising import prices (especially for gasoline and cigarettes) all contributed to sharp rise in inflation rate. See also section 7.1, Overview of Agriculture.

### 6.2 Tourism

Although sugar provides the bulk of export commodities, tourism is now the major revenue earner in Barbados. 1976 witnessed a moderate recovery in tourist business after declines in 1975 - the first year long-stay arrivals declined in more than a decade - while in 1977 tourism went up even higher (11.6%). Tourism's total contribution to economic growth

is difficult to measure, but improvement of long-stay arrivals is often responsible for sizable growth increases in other sectors, especially service-related ones. Potential for expansion of tourism is seen as still very great.

Resource Availability And Savings  
(BDS\$ millions at 1976 prices)

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>Est.</u> <u>1977</u>
GDP	728.5	740.6	768.7	804.8
Gains from terms of trade	44.4	52.2	-	-8.0
Gross domestic income	772.9	792.8	768.7	796.8
Imports	608.8	513.5	554.1	556.6
Exports	435.5	398.2	407.1	423.4
Exports (as capacity to import)	479.9	450.4	423.2	415.4
Resource Gap	128.9	63.1	130.9	141.2
Consumption	728.3	701.9	748.7	760.0
Public	(141.7)	(129.7)	(146.7)	-
Private	(586.6)	(572.2)	(602.0)	-
Fixed Investment	173.5	154.0	166.9	178.0
Public	(32.0)	(40.3)	(49.0)	-
Private	(141.5)	(113.7)	(117.9)	-
Gross domestic savings	44.6	90.9	19.9	36.8
Factor service income	0.0	-2.6	6.6	1.8
Current transfers	16.2	14.5	25.4	27.1
Gross national savings	60.8	102.8	51.9	62.1
GNP	728.5	738.0	775.3	802.8
Gross national income	772.9	790.2	775.3	795.0

GDP By Sector  
(In 1976 BDS\$ millions)

	<u>1975</u>	<u>1976</u>	<u>1977</u>
Sugar	42.7	44.9	47.0
Other agriculture and fishing	33.6	36.5	39.0
Mining and quarrying	2.1	3.6	3.1
Manufacturing	66.3	78.2	78.4
Electricity, gas and water	13.7	14.5	16.8

	<u>1975</u>	<u>1976</u>	<u>1977</u>
Construction	38.8	43.9	48.0
Wholesale and retail trade	156.4	156.5	162.0
Tourism	68.4	69.2	75.0
Transport, storage and communication	39.4	43.5	47.0
Government services	108.6	109.7	111.2
Other services	82.2	83.9	89.3
<u>GDP at factor cost</u>	652.2	684.5	716.8
Net indirect taxes	88.4	84.2	88.0
<u>GDP at market prices</u>	740.6	768.7	804.8

Source: Miss Marshall; Barbados Statistical Service; and Mission estimates.

### 6.3 Imports

#### Merchandise Imports By End Use Category (c.i.f.; BDS\$ thousands)

	<u>1974</u>	<u>1975</u>	<u>1976</u>
Total	418,319	437,416	474,570
Consumer Goods	150,787	153,400	181,400
Food	77,939	79,800	82,400
Other non-durables	47,000	49,100	60,000
Durables	25,850	24,500	39,000
Raw Materials & Intermediate goods	159,708	164,325	161,498
Fuels & lubricants	66,360	73,825	61,698
Chemicals	18,903	20,000	23,800
Textiles	19,226	19,500	26,000
Other	55,219	51,000	50,000
Capital goods	88,886	98,000	108,000
Building materials	36,277	38,000	46,000
Machinery & transport equipment	52,609	60,000	62,000
Others	18,938	21,691	23,672

Source: Annual Trade Reports and Barbados Statistical Service

		<u>Merchandise Imports From CARICOM</u>		
		(c.i.f.; BDS\$ thousands)		
<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
		5,702	8,110	10,115
Guyana		26,179	49,549	44,537
Trinidad & Tobago		7,335	10,490	11,514
Jamaica		366	416	912
Dominica		218	87	123
Grenada				
St. Vincent & the Grenadines		1,144	1,011	1,036
St. Lucia		1,021	1,820	2,345
Montserrat		40	34	18
Antigua		184	209	224
St. Kitts, Nevis, Anguilla		25	25	45
Belize		649	541	760
Other		106	25	282
<b>Total CARICOM</b>		<b>42,969</b>	<b>73,018</b>	<b>71,909</b>

Source: Annual Overseas Trade Yearbook

#### 6.4 Exports

##### Merchandise Exports (f.o.b.) By Major Commodities (BDS\$ millions)

	<u>1974</u>	<u>1975</u>	<u>1976</u>
<b>A. Total Domestic Exports</b>	<b>123.0</b>	<b>176.9</b>	<b>132.8</b>
<u>Primary Products</u>	71.4	115.4	61.5
Sugar	52.2	95.1	45.0
Molasses	10.5	11.8	9.3
Other	8.7	8.5	7.2
<u>Manufactured Products</u>	51.7	61.5	71.2
Rum	5.0	4.3	4.4
Clothing	18.5	26.8	30.0
Other	28.2	30.4	36.8

	<u>1974</u>	<u>1975</u>	<u>1976</u>
B. <u>Reexports</u>	49.4	40.2	39.6
Petroleum & Petroleum Products	34.6	27.1	21.4
Other	14.8	13.1	18.2
C. <u>Total Adjusted Exports</u>	172.4	217.0	172.4

Source: Annual Overseas Trade Reports; Statistical Service.

Merchandise Exports To CARICOM  
(f.o.b.; BDS\$ thousands)

	<u>1973</u>	<u>1974</u>	<u>1975</u>
Guyana	2,618	3,570	3,432
Trinidad & Tobago	8,042	10,009	12,206
Jamaica	4,142	7,094	8,567
Dominica	1,413	1,552	1,683
Grenada	1,920	2,186	2,310
St. Vincent (incl. Grenadines)	2,279	4,307	3,112
St. Lucia	3,920	4,592	3,927
Montserrat	440	616	555
Antigua	2,035	2,404	2,221
St. Kitts, Nevis, Anguilla	1,414	1,448	1,629
Belize	10	22	4
Other	777	971	804
Total CARICOM	29,011	38,771	40,448

Source: Annual Overseas Trade Yearbook

## 7. Agriculture

### 7.1 Overview of Agriculture

Sugar is the basis for the Barbadian economy and is the main source of employment although depressed world prices have brought severe hardship to the local sugar industry. Development of non-sugar agricultural exports remains cautious and is centered upon increased production of onions and their sale to CARICOM markets; black-belly sheep, dairy calves, and peanuts are other export expansion possibilities. Lack of marketing expertise, absence of land tenure for most farmers, and insufficient storage are the three main obstacles to development of any agricultural export schemes. Problems of land tenure/distribution especially troublesome; 23,000 farmers grow crops on one acre or less; many only part-time farmers, amplifying swings in surplus/shortage of non-sugar products. As a result, Government policy aimed at diversifying crop production for local needs and reducing food imports. Recent reorganization of Barbados Marketing Corporation expected to bring services closer to real needs of farmers although effective marketing continues as a serious constraint to agricultural production. Long-term forecasts make Barbados dependent on sugar regardless of alternative/regional marketing efforts for other crops.

Following a period of stagnation due to adverse weather, withdrawal of land for productive use, and problems with livestock disease, performance of agricultural sector improved in 1976 and overall production rose 5.6% in 1977. Sugar production increased 5% in 1976 and 15% in 1977 due to improved weather and curtailment of cane burning as a harvesting method; increases in poultry, dairying, and non-sugar crops also contributed to improved performance. Government attempting to arrest fragmentation of agricultural land holdings, the main cause of withdrawing land for growing crops.

### 7.2 Sugar

Sugar cane accounts for over 50,000 acres of cultivated land; 1/5 of sugar cane lands produce food crops in rotation. Crop season lasts from January to May but processing is less labor intensive, leading to high seasonal unemployment.

	<u>('000 tons)</u>				
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Cane Reaped	1,072	941	832	829	1,029
Sugar Produced	116	110	97	93	118

### 7.3 Food Crops

Grown mainly by small holders. Since 1970, heavy emphasis placed on onion growing; much of latter crop exported to neighboring countries.

**Vegetables:** production now underway on large farms in St. Philip and Christ Church areas.

**Fruits:** grown mostly for local consumption: mangoes, avocado pears, citrus, bananas, breadfruit, golden apples, hog plums, gooseberries, watermelon, cantaloupes, cherries.

**Livestock:** owned mainly by smallholders, although a few kept by most farmers. Milk production increasing about 10% per year. Project underway to produce high-quality, pasteurized milk products; sales placed at \$10 million in 1976. FAO estimates (1974): cattle, 21,000; pigs, 34,000; goats, 70,000; poultry, 371,000.

**Fishing:** a sizeable industry employing 2,500 people, including 500 in ancillary occupations. Fish also a dietary staple. Total catch in 1975, 9.3 million lbs.; in 1976, 11.0 million lbs.

Source: Barbados High Commission, London

### 7.4 Agricultural Exports

See Economic Imports, section 6.3.

7.5 Agricultural Imports

See Economic Exports, section 6.4.

8. Physical Geography

8.1 Climate

Barbados has one of the most temperate climates in the West Indies; tropical temperatures are moderated by the northeast trade winds.

Rainfall: rainy season is from July to November. Annual rainfall varies from about 40 inches in some coastal districts to 90 inches in the central ridge area.

	<u>Rainfall</u> (Inches)		
	<u>1974</u>	<u>1975</u>	<u>1976</u>
Grantley Adams International Airport	33.17	47.94	41.98
Lears Plantation	49.13	63.18	55.19
Belle	34.47	51.55	42.76

Temperatures: little annual variation; mean ranges from 72° F to 86° F. Cool, northwest trade winds in dry season (December to June) keep temperatures comfortable; seldom excessively hot. Greatest diurnal variation during winter, with possible highs and lows between 90° F and 63° F.

8.2 Land Forms

Barbados is the most easterly of the West Indian islands at the lower end of the Antilles chain, situated at 59° 37' W, 13° 14' N or 300 miles from the mainland territory of Guyana and 100 miles east of nearest island neighbor of St. Vincent. The island is small and somewhat pear-shaped, 21 miles long and 14 miles at its widest point in the south. Total land area is 166 sq mi.

From the south and west, Barbados presents a flat appearance broken only by a series of ridges that rise to the hill country along the east coast, center, and northeast; latter ranges rise sharply to 500-1,000 feet, then fall steeply to the sea. The highest point on the island is Mount

Hillaby at 1,105 feet near the center, where the hills start further inland and fall more sharply toward the coast to display Barbados' most rugged, picturesque scenery.

### 8.3 Land Use

Of 106,240 acres of total land area, approximately 70,000 are under cultivation; 12,000 acres designated permanent pasture.

### 8.4 Waterways

No rivers; rainwater percolates rapidly through the soil to form underground channels. In addition there are a number of gullies or water-courses, and two "rivulets": Indian River in southwest and Joes River in northeast, neither of which affords any navigation or fishing use.

## 9. Transportation and Logistics

### 9.1 Road System

1,020 miles of roads, 840 miles of which are asphalt surfaced. Main roads radiate from Bridgetown in the southwest, connecting up to secondary roads. Network presently being realigned to meet demands/convenience of tourist trade.

### 9.2 Vehicles

Total vehicles registered as of December 31, 1974: private cars (including taxis), 26,323; buses, 235; trucks, 1,625; vans, 1,591; motorcycles, 2,393; other vehicles, 129.

### 9.3 Ports

General holidays: Good Friday, Easter Sunday, Christmas Day

#### Bridgetown

Latitude: 13° 5' N; long. 59° 36' W

Approach: Carlisle Bay is an open roadstead about 1 1/3 miles in width and 1/2 mile deep, with good shelter from prevailing winds. Vessels may anchor in depths from 4 fms. upward.

Weather: Winds northwesterly to southwesterly.

Tides: Maximum rise 0.8 m.

Accommodation: Bridgetown Harbor situated on the northeastern side of Carlisle Bay, approximately 3/4 mile northwest of the Molehead of the Careenage. This harbor is dredged to 9.75 m. L.W.O.S.T. and was constructed by joining Pelican Island to the mainland by reclamation work, thus providing 518 m. of quay space, and 823 m. approx. of protective

- breakwater and providing berths for eight ocean going vessels. All berths including breakwater arm are equipped with fresh water and telephones.
- Storage:** 102,600 ft. of transit shed space and in excess of 3/4 million sq. ft. of open stacking area are available. Modern equipment and pallets are available and good loading and discharge rates are maintained. Storage is provided for 80,000 tons of bulk sugar with conveyor belt and sugar loading towers capable of handling up to 500 tons bulk sugar an hour. A refrigerator plant is also available. Provisions available.
- Water:** Supplied by hose, 50 tons/hour.
- Development:** Construction works to improve and expand the deep water harbor; shallow draft facility, with a wharf and transit shed under construction; bulk handling facilities planned.
- Bulk Cargo Facilities:** Facilities available for the loading of sugar. Wheat silos available also.
- Shiprepairs:** A small screw lifting dock in eastern part of Carlisle Bay is available for vessels drawing up to 3.66 m. at L.W.O.S.T.R. of T. 76.24 cm. Small vessels up to 4.27 m. can be accommodated. It is capable of lifting up to 1,000 tons displacement.
- Towage:** Compulsory. Three tugs available, 1,100, 1,500 and 1,700 h.p. respectively. Two tugs compulsory for vessels of over 10,000 n.r.t. or 167.6 m. length o.a.: three tugs compulsory for vessels over 20,000 n.r.t.
- Pilotage:** Compulsory. Watch kept on VHF Channel 16; working frequency VHF Channel 12.
- Traffic:** 1977, 1,911 vessels. Total tonnage 8,612,838.
- Medical Facilities:** Port Health Officer and medical doctor available.

Airport: Grantley Adams Airport, 20.8 km.

Local Holidays: Independence Day, Labor Day.

Working Hours: 07:00 to 11:00 and 12:00 to 16:00 hours.

9.4 Shipping

Regular steamship service from numerous cruise lines. Local vessels and auxiliary schooners provide links to Leeward/Windward Islands and Guyana. West Indies Shipping Service has one 2,800 g.r.t. vessel that maintains monthly service northbound from Trinidad to Grenada, St. Vincent, Barbados, St. Lucia, Dominica, Montserrat, Antigua, St. Kitts, and Jamaica.

9.5 Airports

NB: For up-to-date information consult latest issue of weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

Bridgetown  
Grantley  
Adams Int'l

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp</u>	<u>Runway Characteristics</u>				<u>Aircraft/</u> <u>Strength</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
		<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft/</u> <u>Length M</u>	<u>CL</u>		
13°04'24"N 59°29'18"W	51 28.3	09/27	0.05	3353 80	A	LCN100195 & h58	100JA1

Remarks: Alternate Aerodromes: Fort-De-France/Le Lamentin, Georgetown Timehri Intl, Pointe-A-Pitre/Le Raizet, Port-of-Spain/Piarco, San Juan/Puerto Rico Intl, St. Johns/Coolidge, Antigua I.

Aids: ILS 09-11, DME, VOR, LPA 09-1, LVA 27 PO, LR, LTAX, LB, LO, MD, MC, MT, MTD, MS, MTX, MO, L4, L5, L10. Clearway 09-610. No telex. (See Appendix I for key.)

### 9.6 Personal Entry Requirements

- Passport: Not required of US citizens traveling as tourists for a stay of up to 6 months.
- Visa: Not required of US citizens traveling as tourists for a stay of up to 6 months.
- Vaccination: Smallpox. Cholera and yellow fever for arrivals from infected areas.
- Other: None.

### 9.7 Aircraft Entry Requirements

Private and non-scheduled commercial flights overflying or landing for non-commercial purposes need not obtain prior permission. However, a flight plan must be on file at least 72 hours prior to departure to provide advance notification.

Non-scheduled commercial flights and inclusive tour charter flights landing for commercial purposes must obtain prior permission and a permit from the Permanent Secretary, Civil Aviation Division, Bay Street, St. Michael, Barbados (telegraphic address: CIVILAV BARBADOS: none) at least 10 days prior to departure and must be submitted on forms available from the Civil Aviation Division.

Special notices: Air travel club flights are not required to have prior permission to land at Barbados. However, such flights should not arrive on weekends (Friday-Sunday) between the hours of 1:00 and 5:00 P.M. because of airport congestion.

### 9.8 Airlines

- Domestic: Caribbean Airways, Lower Bay St., Bridgetown, provides low-cost jet services to Montreal, Luxembourg, and London.
- Foreign: Scheduled services provided by Air Canada, American Airlines, British Airways, BWIA (Trinidad), Cubana Airlines, Eastern Airlines, Leeward Island Air Transport (Antigua), SAS, Venezuela Airways (VIASA), and Wardair.

9.5 Air Distances

From Barbados to:	Statute <u>Miles</u>
Houston (via St. Lucia, San Juan, New Orleans).....	2,603
Miami (via St. Lucia, San Juan).....	1,625
New Orleans (via St. Lucia, San Juan).....	2,293
New York.....	2,100
Panama City (via Caracas).....	1,387
Washington, D.C. (via St. Lucia, San Juan).....	2,148

10. Power and Communications10.1 Electric Power.

Barbados Light and Power provides service to 90% of the island. Installed capacity in 1976, 100,570 kilowatts; 59,864 customers. Newest facilities are steam turbine units installed in 1976 at Spring Garden.

Electricity and Gas Statistics

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Installed Capacity (MW)				
Barbados Light & Power Co.	66.9	66.7	66.7	99.4
Generation (MWh)				
Barbados Light & Power Co.	211.8	203.2	214.3	228.2
Consumption (MWh)				
Residential	57.3	54.3	58.6	61.3
Commercial & industrial	132.3	122.0	129.3	138.4
Other				
Company use and line losses (MWh)	14.7	19.3	19.0	19.9
Electricity Sales KW hrs. (millions)	190	176	188	200
Investment (BDS\$ '000)	6,812.3	12,938.5	21,101.6	12,830.1
Production (cu. ft. million)	108	67	37	
Consumption (cu. ft. million)				
Residential	72	61	58	
Commercial & industrial	42	34	30	
Other	-	-	-	
Gas sales (BDS\$ '000)	960	1,202	1,695	
Investment (BDS\$ '000)	444.3	1,045.5	471.7	

Source: Abstract of Statistics (provided by the Barbados Light and Power Co., Ltd. and the Natural Gas Corporation and the Barbados Gas Co., Ltd.); Statistical Service.

### 10.2 Telephone System

Service provided by Barbados Telephone Co. Ltd., a subsidiary of Continental Telephone Corp. of St. Louis, Mo. Automatic exchanges at Bridgetown and at seven other locations. International telex services readily available.

#### Telephone Services

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Telephones (no.)	36,358	38,863	39,761	41,535	44,049
Investment (\$ '000)	6500.0	9236.7	6068.3	-	-

Source: Barbados Telephone Company.

### 10.3 Radio Network

Two radio stations: 1) Barbados Rediffusion Service, Ltd., broadcasting on an island-wide network to approximately 25,000 rented loudspeakers; studios in Bridgetown. 2) Radio Barbados, providing 18-hour service Sunday to Friday and 20-hour service on Saturday.

Number of radio receivers (1977): 110,000.

### 10.4 Television

Operated by the Caribbean Broadcasting Corp.; daily transmission from 4:30 p.m. to 11:05 p.m.

Number of television sets (1977): 48,000.

1. General Information1.1 Geographic Codes

AID	505
FIPS	BH
State region	ARA

1.2 Country Names

Official	Colony of Belize
Local	Belize
Short	Belize

1.3 Calendar and Holidays

New Year's Day.....	January 1
Baron Bliss Day.....	March 29
Queen's Birthday.....	April 21
Labor Day.....	May 1
Commonwealth Day.....	May 24
National Day.....	September 10
Columbus Day	
(northern districts only)..	October 12
Prince Charles' Birthday.....	November 14
Caribbean Settlement Day	
(southern districts only)..	November 19
Christmas Day.....	December 25
Boxing Day.....	December 26

Moveable holidays are Ash Wednesday, Good Friday, Easter Monday.

1.4 Currency

Belize dollar (B\$) tied to UK sterling.  
 US \$1. = B \$2.00 (March 1980)

1.5 Time Zones

6 AM = noon GMT  
EST - 1

1.6 US Mission and Staff to Belize (January 1981)

Embassy of the United States  
Belize City (GC)  
Gabourel Lane and Hutson St.  
Telephone: 3261

Consular General.....	Malcolm R. Barnebey
Economic/Commercial.....	George Fitch
Administrative Section.....	James R. Smith
Consul General.....	Carl F. Troy
Labor Section.....	William B. Harbin (resident in Tegucigalpa)
Agricultural Section.....	Harry C. Bryan (resident in Guatemala City)

1.7 Host Country Embassy and Staff in US

No embassy; however, the Embassy of the United Kingdom, 3100 Massachusetts Ave. N.W., Washington, D.C. 20008 may be used as the official diplomatic representative for the self-governing Crown Colony of Belize.

1.8 Treaties and Agreements

CARICOM, ISO

1.9 Visa and Travel Information

Passport not necessary, but recommended. Other proof of citizenship, such as birth certificate or voter's registration certificate, acceptable. Visa not required. Proof of sufficient funds to cover stay in country is required.

### 1.10 Ethnic and Sociocultural Groups

Most Belizeans are of multiracial descent, making an accurate statistical ethnic breakdown difficult. The indigenous Maya Indians moved north and west from the area in the 14th century but many reentered during the last century, settling in Corozal, Orange Walk, Cayo, and Toledo districts; most are now agriculturalists. With other Amerindians they make up about 20% of the population. Britons, first post-Columbian settlers, imported African slaves to work in the logging trade; people of African and mixed African descent who make up Creole population are largest group -- about half of the population. A small number (perhaps 10% of population) of Black Caribs, descendants of Africans and Amerindian Caribs, migrated to the area from the West Indies and live chiefly in Stann Creek and Toledo districts, working for the most part as farmers, fishermen, and seamen. People of mixed European-Indian descent constitute another 20% of population. Small numbers of Europeans, East Indians, Chinese, Lebanese, and Mennonite Germans make up remainder.

### 1.11 Languages

English is the official and commercial language. Spanish is the native language of about 40% and spoken as a second language by about 20%. A Creole dialect, similar to that of English-speaking Caribbean islands, is spoken by a large number of people. Caribs and Maya Indians speak original languages. Mennonites speak an archaic German.

### 1.12 Education and Literacy

Literacy rate, higher than in most of Central America, is judged to be between 70% and 80%.

### 1.13 Religions

Freedom of religion guaranteed by the Constitution. About 50-60% of the people are Roman Catholic; Anglicans, Methodists and several other Protestant sects constitute sizable groups among remaining population. Small groups of Hindus, Muslims, Bahais and Mennonites.

## 2. Government

### 2.1 National Government

Belize, the former British Honduras, a crown colony of the United Kingdom, was given full internal self-government by the constitution of January 1, 1964. An appointed Governor, representing the Queen, has responsibility for external affairs, defense, and internal security. Executive power is vested in a Cabinet, headed by the Premier. Cabinet members who are members of the majority political party are appointed by the Governor on advice of the Premier. Bicameral legislature consists of a Senate of 8 appointed members and a House of Representatives with 18 members chosen by universal suffrage for a term of five years. A permanent civil service administers government.

Common law of England and local legislation are basis of legal system administered by a number of summary and district courts, a Supreme Court of Judication, and a Court of Appeal with final appeal in the UK Privy Council.

The People's United Party (PUP) has been the majority party since first elections under the new constitution.

Guatemala has made repeated territorial claims on the area of Belize, and talks between representatives of Guatemala and the United Kingdom in 1976 and 1977 failed to resolve the issue.

### 2.2 Regional Organization

Belize is divided into six administrative districts: Belize City, the region around the capital; Cayo, in the interior; Corozal, in the north; Orange Walk, in the northwest; Stann Creek, south of Belize; and Toledo in the south. Each division, with the exception of Belize City, which is administered by an elected city council, is headed by a district commissioner. Elected district town boards manage affairs of Corozal Town, San Ignacio, Orange Walk Town, Benque Viejo del Carmen, Dangriga, Punta Gorda, and Monday River Town.

### 2.3 Major Government Figures (April 1981)

Governor.....	Hennesy, James
Premier.....	Price, George C.
Deputy Premier.....	Rogers, Carl Lindbergh B.
Min. of Agriculture & Lands.....	Marin, Florencio
Min. of Education, Housing, Health & Cooperatives.....	Shoman, Assad
Min. of Education & Sports.....	Musa, Said
Min. of Energy & Communications.....	Sylvestre, Louis S.
Min. of Finance & Development.....	Price, George C.
Min. of Home Affairs & Interior.....	Rogers, Carl Lindbergh
Min. of Local Govt. & Social Security.....	Briceno, Eligio
Min. of Social Services, Labor & Community Development.....	McKoy, David
Min. of State.....	Courtenay, Vernon Harrison
Min. of Trade, Industry & Energy.....	Pech, Guadelupe
Min. of Works.....	Hunter, Frederick H.
Attorney General.....	Musa, Said

### 2.4 1980 Status

The moderate Dominica Freedom Party won a landslide victory in July 1980 elections, the first since Independence; Mary Eugenia Charles, party leader, became head of state.

## 3. Disaster Preparedness

### 3.1 Host Disaster Plan

The Central Emergency Organization, of which the Governor and Premier are co-chairmen, has overall direction and control of hurricane precautions and post-hurricane action. Eleven sub-committees are charged with task of preparing hurricane precautionary plans for consideration by the Central Emergency Organization.

In the event of a hurricane, the Central Emergency Organization will set up headquarters in the Albert Cattouse Building, Belize City. A coordinating center run by three co-ordinators has task of implementing decisions of Central Emergency Headquarters and keeping same informed of all important developments bearing on implementation of the Plan. ;

3.2 US Plan

No Mission Plan.

3.3 Food Supplies

According to hurricane plan for Belize, a week's supply of food will be sent to the emergency store depot on the Hattieville/Burrell Boom Road (in Belize City) prior to declaration of the preliminary stage (first phase in hurricane warning). Each district makes provision for an emergency food supply.

The following foods are classed as acceptable by Guide to Food and Health Relief Operations in Disasters:

<u>Popular Staples</u>	<u>Accompaniments</u>	<u>Acceptable Alternatives</u>	<u>Accompaniments</u>
rice	beans		
plantains	-	wheatflour	milk powder
	meat	maizeflour	
	fish	cassava farina	
	milk		

3.4. Storage

Exact locations of storage points for relief supplies have not been determined according to the hurricane plan, but possible facilities in Belize City include the airport hangar, marketing board, Storage Limited warehouse, one customs shed, or the emergency food depot, although the last named would present additional transport problems.

The Red Cross will organize staffing and operation of depots for storage and distribution of clothing, blankets, etc. in the event of a hurricane.

3.4 Host Resources

The following resources are available for search, rescue and initial clearance operations:

- 
- (1) Army (on request of the Governor to the Commander, British Forces, Belize) approximately two companies and helicopter, engineer and water borne facilities.
  - (2) Volunteer Guard - one platoon.
  - (3) Police Special Force - approximately sixty officers and men.
  - (4) National Fire Service (in Belize City) - six appliances and crews.
  - (5) Customs - 2 large launches, 2 small launches and 2 patrol boats - all with crews.
  - (6) P.W.D. - 12 demolition gangs with equipment and transport. One tug, various vehicles, heavy equipment and plant; one road clearing unit.
  - (7) Red Cross
  - (8) Boys Brigade
  - (9) Scouts
  - (10) Medical Department
  - (11) Belize City Council

### 3.5 US Volags

<u>Agency</u>	<u>Intl/Local Staff</u>	<u>Programs</u>
Assemblies of God	1/-	Ec & Dev Pl
CARE	1/6	Coops & Loans; Food Prod & Ag; Med & PH; Nutr
The Carr Foundation	NA	Communications
Catholic Medical Mission Board	NA	Med & PH
Church of the Nazarene	4/29	Ed; Med & PH

Agency	Int'l/Local Staff	Programs
Direct Relief Foundation	NA	Equip & Mat Aid; Med & PH
Eastern Mennonite Board of Missions and Charities	11/-	Coops & Loans; Food Prod & Ag; Med & PH; SW
Gospel Missionary Union	11/-	Ed
Heifer Project International	1/-	Food Prod & Ag
International Educational Development	21/77	Ed; Med & PH; SW
Map International	NA	Equip & Mat Aid
Mennonite Economic Development Associates	NA	Coops & Loans
National Association of the Partners of the Alliance	NA	Ed; Equip & Mat Aid; Food Prod & Ag; Med & PH; SW
The Salvation Army	20/-	Ed; Equip & Mat Aid; SW

Key

Comm		Communications
CD		Community Development
CHP		Construction, Housing, Planning
Ec & Dev PI		Economic and Development Planning
Ed		Education
Equip & Mat Aid		Equipment and Material Aid
Food Prod & Ag		Food Production and Agriculture
Ind. Dev.		Industrial Development
Med & PH		Medicine and Public Health
Pop and Fam Serv		Population and Family Services
SW		Social Welfare

### 3.6 Disaster History

Belize has been repeatedly hit by devastating hurricanes. Hurricane Janet in 1955 and Hurricane Hattie in 1961 did extensive damage to the country. The capital was moved from Belize City to Belmopan in 1970 because of the former's vulnerability to hurricane damage in its coastal location. It was destroyed by a severe storm in 1931 and received extensive damage from 200 m.p.h. winds and flooding in 1961. Two hurricanes devastated the coastal area again in 1974.

#### 4. Population

##### 4.1 National Population

An enumerated population of 119,934 was arrived at by the census of 1970. The population was estimated to be 152,000 in July 1978 and the annual growth rate estimated to be 2.9%. The projected crude birth rate for 1976 was 38-40 per 1,000 population, and the projected range of variation of deaths per 1,000 population was 10-13\*. 49% of population under age 15 in 1970 shows a high dependency ratio. External migration has had less effect on population growth than in most CARICOM countries, although there has been considerable movement of workers into Guatemala and Mexico. Belize has not adopted a national policy to reduce birth rate, possibly because of low population density.

\*US Census Bureau World Population 1977. Projected range of variation for birth rate assumes no change in fertility since 1970. Projected range of variation of death rate based on projected 1976 crude birth rate range and projected growth rate for 1976 (2.9%).

##### 4.2 Density

Population density countrywide is about 15 persons per square mile. Slightly more than half of the population (54%) was urban in 1960. The most heavily populated urban center is Belize City with a population of approximately 42,000. Principal towns, with the exception of Benque Viejo del Carmen, San Ignacio, and Orange Walk Town, are all located on the coast.

##### 4.3 Distribution

Belize City North Side -	13,671	Stann Creek Town -	6,979
Belize City South Side -	25,661	Stann Creek Rural -	6,065
Belize City Total -	39,332	Stann Creek District -	13,044
Belize Rural -	10,329	Punta Gorda Town -	2,123
Belize District -	49,661	Monkey River Town -	276

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Corozal Town -	4,674	Toledo Rural -	6,555
Corozal Rural -	10,830	Toledo District -	8,954
Corozal District -	15,504	Belmopan* -	285
Orange Walk Town -	5,421	San Ignacio -	4,335
Orange Walk Rural -	11,245	Bengue Viejo del Carmen -	1,912
Orange Walk District -	16,666	Cayo Royal -	9,502
Cayo District -	16,034		
Total	- 119,863		

\*Belmopan, capital city, had an estimated population of 3,000 in 1976.

Source: 1970 Census.

## 5. Health, Nutrition and Housing

### 5.1 Overall Health Status

A national malaria eradication program has brought large measure of control; however, part of population inhabits area still classified as being in attack phase. Because of inadequate funding for the program there has been a recent upsurge in incidence from average annual 93 cases (1972-75) to over 1,000 cases in 1978. The country is believed to be free of *Aedes aegypti* mosquito, but continued vigilance is required because of close air and sea links with other central American countries suffering infestation. Cases of encephalitis, also vector-borne, and rabies have been noted.

High incidence of childhood diseases such as measles and mumps. Programs for control of tuberculosis and venereal disease have been formulated.

Bacillary dysentery and infectious hepatitis remain major health problems, reflecting need for improved environmental sanitation. Infectious and parasitic diseases, together with influenza and pneumonia, accounted for 18.8% of all deaths in 1973, the majority young children.

The five leading causes of death in 1972: heart diseases (12.4%), malignant neoplasms (10.2%), influenza and pneumonia (9.4%), enteritis and diarrheal diseases (8.5%), causes of perinatal mortality (5.8%).

### 5.2 Vital Statistics

Births/1000 population, 1976*	38-42
Deaths/1000 population, 1976*	10-13

\* projected estimates

### 5.3 Health Facilities

Health care sector has objective of linking primary care facilities (27 public health centers throughout the country staffed by public health or rural health nurses) to secondary facilities (6 district hospitals plus Belize City Hospital) and to surveillance of environmental health. However, actual services fall short of objectives due to lack of clear admin-

istrative direction, trained personnel, adequate financing for salaries and maintenance.

The number of health centers seems adequate for population size but facilities have not always been expanded in areas of population shift (e.g., Corozal District) and are characterized by poor maintenance, insufficient space for carrying out additional services, less qualified personnel than in hospitals. Poor vehicle upkeep hampers extension of services to remote areas.

The seven government-supported hospitals (25 beds per 1,000 persons) lack adequate staff and equipment to be completely functional. A new hospital in Belmopan is already in need of repairs, while the existing Belize City Hospital, overcrowded and with obsolete equipment, is only a few feet from shore level and is subject to flooding. Construction of a new hospital in Belize City is expected to begin during 1979-83 period but planning is still in preliminary stage. A new hospital is being constructed in Orange Walk District.

#### 5.4 Health Personnel

Data concerning urban-rural distribution of health personnel are not available, but distribution probably uneven. There were 38 physicians in Belize in 1972 (3.0 per 10,000 pop.) with specialty distribution as follows: general practice 26; surgery 3; internal medicine 1; pediatrics 1; gynecology-obstetrics 1; anesthesiology 2; pathology 1; public health 3.

A nursing corps, including nursing aides, under responsibility of a principal nursing officer, staffs hospitals and health centers and makes home visits. Graduate nurses in 1972 numbered 85 (8.7 per 10,000 pop.) and auxiliary nurses 107. There were also 6 dentists (0.5 per 10,000 pop.)

The number of other health personnel by categories per 100,000 population in 1970: pharmacists 1; laboratory technicians 7; x-ray technicians 7; nutritionists and dieticians 1; sanitary engineers 1; sanitary inspectors 17; veterinarians 5; other 97.

#### 5.5 Diet (Minimum Daily Requirement/Recommended Daily Allowance)

calories:	2,444	phosphorus:	800mg
carbohydrates:	275.0g	iron:	14mg
protein:	40.6g	sodium:	-
fat:	122.2g	potassium:	-
calcium:	800mg	vitamin A:	-

### 5.6 Food and Drink

Starches: rice, corn, yams, sweet potatoes, cassava, potatoes, plantains

Vegetables: a variety of garden vegetables

Fruits: citrus, bananas, coconuts

Meat: beef, pork, poultry, turtle

Fat: coconut oil, lard, margarine

Milk: large volume dairy products imported

Legumes: red kidney beans

Fish: red snapper, groupers, fresh-water catfish, conch

Beverages: tea, cocoa

### 5.7 Food Preferences

Creole meals are likely to include bread or johnny cakes, kidney beans, beef or fish or pigs' tails, rice, plantains.

Fish appears to be consumed in greater amounts by Black Caribs who also eat manioc, rice, plantains and yams.

Spanish-speaking Indians and people of Spanish-Indian ancestry eat many corn-based dishes (tortillas, tacos, garnaches or enchiladas), fried beans, some meat, fish, or cheese.

### 5.8 Nutrition

Nutritional status of people of Belize appears to be below level for much of Commonwealth Caribbean, although adequate nutrition should be possible when agricultural potential is realized, resources properly used and distributed, and infrastructure better developed. Somewhat dated observations and surveys (late 1960's) indicate that kwashiorkor is a serious problem among Black Caribs in Stann Creek district. Infantile

diarrheas common in Belize City are attributed to the feeding of condensed milk and unsterile water to infants at an early age, and growth rate patterns in 8-9 year olds are significantly below normal range. High prevalence of anemia and avitaminosis has also been reported. Goiter occurs but is less prevalent than in other regions of Central America.

### 5.9 Housing

Lack of adequate housing is a continuing problem, exacerbated by destruction of dwellings by hurricanes. Existing housing program meets only 10% of needs for new housing; the poorest 70% of population cannot afford units presently provided by public construction. Adding to cost of units has been heavy dependence on imported materials and the need to reclaim land for housing construction, especially in Belize City, which is built on coastal swampland. Stann Creek, also near sea level, has problems similar to those of Belize City. Corozal Town, destroyed by 1955 hurricane, has been rebuilt according to a town development plan. Most housing in Belize City is of timber construction, although number of homes built of concrete is growing.

Agencies responsible for public housing have set goal of building 1,000 new and replacement units each year for next decade to be achieved at lower unit cost by use of local materials and prefabricated components which can be built with minimum of skilled labor and by aided self-help. Prefabricated concrete panels have been introduced for home construction since hurricane Greta (September 1978).

Belmopan was established with a safe water supply and public septic tank; however, Belize City with one third of country's population has primitive sanitation conditions, lacking both a nearby potable water supply and waterborne sewerage system. A project to develop these systems has been underway since 1977. Rural areas generally lack safe water supplies, but UK is financing projects to provide piped water in Orange Walk, Corozal, and San Pedro; CIDA is studying potential small-scale village systems.

## 6. Economy

### 6.1 Overview of Economy

Forestry was backbone of economy until recent years when resources began showing signs of depletion. Sugar has become most important agricultural product and mainstay of the productive economy. Despite its strong potential (7 acres of arable land per capita), agriculture (including forestry and fishing but excluding sugar milling and citrus canning) produces only 23% of GDP while manufacturing contributes 14% and services about 54%. Trade has highly significant role, import payments and export receipts totaling 162% of GDP (125% of GDP if re-exports to Mexico are netted out).

Real GDP grew at an average of about 5%, 4% per capita, annually between 1972 and 1977. Agricultural growth averaged 5% a year with expansion of sugar and establishment of banana industries; manufacturing grew by over 9% a year as export-oriented garment industry and a number of import-substitution industries developed; services showed slower growth at 4%. Despite heavy damage to citrus and banana crops and to private property from Hurricane Greta in 1978, real GDP continued strong growth at 6% as sugar yielded record crop and manufacturing grew by 10%. Central government's finances are sound: an estimated current account surplus of BZ \$7.2 million was achieved in 1978. However, the rest of public sector continued to record deficits.

Although Belize has potentially strong physical resource base, it faces development problems in a shortage of agricultural laborers to harvest sugar and citrus crop and in a serious lack of trained technicians, planners, and managers. In contrast, there is a relatively large pool of unskilled unemployed in urban areas.

Manufacturing, heavily concentrated in Belize City and employing about 1500, is based partly on agricultural output (sugar and citrus with possible long-range prospects for secondary processing of expanded livestock, timber, and other production). Garment manufacturing dominates industry proper. Potential growth of industry is limited by small domestic market, lack of technical capacities, present limited possibilities for agricultural processing. Belize has no known mineral resources but prospects for discovery of exploitable oil and natural gas are thought to be good and commercial exploration is going forward. The tourist industry has limited potential for development.

6.2 GNP

GNP per capita in 1977: US\$ 810

	<u>Gross National Product in 1977</u>		<u>Annual Rate of Growth</u> (%, constant prices)	
	<u>US\$ mil.</u>	<u>%</u>	<u>1972-76</u>	<u>1977</u>
GNP at Market Prices	98.6	100.0	5.3	3.0
Gross Domestic Investment	31.5	31.9	n.a.	n.a.
Gross National Saving	9.7	9.8	n.a.	n.a.
Current Account Balance	-21.8	22.1	n.a.	n.a.
Exports of Goods, NFS	72.4	73.4	3.8	29.6
Imports of Goods, NFS	93.4	94.7	n.a.	n.a.

Source: World Bank, Current Economic Position and Prospects of Belize.

6.3 Imports

Merchandise imports increased from average of 70% of GDP (1972-74) to over 85% (1975-77), the increase coming from increased transit trade, (mainly to Mexico -- threefold growth in value 1972-77), the rise in price of oil imports, and the increase in investment. Imports by end-use category, 1977 (US\$ million): food (20.1), beverages and tobacco (1.9), crude materials (0.7), fuels (11.7), oils and fats (0.2), manufactured goods (6.3), machinery and transport (14.3), miscellaneous manufactured goods (22.7), miscellaneous (0.4) for total of 90.1 (c.i.f.). Major trading partners: US 34%, UK 25%, Jamaica 7% (1970). The EEC and Canada are among other suppliers.

6.4 Exports

Sugar, together with molasses, made up 55% of domestic exports in 1977. Belize has quota of 41,000 tons for US/EEC preferential market and depends on world market for balance. Total domestic exports grew by 6.5% per year 1972-77. In addition to sugar, garments and bananas largely accounted for growth.

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Merchandise exports by major commodities, 1977 (US\$ million): sugar (23.9), citrus products (1.6), fish products (3.0), bananas (1.5); mahogany (0.6), molasses (1.2), garments (9.5), other (3.2). Total domestic exports valued at \$44.5 million and re-exports at \$17.6 million for total \$62.1 million.

Major trading partners: US 30%, UK 24%, Mexico 22%, Canada 13%..

## 7. Agriculture

### 7.1 Overview of Agriculture

With low population density and extensive areas of arable land, Belize is believed to have capability of becoming the "bread basket" of CARICOM countries, but present agricultural performance is well below potential. Employing 40% of labor force and providing 74% of domestic exports in 1977, the sector contributed only 19% of GDP while agrobusiness contributed another 10% and food imports constituted 20% of total. 2.2 million acres (nearly 40% of land) are suitable for agriculture and another 2.6 million for forestry, yet only 250,000 acres (less than 10% of land) were under cultivation in 1975.

Land ownership is highly skewed: government owns over 60% of land; two individuals own 40% of rest. Absentee landlords own much of most accessible land and have made only minimal attempts to develop it. Farms tend to be either small, producing food crops with use of farm labor, or large-scale, producing for export in mechanized operations. Best prospects for significant expansion of production, according to IBRD assessment, lie with 2,000 medium size commercial family farms, although the 6,000 small farmers, including Maya and Kekchi Indians, using cut and burn system, could, with assistance, become settled and more productive. Lack of suitable local management and an adequate seasonal labor force limits possibilities for expansion of large-scale farming for export.

An IBRD study suggests the following measures if agricultural potential is to be realized: expansion of extension and research programs and greater availability of credit; improvement in capabilities of Belize Marketing Board; improvement in investment climate to attract foreign capital; use of technical expertise; change in tax laws to reduce incentive to hold undeveloped land; unified soil and water conservation program.

### 7.2 Export Crops

Sugar dominates sector and economy, its cultivation and production (including molasses) contributing 17% of GDP about half of domestic exports in 1977. Record 114,000 tons produced in 1978, 24% above 1977 level. exports by 1983 projected at 125,000 tons, 4.6% average growth over 1978 level, despite labor shortage and outbreak of smut disease.

Citrus is second most valuable crop, Stann Creek Valley the major grapefruit and orange producing area. Although production increased in 1977/78, it was 30% below record 1973/74 crop and below expected output before Hurricane Greta dealt damaging blow to the industry. Production increases from largest producers hampered by labor shortage; potential judged greater with small growers whose generally low yields could be enhanced by better grove management and agricultural inputs. 1977 exports constituted 3.5% of total.

Commercial banana production began in 1972; 10,737 tons exported to UK in 1977. Increases in output expected to play major role in agriculture's share of GDP and in exports over next 5 years. Exports projected to reach 35,000 tons by 1983.

### 7.3 Food Crop

Corn, rice, and red kidney beans are important food crops in which Belize is rarely self-sufficient, though production of all could be increased through improved farming methods. Belize hopes to eventually become rice exporter, especially to CARICOM countries, but present production does not exceed domestic requirements. About 4,800 acres are under mechanized cultivation by one grower; 3,500 acres are under shifting cultivation by small farmers in Toledo district. Government proposes to diversify crops through reintroduction of coconuts and mechanized cassava cultivation. Other food crops are yams; sweet potatoes, "Irish" potatoes and a variety of vegetables.

### 7.4 Livestock

Beef production meets local demand and some is exported, but the country is not self-sufficient in dairy products, among largest imported food items. The Mennonite community in Spanish Lookout, Cayo district, produces most fresh milk as well as poultry products. High cost of clearing land is one reason for failure of livestock industry to develop. Government hopes to expand national herd from 50,000 to 100,000 head. There are good prospects for expanded pig production although swine fever has been a problem.

### 7.5 Fishing

Belize has good fishing resources and an industry well organized in cooperative form which supplies both domestic and export markets. Spring lobster, scale fish, conch, shrimp, and some turtle meat are products of the industry. Potential for fishing outside barrier reef virtually untapped.

### 7.6 Forestry

While forests were once the economic mainstay and remain the major natural resource, the forestry industry now has difficulty meeting increased local demand for timber and sawn wood. Large potential remains, however, on 4,700 square miles of exploitable forests containing over one billion cubic feet of timber, mainly tropical hardwoods. Production of rapid yielding softer woods seen as possible and reforestation as essential. Sapodilla, source of chicle, grows abundantly.

## 8. Physical Geography

### 8.1 Climate

The climate is subtropical and humid. Trade winds moderate coastal temperatures which range from 50° F to 96° F. Average maximum shade temperature in Belize City is 85° F; minimum is 73° F. Inland temperatures have wider range. Lowland temperatures average 80° F and highlands about 72° F. November to March is cool season when night temperatures may drop to 45° F in lowlands and to 37° F in highlands. "Northers" may lower temperatures to 40° levels and bring accompanying rains.

Annual rainfall averages vary from 50" in northern part of country to 170"-175" in extreme south. Averages over a ten year period are as follows: Belize District, 69"; Corozal, 53"; Orange Walk, 54"; Cayo, 69"; Stann Creek, 95"; Toledo, 156". A warm humid rainy season lasts from June to October, often interrupted by a short dry spell in August. The long dry season extends from February to May. Tropical storms and hurricanes occur from July to October. (See also section 3.6, Disaster History.)

### 8.2 Land Forms

Belize lies on the Caribbean coast of Central America between latitudes 18°29' and 15°53' N and longitudes 89°9' and 88° 10' W. Its area of 8,867 square miles, extending 179 miles NNE-SSW and 68 miles WNW and ESE, is bounded on the north by Mexico, on the east by the Caribbean Sea, and on the south and west by Guatemala. Structurally, Belize is southern continuation of the Yucatan Peninsula.

A ten-mile wide coastal plain is low-lying, swampy, covered with mangrove, and heavily indented by lagoons. Except for Manatee Hills, the country north of Belize City is flat. To the south the land rises toward the central mountain range, the Maya mountains (Cockscombe Mountains) with elevations ranging from 2,000' to 3,000'. Victoria Peak is highest point at 3,800'. The country is forested with hardwoods on all but coastal savanna and swamplands and mountain tops.

### 8.2 Land Use

38% agricultural (5% cultivated), 46% exploitable forest, 16% urban, waste, water, offshore islands or other.

### 8.3 Rivers

The country is drained by 17 rivers, the principal ones being the Rio Hondo, which forms northern boundary with Mexico; the New River, which rises in north central region and flows roughly parallel to Rio Hondo; the Belize River, which rises near border with Guatemala and flows across country W-E; and the Sarstoon, which forms southern boundary. Some river transportation is apparently possible but information is lacking as to extent.

### 8.4 Coasts

The coastline from mouth of Rio Hondo in north to mouth of Sarstoon River in the south is 174 miles long. Small offshore islands or cays and a long coral barrier reef provide protection for harbors. Coastal waters north of Belize City are shallow; those to south are deep enough to accommodate large ships.

## 9. Transportation and Logistics

### 9.1 Road Network

The national highway system is judged adequate for existing and potential traffic densities with completion of current upgrading program, although more feeder roads will be needed as arable lands are brought into use. The network of about 1000 miles consists of 345 miles of primary roads, of which 185 miles are asphalted and 160 miles are gravel roads; 440 miles secondary and tertiary gravel roads; and about 225 miles unpaved farm to market roads and unimproved tracks. All main population and production centers have primary road access. Western Highway extends from Belize City to near Belmopan; upgrading of 17-mile stretch from Belmopan to San Ignacio, 9 miles from Guatemala border, is expected. The Northern Highway from Mexico border to Belize City, servicing sugar growing area, is under construction. Improvements are being made on Hummingbird Highway which links Dangriga (Stann Creek) with Belmopan. The 100-mile Southern Highway between point near Dangriga and Punta Gorda, servicing banana and rice-growing areas, is only major road not asphalted. 112 miles of feeder roads being constructed in north. Traffic densities generally low.

### 9.2 Vehicles

In 1974, there were 3,346 passenger cars and 2,631 commercial vehicles.

### 9.3 Surface Miles

<u>From</u>	<u>To</u>	<u>Miles</u>
Belize City	Belmopan	50
	Benque Viejo del Carmen	81
	Corozal Town	96
	Orange Walk Town	66
	Punta Gorda	150
	Stann Creek Town	100+ (36 miles by sea)
	San Ignacio	72

#### 9.4 Railroads

There are no public railroads; a logging railway connects some forest areas to New River.

#### 9.5 Ports

The main port at Belize City is a lighterage port; a new port being constructed one mile south of city, scheduled for March 1979 completion, will include 214-foot pierhead in 18 feet of water at the end of 2500 foot long single line (12 feet) tressie, perpendicular to coastline. Because of limited depth of water at pierhead, some lighterage will still be necessary, though port designs do not include berth for lighters. Belize is expected to become feeder port to Puerto Cortes in Honduras (100 nautical miles away) which has modern container berth; thus new port in Belize will still need a new shallow water low-level facility on shoreline to accommodate both lighters and barges. System using towed barges for container movements already operating for export of citrus from Commerce Bight Jetty (will be rebuilt in 1979) and for bananas from pier in Big Creek.

#### Belize

- Coordinates: Lat. 17°29'20" N; long. 88°11' W (this is the lat. and long. of Fort George on the N side of the entrance to the river).
- Accommodation: Depth at entrance, 15 fms. The harbor has from 2 1/2 to 6 fms. of water. Depth at quays, 1 m. Belize stands on both sides of the mouth of the river. Vessels anchor about 1 to 3 miles from the town according to draft, and discharge into barges.
- Storage: Five warehouses, not refrigerated, controlled by Government.
- Cranes: One 20-ton Port Authority crane and one 20-ton private crane.
- Water: Available.
- Bunkers: Available in very limited quantities and with prior notice from Esso and Shell.
- Development: A new deep water Jetty is being planned.

Pilotage: Compulsory.

Local Holiday: March 9 (Baron Bliss Day).

Airport: Belize International 9 miles WNW.

9.6 Shipping

Weekly freight, passenger and mail service is provided by Southern Coastal. Ships lines with vessels calling at Belize City include Harrison, Royal Netherlands, United Brands, Buccaneer, Canada, Jamaica, Caribbean, and "K".

9.7 Airports

With regular air connections to Miami, New Orleans, San Salvador, San Pedro, Sula, and Tegulcigalpa (Honduras), Belize City International Airport, 10 miles from city, has 6300 foot runway, accommodating aircraft up to Boeing 720B. Airport is transport stop for Belize Airways Ltd. (BAL - est. 1977), TACA and TAN/SASHA. 2,281 tons of cargo were handled and 138,822 passengers used airport in 1977. An additional 12 government owned and maintained airstrips and 8 privately owned airstrips have 2000' runways. Mayan Airlines providing scheduled domestic services with 9-seat Islander aircraft to major cities has flights handled by Belize City municipal airport (1 mile from city) where strip is, however, substandard.

NB: For up-to-date information consult latest issue of weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

BELIZE/Int'l

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp C</u>	<u>Runway Characteristics</u>			<u>Aircraft</u> <u>Strength</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
		<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft/</u> <u>Length M</u>		
17°32'10"N 88°18'20"W	5 30	07/25	0.01	1920	LCN45h84	100JA1

Remarks: REG S; alternate aerodromes: San Pedro Sula/Ramon Villeda Morales.

Aids: ILS(PO), DME(P3), VOR(P3), LSA(P3), LVA(PO), LTX, LB, LO, MD, MC, L4. Advance notice of fuel requirements necessary. No telex. (See Appendix I for key.)

#### 9.8 Personal Entry Requirements

Passport not necessary, but recommended. Visa not required. See also section 1.9, Visa and Travel Information.

#### 9.9 Aircraft Entry Requirements

All private and non-scheduled commercial aircraft overflying or landing for non-commercial purposes need not obtain prior permission. However, a flight plan must be on file prior to departure to provide prior notification of flight.

Non-scheduled commercial aircraft landing for commercial purposes must, additionally, obtain prior permission from the Chief Civil Aviation Officer, P.O. Box 367, Belize City, Belize, Central America (telegraphic address: CIVILAIR BELIZE telex: none) at least 48 hours prior to departure. All requests must include provision for prepaid response. All requests must contain (a) name of aircraft operator; (b) type of aircraft and registration marks; (c) dates and times of arrival and departure; (d) place or places of embarkation or disembarkation abroad of passengers and cargo; (e) number of passengers and type and amount of cargo; (f) purpose of flight; (g) type of servicing and amount of fuel required.

#### Special Notices :

1. COCESNA keeps Belize ATC informed on movements of aircraft in the area. However, this does not relieve pilots from the responsibility of contacting Belize ATC when in Belize airspace.

Pilots must radio Belize tower of intention to land. Fees are charged to all aircraft overflying the territory of Belize.

2. Upon landing, pilots must produce aircraft certificates of registration and airworthiness, pilot's license and medical certificate. Customs, health and immigration clearances are required.

- 3. Non-scheduled commercial flights landing for non-commercial purposes, in addition to filing a flight plan, must provide prior notification of intention to land for servicing including the type of servicing and the type and amount of fuel required.

9.10 Airlines

Domestic: Belize Airways Ltd. (BAL); national airline; plans to operate services to Miami, USA; fleet: 5 Boeing 720 B.

Maya Airways Ltd.: P.O.B. 458, 111 North St., Belize City; internal services; fleet: 4 BN-2A Islander, 2 Cessna U 206.

Foreign: SASHA (Honduras), TACA (El Salvador), TAN (Honduras).

9.11 Air Distances

From Belize to:	<u>Stature Miles</u>
Houston (via New Orleans).....	1,181
Miami (via Tegucigalpa, Guatemala City)....	1,499
New York (via New Orleans).....	2,042
New Orleans.....	871
Panama City (via Tegucigalpa, San Pedro, Sula, Managua, San Jose).....	1,165
Washington, D.C. (via New Orleans).....	1,839

## 10. Power and Communications

### 10.1 Electric Power

The Belize Electricity Board supplies national system by diesel powered generators in ten different locations including Belize City, Belmopan, Corozal Town, Orange Walk, Stann Creek Town, San Ignacio, Punta Gorda, and San Pedro village. Installed capacity is 20,479 kW but actual derated capacity is only 10,852 kW, partly because of obsolescence of a number of generators. Annual load factor of system is 44% with that of Belize City 65%. Private installed capacity for sugar and sawmilling industries is an estimated additional 7,200 kW. Existing BEB system is in poor condition, lacking regular maintenance; load shedding frequent. Since two largest generators represent more than half of system maximum demand and generators in towns cannot be interconnected, reliable service to consumers now impossible. Promising site for hydro development on Belize River has been identified.

Consumer servicing is given at 110/220 volts two or three wire single phase service and 220 or 440 volts four wire 3 phase service, all at 60 hertz.

### 10.2 Telephone System

Present system has three main levels of trunk lines with connections to international centers: rural lines link village communities surrounding switching centers; network of lines connects switching centers to subscribers in urban areas; long distance transmission lines connect district exchange offices. With capacity of 4,050 lines and 99 trunks, system reportedly suffers from congestion on trunk lines, inadequate switching and cable plant capacities. An improvement program to be phased in over six year period includes (a) expansion of switching capability by doubling number of lines to 8,100; (b) increasing number of trunk circuits for projected needs for next 10 to 15 years; (c) installation of four new exchanges. There are approximately 5,600 telephones in network (4.3 per 100 pop.).

Cable and Wireless, Ltd. provides external telegraph and radio telephone services as well as cable and telex services. Radio telephone connections can be made with most parts of the world via Jamaica or Miami.

### 10.3 Radio Network

Radio broadcasting provides rural population with only means of communication with urban centers, but present coverage is weak due to age of transmitters, poor links between them, and night sky interference from neighboring stations. Ministry of Home Affairs has requested funding from UK and EDF to carry out first phase of change-over to VHF FM broadcasting. Improvements, including installation of two 10 kW VHF FM transmitters at Ladyville, 10 miles north of Belize City, three 100-watt VHF FM transmitters, and a 160 meter guyed mast are expected to overcome most of current problems.

Radio Belize: P.O.B. 89 Belize; government-operated semi-commercial service. The station broadcasts 17 hours a day in English and Spanish; coverage 100 miles from Belize City on 834 kHz (20 KW). It also operates on 920 kHz (1 kW) from Belmopan.

68,000 radio receivers were in use in 1975.

1. General Information1.1 Geographic Codes

AID	542
FIPS	DOA
State Region	ARA

1.2 Country Names

Official	Commonwealth of Dominica
Local	Dominica
Short	Dominica

1.3 Calendar and Holidays

New Year's Day.....	January 1
Carnival (Shrove Mon. and Tue.).....	*
Good Friday.....	*
Easter Monday.....	*
May Day.....	May 1
Whit Monday.....	*
Emancipation Day.....	1st Monday in August
National Day.....	November 3-4
Christmas.....	December 25
Boxing Day.....	December 26

\* variable dates

Early closing day: Saturday

Fiscal year: 1 July - 30 June

1.4 Currency

Eastern Caribbean Dollar the currency of Dominica issued in denominations of 1, 5, 20, and 100 bills; \$1EC = 100 cents.

\$2.70 EC = \$1 US (Jan. 1980)

### 1.5 Time Zones

EST + 1; GMT - 4

### 1.6 Visa and Travel Information

Passports are required by all except:

(a) a person under the age of sixteen years.

(b) a bona fide visitor for a period not exceeding six months who is either a British subject from part of the Commonwealth, other than the Windward Islands, or a citizen of the United States. Either such person must have started the journey from country of citizenship and hold a return ticket to that country.

(c) all such passengers must hold some identity document.

(d) visas are required by all aliens except those exempt under "passports"; nationals of Belgium, Denmark, Finland, France, Greece, Iceland, Italy, Liechtenstein, Luxembourg, Netherlands, Norway, San Marino, Sweden, Switzerland, Spain, Tunisia, Turkey, Uruguay and USA; those in direct transit except from Iron Curtain countries; Cuban Nationals.

Yellow fever certificate required of travelers arriving from infected areas. Smallpox vaccination required of travelers over one year old arriving from a country any part of which is infected.

### 1.7 Treaties and Agreements

Investment Guaranty Agreement  
Peace Corps

### 1.8 International Organization Membership

CARICOM, U.N.

### 1.9 Ethnic and Sociocultural Groups

Most of population is Black, of African descent; 2% are white. There are still about 600 Caribs living mainly in the village of Salybia.

### 1.10 Religions

80% of population is Roman Catholic. Other faiths represented include Anglican and Methodist.

### 1.11 Languages

English is the official language and the language of commerce; local French patois spoken by majority.

### 1.12 Education and Literacy

Education is compulsory and free from ages 5-15. Primary school enrollment 96% in 1970; adult literacy rate 80%.

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## 2. Government

### 2.1 National Government

Recent independence dissolved status as an Associated State of the United Kingdom; defense and external affairs now the responsibility of Dominica.

Executive branch comprised of a President and a Cabinet with latter made up of a Premier and not more than five ministers, excluding the Attorney General. Legislative branch vested in a House of Assembly with 21 elected members, 3 nominated members, 1 ex-officio member, and a Speaker. Political parties include Dominica Labor Party (DLP), Dominica Freedom Party (DFP), and People's Democratic Party.

### 2.2 Regional Organization

Parishes: St. John and St. Peter in northwest; St. Andrew in northeast; St. Joseph and St. Paul in west central; St. David in east central; St. George, St. Luke, and St. Mark in southwest; St. Patrick in southeast.

#### Town

Councils: Administration of the towns of Roseau, the capital, and Portsmouth, the second largest town, under the control of town councils each of which consists of five elected and three nominated members.

#### Village

Councils: 25 village councils in all (partly nominated and elected): Marigot, Vieille Case, Grand Fond, St. Joseph, Wesley, Calibishie, Bense-Anse De Mai, La Plaine, Atkinson, Giraudel-Eggleston, Paix Bouche-Moore, Park Belle Maniere, Woodford Hill, Grand Bay, Coulibistrie, Castle Bruce, Thibaud, Petite Savanne, Dublanc-Bioche, Colihaut, Morne Jaune-Riviere Cyrique, Scotts-Head-Soufriere, Lower Penville, Pointe Michel, Bagatelle, Fond St. Jean, Pointe Carib, and Clifton-Cocoyer-Capuchin.

### 2.3 Major Government Figures (April 1981)

President.....Marie, Aurelius  
 Prime Minister.....Charles, (Mary) Eugenia  
 Min. of Communications, Works,  
     Tourism & Industry.....Dyer, Henry  
 Min. of External Affairs,  
     Development & Projects.....Charles, (Mary) Eugenia  
 Min. of Health, Education &  
     Youth Affairs.....Maynard, Charles  
 Min. of Home Affairs, Industrial  
     Relations, Housing & Women's  
     Affairs.....Alleyne Brian  
 Min. of Trade, Agriculture, Land,  
     Forestry, Fisheries & Cooperatives.Alexander, Hesketh  
 Attorney General.....David, Roman

### 2.4 1980 Status

The moderate Dominica Freedom Party (DFP) won a landslide victory in the July 1980 elections, the first since independence. Mary Eugenia Charles, DFP leader, became head of state.

### 3. Disaster Preparedness

#### 3.1 Host Disaster Plan

Dominica's disaster plan designed specifically for hurricanes, although plan's procedures apply to all other disaster types. Central Hurricane Committee advises government on damage and regional relief operations but district and local hurricane committees responsible for most of immediate relief efforts and assessment; district committee chairmen empowered to initiate most urgent relief measures as they see fit. Red Cross responsible for coordinating housing plans for homeless and distribution of clothing. Complete details of disaster plan on file at OFDA offices, Washington, D.C.

#### 3.2 Central Hurricane Committee

1. Honorable Premier - Chairman
2. Honorable Minister for Agriculture, Trade and Natural Resources
3. Honorable Minister for Education and Health
4. Honorable Minister for Home Affairs
5. Honorable Minister for Communications and Works
6. The Secretary to the Cabinet
7. The Financial Secretary
8. Permanent Secretary, Agriculture, Trade and Natural Resources
9. Permanent Secretary, Education and Health
10. Permanent Secretary, Home Affairs
11. Permanent Secretary, Communications and Works
12. The Mayor of Roseau
13. The District Officer, Northern District
14. The Government Officer, Eastern District
15. The Magistrate District "E"
16. The Dean of Roseau
17. The Rector of St. Georges
18. The Methodist Superintendent
19. The Director of the Dominica Red Cross
20. The Commissioner of Police
21. The Local Government Commissioner
22. Commanding Officer, Dominica Defense Force
23. Weather Reporting Officer
24. The Chief Medical Officer

### 3.3 Warning Systems

In the event of a hurricane, continuous bulletins will be issued by Radio Dominica. In addition, various signals will be made by rocket flare and/or flag; signal type depends upon whether warning denotes caution, danger, or cancellation of alert. Procedures in the event of a warning posted in Roseau and Portsmouth Police Stations.

### 3.4 Disaster Types

Hurricanes the most frequent disaster type; others include droughts and earthquakes.

### 3.5 Hurricane David

Hurricane David hit Dominica August 29, 1979, claiming 42 lives and causing severe damage. Approximately 70% of housing and 80% of agricultural crops (100% of banana crop) destroyed; newly completed warehouse at Roseau port, and much of Princess Margaret Hospital also in ruins (only sturdy concrete buildings withstood the winds). GOD estimates it will need 1.5 billion for rehabilitation and is currently seeking funds from foreign governments and private sources.

4. Population4.1 National Population

60% of total population live on leeward (west) side of island where the two main population centers are located: Roseau in southwest, the capital, chief port and main administrative/commercial center with 18,141 people (1976); and Portsmouth in northwest, bordering Prince Rupert Bay.

1976 estimate of total population 76,700 (World Bank); annual growth rate 1.2% (1970-77). Population density 103 per sq km; 351 per sq km on arable land.

Population as of April 1970: Total 70,302; Males 33,556, Females 36,746.

4.2 Population Distribution

St. George	20,114
St. Joseph	6,393
St. Paul	4,459
St. Luke	1,622
St. Mark	1,943
St. Patrick	10,085
St. David	6,709
St. Andrew	11,998
St. John	5,283
St. Peter	1,696

4.3 Urban Centers

Roseau	16,016
Portsmouth	2,329
Marigot	3,183
Grand Bay	3,152
La Plaine	1,188
Castle Bruce	1,474
St. Joseph	2,643

## 5. Health, Nutrition and Housing

### 5.1 Major Diseases

Although considerable improvement in the level of public health has been made in the last decade, Dominica still plagued by high incidences of typhoid fever, diphtheria, bacillary dysentery, tetanus, and malaria. Incidence rate for yaws of 282.2 cases per 100,000 population the highest rate in Latin America; tuberculosis and anemia also common.

### 5.2 Vital Statistics

As of 1977:

Crude birth rate (per 1,000)	22.3
Crude death rate (per 1,000)	6.7
Infant mortality (per 1,000 live births)	24.1
% of population under 15 (1976)	43
Life expectancy at birth (1958-62)	58

Source: World Bank, Current Economic Position, 1979.

### 5.3 Health Facilities

Princess Margaret Hospital in Roseau the main facility on Dominica; includes a tuberculosis ward. In addition, a 40 bed hospital in Portsmouth, small cottage hospitals at Marigot and Grand Bay, and 12 health centers island-wide. As of 1972, 289 hospital beds available on Dominica along with 42 health establishments providing outpatient services.

Dominica's health services can be characterized as substandard and inadequate to the needs of the population. Due primarily to a lack of financial resources, there is a general dearth of trained personnel, equipment, supplies and transportation; most health facilities are in poor condition, however renovation is underway on the three main hospitals and the health centers at La Plaine and Delices.

#### 5.4 Health Personnel

As of 1972: 13 physicians, 2 dentists, 112 graduate nurses, 32 auxiliary nurses, 1 pharmacist, 5 lab technicians, and 3 x-ray technicians, (in government service).

As of 1977: 1 physician per 4560 population  
1 hospital bed per 230 population

#### 5.5 Housing

Majority of dwellings are old and in deteriorated condition and lack adequate sanitary facilities. Although Dominica has ample supplies of water, developed sources of potable water are inadequate for present population. Except for systems serving Roseau, Grand Bay, Vieille Case and Penville, raw water is pumped to the consumer. As of 1977, 87% of urban population and 56.9% of rural population had access to piped water. Development plans are currently underway for Calibishie, Pte. Michel, Plat Ma Pierre, Laird Kings Hill villages and part of Bath Estates. Their object is to control land development, build dwelling houses, and provide access roads and services.

## 6. Economy

### 6.1 Overview of Economy

Dominica's economy described as open (imports equal about 70% of GDP), and is dependent upon one major export crop: bananas. During 1960's economy grew but through 1970's has suffered a prolonged contraction because of declines in banana production and continuous imbalances in public finances due to deficits averaging 6% of GDP or 24% of current revenues. Between 1972-77 real GDP fell an average of 3% per year with real GDP in 1977 16% less than in 1972. Poor state of public finances has resulted in the government having difficulty providing minimum levels of services (service sector comprises 53% of GDP, of which 26% is government); only assistance from UK allowed government payrolls to be met in 1977.

Economic performance has improved in 1978 (estimated 5% growth of GDP) due to best banana crop since 1970; however, investment sector remains sluggish. Increase in agricultural incomes and impact of a back pay award to civil servants resulted in an imports increase of almost 30%. Increases in banana prices and expansion of soap and citrus exports contributed to an estimated 35% rise in export values, but the current account deficit remained at US \$5.2 million or 15.5% of GDP.

### 6.2 Public Finances

Components of public finance weaknesses are as follows: few exploitable natural resources combined with mostly poor soils and inhospitable terrain increases burden of high fixed costs of governing a country; government must provide relatively large range of social services for a population with a 60% dependency ratio; narrow revenue base; few large-scale enterprises or estates; major export grown mostly by small holders at subsistence levels. With taxes now at high levels (25% of GDP) and few opportunities for reducing expenditures, disturbing paradox of economic expansion the only "solution" to fiscal problems. Given small private sector, increased government activity seems unavoidable.

6.3 Balance of Payments

Due to a narrow resource base 1972-77 balance of payment has been in serious imbalance. 1977 imports and exports of goods and non-factor services equivalent to 66% and 42% of GDP respectively.

Balance of Payments, 1974-78  
(US\$ million)

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>Prelim.</u> <u>1978</u>
Exports of Goods, NFS	14.0	14.1	13.9	14.9	19.4
Imports of Goods, NFS	19.1	20.7	19.1	21.9	28.3
<u>Resource Balance</u>	-5.1	-6.6	-5.2	-7.0	-8.9
Net Factor Services Payments	-0.4	-0.6	-0.6	-0.6	-0.7
Transfers (net)	1.1	1.9	2.1	2.4	4.4
<u>Current Account Balance</u>	-4.4	-5.3	-3.7	-5.2	-5.2
Private Capital	3.0	0.2	0.9	-1.3	-2.0
Public Capital	1.3	6.7	2.9	4.9	6.1
Grants	(0.1)	(3.2)	(0.9)	(2.2)	(6.2)
Loans		(3.3)	(2.6)	(2.5)	
Amortization	(1.0)	(-)	(-0.8)	(-)	(-0.2)
Public Financial Inst.	(0.2)	(0.2)	(0.2)	(0.2)	(0.1)
Rest of Financial System	-0.3	-1.5	-0.8	1.4	1.1
<u>Capital Account Balance</u>	4.0	5.4	3.0	5.0	5.2
Change in International Reserves (-increase)	0.4	-0.1	0.7	0.2	-

Source: IMF, Mission estimates as cited by World Bank, Current Economic Position, 1979.

#### 6.4 Industry

Potential for industrial development based on local resources is limited; only viable possibilities are development of a forestry industry and expansion of Dominica Coconut Product Ltd. if coconut output increases. In 1977 industry accounted for 4% of GDP and employed approximately 4% of labor force; most operations are very small. In order to increase industrial capacity Dominica will have to rely on assembly industries.

Major industries: coconut oil, copra and soap produced by Dominica Coconut Products; L. Rose & Co. produces lime and grapefruit juice. Both industries have been constrained by inadequate supply of raw materials.

Other industries: processing of agricultural products (bread, fruit preserves, rum); garment manufacturing; import substitution industries (soft drinks, concrete building blocks, tire retreading).

Prospects: Very little foreign investment in industry, although a new German-owned rugmaking operation and a planned paintmixing plant are encouraging signs.

#### 6.5 Imports

##### Merchandise Imports (US\$ million)

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Food	4.8	6.1	6.5	6.3	6.1
Beverages & tobacco	0.6	0.5	0.7	0.6	1.0
Crude materials	0.5	0.6	0.5	0.4	0.8
Fuels	0.7	1.1	1.3	1.4	1.4
Oils & fats	-	0.1	0.1	0.2	0.5
Chemicals	1.5	2.0	2.3	2.4	2.8
Manufactured goods	4.0	4.3	4.9	4.5	4.9
Machinery & transport	2.5	2.5	2.6	1.8	2.6
Miscellaneous manufactured goods	1.8	1.7	1.7	1.4	1.7
Miscellaneous	-	-	-	-	-
Total imports c.i.f.	16.5	19.0	20.7	19.0	21.8

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	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Domestic exports	8.3	9.8	10.9	10.7	11.7
Re-exports	0.3	0.4	0.4	0.4	0.3
Balance of trade	-7.9	-8.8	-9.4	-7.9	-9.8

Source: World Bank, Current Economic Position, 1979.

### 6.6 Exports

Major problems hindering export expansion include small market size, poor management, inadequate transport links and a lack of raw materials for agricultural processing due to poor output.

See Agricultural Exports, section 7.6.

## 7. Agriculture

### 7.1 Overview of Agriculture

Of crucial importance to Dominica is worsening state of agriculture, its main economic sector. Production declining throughout 1970's while no other sector has grown enough to compensate for revenue losses. Declining farmgate prices, increased production costs, falling yields, and poor marketing infrastructure have all led to increased urban migration as well as increased unemployment, and has precipitated financial crisis in public sector accounts. In 1977 agriculture accounted for 37% of GDP, 80% of export earnings (bananas 57.7% of total exports) and employed 40% of labor force. For impact of Hurricane David on agriculture see section 3.5.

Division of Agriculture responsible for development of land resources; maintains five agricultural stations and a central livestock farm. See also Overview of Economy, section 6.1.

### 7.2 Land Distribution

Distribution skewed in favor of large land holdings with 1.4% of total number of holdings occupying about 56% of land. Land tenure primarily freehold; 76% of total holdings individually owned. Due to mountainous terrain only about 40% of land is suitable for agriculture; government holds title to remaining land, which is mainly virgin forests.

### 7.3 Crops

Chief crops are bananas coconuts, cocoa, vanilla, and limes: lesser crops include cinammon and red beans with latter grown mainly in Colihaut and Coulibistrie districts.

**Bananas:** most important cash crop; shipped primarily to UK at preferential prices. Recent problem with leaf-spot disease. Yield: 3.5 tons/acre.

**Coconuts:** occupy 7 700 acres; output of 26 million nuts of which about 50% processed into copra (1977). Yield: 2,500 nuts/acre or equivalent of 1,200 lbs copra/acre.

Citrus: 8.3% of total exports (1977); grown on 4,900 acres of land, of which grapefruits, limes and oranges account for 2,500 acres, 1,500 acres and 900 acres respectively.

Other crops: recent increased production of dasheen, tannia and plantains for domestic consumption; trial crops of corn (maize), pineapple and sugar cane currently under cultivation.

Production of Selected Agricultural Products  
(tons)

	<u>1975</u>	<u>1976</u>	<u>1977</u>
Bananas	36,114	39,725	38,000
Coconuts	3,190	3,250	5,200
Limes	3,150	3,380	3,214
Grapefruit	7,500	12,750	7,143
Oranges	1,944	1,980	3,035
Dasheen	7,200	7,920	12,900
Tannia	3,300	3,630	6,600
Yams	2,100	2,200	3,000
Plantains	2,100	2,310	3,900
Cocoa	285.6	314.7	250.0

Source: World Bank, Current Economic Position, 1979.

#### 7.4 Problems and Prospects

Feeder roads from areas of production to commercial centers are pre-condition for agricultural development. Other needs include: rehabilitation programs to reverse general neglect; opening up of Crown lands for settlement; extension services; disease and pest control; increased use of fertilizer; expanded credit and marketing. Environmental conditions are very favorable to growing coffee; potential for developing indigenous fruits such as mangoes, sapodillas and avacadoes.

#### 7.5 Agricultural Imports

Increased production of staple foodcrops has resulted in a gradual decline of food imports from 32.2% of total imports in 1974 to 28.1% in 1977. See also Imports, section 6.5.

7.5 Agricultural Exports

Agricultural products account for 80% of exports; however, poor output in recent years has seriously restricted export earnings.

	<u>Merchandise Exports</u> (US\$ million)					
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Bananas	8.5	6.6	7.3	6.4	7.7	6.9
Coconut Oil	0.6	0.5	0.6	0.5	1.1	0.7
Coconuts	0.2	0.2	0.2	0.2	0.1	0.2
Coconut Meal	-	0.1	0.1	0.1	0.1	0.1
Fresh Limes	0.1	0.1	0.1	0.1	0.1	0.1
Lime Juice	0.3	0.4	0.2	0.2	0.2	0.3
Lime Oil	0.1	0.2	0.1	0.2	0.2	0.2
Oranges	0.1	0.1	0.1	0.1	0.1	0.1
Grapefruit	0.5	0.5	0.5	0.6	0.4	0.4
Cocoa	0.2	0.1	0.1	0.1	0.2	0.1
Bay Oil	0.5	0.5	0.4	0.1	0.4	0.4
Grapefruit Juice	-	0.1	-	0.1	0.1	0.2
Soap	0.1	0.1	0.1	0.2	0.3	0.9
Plantains	0.1	0.1	0.1	0.2	0.2	0.1
Other	0.1	0.1	0.3	0.4	0.4	1.0
<u>Total Merchandise</u>						
<u>Exports</u>	11.4	9.7	10.2	9.5	11.6	11.7
Re-exports	0.4	0.4	0.4	0.4	0.4	0.3
<u>Total Exports</u>	11.8	10.1	10.6	9.9	12.0	12.0

Source: World Bank, Current Economic Position, 1979.

## 8. Physical Geography

### 8.1 Climate

Tropical heat and humidity tempered by nearly continuous sea breezes which occasionally become hurricanes, usually between July and September. From November to March cooler temperatures prevail. Hurricane season is generally around September and lasts about three months; mountains to some extent neutralize destructive effects of high winds.

### 8.2 Rainfall and Temperatures

West coast usually drier as mountains take most of precipitation from Atlantic winds. In contrast, 200-300" may fall on eastern mountain slopes each year. Botanical Gardens at Roseau has recorded a 70" to 80" average per year. June to October the rainy season, although January sometimes wetter than June.

	<u>Rainfall</u> (Inches)			
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Roseau	40.64	74.41	62.28	72.09

Temperatures range between 78° and 90° F with only a small diurnal range of perhaps 4 or 5 degrees.

### 8.3 Land Forms

Dominica is the largest of the Windward Islands, roughly rectangular in shape with rounded projections at both ends; 29 miles long, 16 miles wide, for a total land area of 289.5 sq mi. It lies at the northern end of the Windward group of Lesser Antilles between Guadeloupe on the north and Martinique to the south, approximately at the intersection of parallels 15° N and 61° W.

#### 8.4 Land Use and Soils

Soils are volcanic in origin; rich but porous and unstable. Approximately 100,000 acres occupied by 9,000 farmers; 52% of land held by 1% of the farmers while 75% of farmers occupy less than five acre farms.

Land use as of 1974: bananas 9,000 acres, coconuts 8,000 acres, citrus 4,000 acres, other orchard crops 20,000 acres. Land classification: 4,500 acres grassland, 37,000 acres forest and woodland.

#### 8.5 Waterways

Main rivers and streams not navigable but are a source of power, and their valleys give limited access to interior. The main rivers running west to the Caribbean Sea: Indian in the north, Espangnot and Layou in the central area, and Roseau and Queens Rivers in the south. Going east to the Atlantic: the Hodges, Tweed and Clyde, (rising near Morne Diablotin), the Maciaralin, Grand Bay, Rosalie, and Wanerie.

Major water sheds are in central area of island: Layou River and Roseau River watersheds on leeward side; Clyde, Pagua, Castle Bruce and Rosalie River watersheds on Windward side. Smaller catchments are located on the Indian, Blenheim and Hampstead Rivers in the north.

#### 8.6 Mountains

Dominica dominated by a high mountain range running the length of island west of center with two lateral spurs at both ends, all of which account for its characteristically rugged scenery. Principal peaks are: Morne au Diable and Morne Brule at north projection of main range; Morne Diablotin (4,747') the highest peak and Morne Couronne dominate central area; Morne Trois Pitons at southern end; Morne Anglais and Morne Pait Pays dominate lower end of island where mountains terminate in an escarpment of high cliffs to the west and south.

## 9. Transportation and Logistics

### 9.1 Road Network

All internal traffic carried by roads. As of 1978 470 miles of "motorable" roads of which 230 are asphalted, 168 miles gravel or tarish (a kind of laterite), 72 miles unsurfaced, and approximately 282 miles of tracks through the forests. Access to the interior is mainly by gravel or unsurfaced roads. Major problems are poor drainage, insufficient maintenance and no comprehensive rehabilitation program. Some road development is now underway.

#### Major Road Networks

	<u>Total Paved Width</u> (feet)	<u>Paved Length</u> (miles)	<u>Unpaved Length</u> (miles)
West Coast			
Portsmouth-Layou	12	7	9
Layou-Roseau	12	12	-
East Coast			
Marigot-Petit Soufriere	-	-	14.3
Petit Soufriere-La Plaine	12	4.6	-
La Plaine-Grand Bay	-	-	15
Northern Dominica			
Portsmouth-Marigot	10	18	-
Central Dominica			
Roseau-Pointe Casse	7	8.8	-
Pointe Casse-Marigot	9	18.0	-
Pointe Casse-Petit Soufriere	12	10.0	-
Pointe Casse-Layou Village	12	8.4	-
Southern Dominica			
Roseau-Grand Bay	10	10.6	-
Roseau-Soufriere	-	-	8.2

Source: Dominica National Plan, 1976.

### 9.2 Vehicles

3,574 registered motor vehicles in 1976.

9.3 PortsRoseau

Coordinates: Lat. 15°17' N; long. 61°24' W.

Accommodation: Open roadstead, 27.5 to 74 m. One L-shaped steel and concrete pier, 45.71 m. long; depth alongside 6.1 m. Three mobile powered cranes of 15, 5 and 3 tons maximum lifting capacity. Fresh water for small vessels alongside.

Prince Rupert's Bay, Portsmouth, 5.6 km across, 12 km inland, 12 to 183 m. Anchorage 12 to 35 m. One jetty 34.13 m. long by 4.57 m. wide and 2.13 m. depth at base; chiefly used for shipments of fertilizer.

Two wharves, 152.5 m. and 45.75 m. long, at Woodbridge Bay.

Storage: Transit sheds.

Provisions: By prior arrangement through Ship's agent.

Water: Available at all berths.

Bunkers: Gas oil only from road tank wagon alongside pier.

Pilotage: Compulsory for vessels over 100 g.r.t. V.H.F. 16/14, watching 08:00 to 16:00 hours and 2 hours prior to E.T.A.

Traffic: 1977, 610 vessels. Imports, 57,000 tons; exports 45,000 tons.

Medical Facilities: Princess Margaret Hospital at Roseau.

Airport: Melville Hall, 48 km.

Local Holidays: New Year's Day, two day Carnival, Good Friday, Easter Monday, Whit Monday, National Days (November 3 & 4), Christmas Day, Boxing Day.

Working Hours: Mon. to Fri. 07:00 to 16:00 hrs. Sat. 07:00 to 12:00 hrs.  
Overtime, Mon. to Fri. 16:00 to 24:00 and 06:00 to 07:00  
and Sat. 12:00 to 18:00 and 06:00 to 07:00 hours (50%  
extra). Double time, Mon. to Fri., 00:00 to 06:00 hours.  
Sat. 18:00 to 06:00 hours, also Sun. and Bank Holiday (100%  
extra).

### 9.5 Shipping

Steamship services are provided by Compagnie Transatlantic Ltd.,  
Lamport and Holt Line Ltd., Grimaldi Sicca Lines, Royal Netherlands,  
Saguenay Shipping Lines, Geest Line, Booth American Shipping Corporation,  
Atlantic Line, the West Indies Shipping Service, Harrison Line, Seaway  
Line, Booker Steamship Co., and Caribbean Shipping Line.

### 9.6 Airports

Main airport at Melville Hall in northeast, 36 miles from Roseau.

NB: For up-to-date information consult latest issue of weekly Inter-  
national Notams, International Flight Information Manual, and/or  
ICAO's Air Navigation Plan for appropriate region.

Dominica I./  
Melville Hall

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp C</u>	<u>Runway Characteristics</u>			<u>Aircraft</u> <u>Strength</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
		<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft/</u> <u>Length M</u>		
15°32'30" N	24	08/26	n.a.	1460	AUW 14	n.a.
61°18'38" W	30.1				P0	

Remarks: Alternate Aerodromes: Fort-de-France/Le Lamentin,  
Pointe-a-Pitre/Le Maizet.

Aids: RL, MD, MC, MT, MTX. Stopway 26-60. (See Appendix I for key.)

### 9.7 Airlines and Air Service

Leeward Islands Air Transport, along with Air Guadeloupe and Air Martinique, provides up to six scheduled passenger flights daily.

Non-scheduled freight service is provided by Sea-Green Air Transport, Caribbean Air Services, Shamrock Airline, Guyana Airways, Calypso Airways and Dominica Airways Ltd., and a locally based company also offers passenger and cargo charter flights using DC-3 Aircraft.

### 9.8 Air Distances

From Dominica to:	<u>Statute Miles</u>
Houston (via Guadeloupe, San Juan, New Orleans).....	2,429
Miami (via Guadeloupe, San Juan, New Orleans).....	1,451
New Orleans (via Guadeloupe, San Juan, New Orleans).....	2,119
New York (via Antigua).....	1,918
Panama City (via Guadeloupe, Caracas).....	1,461
Washington, D.C. (via Guadeloupe, San Juan).....	1,974

## 10. Power and Communications

### 10.1 Electric Power

Total installed capacity (1977) 6,621 kW of which 2,840 kW is hydro; installed diesel capacity (2,250 kW) is used primarily for peak load generation. 3 electrical systems supply Dominica: the Roseau system connected to the Trafalgar and Padu power stations serving Greater Roseau with 11 kV overhead lines going south to Scottshead and Grand Bay, and north to Portsmouth; the Blenheim and Melville Hall systems are connected to small diesel generators serving smaller areas around Vielle Case, Melville Hall Airport and Marigot. Trafalgar hydro power station (three turbines) has about 1,000 kW generating capacity; Padu Power Station has two turbines with an output of 1,500 kW; a diesel generator of 1,650 kW also serves Roseau area. Melville Hall and Blenheim Stations each have two diesel sets of 220 kW and 120 kW capacity respectively.

### 10.2 Telephone System

System consists of eight main exchanges: three at Roseau, and one each at Portsmouth, Marigot, St. Joseph, Canefield, and Grand Bay. Total number of stations 2,619. System fully automatic and operated by Cable and Wireless Ltd. (West Indies). International telegraphy, telephony, and telex facilities available.

### 10.3 Radio Network

Dominica Broadcasting Corporation: Victoria St., Roseau; government station; 10 kW transmitter on the medium wave band for 11 1/2 hrs. per day; programs received throughout Caribbean excluding Jamaica and Guyana.

There were 9,000 radio receivers in 1977.

1. General Information1.1 Geographic Codes

AID	543
State region	ARA
FIPS	GJ

1.2 Country Names

Official	State of Grenada
Local	State of Grenada
Short	Grenada

1.3 Calendar and Holidays

New Year's.....	January 1
Independence Day.....	February 7
Good Friday.....	
Easter Monday.....	
Labor Day.....	May 1
Whit Monday.....	
Corpus Christi.....	June 9
Bank Holiday.....	August 1
Remembrance Day.....	November 13
Thanksgiving.....	November 24
Christmas.....	December 25
Boxing Day.....	December 26

\*variable dates

Note: Early closing days: Thursday and Saturday.

Fiscal year: calendar year

#### 1.4 Currency

Eastern Caribbean dollar (EC\$), the unit of currency in Grenada; issued in \$ 1, 5, 20, and 100 notes; 100 cents = 1EC\$. Coins from old British Caribbean Currency Board in silver and bronze still in circulation. US \$1 = EC \$2.70 (Jan. 1980)

#### 1.5 Time Zones

EST + 1; GMT - 4

#### 1.6 Host Mission and Staff in US (February 1981)

Embassy of Grenada  
1101 Vermont Ave. N.W., Suite 802,  
Washington, D.C. 20005  
Tel: 347-3198

Ambassador.....Bernard K. Radix  
Counselor.....Irma C. Francis

#### 1.7 Treaties and Agreements

Investment Guaranties  
Peace Corps  
Telecommunication  
Visas

#### 1.8 International Organization Memberships

CARICOM, G-77, IMF, OAS, SEALA, UN.

### 1.9 Visa and Travel Information

Passports required of all arrivals except British subjects and Canadian and US citizens holding return tickets to their respective countries, and who are on a visit to Grenada for a period not exceeding six months.

Visas are required by all except those exempt under "passports"; nationals of Denmark, Finland, France, Iceland, Italy, Liechtenstein, Luxembourg, Netherlands, Norway and Colonies, San Marino, Sweden, Switzerland, Spain, and USA; citizens of Venezuela, Belgium, Turkey, Uruguay, Tunisia, and Greece, provided they are in possession of valid return or onward tickets.

Smallpox vaccination required of travelers from all countries except if arriving from: USA, Belize, Bermuda, Guyana, Antigua, Bahamas, Barbados, British Virgin Islands, Cayman Islands, Dominica, Jamaica, St. Kitts-Nevis-Anguilla, St. Lucia, St. Vincent, and Trinidad and Tobago.

### 1.10 Ethnic and Sociocultural Groups

Little trace of indigenous Amerindians and Caribs. Bulk of present population descendants of African slaves. 1960 Census indicated the following ethnic group populations: 46,690 Blacks, 3,767 East Indians, 37,393 Mixed, 699 Whites, 128 Others including 9 Caribs.

### 1.11 Languages

English is the official, commercial and generally used language. A French patois can still be heard among the older people in some of the villages, but its use is on the decline.

### 1.12 Religions

70% of population Roman Catholic. The following faiths also represented: Anglican Church of Scotland, Methodist, Plymouth Brethren, Salvation Army, Seventh-Day Adventists.

### 1.13 Education and Literacy

Education is free and compulsory between the ages of six and fourteen years. The standard of education is high and is modeled to a large extent on the British system.

Adult literacy rate in 1977: 85%. Primary school enrollment in 1977: 90%.

## 2. Government

### 2.1 National Government

Government of Sir Eric Gairy overthrown March 13, 1979 by leftist New Jewel Movement led by Maurice Bishop. New leaders called for early free elections, and affirmed their respect for human rights and private property. However, it remains unclear how much of former government's hierarchy will remain in tact (Parliament, Supreme Court, etc.).

### 2.2 Major Government Figures (April 1981)

Governor.....	Scoon, Paul, Sir
Prime Minister.....	Bishop, Maurice
Min. of Agriculture & Tourism.....	Whiteman, Unison
Min. of Agro-Industry & Fisheries.....	Radix, Kendrick
Min. of Communications, Works & Labor.....	Strachan, Selwyn
Min. of Defense.....	Bishop, Maurice
Min. of Education, Youth, Social Affairs, Community Development & Cooperatives.....	Louison, George
Min. of Finance & Planning.....	Coard, Bernard
Min. of Health & Housing.....	Bain, Norris
Min. of Home Affairs, Natl. Security, External Relations, Information & Culture....	Bishop, Maurice
Min. of Information (Acting).....	McBarnett, Calvin
Min. of Local Affairs.....	Radix, Kendrick

### 2.3 Regional Organization

Grenada divided into six parishes: St. Andrew, St. David, St. George, St. John, St. Mark, and St. Patrick. There is a town in each parish with the exception of St. David but no system of local government at the present time.

### 2.4 1980 Status

Elections have not been held since the 1979 coup when the constitution was suspended. The ruling People's Revolutionary Government, politically aligned with Cuba, has instituted land reform but has kept a relatively unchanged free market economy.

### 3. Disaster Preparedness

#### 3.1 Disaster Plan

As of 1976, Grenada had no national disaster plan but hurricane relief committee functions at both national and local levels, albeit only for hurricanes and rainstorms generally.

#### 3.2 Disaster Types

Hurricanes by far the most frequent disaster type. Others include earthquakes and drought.

4. Population4.1 National Population

National population estimates range between 99,000 and 110,000 (World Bank mid-1977 estimate 105,200); St. George's, the capital and chief commercial center had 23,000 in 1970; the Island of Carriacou had 5,950. As of 1974 population divided into 50,629 males, 55,420 females (government estimates); growth rate averaged 3.2% between 1971 and 1976; density 306/km in 1977.

Population Trends 1974-77

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Population	102,045	103,793	104,673	105,822
Natural increase	2,000	2,271	2,034	1,866
Net migration (est.)	-2,188	-523	-1,154	-717
Net population increase	-188	1,748	880	1,149
Rate of natural increase	19.5	22.2	19.6	17.8

Source: Registrar General Births and Deaths, Ministry of Health and Housing Emigration, Passport office and Mission estimates as cited by the World Bank, Current Economic Position, 1979.

Age Structure of Population, 1970

<u>Age Intervals</u>	<u>Female</u>	<u>Male</u>	<u>Total</u>	<u>%</u>
0-14	21,787	21,934	43,721	47.1
15-19	5,287	5,131	10,418	11.2
20-24	3,543	3,212	6,755	7.3
25-34	4,277	3,483	7,759	8.4
35-44	4,102	3,114	7,216	7.8
45-54	3,498	2,639	6,137	6.6
55-64	3,049	2,287	5,336	5.8
65+	3,540	1,893	5,433	5.8
Total	49,083	43,692	92,775	100.0

Source: Census, as cited by World Bank, Current Economic Position, 1979.

## 5. Health, Nutrition and Housing

### 5.1 Health Sector Overview

High incidence rates reported for bacillary dysentery and infectious hepatitis while incidence of venereal disease continues to rise. In contrast, tuberculosis rates have declined dramatically in recent years and incidence of indigenous malaria remains at zero. Rabies eradication program aimed at the main host, the mongoose, highly successful in 1973 but case rates once again on the rise after suspension of program.

Grenada divided into 11 medical districts each headed by a medical officer. In addition, 5 health centers and 28 medical stations island-wide; each station headed by a nurse/midwife while each center headed by public health nurse. Improvement in health services proceeding slowly due to shortage of personnel, transport, and supplies, especially drugs, vaccines, and insecticides.

### 5.2 Vital Statistics

Birth rate/1000 population, 1977.....	25.1
Death rate/1000 population, 1977.....	7.3
Infant mortality/1000 live births, 1977.....	16.7
Annual growth rate, 1971-76.....	3.2%
Life expectancy at birth, 1979.....	63 yrs.

Source: World Bank, Development Report 1979.

### 5.3 Health Facilities

Main hospital is Grenada General in St. George's with 240 beds. Services include adult and pediatric medicine and surgery, obstetrics and gynecology, casualty and outpatient services; special facilities consist of an operating theater, 2 labor rooms and a pathology laboratory. Two smaller hospitals with 40 beds each are located in St. Andrew's and on Carriacou. Others, all located in St. George's, include a mental hospital (200 beds), a geriatric hospital (120 beds), offering care for geriatric patients, social outcasts and the chronically ill (has separate wing for Hansen's disease), a TB sanatorium (60 beds), and the Kennedy Home for Handicapped Children (24 beds).

Rural health facilities consist of 4 large health centers and 32 medical stations with a nurse and caretaker. The medical stations offer basic prenatal and post natal care and other outpatient services such as family planning, immunization and nutrition information. All rural facilities lack supplies, drugs and transportation, as well as having organizational and budgetary problems.

#### 5.4 Health Personnel

General shortage of personnel at all levels in rural areas. As of 1972: 33 physicians, 5 dentists, 130 graduate nurses, 118 nursing auxiliaries, 23 pharmacists, 8 laboratory technicians, and 2 x-ray technicians. 1 physician/4,686 population (1975); 1 hospital bed/149 population. Of the 261 nurses in 1977 only 25% had specialized training.

#### 5.5 Housing

Housing shortage has created overcrowding especially in urban areas; over 20% of population lives in households with 2 or more families (1970). In 1972, 44% of urban and 20% of rural populations served by house-connected water supply. 29% of urban population has house connections to sewerage system while 95% of total population has access to latrines.

## 6. Economy

### 6.1 Overview of Economy

Grenada's economy dependent upon export agriculture and tourism; resource base described as good but limited. Need to maintain highly open economy, however, makes it vulnerable to changes in international prices and demand, adverse weather, and to internal political unrest.

Like other CARICOM nations, Grenada's economy grew rapidly in 1960's (4% GDP increase per year) but from 1970-1975 economic weaknesses became evident as GDP in real terms declined steadily. Political turmoil after independence in 1974 closed main port and disrupted trade for 3 months; tourism hardest hit as long-stay arrivals dropped by 50% from 1973 levels. Reduced international demand and global inflation also responsible for serious economic troubles.

Since 1974 there has been an upswing in the economy. Increased tourism and favorable world prices for main exports (nutmeg, mace, bananas and cocoa) contributed to 5.6% increase in real GDP in 1977, 4% in 1978. Most critical fiscal issue is rapid growth of government expenditures, particularly in wages and salaries and water rate subsidies, that have not been offset by receipts. The government has relied heavily on external grants and loans (ECCA and IMF) to cover deficits which amounted to 8% of GDP, 1975-78.

### 6.2 Industry

Industrial development is just beginning in Grenada. In 1978 the sector employed only 6% of labor force; largest industry is a brewery (from which beers and lager are exported to Trinidad and other islands) with 76 permanent employees. Production is oriented toward consumer goods and construction materials with only a few items (clothing and furniture) for export.

### 6.3 Secondary Industries

Secondary Industries include a sugar mill, seven rum distilleries, a few small mills producing syrup and muscovado sugar, factories producing soap, coconut meal, and oil from coconuts at Tempe; and a cotton ginnery at Carriacou which is operated by the government. Other consumer industries include two ice factories, a cigarette factory, several small aerated water plants, a factory producing toilet paper and disposable paper tissues.

	<u>Industrial Production</u> ('000 Indicated units)				
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
<u>Industrial Production</u>					
Rum (proof gallons)	56.9	83.9	91.8	96.0	87.5
Beer (gallons)	97.5	47.0	93.8	115.6	249.3
Cigarettes (cartons)	186.7	161.0	180.6	171.2	143.1
Malt (gallons)	9.3	5.8	18.7	10.0	12.0
Edible oil (gallons)	90.1	25.5	32.5	78.5	53.6
Nutmeg oil (lbs)	-	-	3.3	4.5	6.0
Cotton (lbs)	24.6	-	29.0	10.0	21.0
Coconut meal (lbs)	325.1	88.8	200.8	297.1	233.7
Laundry soap (lbs)	174.0	45.1	34.3	71.5	54.2

Source: Ministry of Finance, Trade and Industry as cited by World Bank, Current Economic Position, 1979.

	<u>Sectoral Origin of Gross Domestic Product</u> <u>at Current Factor Cost, 1975-78</u> (EC\$ million)			
	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978 (est.)</u>
Agriculture, Fisheries, and Forestry	32.7	33.8	36.7	39.0
Mining and Quarrying	0.1	0.1	0.1	0.1
Manufacturing	2.4	2.6	3.1	3.2
Electricity and Water	1.7	2.0	2.1	2.2
Construction	2.1	2.5	3.0	3.0

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978 (est.)</u>
Wholesale and Retail Trade	9.8	11.2	16.3	16.7
Transport and Communications	4.7	5.4	8.1	8.2
Hotels and Restaurants	2.4	2.6	3.7	4.7
Government Services	14.3	21.3	20.5	26.3
General Services	14.4	15.3	17.3	17.3
GDP at Factor Cost	<u>84.6</u>	<u>96.8</u>	<u>110.9</u>	<u>120.7</u>

Source: Ministry of Finance, Mission estimates as cited by World Bank.

#### 6.4 Prospects

For continued economic development there are six problem areas that need to be addressed: 1) generation of economic activity to create jobs; 2) strict fiscal policies aimed at improved savings performance; 3) shortage of managerial and technical manpower; 4) development of private sector investment; 5) employment oriented industries and services to reduce 12-16% unemployment; and 6) restructured tax system to increase revenues.

#### 6.5 Balance of Payments

Lack of freely available foreign exchange reserves makes balance of payments dependent on private sector's willingness to lend and GOG's limited capacity to borrow abroad. Although both exports and tourism receipts have increased since 1974, imports also rose causing resource balance deficit averaging 8% of GDP 1975-78.

#### Balance of Payments, 1973-78

(US\$ million)

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978(est.)</u>
<u>Exports of Goods and NFS</u>	18.6	15.8	21.7	21.5	26.3	32.3
Merchandise Exports	7.4	9.4	12.3	13.0	14.3	16.5
Nonfactor Services	11.2	6.4	9.4	8.5	12.0	15.8

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978(est.)</u>
<u>Imports of Goods and NFS</u>	-21.7	-18.5	-24.2	-25.3	-32.5	-36.3
Merchandise Imports	21.7	18.5	24.2	25.3	31.4	35.2
Nonfactor Services	-	-	-	-	1.1	1.1
<u>Resource Balance</u>	-3.1	-2.7	-2.5	-3.8	-6.2	-4.0
Factor Services Payments(net)	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3
Transfers to Private Sector	-	-	3.0	2.9	3.5	4.4
Transfers to Public Sector	-0.5	-	0.8	-0.5	-0.3	-0.2
<u>Current Account Balances</u>	-3.8	-2.9	1.1	-1.5	-3.3	-0.1
Private Capital Inflow (including errors & omissions)	0.5	-	2.7	2.7	0.8	-0.6
<u>Public Capital Inflow</u>	3.4	3.1	1.7	2.5	2.1	1.1
Capital Grants	2.7	1.6	0.1	1.0	0.6	1.0
Loan Disbursements	0.3	1.5	1.4	1.9	1.7	1.2
Amortization	-0.3	-0.4	-0.3	-0.9	-0.2	-1.3
ECCA	0.7	0.4	0.5	0.5	-	0.2
Banking System	-	-	-5.2	-4.1	-0.7	-1.1
Foreign Reserves(Increase)	-0.1	-0.2	-0.3	0.4	-0.3	0.7

Source: Ministry of Finance, Mission estimates as cited by World Bank, Current Economic Position, 1979.

### 6.6 Imports

Imports have risen sharply in recent years, up 25% in 1977 and 12% in 1978. Increase reflects both increasing imports of consumer goods, as well as higher cost of intermediate and capital goods. Other CARICOM countries (40%), the UK (25%) and Canada and the US (20%) are main sources for imports.

Merchandise Imports (CIF)  
(US\$ million)

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u> (est.)
<u>Total Merchandise Imports</u>	21.7	18.5	24.2	25.3	31.4	35.2
<u>Consumer Goods</u>	15.5	13.6	15.3	16.3	20.5	22.9
Food, Beverage & Tobacco	8.0	8.2	8.1	8.7	10.6	11.9
Raw Materials & Manufactured Articles	7.5	5.4	7.2	7.6	9.9	11.0
<u>Intermediate Goods</u>	3.1	3.4	5.1	5.1	6.0	6.9
<u>Total Merchandise Imports</u>	21.7	18.5	24.2	25.3	31.4	35.2
Minerals & Fuels	1.3	1.6	2.7	2.6	3.0	3.3
Chemicals & Fertilizers	1.8	1.8	2.4	2.5	3.0	3.6
<u>Capital Goods</u>	3.1	1.5	3.8	3.9	4.9	5.4
Machinery & Equipment	3.1	1.5	3.8	3.9	4.9	5.4

Sources: World Bank, Current Economic Position, 1979.

### 6.7 Exports

See section 7.5, Agricultural Exports.

## 7. Agriculture

### 7.1 Overview of Agriculture

Agriculture is basis of Grenada's economy, accounting for 33.1% of GDP (1977) and employing over 30% of labor force. Nutmeg, mace, cocoa and bananas are main crops; others include sugar cane, coconuts, citrus (mainly limes) and cotton, grown on Carriacou. Most agricultural workers are farmers working land areas of less than 1/4 acre. Livestock production and forestry have development potential; the fishing industry employs 1,400 full-time and 460 part-time men with a catch of 6.5 million lbs. (1977), 10% of which was exported.

### 7.2 Major Crops and Production

**Nutmegs:** planted on 6,500 acres exclusively for export; concentrated in wetter agricultural areas; usually interplanted with cocoa and bananas.

**Cocoa:** cultivated on 14,000 acres. Grown everywhere but in dry south and northeast, and central highlands above 1,500'; often interplanted with bananas.

**Bananas:** third most important export crop. Small farms produce 25% of total, medium to large growers 75%. 8,000 acres under bananas but only 1,200 acres are pure stand.

Production, Acreage and Yields of Major Agricultural Products  
('000 lb.)

	<u>1975</u>	<u>1976</u>	<u>1977</u>
<u>Cocoa</u>			
Production	5,308	7,011	4,090
Acreage	13,100	13,600	14,200
Yield per acre	0.41	0.52	0.29
<u>Nutmeg</u>			
Production	4,959	5,073	5,466
Acreage	9,200	9,200	9,600
Yield per acre	0.54	0.55	0.57

	<u>1975</u>	<u>1976</u>	<u>1977</u>
<u>Mace</u>			
Production	695	744	740
Acreage	9,200	9,200	9,600
Yield per acre	0.08	0.08	0.08
<u>Bananas</u>			
Production	33,002	36,746	34,515
Acreage	4,000	4,000	4,200
Yield per acre	8.25	9.19	8.22
<u>Cloves</u>			
Production	23	19	17
Acreage	195	200	210
Yield per acre	0.12	0.09	0.08
<u>Cinnamon</u>			
Production	30	116	30
Acreage	135	145	150
Yield per acre	0.22	0.8	0.2

Source: Ministry of Agriculture, Grenada Cooperative Nutmeg Association, Mission estimates as cited by World Bank, Current Economic Position, 1979.

### 7.3 Food Crops

A wide variety is grown for local consumption: bluggoe, yam, sweet potato, tannia, edoe, dasheen, pumpkin, pigeon peas, corn and a little cassava. Several thousand acres are grown almost exclusively by smallholders cultivating patches, usually on steep land. Production is seasonal, according to rainfall; prices fluctuate considerably. Production of garden vegetables also handled by small farmers without irrigation. Production usually below demand and out-of-season prices are high.

### 7.4 Agricultural Imports

See section 6.6, Imports.

### 7.5 Agricultural Exports

Exports consist almost exclusively of agricultural products; country needs to diversify its export base and develop new markets, particularly in the US and Venezuela. Principal export destination is UK, followed by West Germany, the Netherlands and other CARICOM countries.

Exports rose 15% over 1977 levels; increased output of bananas and cocoa, and the doubling of cocoa prices were cause of rise and helped offset lower nutmeg production.

Volume, Value, and Unit Price of Major Exports  
(Volume-ibs million, Value-US\$ million, Unit Price-US\$)

<u>Merchandise Exports</u>	12.3	13.0	14.3	16.5
Re-exports	0.4	0.4	0.6	0.7
<u>Domestic Exports</u>	11.9	12.6	13.7	15.8
<u>Bananas</u>				
Value	2.9	3.0	3.2	3.5
Volume	28.9	33.8	30.9	33.0
Unit price	0.100	0.088	0.104	0.107
<u>Cocoa</u>				
Value	3.1	3.3	3.3	7.3
Volume	4.8	5.9	4.6	5.5
Unit price	0.646	0.557	0.715	1.333
<u>Mace</u>				
Value	0.7	1.1	0.6	0.6
Volume	0.4	0.9	0.5	0.5
Unit price	1.014	0.782	0.896	0.888
<u>Nutmeg</u>				
Value	4.6	4.8	5.9	3.7
Volume	4.5	6.1	6.6	4.2
Unit price	1.014	0.782	0.896	0.888
<u>Other Exports</u>	0.6	0.4	0.7	0.7

Source: World Bank, Current Economic Position, 1979.

## 8. Physical Geography

### 8.1 Climate

Climate described as tropical with average annual temperatures about 83° F; lowest temperatures recorded from November to January. Rainfall varies from an average annual of 40" at Point Salines in the southwest to about 150" in Grand Etang in the mountainous center. The prevailing northeast trade winds blow right across the highlands, and there is no rain-shadow area as such. The dry season lasts from January to May and the wet season from June to December with November the wettest month. The hurricane season extends from June to December.

### 8.2 Land Forms

Grenada is the most southerly of Windward Islands located 68 miles south/southwest of St. Vincent and 90 miles north of Trinidad. The mainland is about 21 miles long and 12 miles at widest point for a total area of 120 sq. mi; with Carriacou, largest island dependency of 13 sq. mi., combined area of Grenada 133 sq. mi.

With the exception of some limestone in north, Grenada wholly volcanic; most of island mountainous and thickly wooded. Main mountain mass in island center consists of ridges, some with crater basins and crater lakes. Largest of latter is Grand Etang; others are Lake Antoine and Levera Pond. Highest peak is Mt. St. Catherine at 2,756'. South coast deeply indented; west coast steeper than east coast. A total of 10,000 acres are rain forest, 75% of which government owned.

## 9. Transportation and Logistics

### 9.1 Road Network

188 miles primary roads, 137 miles secondary roads and 240 miles of tertiary roads. Of total about 360 miles are asphalted; major reconstruction is needed on most roads and bridges.

Main north-south roads: Sauteurs - Tivoli - Grenville - Marquis - St. David's - Corinth on east coast; Sauteurs - Victoria, Charlotte Town (Gouyave) - St. George's on west coast. Also St. George's to Grenville running southwest to northeast.

Main east-west road: St. George's - St. David's - Corinth; and links Charlotte Town (Gouyave) - Grenville.

### 9.2 Vehicles

There are no rail or tram services, but private passenger buses operate along the eastern and western coast roads connecting with St. George's. Taxis are available throughout the island.

There were 6,332 vehicles registered at the end of 1974.

### 9.3 Ports

Chief port is St. George's. Grenville on mainland and Hillborough on Carriacou used mostly by small craft.

#### St. George's

Coordinates: Lat. 12°3' N; long. 61°45' W.

Accommodation: Excellent harbor. Two berths in inner harbor alongside an 243.8 m. pier with 8.53 m. draft. Vessels up to 182.9 m. and 8.53 m. draft may enter, day and night. Larger vessels may anchor in outer ground.

- Storage: Three transit sheds on wharf: two 30.48 m. by 30.48 m., and one 19.50 m. by 36.57 m. Other warehouses are the Queens, 30.48 m. by 30.48 m., and the High Duty Goods warehouse, 18.29 by 22.86 m.; refrigeration plant owned by Jonas Browne & Hubbard (G'da) Ltd.
- Water: Available alongside.
- Bunkers: Light diesel fuel for small craft only.
- Shiprepairs: Minor repairs at Grenada Yacht Services Ltd.
- Towage: Not required; no tugs available.
- Pilotage: Not compulsory, but advisable.
- Airport: At Pearls, 42 km.
- Working Hours: 07:00 to 12:00; 13:00 to 18:00; 19:00 to 23:00 hours.

#### 9.4 Shipping

The chief lines are the Harrison, Saguenay Steamship, Royal Netherlands Steamship, Geest, Booth, West Indian Shipping, Atlantic, James Nourse Line, Linea C Line, Booker Seaway, and Blue Ribbon Line. Several local craft ply regularly between the islands.

#### 9.5 Air Transport

Leeward Islands Air Transport operates daily scheduled services through Pearls Airport, linking Grenada with other West Indian islands. These schedules vary with the seasons and are adjusted to ensure regular connections at Trinidad, Barbados and Antigua to other parts of the world.

LIAT operates daily scheduled services through Lauriston Airport linking Carriacou with Grenada, Palm Island and St. Vincent.

#### 9.6 Airports

Main airport at Pearls, 18 miles from St. George's.

NB: For up-to-date information consult latest issue of weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

Grenada/  
Pearls

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp C</u>	<u>Runway Characteristics</u>			<u>Aircraft</u> <u>Strength</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
		<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft/</u> <u>Length M</u> <u>CL</u>		
12°09' N 61°37' W	9 30.6	08/26	1615		100JA2	

Remarks: Alternate Aerodromes: Bridgetown/Grantley Adams Int'l, Port-of-Spain/Piarco.

Aids: RL, L4, MD, MC, MT. No telex. (See Appendix I for key.)

Lauriston Airport is located on the Island of Carriacou (12°28'30" N, 61°28'20" W), 20 miles north of Grenada. Runway: Direction. 094°/274°. Dimensions: 1,800' by 150'.

Restricted to aircraft of maximum permissible weight not exceeding 12,00 lb.; this airstrip is available for scheduled services, but private and non-scheduled aircraft should give at least 24 hours' notice of estimated time of arrival by prepaid reply telegram to Minister of Communications, Works and Natural Resources.

9.7 Air Distances

From Grenada to:	<u>Statute</u> <u>Miles</u>
Houston (via St. Vincent, St. Lucia, San Juan, New Orleans).....	2,611
Miami (via St. Vincent, St. Lucia, San Juan).....	1,633
New Orleans (via St. Vincent, St. Lucia, San Juan).....	2,301
New York (via St. Vincent, St. Lucia, Martinique, Guadeloupe....	2,135
Panama City (via Trinidad, Caracas).....	1,344
Washington, D.C. (via St. Vincent, St. Lucia, San Juan).....	2,156

## 10. Power and Communications

### 10.1 Electric Power

Electricity generated and distributed by Grenada Electricity Services Ltd.; formed jointly by Government and Commonwealth Development Corporation. Power is supplied by diesel generators at Queen's Park Power Station, St. George's, and there are five 11,000 volt, 50 Hz, earthed-neutral, radial overhead lines distributing to all townships, districts en route, as well as to residential, commercial, and industrial developments.

There were 7,178 consumers at the end of 1971 and the peak load was 3,960 kW. Total generating capacity of 8,355 kW.

### 10.2 Telephone System

Telephone services are operated by the Grenada Telephone Co. Ltd. There are seven fully automatic exchanges connected by trunk lines.

International Telegraph, telephone and telex services are provided by Cable & Wireless (West Indies) Ltd.

The government owns and operates the telephone service in Carriacou, where there is a VHF radio-telephone link into the Grenada telephone system.

### 10.3 Radio Network

Radio Grenada: owned and operated by the government; medium-wave transmissions to Grenada and the Grenadines, and short-wave transmissions to Europe and the Americas. In 1976 there were 62,000 radio receivers.

### 10.4 Television

Grenada Television: St. George's; transmits programs for 2 1/2 hours per day, six days each week.

## 1. General Information

### 1.1 Geographic Codes

AID	504
State region	ARA
FIPS	GY

### 1.2 Country Names

Official	The Cooperative Republic of Guyana
Local	Guyana
Short	Guyana

### 1.3 Calendar and Holidays

Labor Day.....	May 1
Caribbean Day.....	July 3
Freedom Day.....	August 7
Deepavali.....	*
Christmas.....	December 25-26
New Year's Day.....	January 1
Republic Day.....	February 23
Good Friday.....	*
Easter Monday.....	*

\* variable date

### 1.4 Currency

Guyana dollar (G\$) of 100 cents  
 Bills: 1, 5, 10, 20 dollar  
 Coins: 1, 5, 10, 25, 50 cent  
 US\$ 1= G\$ 2.55 (March 1980)

### 1.5 Time Zones

EST + 2; GMT - 3



Peace Corps  
Property  
Telecommunications  
Trade Marks  
Visas

### 1.9 International Organization Memberships

CARICOM, CDB, FAO, G-77, GATT, IADB, IBA, IBRD, ICAO, IDA, IFC, ILO, IMF, ISO, ITU, NAM, OAS (observer), SELA, UN, UNESCO, UPU, WHO, WMO.

### 1.10 Visa and Travel Information

Passport required. Visa not required for stay up to six months.

Yellow fever certificate required of travelers from infected areas; also of travelers arriving from Americas: Belize, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, French Guiana, Guatemala, Honduras, Nicaragua, Panama, Peru, Surinam, Venezuela; and from Africa: Angola, Benin, Burundi, United Republic of Cameroon, Central African Empire, Chad, Congo, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Mali, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, United Republic of Tanzania, Togo, Uganda, Upper Volta, Zaire.

A smallpox certificate is required of travelers three months of age and older arriving from infected areas, and also from travelers who within the preceding 14 days have been in Ethiopia, Somalia, Bangladesh, India, Pakistan.

There is a risk of malaria in Guyana. Polio, typhus, hepatitis, and malaria shots are recommended for remote areas.

### 1.11 Ethnic and Sociocultural Groups

The majority of Guyana's population, concentrated on a narrow coastal belt, are descendants of an early plantation society. East Indians, mainly engaged in agriculture, make up about 51% of total. Blacks (31%) and people of mixed black-white descent (most common of many racial mixtures, 12% of population) are primarily urban dwellers.

The indigenous peoples (Amerindians) make up 4-5% of population and live largely in the country's interior. The Makusi are found in the savanna region while Warraus, Arawaks, Caribs and others live in forest regions. Many Amerindians are employed in cattle and logging industries.

A small minority of whites (predominantly Portuguese) and Chinese, together constituting about 2% of population, active in urban businesses and professions, have influence in the country disproportionate to their numbers.

### 1.12 Languages

English is the official and commercial language although Creole, influenced by languages of country's diverse ethnic groups, is widely understood and spoken and might be considered the lingua franca. Hindi and Urdu are used for religious purposes, the former still spoken by older East Indians. About nine distinct tribal dialects are spoken by Amerindians. Spanish is taught in secondary schools.

### 1.13 Religions

The constitution guarantees freedom of worship. The major faiths are Christianity (57%), Hinduism (34%) and Islam (9%). Largest of many Christian denominations are Anglican Church (about 170,000 members) and Roman Catholic Church (100,000 members). Animism is the religion of some indigenous groups.

### 1.14 Education and Literacy

In 1976, the government took over control and operation of the country's educational system, which had previously been run by religious and other private groups. Literacy rate is estimated to be 85-86%.

## 2. Government

### 2.1 National Government

The former British Guiana gained independence from Great Britain as Guyana on May 26, 1966 and, in February 1970, became a Co-operative Republic. Under provisions of the 1970 Constitution, a President is selected as constitutional Head of State for a six year term by a simple majority vote of the National Assembly.

Executive power is vested in the Cabinet, headed by the Prime Minister (majority leader in Assembly appointed by President), which is responsible to the Assembly. The executive structure also includes an ombudsman.

A unicameral National Assembly comprises 53 members chosen by universal adult suffrage (18 years of age and over) for five-year terms under a system of proportional representation.

The legal system, based on British common law and Roman-Dutch code (used mostly in matters relating to land tenure) consists of the Supreme Court (Court of Appeals and High Court) and a number of courts of summary jurisdiction.

### 2.2 Political Parties and 1980 Status

Major political parties, the People's Progressive Party (PPP) and the People's National Congress (PNC) which split from the former in 1955, are Marxist oriented. The PPP, which draws support largely from East Indian population, controlled government between 1953 and 1964. The predominantly black PNC, at first in coalition with the United Force Party (supported by middle class Portuguese, Chinese, East Indians and Amerindians and favoring close ties to Western nations) and, since 1968, as majority party, has taken the country farther along road to its stated goal of establishing the first "orthodox socialist state" in South America.

Prime Minister Forbes Burnham assumed the office of President in October when a new constitution expanding the powers of that office went into effect. An international team of observers cited widespread fraud in December general elections in which Burnham's PNC party won 76% of the vote. A new coalition of left-wing groups, the Working People's Alliance, has emerged as the most vocal opposition group.

### 2.3 Regional Organization

Guyana is divided into nine administrative divisions: six coastal (East Berbice, West Berbice, East Demerara, West Demerara, Essequibo Islands and Essequibo) each of which is headed by a district commissioner who coordinates local government activities, and three interior (Northwest, Mazaruni-Potaro, and Rupunumi) which are administered by the Ministry of National Development and Agriculture through a Chief Interior Development Officer who also administers AmerIndian affairs.

Most local governments - towns, villages, and district councils - are subdivisions of the coastal districts. The city of Georgetown and the towns of New Amsterdam, Linden, Rose Hall, and Corriverton are all administered by mayors and town councils.

### 2.4 Key Leaders (April 1981)

Executive President.....	Burnham, Forbes
First Vice President (Public Service).....	Reid, Ptolemy A.
Vice President (Economic Planning & Finance)...	Hoyte, Hugh Desmond
Vice President (Public Welfare).....	Green, Hamilton
Vice President (Public Works & Transport).....	Naraine, Steve S.
Vice President (Parliamentary Affairs).....	Ramsaroop, Bishwaishwar
Prime Minister.....	Reid, Ptolemy A.
Min. of Agriculture.....	Tyndall, Joseph
Min. of Cooperatives.....	Johnson, Urmia
Min. of Crops & Livestock.....	Prashad, Seeram
Min. of Defense.....	Burnham, Forbes
Min. of Drainage & Irrigation.....	Van Sluytman, Ralph
Min. of Economic Development.....	Hoyte, Hugh Desmond
Min. of Energy & Mines.....	Jack, Hubert O.
Min. of Environment & Water Supply.....	Chowritmootoo, Joshua
Min. of Finance.....	Huddin, Salla
Min. of Foreign Affairs.....	Jackson, Rashleigh
Min. of Forestry.....	Carmichael, F.U.A.
Min. of Health.....	Van-West-Charles, R.
Min. of Home Affairs.....	Moore, Stanley
Min. of Information.....	Campbell, Frank
Min. of Justice.....	Shahabuddeen, Mohamed
Min. of Mechanical Equipment.....	Nascimento, Christopher
Min. of Natl. Development.....	Corbin, Robert
Min. of Public-Service.....	Harewood-Benn, Yvonne
Min. of Regional Development.....	Clarke, Oscar
Min. of State for Construction.....	Wrights, Conrad
Min. of State, Office of President.....	Rashid, Haroun

### 3. Disaster Preparedness

#### 3.1 Host Disaster Plan

There is no national plan, but each administrative division has a plan for emergency relief in its districts.

#### 3.2 US Plan

No Mission plan.

#### 3.3 Contact List

Red Cross: The Guyana Red Cross, Eve Leary, Georgetown.  
Cable: GUYCROSS Georgetown. Telex: GY226  
Georgetown. Tel: 02-65174.

No specific tasks are assigned to the RC. In disasters GOG expects the society to feed and clothe victims. The NRC has formed a relief committee with representatives of other voluntary organization - St. John's Ambulance Brigade, Lions, Jaycees, Scouts, Girl Guides, etc.

Catholic Bishop's House: 27 Brickdam, Georgetown. Tel: 44-69.

LWF: National Committee, Lutheran Courts, New Amsterdam,  
Berbice. Cable: LUTHERAN Guyana. Tel: 03-2028.

UNDP: 42 Brickdam, Georgetown. Cable: UNDEVPRO Georgetown.  
Tel: 64040.

#### 3.4 Food Supplies

The following foods are classed as acceptable for use in disaster situations:

<u>Preferred Item</u>	<u>Accompaniments</u>	<u>Acceptable Alternatives</u>	<u>Accompaniments</u>
rice wheatflour	Phaseolus Vulgaris cow peas/black eyed beans, peanuts, fish, meat, milk	dehydrated potato	milk powder

### 3.5 Storage

Storage and warehousing facilities were considered inadequate in 1970. Some storage on piers of Georgetown and New Amersterdam.

### 3.6 Disaster Types

Flood is most common type. In July 1971, an estimated 4,249 farm families on east coast were affected by flooding in the river areas of Cane Grove, Mahaica, and Mahaicony; cultivated fields and farm equipment were destroyed.

### 3.7 US Volags

<u>Agency</u>	<u>Intl/Local Staff</u>	<u>Programs</u>
AFL-CIO American Institute for Free Labor Development		Ed; Ind Dev; SW
American National Red Cross		Ed
Carnegie Corporation of New York		Ed
Catholic Medical Mission Board		Med & PH
Credit Union National Association Inc. (CUNA, Inc.)		Coops
Sisters of Mercy of the Unions in the USA	5/25	Ed; Med & PH; P and Bus Admin; SW; Youth

<u>Agency</u>	<u>Intl/Local Staff</u>	<u>Programs</u>
The People to People Health Foundation, Inc. Project Hope	1/	Ed; Med & PH
The Salvation Army	11/-	Ed; SW; Women
Wesleyan Church, Department of World Missions	4/15	Med & PH
YMCA - World Relations Unit of the National Board	-	Ed

Key

Comm	Communications
CD	Community Development
CHP	Construction, Housing, Planning
Coop	Cooperatives, Credit Unions, Loans
Ec & Dev Pl	Economic and Development Planning
Ed	Education
Equip & Mat Aid	Equipment and Material Aid
Food Prod & Ag	Food Production and Agriculture
Ind Dev	Industrial Development
Med & PH	Medicine and Public Health
Nutr	Nutrition
Pop & Fam Serv	Population and Family Services
Pub & Bus Adm	Public and Business Administration
SW	Social Welfare
Women	Women
Youth	Youth

#### 4. Population

##### 4.1 National Population

An enumerated population of 701,885 was arrived at by census of April 1970; the estimated population mid-1978 was 820,000 and the estimated rate of growth 1.8% (from 1970-1978). Relatively heavy male migration has resulted in population biased toward youth (47% under 15 in 1970) and women, with consequent high dependency ratio and low percentage of economically active. Improved health conditions have lowered crude death rate while crude birth has also declined (see section 5.2, Vital Statistics). The government has not given official approval to family planning efforts, apparently because of low overall population density and large areas of virgin land for settlement.

##### 4.2 Regional Distribution

Population distribution is extremely uneven, with 95% of the population inhabiting a narrow coastal region. Average population density in 1970 was 9 persons per square mile. However, there were more than 300 persons per square mile on coastal plain and 1,000 persons per square mile on the east coast where most villages are concentrated. The society is considered predominantly rural as the majority of people live in small villages along the estuary of the Demerara River and near the mouths of the Berbice and Courantyne rivers. Villages which are separated from each other by drainage ditches have several hundred to several thousand inhabitants.

Major urban areas: Georgetown (capital, largest port and largest city) 167,000 pop. in 1970; New Amsterdam, 18,200; Linden, (formerly village district of Mackenzie - Christianburg - Wismar) 30,000; Corriverton, 17,000; Rose Hall, 8,000.

##### Population by District

<u>Districts</u>	<u>1960 Census</u>	<u>1970 Census</u>
East Berbice	116,000	147,000
East Demerara	276,000	343,000
Essequibo	46,000	57,000

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<u>Districts</u>	<u>1960 Census</u>	<u>1970 Census</u>
Mazaruni - Potaro	12,000	13,000
North West	13,000	16,000
Rupununi	10,000	14,000
West Berbice	27,000	37,000
West Demerara	<u>62,000</u>	<u>87,000</u>
Total Guyana	560,000	714,000

Source: Official government figures as cited in Encyclopedia Britannica.

## 5. Health, Nutrition and Housing

### 5.1 Health Sector Overview

Among complex factors determining health conditions is drainage problem in low-lying coastal areas which contributes to mosquito breeding and vector-borne diseases. Malaria has been virtually eliminated along coast but cases are occasionally reported from interior, making it necessary to maintain preventive measures. An aedes eradication campaign has been waged on the coast since 1969, but yellow fever remains a threat.

The lack of an adequate water supply or a waste and sewage disposal system are factors in high incidence of enteroparasitic diseases. Helminthiasis is common, especially in rural areas, and gastro-enteritis and protein-calorie malnutrition particularly afflict children. Cases of communicable diseases (1974) were reported as follows: diphtheria 15; gastro-enteritis 1,026; influenza 181; measles 314; tuberculosis 188; typhoid 123; malaria 72. Since 1975, immunization against polio, diphtheria, and tetanus has been required for school entry. The immunization program also includes BCG and tetanus toxoid for pregnant women.

Filariasis, typhoid, and leprosy are endemic, the latter with an estimated prevalence rate of 2 cases per 1,000 population.

### 5.2 Vital Statistics

Births/1000 population, 1976	26
Deaths/1000 population, 1976	7
Infant mortality/1000 live births, 1972	50
Life expectancy at birth, 1970	64 years

### 5.3 Health Facilities

The majority of health services are publicly provided through facilities in six regions. The intent is to provide equitable distribution of health services throughout the country and, within each region, through one regional hospital and a network of district hospitals, health centers, and stations. In its allocation of health resources, however, the Ministry of Health has given priority to urban curative care, especially in Georgetown Hospital. Primary care in rural areas has not been adequate, in large part because of severe shortages of trained personnel. The MOH operates a total of 198 health facilities. Seven privately operated

hospitals, all in Georgetown, and 18 health facilities run by three large government corporations, primarily for benefit of their employees, completes network.

Hospital beds in 1971 numbered 3,364 in 43 hospitals with ratio of 4.5:1,000 population; 2,314 were in 38 general hospitals; 1,050 were for specialized treatment in 3 facilities including 246 for tuberculosis, 450 for mental diseases, and 354 for leprosy.

Population per hospital bed (1975) estimated to be 190.

#### 5.4 Health Personnel

A chronic shortage of health personnel, especially in rural areas, is aggravated by migration of many trained people in medical field to other countries and more attractive positions abroad. Physicians are not available in sufficient numbers and are concentrated in urban areas. A PAHO report on health conditions in the Americas 1969-1972 gave 191 as total number, of which 145 were in urban practice (4.4 per 10,000 population) and 46 were in rural localities (1.4 per 10,000 population).

The distribution of physicians by specialty (1972) was as follows: general practice 156; surgery 8; internal medicine 4; pediatrics 1; gynecology and obstetrics 2; psychiatry 1; radiology 1; anesthesiology 1; pathology 1; public health 8; others 8.

The number of other health personnel by categories per 100,000 population (1970): pharmacists 6; laboratory technicians 41; x-ray technicians 5; nutritionists and dieticians 1; physiotherapists 5; sanitary engineers 1; sanitary inspectors 93.

Nursing personnel play important role in health care delivery system, but much nursing work in hospitals is done by students. The number of graduate nurses in 1972 was 641; auxiliary nurses, 610.

Population per physician (1975) estimated to be 3270.

### 5.5 Diet (Minimum Daily Requirement/Recommended Daily Allowance)

calories	2,276	phosphorus	800mg
carbohydrates	256.1g	iron	14mg
protein	40.6g	sodium	-
fat	113.8g	potassium	-
calcium	800mg	vitamin A	-

### 5.6 Food and Drink

Starches: rice, wheat, corn, sweet potatoes, yams, manioc, white potatoes, plantains

Vegetables: cabbages, pumpkins, green leafy vegetables, tomatoes, onions, carrots

Fruits: bananas, mangoes, avocado pears, pineapples, citrus, coconuts, papaws, melons, gooseberries

Meat: beef, pork, poultry, mutton, goat-meat

Dairy: eggs, milk

Fat: coconut and palm oil, lard

Legumes: peanuts, cow peas, black eyed beans, soybeans, red kidney beans

Fish: cod and fresh fish

Beverages: coffee, rum, tea, milk

### 5.7 Nutrition

Place of residence (urban or rural), income, and ethnic differences were seen as having a bearing on nutrition in a 1971 survey. Of children under five years of age, 16% were definitely underweight, 1.7% were very severely underweight, and 43% were slightly underweight. Malnutrition in infants and children was more severe in rural areas than in urban, thus more prevalent among East Indians than among Africans. Older school age children in rural areas remained underweight while obesity in both urban and rural women was common. Clinical examinations found little evidence

of kwashiorkor or marasmus. A high incidence in all age groups of anemia, severe most often in pregnant women, suggested prevalence of intestinal parasitism. Other deficiencies noted were in Vitamin A, iron, folic acid, and protein (PCM levels). Little has been done by the government to translate growing public awareness concerning nutrition into action programs.

Amerindians cultivate a number of crops, hunt and fish, and supplement diet with a variety of berries, reptiles, game, and insects; diet may be richer in protein and vitamins than diets of more economically affluent populations.

### 5.8 Housing

Housing is a critical problem in Guyana. Poor construction and crowding are common; electricity, adequate sanitation, and an uncontaminated water supply are frequently lacking. Wood is the usual building material; roofs are of corrugated iron or wooden shingles. Houses are built on posts or concrete blocks; those in small villages are typically built on stilts and connected to street by foot bridges which cross the drainage ditches running parallel to streets. Tenements from old barracks are frequently used for plantation housing; tenements also found in Georgetown.

The Ministry of Works and Housing is in charge of housing development working through Departments of Housing, and Town and Country Planning.

## 6. Economy

### 6.1 Overview of Economy

Guyana's export-oriented economy is highly dependent on three major commodities: sugar, rice, and bauxite. With exception of bauxite mining, economic activity is limited to narrow coastal strip, the country's vast hinterland with forest and hydropower reserves being largely undeveloped. Economic progress has been hampered by the difficult physical environment, narrow resource base, and vulnerability to such external forces as weather and fluctuations in prices and demand of world market. Income, though fairly evenly distributed, is among lowest (US\$ 560 in 1977) of Western Hemisphere countries. Real growth of the economy has barely kept ahead of population growth in recent years, and economic development has not kept pace with growth of labor force, resulting in a 17% rate of unemployment in 1978, the level not including underemployment.

Since independence the Government has played increasingly larger role in economic activity, expanding state enterprises, creating state-owned financial institutions, and nationalizing the bauxite/alumina and sugar industries. High priority is given to equal distribution of income and to the provision of basic social services. Besides the public sector and a small private sector, cooperatives (envisaged by the GOG as the means by which the "little man" can enter into economic planning) have become important.

An economic boom in 1974-75, mainly from high sugar earnings, leading to a greatly expanded level of public sector investment, was followed by a severe downturn in late 1976 as a result of a five-fold increase in foreign oil bill between 1973 and 1976 and fluctuating yields of major products in mid-1970's due to unfavorable weather conditions and labor strikes. 1977 and 1978 were years of economic crisis. Despite government attempts to reduce imports and public sector expenditures in 1977, the current account deficit reached 22% of GDP, foreign exchange reserves were negative, and the country accumulated US\$ 32 million in commercial arrears. Real GDP declined by about 5%. Although the balance-of-payments situation improved somewhat in 1978, import cutbacks, investment reductions, power shortages, and industrial problems in the bauxite industry limited growth of real GDP to 0.2% while retail prices in urban areas increased by 15%. The service on public and publicly guaranteed debt increased from 4% of foreign exchange earnings in 1975 to 25% in 1978 and is expected to reach 27% in 1979 (although projected to drop back to 19% in 1980).

According to a World Bank assessment, recent developments indicate beginning of recovery. If weather and labor conditions remain favorable,

sound economic policies continue, and planned export-oriented projects are implemented on a timely basis real GDP growth rate could average 4.5% annually (about 2.7% per capita) between 1979 and 1981. Over long term, Guyana is believed to have resources to increase output, improve quality of life of its people; factors inhibiting growth are present limited power-generation, shortage of managerial and technical manpower, inadequate private sector investment.

Manufacturing is largely limited to processing local agricultural and mineral products, but some secondary industries are producing mainly import substitution items. Although the country has many scenic attractions, tourism is relatively undeveloped.

## 6.2 GNP/GDP

GNP per capita in 1977 : US\$ 560

### Gross National Product in 1978

	US\$ Mil.	%	Annual Rate of Growth (%, constant prices)		
			1973-77	1976-78	1978
GNP at Market Prices	473.9	100.0	..	-2.0	0.6
Gross National Investment	95.2	20.1	3.8	-29.4	-31.9
Gross National Saving	67.7	14.3	4.1	51.3	131.1
Current Account Balance	-27.5	5.8	.	-58.7	-75.1
Exports of Goods, NFS	313.7	66.2	2.7	-1.6	14.1
Imports of Goods, NFS	312.1	65.9	5.8	-38.7	-22.0

Source: World Bank, Economic Memorandum on Guyana.

## 6.3 Imports

Expanded exports, government attempts to contain imports reduced current account deficit in 1978 to 5.5% of GDP from 22% in 1977. Decrease in imports resulted, however, in shortages of intermediate and consumer goods (e.g., cement, other building materials, pesticides and fertilizers) which slowed economic progress. As imports increase in 1979, in effort to restore economic growth, the current account deficit is expected to increase as percentage of GDP to 9.5% but is projected to drop to 4% in 1981. Fuels and lubricants accounted for 21% of value of total imports, 1978.

The total value of merchandise imports fell from US\$ 315.4 million in 1977 to a preliminary US\$ 278.6 million in 1978. Imports in 1978 included (US\$ million) consumer goods (51.4) of which foodstuffs was largest item (25.3); intermediate goods (165.1) of which fuels and lubricants was largest item (66.7); and capital goods (60.1) with building materials (17.7) and mining/transport equipment (13.6) most valuable.

Imports (1978) supplied by following (US\$ million): UK (61.1), CARICOM (80.6), US (62.8), Canada (11.3), EEC (excluding UK-23.3), EFTA (4.7), Japan (8.3). Spain, USSR, People's Republic of China among other suppliers.

#### 6.4 Exports

Merchandise exports in 1979 projected to increase in value to US\$ 340 million, 15% over 1978, and to be equal to 61% of GDP. Major exports expected to increase in volume, though with relatively low price.

Merchandise exports by major commodities totaled (US\$ million) an estimated 259.3 in 1977 and 299.0 in 1978 (constant 1977 prices) and included, in the latter year, sugar (98.5), rice (41.9), calcined bauxite (69.1), dried bauxite (18.3), alumina (32.9), other (38.3).

Exports (1978), which included re-exports, went to following (US\$ million): UK (85.7), CARICOM (45.5), US (61.4), Canada (20.6), EEC (excluding UK-32.8), Japan (8.2), Spain (3.4), USSR (2.5), People's Republic of China, rest of world (16.7).

## 7. Agriculture

### 7.1 Overview of Agriculture

Agriculture, the largest productive economic sector, provides nearly half of exports and sizable part of domestic food supply; averaged 23% as share of GDP at current factor cost in period 1960-73 although share was generally declining. Fluctuations in sugar prices in mid-1970's caused sector share to rise to 31% in 1974-75 and to decline to 25% in 1976.

Farm land is concentrated on coastal plain between Essequibo and Courantyne rivers. Because much of land is under sea level, strips are cultivated between the sea and a river or swamps, protected on all sides by dikes and canals which are used for both drainage and irrigation during alternating dry and wet seasons. Fertility must be returned to the generally acidic, alluvial soil by means of periodic "flood following".

Farm land development costs, lack of farm credit, and lack of qualified personnel at administrative and technical levels in Ministry of Agriculture, are seen as problems in sectoral planning. The GOG is concentrating, however, on productive sector in latest Four Year Development Plan and giving higher priority to agricultural development than previously. Various rice land development projects with financial assistance from IBRD, AID, IDB and others now underway.

### 7.2 Export Crops

Sugar and its by-products exceed combined value of all other export crops. GOG has nationalized estate and factory operations of the two major sugar companies. Exports expected to increase to 302,000 tons in 1979 from increased acreage and to 3% above that level in 1980-81.

Rice is second most important crop and particularly well suited to low-lying coastal plain in Berbice, Demerara, and Essequibo districts. Farms range in size from 1/2 acre to 1,000 acres, but most are small and some operate on part-time basis, a drawback to increased production. Mechanization on rice farms is increasing.

Rice exports, expected to be 110,500 tons in 1979, could increase to about 115,000 tons in 1980 and to 125,000 tons in 1981 as a result of new acreage under double cropping and use of improved seed varieties.

Coconuts, third most important crop, are grown on estates, small holdings in villages, and along dams of drainage and irrigation ditches. Most of crop goes into producing edible oils and other items.

Coffee, on 3,330 acres in 1972, was grown in North West District (67% of acreage), Pomeroon District (25%), and in Canal Polder area (6%).

Cocoa is grown on about 1,805 acres; most of crop used locally.

Citrus, mainly oranges, grapefruit, and limes, occupies about 3,200 acres. Most oranges are consumed locally; some are used by small juice-canning companies.

Ground crops of plantains, cassava, sweet potatoes, yams, tannias, eddoes, and dasheen are grown in most areas but especially in riverain districts. Production generally meets local demand and surpluses, especially of plantains, are exported to Caribbean islands. White potato cultivation is increasing.

Other crops, grown for local consumption but with small quantities exported, include bananas, mangoes, avocado pears, pineapples, maize, blackeye peas, cabbages, pumpkins, green leafy vegetables. The Ministry of Agriculture is encouraging cultivation of maize, oil palm, peanuts, and soya beans.

### 7.3 Livestock

Increased production is being encouraged by the government. Most beef cattle are found in Rupununi savanna; coastal herds are largely dual-purpose. Pork and poultry production is increasing, with the latter especially important in local food supply.

Livestock numbers by FAO estimates in 1976 ('000 head): cattle 280; pigs 125; sheep 108; goats 62; chickens 10,131.

### 7.4 Forestry

Nearly fourfifths of the country is forested, and the timber industry has considerable potential, but present forest exploitation is limited to 14 to 22 thousand square miles of state forest because of difficulty of access. The most valuable species of trees found are Wallaba,

Mora, Crabwood, and Greenheart, with the latter contributing most to the economy. Firewood, charcoal, and balata are other forest yield. Export of logs has been increasing.

## 8. Physical Geography

### 8.1 Climate

Climate, typical for an equatorial lowland, characterized by high rainfall, high humidity, high average cloud cover, and high temperatures with narrow seasonal range; northeast trade winds moderate coastal temperatures. The country has three main climatic zones.

A wet, tropical, maritime climate is found on coast to about 20 miles inland. Average annual rainfall of 80" to 100" occurs in two well marked wet seasons, May to August and December to January. The average monthly temperature in Georgetown varies from 79° to 82° F with a daily range of about 15°.

Most of the interior hills and mountains have a wet, tropical rain-forest climate. Rainfall varies from 80"-100" annually in central to southeastern region to an average of about 140" yearly on the eastern side of Pakaraima Mountains. Temperature in interior often rises to 90° F at mid-day, dropping to low 70's at night.

A tropical savanna climate is characteristic of Rupununi in south-east area which, with 60"-70" of annual rainfall occurring in one wet season (May to August), is country's driest region. High mid-day temperatures are usual.

Total annual rainfall is variable and drought conditions may occur. The country does not experience hurricanes.

### 8.2 Landforms

Guyana, on northeast coast of South America, lies between latitudes 1° and 9° N and longitudes 57° and 62° W. Its area of 83,000 square miles extends some 400 miles N-S, and along coastline E-W for 270 miles. It is bounded on the north by the Atlantic Ocean, and on the south and southwest by Brazil. Part of its eastern boundary with Surinam is in dispute as is part of northwestern boundary with Venezuela.

Three natural regions with well-defined features characterize the country's relief. A narrow coastal belt, 20 to 30 miles wide, originally marshes and mangrove swamps, is continuation of continental shelf which extends from 100 miles to the north. Coastal belt lies below high tide level and has been reclaimed from the sea by a system of dikes and canals.

A middle region, 80 to 100 miles wide of undulating hills, rises from 50' on coastal side to 400' on western side. A small savanna region in the east is surrounded by white sands; the center and west is tropical rain forest with outcroppings of volcanic and granite rock.

In the highland region, the Kaletaurian Plateau (about 1,640') culminates in mountains: the Acari Mountains on the southern border and the Pakaraima Mountains (principal range) on the western frontier. The extensive Rupununi savanna region stretches south of Pakaraima range for another 200 miles, is cut by the Kanuku Mountains (3,000') extend from west to east, and ends in the Wassari and Marudi-Karawalmentau Mountains.

### 8.3 Land Use

1% is cropland, 3% pasture, 8% savanna, 66% forested, 22% water, urban, and waste.

### 8.4 Waterways

Guyana's river system, part of watershed of Amazon and Orinoco rivers, has four main rivers: the Essequibo, Demerara, Berbice, and Courantyne. All flow northwards and empty into the sea along eastern section of the coast.

The 400 mile Essequibo is fastflowing and, broken by a series of falls and rapids, ends in tidal estuary. It is navigable by steamship about 12 miles beyond Bartica. Principal tributaries include the Rupununi, the Potaro (contains 740' Kaletaur Falls), the Cuyuni (300 miles long, navigable by shallow draft vessels as far as Kariima Falls 5 miles above Bartica), and the Mazaruni.

The Demerara River, east of Essequibo, is navigable by ocean-going vessels from Georgetown at its mouth as far as Linden and by shallow-draft vessels another 40 miles.

The 300 mile Berbice, between Demerara and Courantyne, joins sea at New Amsterdam; Canje River is its only large tributary.

The Courantyne forms the boundary with Surinam and runs the length of the country from Brazilian border to the sea. It is navigable by ocean-going vessels for 50 miles upstream to Orealia and by smaller vessels for some distance beyond.

### 8.5 Mountains

Pakaraima Mountains (the highest range), a northeast extension of Serra Pakaraima along Venezuela-Brazil boundary, crests at 9,219' in Roraima Massif near junction of Venezuela-Brazil-Guyana boundaries. The densely wooded Acari Mountains in the south are western extension of the Tumac-Humac Mountains along the Brazilian border; highest peak about 2,000'. The Kanuku Mountains, running W-E, cut Rupununi savanna and rise to almost 3,000'.

## 9. Transportation and Logistics

### 9.1 Road Network

The road network is limited mostly to the coastal area where majority of population lives. Roads to Interior, often muddy because of double rainy season, generally require 4-wheel drive vehicles.

The total network of roads and trails suitable for vehicles is about 1,810 miles: 595 maintained by central government, 836 by local governments, and 296 by municipalities. There are 422 miles of coastal and lower riverain roads, 308 miles of them paved; 182 miles of road and trail in upper riverain may be surfaced with stone or burnt earth or left unpaved. The main road on the Atlantic Coast (185 miles) extends from Charity to Crabwood Creek on the Courantyne. Ferries carry vehicles across unbridged gaps over Essequibo, Demerara, and Berbice Rivers. Rail and vehicle bridges cross Demerara riverain roads at Linden. A bridge to replace ferry services on the Demerara to Georgetown was completed in July 1978.

The Bartica-Potaro Road, an interior road 182 miles in length from the coast, with branches to Issano on the Mazaruni River and to Kangaruma and Tumatumari on the Potaro, can be traveled by truck or jeep. The road ends at North Fork beyond Mahdia (123 miles from Bartica). Vehicular trails in the Rupununi savanna total some 469 miles.

In 1970, a national "self-help" project was begun in which a 120 mile road was to have been built from Mahdia to Annai in the Rupununi. Construction on a highway from Hoballi on the Mazaruni to site of proposed hydroelectric dam at Sand Landing has been slowed because of lack of funds.

The present lack of roads makes difficult and costly the development of the interior's forest and water power resources. Rivers and canals play an important part in internal transport. (See section 8.4, Waterways).

### 9.2 Vehicles

In 1974, passenger cars numbered 24,700; commercial vehicles (including trucks) 13,700.

9.3 Surface Miles

<u>From</u>	<u>To</u>	<u>Miles</u>
Bartica	Potaro	182
	Mahdia	123
Mahdia	Annai	120
Charity	Crabwood Creek	185
Georgetown	Linden	67
New Amsterdam	Rose Hall	18
	Corriverton	40

9.4 Railroads

The rail line which connected Georgetown with Rosignal and Parika has ceased operation. An 80-mile line from Linden to Ituni is still operating according to latest information available.

9.5 Ports

Georgetown and New Amsterdam are principal ports.

The port of Georgetown is situated at the mouth of the Demerara River where entrance depths are limited by coastal drift and siltation. (At the entrance bar, draft limitations are about 15' at low tide and about 21' at high tide). Poor maintenance at many terminals, lack of modern cargo-handling equipment, and low efficiency characterized port facilities in recent past.

New Amsterdam is situated near eastern end of seaboard in the Berbice River, which is navigable by small power-driven vessels as far as Arima (about 114 miles). The port is about 5 miles upstream and 10 miles from the bar, which restricts the draft of vessels to 3' less than Demerara Bar Prediction.

Georgetown

Coordinates: Lat. 6°49' N; long. 58°10' W.

Approach: Entry of all vessels to the port of Georgetown is governed by the depth of water on the bar; up to Demerara Light from the sea, and inside the bar up to the port there is ample depth for any vessel which can cross the bar itself. Depth on bar at H.W. varies from 4.91 m N.T. to 6.23 m S.T. Ships can cross with 6.70 m. River is navigable as far as Mackenzie, 59.5 miles from entrance.

Accommodation: Six wharves, ranging from 59.43 to 228.6 m, depths 4.88 to 6.10 m. L.W.O.S.T. Bottom soft mud. Vessels discharge with own gear. Direction-finding station. Ship to shore telegraph station. Coastal Radiophone.

The La Penitence improvement project has been completed. The wharf is 231 m which provides facilities for berthing two vessels of limited lengths at same time. Access to the wharf is by road.

Storage: The shed capacity is 9,858 sq m and there is 8,370 m of open storage space.

Cranes: Four cranes, of 2 to 8 tons are available.

Water: Fresh water available.

Shiprepairers: Dry dock operated by Guyana National Engineering Corporation Ltd.; length 63.70 m, on blocks 61.87 m; breadth bottom 12.60 m at entrance, 8.46 m depth on sill at H.W.O.S.T., 2.89 m. Hull and engine repairs carried out on large vessels lying at anchor.

Airport: Timehri Field, East Bank Demerara, 40 km.

Local Holidays: Caricom Day (1st Monday in July).

Working Hours: 07:00 to 15:00 and 15:00 to 28:00 hours. Same shifts apply on Saturday, Sunday and holidays, but overtime rates apply.

New Amsterdam

Coordinates: Lat. 6°17' N; long. 57°28' W.

Accommodation: Vessels cross the New Amsterdam Bar drawing 0.91 m less than the predicted tide for the Georgetown Bar and can proceed 192 km up the Berbice River depending on size and tonnage. Entrance marked by St. Andrew's Beacon to the eastward. Hard sand and clay bottom. No docks.

9.6 Shipping

John Fernandes Ltd.: Water St. Georgetown; containerized and break bulk cargo.

Shipping Association of Georgetown: 28 Main and Holmes Sts., Georgetown.

Caribbean Molasses Co. Ltd.: Mud Lots 1-2, Water St., Georgetown; exporters of molasses in bulk.

Guyana National Engineering Corporation Ltd.: 3-9 Lombard St., Charlestown, Georgetown.

Guyana National Shipping Corporation Ltd.: 5-9 Lombard St., La Penitence, Georgetown.

Guyana National Trading Corporation Ltd.: 45-48 Water St., Georgetown.

9.7 Airports

Timehri International, 23 miles from Georgetown, is the only airport capable of handling intercontinental traffic. Because of the country's difficult terrain, however, air transport is important in internal communications. 48 aerodromes are accessible by Guyana Airways Corporation's fleet. Very light aircraft travel to the 28 smaller airstrips located throughout the country.

NB: For up-to-date information consult latest issue of weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

## GEORGETOWN/ Timehri Int'l

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp C</u>	<u>Runway Characteristics</u>				<u>Aircraft</u> <u>Strength</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
		<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft/</u> <u>Length M</u>	<u>CL</u>		
06°29'18" W 58°15'57" W	29 32.5	05/23	0.33	2286	n.a.	AUW 180/4 100LJA1	

Remarks: REG-S; alternate aerodromes: Boa Vista/Boa Vista, Bridgetown/Grantley Adams Int'l, Caracas/Maiquetia Simon Bolivar Int'l, Cayenne/Rochambeau, Paramaribo/Zanderij, Port-of-Spain/ Piarco.

Aids: ILS(P1), DME(P1), VOR, LPA(P0), LR, LTX, LB, LO, MD, MC, MT, MTD, MS, MFD, MTX, MO, L6, L9. No telex. (See Appendix I for key.)

9.8 Personal Entry Requirements

Passport required. Visa not required for up to 6 months. See also section 1.10, Visa and Travel Information.

9.9 Aircraft Entry Requirements

All private and non-scheduled commercial aircraft overflying or landing for non-commercial purposes need not obtain prior permission. However, a flight plan must be on file.

Non-scheduled commercial aircraft landing for commercial purposes must obtain prior permission from the Director of Civil Aviation, General Post Office Building, P.O. Box 875, Georgetown, Guyana (telegraphic address: TIMAIRPORT GUYANA: None) at least 48 hours prior to departure. Applications must include: (a) name of operator, (b) type of aircraft and registration marks, (c) date and time of arrival at, and departure from Guyana, (d) place or places of embarkation or disembarkation of passengers and/or cargo, (e) purpose of flight, (f) number of passengers and type and amount of cargo, (g) name, address and business of charterer, if any.

Special Notices

1. All aircraft operating within the interior of Guyana must maintain two-way communication with the Georgetown Flight Information Center on 6730.5 kHz. Prior permission must be obtained from the Director of Civil Aviation to operate privately within the interior of Guyana.
2. No single engine aircraft are permitted to operate outside of the Timhri Control Zone between sunset and sunrise.
3. A deposit or security by bond is required in respect of the import duty ordinarily payable for aircraft which remain in the country longer than three days.

9.10 Airlines

Domestic: Guyana Airways Corporation: 32 Main St., P.O.B. 102, Georgetown; state-owned; operates internal scheduled services; to the Caribbean, Brazil and the USA; fleet of 2 DC-3, 2 Twin Otter, 1 Cessna 310, 2 Caribou, 1 DC-6A, 2 HS-748.

Foreign: Guyana is also served by the following foreign airlines: Air France, British Airways, BWLA (Trinidad), Cruzeiro do Sul (Brazil), Cubana, KLM and Pan American.

9.11 Air Distances

From Georgetown, Guyana to:	Stature Miles
Houston (via Trinidad, Haiti, Miami, New Orleans).....	2,964
Miami (via Trinidad, Haiti).....	1,985
New Orleans (via Trinidad, Haiti, Miami).....	2,654
New York (via Trinidad).....	2,572
Panama City (via Caracas).....	1,587
Washington, D.C. (via Grenada, St. Lucia, San Juan).....	2,619

## 10. Power and Communications

### 10.1 Electric Power

Guyana has considerable hydroelectric potential and plans to build a hydroelectric plant in the upper Mazaruni district. However, thermal generation from imported fuels remains sole source of power at present, and electricity is available only on the coastal plain and in river towns such as Mackenzie (Linden).

The Guyana Electricity Corporation with several generating stations is the main supplier. A few other municipal and industrial establishments provide small amounts. In 1977, the total capacity was 175,000 kW; 370 million kWh were produced (495 per capita).

The country's limited generating capacity, resulting in power shortages, retards economic growth. Development of a maintenance program and interconnection of existing systems for maximum utilization are among measures seen as necessary. Increasing energy demands, high cost of fuel imports underscore urgency of hydro development.

### 10.2 Telephone System

Guyana Telecommunication Corporation with landline, telegraph, microwave, and radio provides telephone services along the coast and to the country's interior. The central exchange is located in Georgetown with terminals for inland and overseas radio telephone calls. Truck and junction lines extend to New Amsterdam and several other district telephone exchanges. Direct distance dialing is used in all areas. About 22,500 telephones (2.6 per 100 population) are in use.

International telegraph and telex services are provided by Cable and Wireless (W.I.) Ltd. in conjunction with Guyana Telecommunication Corp. A 32-channel tropospheric system between Guyana and Trinidad links to cable and wireless systems, and gives Guyana high grade telecommunications service to most parts of the world.

### 10.3 Radio Network

There are two major radio broadcasting stations giving coverage to coastal areas and for some distance inland. Approximately 280,000 radios were in use in 1975.

Radio Broadcasting Co. Ltd. (Radio Demerara): P.O.B. 561, Georgetown - a commercial station. Broadcasting times: 5:17 AM to 11:00 PM Monday to Saturday and 5:27 AM to 11:00 PM on Sundays.

Guyana Broadcasting Service: P.O.B. 560, Georgetown - a government-owned station. Broadcasting times: 4:58 AM to 11:58 PM on Monday, Tuesday, Thursday, Sunday; 4:58 AM to 12:58 on other days.

1. General Information1.1 Geographic Codes

AID	532
FIPS	JM
State region	ARA

1.2 Country Names

Official	Jamaica
Local	Jamaica
Short	Jamaica

1.3 Calendar and Holidays

New Year's Day.....	January 1
Ash Wednesday.....	*
Good Friday.....	*
Easter Monday.....	*
National Labor Day.....	May
Queen's Birthday.....	June
Independence Day.....	1st Monday in August
Christmas Day.....	December 25
Boxing Day.....	December 26

\* variable date

1.4 Currency

Jamaica dollar (J\$) of 100 cents  
 Notes: 50 cent, 1, 2, 5, 10 dollar  
 Coins: 1, 5, 10, 25 cent

US\$1 = J\$ 1.781 (March 1980)  
 J\$1 = US\$ .5613

1.5 Time Zones

EST +1; GMT -4

1.6 US Mission and Staff to Jamaica (January 1981)

Embassy of The United States  
43 Duke Street  
Kingston, Jamaica

Ambassador.....	Loren E. Lawrence
Deputy Chief of Mission.....	Roy T. Haverkamp
Economic/Commercial Section.....	Thomas A. Forboud
Political Section.....	John D. Forbes
Consul, Consular Section.....	Frederick H. Hassett
Labor Section.....	Donald R. Knight (resident in Bridgetown)
Administrative Section.....	Louis Schwartz, Jr.
Regional Security Officer.....	Dennis L. Williams
Agricultural Section.....	Robert Anlauf (resident in Santo Domingo)
Agency for International Development.....	Glen O. Patterson
Public Affairs Officer.....	John M. Keller

Consulate: 1 B Eureka Road  
Kingston Phone: 932-6340

1.7 Host Mission and Staff in US (February 1981)

Embassy of Jamaica  
1666 Connecticut Ave. N.W.  
Washington, D.C. 20009  
Phone: 387-1010

Ambassador.....	Keith Johnson
Minister Counselor.....	Thomas A. Stimpson
Counselor.....	Doris Chin
First Secretary.....	Lorne McDonnough
Economic Affairs Attache.....	Trevor DaCosta

### 1.8 Treaties and Agreements

Agreements concerning agricultural commodities, aviation, defense, economic and technical cooperation, investment guarantees, narcotic drugs, Peace Corps, postal matters, property, exchange of official publications, telecommunications, trade and commerce, trade marks, weather stations. Agreements between US and UK relating to Jamaica are concerned with consuls, extradition, taxation, and visas.

### 1.9 International Organization Memberships

CARICOM, FAO, G-77, GATT, IADB, IAEA, IBA (International Bauxite Association), IBRD, ICAO, IDB, IFC, ILO, IMF, ISO, ITU, NAM, OAS, Pan American Health Organization, SELA, UN, UNESCO, UPU, WHO, WMO.

### 1.10 Visa and Travel Information

Passport: not required for up to six months.

Visa: not required for up to six months.

Smallpox and yellow fever certificates required of travelers one year of age and over arriving from infected areas. Smallpox certificate required of travelers arriving from Ethiopia, Djibouti, Kenya, Somalia, Bangladesh, India, and Pakistan.

### 1.11 Ethnic and Sociocultural Groups

The Arawak Indians, inhabitants of the island when settled by the Spanish in 1510, had died out from diseases and harsh treatment by the time of the British conquest in 1655. The present population is descended mainly from British colonialists and their slaves. The Creole population (90-95% of total) which includes Africans, Europeans, Afro-Europeans and, marginally, Afro-East Indians and Afro-Chinese, dominates the social system, in which color and class are closely correlated. Non-Creoles, descendants of later immigrants, include Chinese, East Indians, Jews, Portuguese, and Middle Easterners. Africans constitute about 76% of the population; Afro-Europeans 15%; Chinese and Afro-Chinese 1.2%; Indians and Afro-Indians 3.4%; whites (Europeans) and others make up about 4%.

Chances for upward mobility of dark-skinned Jamaicans have increased somewhat in recent years. However, colored Creoles of the middle class most likely to move into positions (especially political) left vacant by the exodus of the white elite following independence.

### 1.11 Languages

English is the official language. British English is spoken by British expatriates and Jamaicans educated in England, while educated upper class Jamaicans speak Jamaican English. Latter resembles British English, but it has the evenness of stress, rising final tones, some idiomatic constructions, and loan words of Jamaican Creole. The broad dialect of Jamaican Creole, the language of the lower classes, has a largely English lexicon with a West African influence in speech sounds. Most Jamaicans are bilingual or even trilingual, making cross-cultural communication possible; expatriates and Jamaican masses may find their English mutually unintelligible, however.

Chinese and Hindi are spoken in the Chinese and Indian communities.

### 1.12 Religions

Numerous Christian churches are represented, with the Anglican Church being the largest. Other churches include the Roman Catholic, Methodist, Presbyterian, Baptist, Seventh Day Adventists, Church of God, Pentecostal Church, Tabernacle Baptist Church and Jehovah's Witnesses. Revivalism and spiritualism are elements of Afro-Christian cults (Pocomania, Zion Revival, Convince and others) which have greatest appeal among the poor. Most important of the revival cults, the Rastafarian Brethren, appeals to currents in black awareness and advocates repatriation to Africa (identified with Ethiopia as the deity is with Haile Selassie). The cultural contribution of the folk religions through music, dance, and literature has been significant.

There are several Muslim and Hindu groups and a small Jewish community.

### 1.13 Education and Literacy

Educational facilities, including primary and secondary schools, generally well distributed, but poor attendance in the primary schools a problem in early 1970's. Vocational and technical education has been given increasing emphasis since independence. Post secondary facilities include a few technical and teacher training schools and the Kingston branch (Mona campus) of the University College of the West Indies.

The literacy rate for adults (15 years of age and over) was officially reported at 82% in 1970, but a 1973 estimate by the National Planning Agency placed effective rate of functional literacy between 50 and 60%. An extensive program to advance literacy carried out since mid-1970's.

## 2. Government

### 2.1 National Government

Jamaica attained independence from Great Britain on August 6, 1962, becoming a member of the Commonwealth of Nations and retaining formal status as a constitutional monarchy under the Queen.

A two-house Parliament is the legislative branch. The Senate has 21 members, 13 appointed by the Governor-General and 8 appointed on the advice of the leader of the opposition. The House of Representatives consists of 60 members chosen for five-year terms by universal suffrage of citizens 18 years of age and over.

Executive power is exercised by the Governor-General, acting on the advice of the Prime Minister in most matters. A cabinet consisting of Prime Minister and 11 or more other ministers (not less than two or more than three must be appointed from the Senate) is charged with control of the government and is responsible to the House of Representatives. The Governor-General appoints the Prime Minister (leader of the majority party) and other ministers on the latter's advice. The administration of government is largely the task of a career civil service.

In fulfillment of a campaign pledge (1976 elections), the government has called for a public discussion of the country's proposed change to a republican status.

The legal system, based on English common law, consists of a Court of Appeal, the Supreme Court, resident magistrate courts, and courts of petty session. Cases of unusual importance may be appealed to the UK Privy Council.

A Gun Court created in 1974 as a combination court-prison to combat the increasing use of arms in crime was held to be constitutional by the Privy Council, but mandatory sentences of indefinite detention were declared illegal.

### 2.2 Political Parties

Two major political parties, the Jamaica Labor Party (JLP) and the People's National Party (PNP), have alternated in power since 1944, with the JLP regaining control of the government in October elections. Both parties are affiliated with major labor unions and both favor a program of social reform and welfare. The centrist JLP has traditionally had

both populist and business support; the PNP, politically to the left of the JLP, advocates democratic socialism, favoring an activist government role in the economy, and has drawn support mainly from the urban middle class. Neither party has won the backing of the poor and unemployed. The outcome of the 1980 election, in which deteriorating economic conditions became a major campaign issue, is expected to halt the swing toward socialism and closer ties with Cuba.

Violent protest of socio-economic conditions by the alienated masses has often been a component of Jamaican politics.

### 2.3 Regional Organization

Jamaica is divided into 14 parishes. Parish councils administer local affairs in 12 parishes; the Kingston-Saint Andrew Corporation, a municipal government, administers those parishes as a single unit. Each parish has a Custos Rotulorum, a chief magistrate representing the Governor-General, who is not a member of the parish council. Although responsible for local concerns such as roads, public health, poor relief, etc., dependence on central government finances renders parish governments virtually powerless.

Cornwall County: Hanover, Saint Elizabeth, Saint James, Tulawney, and Westmoreland.

Middlesex County: Clarendon, Manchester, Saint Ann, Saint Catherine, Saint Mary.

Surrey County: Kingston, Saint Andrew, Portland, Saint Thomas.

### 2.4 Major Government Figures (April 1981)

Governor General.....	Glasspole, Florizel
Prime Minister.....	Seaga, Edward Philip George
Dep. Prime Minister.....	Shearer, Hugh Lawson
Min. of Agriculture.....	Broderick, Percival, Dr.
Min. of Commerce & Industry.....	Vaz, Douglas
Min. of Construction.....	Golding, Bruce
Min. of Education.....	Gilmour, Mavis, Dr.
Min. of Finance & Planning.....	Seaga, Edward Philip George
Min. of Foreign Affairs & Foreign Trade.....	Shearer, Hugh Lawson

Min. of Health.....	Baugh, Kenneth, Dr.
Min. of Labor & Public Service.....	Smith, James, A.G., Jr.
Min. of Local Government.....	Charles, Pearnel
Min. of Mining & Natural Resources.....	Seaga, Edward Philip George
Min. of Natl. Security & Justice.....	Spaulding, Winston
Min. of Public Utilities & Transport.....	Ross, Alva Edison
Min. of Social Security.....	Lewis, Neville
Min. of Tourism.....	Abrahams, (Eric) Anthony
Min. of Youth & Community Development.....	Anderson, Errol
Min. Without Portfolio.....	Irvine, Ronald, Dr.
Min. of State in the Min. of Commerce & Industry.....	Johnson, Anthony
Min. of State in the Main Construction.....	Marsh, Robert
Min. of State in the Min. of Finance & Planning.....	Shirley, St. Clair
Min. of State in the Min. of Foreign Affairs & Foreign Trade.....	Gallimore, Neville
Min. of State in the Min. of Local Government.....	Bennett, Enid
Min. of State in the Min. of Mining & Natural Resources.....	Buck, Basil
Min. of State for Industry.....	Williams, Danny
Min. of State in the Min. of Public Utilities.....	Powell, E.K.
Min. of State in the Min. of Social Security.....	Kirby, Leonard
Min. of State in the Min. of Tourism.....	Brown, Henry Marco
Min. of State in the Min. of Youth & Community Development.....	Henry, Mike
Min. of State in the Office of the Prime Minister.....	Bartlett, Edmund
Attorney General.....	Spaulding, Winston

### 3. Disaster Preparedness

#### 3.1 Host Disaster Plan

The Government Central Emergency Relief Committee in the Ministry of Social Security has established a disaster plan, subject to yearly revision. Duties have been assigned to each participating service and organization. Its function is to organize and coordinate relief actions. Upon receipt of disaster information the committee takes immediate appropriate action. A small staff and limited funds necessitate outside assistance in major disasters. Action responsibilities assigned to various government ministries, as shown below:

#### Survey and Assessment - Parish Councils, Police and Army

Food: Red Cross, Salvation Army, Council of Voluntary Services,  
Jamaica Council of Churches

Water: National Water Authority, Water Commission

Health: Ministry of Health and Environmental Control

Relief Supplies: Central Emergency Relief Committee

Coordination with volags, U.S. Embassy and International  
Organizations: Disaster Coordination Center (D.C.C.)

Records and Reporting: D.C.C.

Logistics and Transportation: Ministry of Works (Public Works  
Department)

Infrastructure: Ministry of Works

Communications: Police, Ministry of Works (Post and Telegraph  
Department), Defense Force

Security: Police and Jamaica Defense Force

### 3.2 Contact List

Disaster Coordination Center  
5 Lockett Ave.  
Kingston Telephone: 922-2666.

### 3.3 Red Cross and Volags

Red Cross is a member of the central committee and is responsible for emergency assistance (food and health) during the first three days after a disaster. Red Cross has its own disaster plan and organization. Salvation Army and Red Cross are strongest non-governmental organizations. GOJ attitude toward participation of volags in relief operations is positive. Standing committee of volags coordinated through DCC.

Red Cross: The Jamaica Red Cross, 76 Arnold Road, Kingston 5.  
Cable: JAMCROSS Kingston. Tel: 926-7426.

GRS: 5 Emerald Road, Kingston 4. Cable: CATHWEL  
Kingston. Telex 2151. GRAKSHOP. Tel: 932-4309.

Salvation  
Army: 93 3/4 King St., Kingston. Tel: 23351

WCC: Caribbean Conference of Churches, P.O. Box 527, Kingston.  
Tel. 936-0701.

UNDP: 1 Lady Musgrave Road, Kingston 5. Cable: UNDEVPRO  
Kingston. Telex: 381 2245. Tel: 936-5500.

### 3.4 Food Supplies

The GOJ does not store food commodities for emergencies; much of basic food supply including wheat, corn, rice, and fish is imported. Emergency foodstuffs would have to be sent to Jamaica in the event of a major disaster.

The Agricultural Marketing Corp. (AMC) could provide a few days' supply of food in major disaster. Jamaica Nutrition Products has variable amounts of imported blended grain products (for school lunch programs) on hand.

Grain silos and warehouses on Kingston waterfront are vulnerable to hurricane, earthquake and storm surge/tsunami damage.

### 3.5 Storage

Storage would be a problem if grain silos or warehouses located at the ports were damaged or destroyed. The GOJ should pre-determine where food supplies could be stored and location of sites for mass feeding centers or food distribution points.

### 3.6 Disaster Types

Jamaica is in the path of hurricanes that usually strike the east and gulf coasts of the US, occurring mostly in August, September, and October. The island averages one tropical cyclone or hurricane each year.

Earthquake, drought, flood, civil strife, and epidemics are other disaster types.

See also section 8.8, Volcanoes and Seismicity.

### 3.7 US Volags

<u>Agency</u>	<u>Intl/Local Staff</u>	<u>Programs</u>
The Carr Foundation		Communications; Med & PH; Nutr
Catholic Medical Mission Board		Equip & Mat Aid; Med & PH
Catholic Relief Services USCC	1/4	CD; Equip & Mat Aid; Med & PH; Nutr.

<u>Agency</u>	<u>Int'l/Local Staff</u>	<u>Programs</u>
Christian Church Disciples of Christ	5/-	CD; Ed
Church of the United Brethren in Christ	/6	Ed
Compassion		SW
Credit Union National Association		Coops
Damien-Dutton Society for Leprosy Aid		Med & PH
Dominican Sisters	21/7	Ed; Med & PH
The English Speaking Union of the US		Ed
FCH Services Inc.		CHP
The Ford Foundation		Ed; Food & Agr
Franciscan Sisters of Allegany	33/153	Ed
Friends United Meeting	2/-	Ed; Ind Dev; SW; Y
Heifer Project International		Food & Agr
International Educational Development, Inc.	100/US	Coops; Ed
Mennonite Central Committee	37/-	Ed; Med & PH; Nutr; SW; Y
Sisters of Mercy of the Union in the USA	31/25	Ed; Med & PH; SW
Milbank Memorial Fund		Med & PH

<u>Agency</u>	<u>Intl/Local Staff</u>	<u>Programs</u>
National Association of the Partners of the Alliance, Inc.		Ed; Equip & Mat Aid; Med & PH; SW
National 4-H Council		Ed; Y
The People to People Health Foundation, Inc.	13/-	Ed; Med & PH
Public Welfare Foundation		Ed; Pop and Fam Serv
The Salvation Army	11/-	Ed; Equip & Mat Aid; Food & Agr; Med & PH; SW; Y
Seventh Day Adventist World Service, Inc.		Med & PH
Volunteer Development Corps	6/-	Coops; Food & Agr

Key

Comm	Communications
CD	Community Development
CHP	Construction, Housing, Planning
Coop	Cooperatives, Credit Unions, Loans
Ec & Dev Pl	Economic and Development Planning
Ed	Education
Equip & Mat Aid	Equipment and Material Aid
Food Prod & Ag	Food Production and Agriculture
Ind Dev	Industrial Development
Med & PH	Medicine and Public Health
Nutr	Nutrition
Pop & Fam Serv	Population and Family Services
Pub & Bus Adm	Public and Business Administration
SW	Social Welfare
Women	Women
Youth	Youth

3.8 Jamaican Volags

Council of Voluntary Social Services  
5 Elgin Rd., Kingston. Tel: 97907

Jamaica Council of Churches  
6 Hope Road, Kingston. Tel: 65636

Salvation Army. See Contact List

#### 4. Population

##### 4.1 National Population

An adjusted population figure of 1,938,000 was arrived at in the 1970 census. A projected estimate for 1977 population was 2,170,000. A high birthrate in the first half of this century has been showing a downward trend in the 1960's and 1970's (29 per 1,000 population in 1976) while death rates have also declined steadily (7 per 1,000 population in 1976). The population is relatively young, 46% being under the age of 15 in 1970. A high rate of emigration (net emigration may have totaled 288,000 during 1960's) kept annual growth rate at about 1.5% in 1960's despite high rate of natural increase. A decline in emigration in early 1970's resulted in a higher growth rate (1.8% between 1971 and 1973) even as birthrate continued downward trend. The annual growth rate in 1976 was 1.2% (US Bureau of the Census).

With a population density of over 400 per square mile and over 2,000 per square mile on arable land, Jamaica is one of the most densely populated countries in the world. Recently, however, official policy of family planning and its programs have met with substantial success.

##### 4.2 Regional Population

Population still largely rural in 1975, but urban migration, especially of the young, accelerating since 1960. The highest concentration of urban population (63% in 1970) is in the Kingston-St. Andrew metropolitan area, although other urban centers also growing. In 1970, 39% of the population lived in towns of 1,000 or more, 35% in towns of 10,000 or more, 37% in capitals of parishes and 28% in the Kingston-St. Andrew metropolitan area.

The most heavily urbanized parishes are Saint Andrew, Saint James, and Saint Catherine. The larger towns are parish capitals and, with exception of Mandeville and Spanish Town, are on the coast. Inland settlement patterns, dictated by topography, show largest concentrations in interior valleys, along watercourses, and on arable slopes. Settlement tends to be in clusters rather than widely dispersed. The National Physical Plan (1970-90) encourages decentralization of industry to bring about a more even distribution of population.

4.3 Population By Parish

	<u>Area</u> (sq. miles)	<u>Population</u> (Dec. 31, 1975)
Kingston	8.406	626,300
St. Andrew	186.308	
St. Thomas	286.800	76,900
Portland	314.347	73,800
St. Mary	235.745	107,200
St. Ann	468.213	132,300
Trelawny	337.651	66,500
St. James	229.728	118,600
Hanover	173.855	63,600
Westmorland	311.604	120,300
St. Elizabeth	468.085	136,700
Manchester	320.482	138,300
Clarendon	461.864	190,500
St. Catherine	<u>460.396</u>	<u>209,300</u>
Total	4,263.484*	2,060,300

Source: Survey Department and Department of Statistics, Jamaica, as cited in Europa Yearbook 1978 .

## 5. Health, Nutrition and Housing

### 5.1 Health Sector Overview

Mortality patterns have been changing in the last few decades, with a general decline in deaths from communicable and infectious diseases. Malaria, once a serious health threat, virtually eradicated; no cases of yellow fever in the early 1970's, although the Aedes mosquito is still present and preventive measures must be maintained.

Immunization programs have been carried out against smallpox, tuberculosis, typhoid, polio, tetanus, diphtheria, and whooping cough, and such children's illnesses as chickenpox, whooping cough and diphtheria showed decline between 1963 and 1973. Acute respiratory diseases in children remain a problem. In addition 85% of the 688 deaths from enteritic and diarrheal diseases in 1971 occurred among children under the age of four. Slightly increased incidences of influenza, measles, mumps, and tuberculosis were noted in the decade 1963-1973. Recent outbreaks of dengue also reported.

Among communicable disorders, venereal diseases have shown greatest increase. Other serious health problems include diabetes mellitus (fifth leading cause of death) and mental illness. In the early 1970's nearly 40% of the country's hospital beds were in the Bellevue Mental Hospital.

In 1971, deaths were recorded most frequently from the following ailments: cardiovascular disease (2,200), heart disease (1,852), cancer (1,583), pneumonia (903), enteritic and diarrheal diseases (688), hypertensive conditions (638), diabetes mellitus (593), nutritional deficiency (431).

### 5.2 Vital Statistics

Births/1000 population, 1976	29
Deaths/1000 population, 1976	7
Infant mortality/1000 live births, 1976	22
Life expectancy at birth, 1970	67

### 5.3 Health Facilities

The Ministry of Health and Environmental Control (MOHEC) administers the public health program in all hospitals except Bellevue Mental Hospital and works with parish councils in maintaining public health service in the parishes. Hospital beds in Jamaica totalled about 8,000 in 1973; one bed per 267 people countrywide as of 1974. Two major hospitals, Kingston Public Hospital (664 beds in 1973) and University Hospital (482 beds), are located in Kingston and are among 21 public general hospitals.\* A number of private institutions, including Saint Joseph's Hospital (77 beds) and Medical Associates (72 beds) also serve Kingston, Montego Bay and other major centers. Six specialized public hospitals had a total of 4,200 beds in 1973 and some had experienced severe overcrowding.

The 21 general hospitals are in the following locations: Kingston (Kingston Public Hospital), Morant Bay (Princess Margaret Hospital), Golden Crove, St. Thomas (Issac Barrant Hospital), Port Maria, Annotto Bay, Buff Bay, St. Ann's Bay, Ulster Spring, Alexandria, Montego Bay (St. James Hospital), Falmouth, Lucea (Noel Holmes), Savanna-la-Mar, Black River, Mandeville, Spaldings, Chaelton, Spanish Town, Lionel Town, Linstead and Port Antonio.

A network of health centers and dispensaries throughout the island supplements hospital services. In 1972 there were 152 such units, 26 in Kingston-Saint Andrew area and the remainder mostly in rural localities, providing both curative and preventive services. In addition, fixed and mobile clinics are maintained by some industries.

The 400 bed Montego Bay Regional Hospital, completed in 1974, provides specialized services for the five Cornwall County parishes.

### 5.4 Health Personnel

A serious health manpower shortage exists in Jamaica; limited training facilities and emigration of professionals and trained people the main causes. It is believed that there were fewer doctors, dentists, and nurses in the mid-1970's than there had been 10 years earlier. The shortage of professional and para-medical personnel is most acute in rural areas. The University of the West Indies has a medical school, but since it trains physicians for much of the Caribbean area, it must limit the number of Jamaican medical students.

The number of doctors registered to practice in 1973 was 1,254, but the National Planning Agency suggested a total of about 490 practicing physicians in 1972, a figure which may be incomplete but possibly closer to actual number. There are conflicting reports, too, on the number of dentists and nurses. Pan American Health Organization (PAHO) reported 176 dentists in 1973; the NPA put the figure at 105 in practice in 1972.

In 1973 some 7,287 general (registered) nurses were licensed to practice in Jamaica according to PAHO, but the NAP reported only 1,437 nurses and 666 assistant nurses practicing in government medical facilities in 1972, a figure which did not include those in private practice.

Several health manpower training programs have been in operation since 1970 in an attempt to make up deficits in health personnel. In particular the value of Community Health Aides (CHA's) has been recognized and provision made for their training.

#### 5.5 Diet (Minimum Daily Requirement/Recommended Daily Allowance)

calories	2,248	phosphorus	800mg
carbohydrate	252.9g	iron	14mg
protein	46.3g	sodium	-
fat	112.4g	potassium	-
calcium	800mg	vitamin A	-

#### 5.6 Food and Drink

Starches: wheat (a major staple in form of white bread), rice (a staple food), maize-meal, oat-meal, yams, cassavas, sweet potatoes, white potatoes

Fruits: breadfruit, avocados, mangoes, bananas, ackee, citrus fruits, pineapples, guavas, papayas, coconuts, plantains

Vegetables: callaloo (a kind of spinach), cho-cho (a pear-shaped vine-grown vegetable), cabbage, carrots, cucumbers, onions, pumpkins, green beans, okra, kale. (Garden vegetables are used primarily in soups and stews).

Legumes: pigeon peas, red kidney beans, cow peas, lima beans

Dairy Products: eggs, processed milk (imported for use largely in school programs; overall consumption low)

Fats: primarily coconut oil; some animal fat

Meat: beef is preferred; pork, chicken, goat-meat; mutton.

Fish: seafood, freshwater fish, imported salt cod

Beverages: coffee, tea, herbal teas, rum (a raw, strong local variety is popular)

Other: sugar (consumption high), chillies, ginger, peppers, garlic

#### 5.7 Food Habits

One full meal a day is the rule among poor families in the countryside. Breakfast is likely to consist of coffee or herb tea and a piece of "bammy" (johnnycake made of cassava flour).

Spicy dishes are preferred; generous use is made of pimento (all-spice), ginger, peppers, and curry spices. Popular dishes include "rice and peas" (rice and kidney beans) and another consisting of salt cod fish and ackee (a pulpy local fruit) fried together with onions and peppers.

#### 5.8 Nutrition

The daily per capita intake of calories (2,455) and protein (65 grams) was found by the Caribbean Food and Nutrition Institute in 1972 to meet minimum standards for the region. However, the NPA reported in 1973 that an estimated 50% of all children under the age of five were below standard weight for their ages. Moderate to severe malnutrition exists in about 20% of children under the age of four; marasmus and kwashiorkor are sometimes seen, the former being more common. It has been estimated that malnutrition contributes directly or indirectly to 60-85% of deaths among children between the ages of 6 months and 2 years. Iron and folic acid deficiencies result in anemia in about 50% of pregnant and lactating women and in young children. Heavy reliance on starchy foods and a limited amount of protein in characterize diet of the poor.

Nutrition Advisory Council established by the GOJ has prepared a policy and made recommendations for implementation which would provide an adequate diet for all Jamaicans.

### 5.9 Housing

Housing shortages, especially in urban areas, have become critical as urban migration has produced squatter communities of substandard housing. 33% of urban housing and many farm dwellings are considered substandard as well.

According to a 1970 survey, most housing units were small; averaging 2.4 rooms with an occupancy rate of 1.8 per room. 78% of units were separate dwellings; 16% were in multifamily homes; 3% were in commercial buildings; 3% included units in barracks, servants' quarters and others.

About 43.5% of dwellings in 1970 were constructed of concrete (most newer dwellings and over half of urban units); 36.9% were frame; 4% were wattle and daub, or adobe (mostly in rural areas); 2.2% were stone; 0.8% were brick; 12.6% were of other materials. Scrap materials were used in construction of shantytown dwellings.

About 46% of all dwellings had water piped inside or into yards (about 90% of them urban); most others had access to public standpipes or public tanks; occupants of about 13% drew water from springs or other water-courses. Only about 8%, nearly all urban, had sewer connections. Most lower income urban dwellers and nearly all rural dwellers had no electric service and used kerosene lamps for lighting.

The Ministry of Housing is responsible for constructing dwellings for low-income families, but keeping costs of public housing units within reach of poorest in the population has proven difficult. Several projects to provide low-cost housing have been financed by World Bank loans.

## 6. Economy

### 6.1 Overview of Economy

Diversified economy is dominated by bauxite mining, manufacturing and tourism. Agriculture, leading sector until 1960's and still employing 30% of labor force, now contributes only 8% of GDP. Bauxite/alumina industry, of crucial importance to economy, generated 72% of merchandise exports in 1978, accounted for 11% of value added, provided 23% of government revenues but, because of capital intensive nature, employed only 1% of labor force. In an effort to extend control over the industry, the GOJ imposed a bauxite levy in 1974 which increased government revenues in short-run but gave impetus to multinationals' search for alternative sources of bauxite/alumina, thus causing decline in production in mid-1970's which is only gradually recovering. The GOJ also negotiated with leading bauxite companies to purchase 51% of their assets. The manufacturing sector, producing wide variety of goods (asbestos, chemicals, and oil refining, clothing and footwear, cement, machinery), has had declining output in recent years but is leading sector in value added and in 1978 contributed 18% to GDP, employed 11% of labor force, provided 11% of merchandise exports. Due to incentive and trade policies the sector consists generally of highly protected, capital intensive, inefficient import-substitution industries producing for small domestic market. Tourism, second largest foreign exchange earner after bauxite/alumina, creating 20,000 direct and indirect jobs, was hurt by world-wide recession and civil unrest in Jamaica in mid-decade but showed signs of recovery in 1978.

Although the economy grew rapidly in the 1960's, largely from bauxite and tourism, structural weaknesses existed (policy bias against agricultural sector, excessive protection of industrial sector, increased pressure on urban centers from rural-urban migration, increased disparity in income levels) which the government elected in 1972 sought to correct through economic diversification, enlarged public sector role, redistribution of income. Resulting uncertainty created by these policies reduced private sector investment with the problem exacerbated in 1976 by an increase in price of oil and other commodities, reduced bauxite exports, lower sugar prices, world recession, and local labor unrest. The ensuing balance of payments and fiscal problems prompted massive capital outflow and emigration of skilled labor.

Government efforts since 1977 to relieve the severe economic problems have included new tax and wage policies, tightening of import restrictions, and exchange rate adjustments. These measures along with partial liberalization of prices and the development of an export promotion program have restored a measure of confidence within private sector, still dominant

in manufacturing. Through an agreement on terms of eligibility, Jamaica has received financial assistance from IMF. Balance of payments and fiscal situation appear to have improved during 1977 and 1978, the current account deficits in balance of payments and central government budget having been reduced to 5% of GDP (1978) and to about 2.6% of GDP (1978/79), respectively. Improvements have been at considerable cost, however, in terms of output, employment, and prices. Reduction in imports created shortages of raw materials and intermediate goods which forced closure or reduced activity of many firms, contributing to increase in rate of unemployment (26% at end of 1978). Consumer prices increased by about 50% while wage guidelines and new taxes caused decline in real income.

Lack of foreign exchange and of skilled manpower are seen as major problems presently affecting economy. Due to tight balance of payments situation, GDP growth in real terms expected to be only 2.5% in 1979. External public debt outstanding and disbursed, 38% of estimated GDP at end of 1978, projected to decline gradually as exports grow. A Five-Year Development Plan (1978-82) with objective of achieving economic growth through stimulation of productive sectors, increased exports is dependent on continued careful fiscal and monetary policies, realistic public investment program, prices and income policies which encourage production, and, possibly, on a continued flexible exchange rate policy.

## 6.2 GNP/GDP

GNP per capita in 1977: US\$1,150

<u>GNP in 1977</u>	<u>US\$ Mil.</u>	<u>%</u>	<u>Annual Rate of Growth</u> (% constant prices)	
			<u>1972-74</u>	<u>1974-76</u>
GNP at Market Prices	2638.3	100.0	-2.5	-2.7
Gross Domestic Investment	309.3	11.7	-4.8	-17.5
Gross National Saving	239.3	9.1	-4.7	-35.0
Current Account Balance	-68.1	-2.6	n.a.	n.a.
Exports of Goods, NFS	921.5	34.9	3.4	-16.5
Imports of Goods, NFS	889.4	33.7	3.2	-15.0

Source: World Bank, Current Economic Position and Prospects of Jamaica.

### 6.3 Imports

A projected increase in imports of goods and non factor services by about 14% in 1979 will result in current account deficit of about US\$ 135 million which is expected to be reduced over next several years. Of merchandise imports valued at an estimated 872.1 (US\$ million) in 1978, food imports represented 9.2%, other consumer goods 6%, petroleum 23.7%, other intermediate goods 36.4%, capital goods 24.7%. Major trade partners (1977) were US (36%), UK (10%), Canada (6%).

### 6.4 Exports

Exports grew by 25% in 1978. To sustain high growth rate over long term, a goal of Development Plan, changes are needed in industrial infrastructure and incentive system (to redress imbalances favoring import substitution and production for local market and CARICOM). Further improvements in cost competitiveness of Jamaican products as well as marketing skills to penetrate international markets are seen as necessary. 1979 exports expected to increase 11% above 1978 level. Total bauxite production projected to increase 7% above 1978 level, sugar production to 350,000 tons, 16% above 1978 level. Slight improvement expected in production and exports of bananas. Nontraditional exports are expected to benefit most from government's new emphasis on export promotion. Exports by major commodities, 1978, at current prices (US\$ million): bauxite (160.8), alumina (414.1), sugar (58.2), bananas (16.8), other merchandise, including re-exports (148.5) for total of merchandise exports (798.4) which with non factor services (207.2) totaled 1005.6. Major trade partners (1977) were US (44%), UK (20%), Norway (11%), Canada (8%).

## 7. Agriculture

### 7.1 Overview of Agriculture

The agricultural sector employs 30% of labor force, contributes about 8% of GDP and 13% of export earnings, but production has not kept pace with population growth and much food is imported that could be grown locally. Fewer young people are attracted to the sector, which provides only partial income for a large proportion of people engaged in farming. About 45% of total land area is devoted to farming; sugar cane occupies largest acreage, mainly on coastal plains and in some interior valleys. An estimated 65,000 acres of arable land on properties of 100 acres or more could be brought into more intensive production. Holdings tend to be large estates or small farms, the former generally on level land producing for export and the latter in hilly interior. The majority of farms are owner-occupied. Some holdings are family land that is held jointly by family members in the absence of primogeniture. A program of land reform, many years in operation, has redistributed government-acquired land to farm settlers, but the small acreage on such farms keeps production low. Project Land Lease has provided some farmers with long-term land rental privileges.

Achievement of target set for sector by Development Plan of 7-8% annual real growth for period would represent break with stagnant production of past decade. The encouraging overall agricultural growth of 8% in 1978 is attributed to several factors: import restrictions, guaranteed prices for 18 products (since 1977), improved weather conditions, mobilization of farmers to produce under Emergency Production Plan (instituted 1977). Proposed measures for accomplishing Development Plan's objectives of achieving maximum agricultural output and improving standards of rural living include: continuing guaranteed prices for most important crops; accelerating distribution of land to small farmers; improving conservation program; providing drainage to 50,000 acres; strengthening research, marketing, credit services.

### 7.2 Export Crops

Sugar-cane, basis of the island's early economy, still most important crop in terms of revenue and employment, is grown on plantations and small farms. Molasses and rum are economically important by-products. Government's program for sugar-cane is basically one of rehabilitation and largely confined to three sugar factories accounting for 60% of total output. Main objectives are increasing productions to peak 1965 level (500,000 tons), maintaining foreign exchange earnings, continuing research

on smut disease which has seriously hurt industry. Projected sugar production for 1979: 350,000 tons.

Bananas, second most important export crop, are grown on both hilly and coastal lands, mainly on small farms (greatest concentration between Blue Mountains and Eastern Coast). Plan calls for increase in exports from 75,000 tons in 1977 to 150,000 tons in 1982 through expanded acreage and replanting.

Other important export crops: citrus, grown mainly in south central part of country; cacao, usually a small farm crop, harvested from October to February or from April to July in smaller spring crop; coffee, cultivated on small farms in central area of island on mountain slopes; spices; tobacco.

### 7.3 Food Crops

Development Plan aims for food production expansion of 90,000 crop acres over five-year period, additional acreage coming from more intensive land-use practices, utilization of now idle lands. Target for domestic food production: 268,000 tons over 1976 level of 365,000 tons.

Coconuts, a large crop, are consumed locally and used in the manufacturing of edible fats, edible oils, soap and animal feeds. A small portion of the crop is exported in the form of frozen coconut meat.

Corn and rice are grown in Jamaica but neither in sufficient quantity to meet local needs, and imports supplement local production.

Other food crops are yams, Irish potatoes, sweet potatoes, pumpkins, tomatoes, breadfruit, cassava, mangoes, ackee, beans, peas, cabbage, cucumbers.

### 7.4 Livestock

Pigs and poultry provide income for small farmers. Production of both has been increasing; poultry meat production reached 50 million pounds in 1974, making it the most plentiful and inexpensive meat. Cattle industry, concentrated in southern limestone plateau of interior, consisted in mid-1970's of 350,000 dairy and the rest beef or dual purpose. Self-sufficiency is not expected in dairy products but seems possible eventually in beef production as crossbreeding programs improve herds.

### 7.5 Fishing

Considerable resources of fish are found in Jamaican waters, but fishing industry does not meet domestic demand and large quantities of dried fish are imported.

### 7.6 Forestry

A total of about 659,000 acres (24% of land area) classified as forest lands, of which 190,000 acres are well-stocked natural forest: 148,000 acres government-owned reserves; 42,000 acres privately owned. Remaining forest land, 469,000 acres, is scrub forest, suitable only for fuel wood. Much of well-stocked reserves (89,000 acres) largely inaccessible. Because of its potential for foreign exchange savings (forestry imports, 503,000 cu. m. roundwood in 1975), capacity for employment creation, role in soil conservation, forestry development has high priority in Development Plan. Emphasis is on commercial forestry; pine cultivation in Blue Mountain area an initial focus.

## 8. Physical Geography

### 8.1 Climate

Jamaica's tropical climate is modified by trade winds, maritime influences, and land and sea breezes. Temperature and rainfall vary according to altitude. Coastal lowlands experience warm season (July and August) maximum temperature of 90° F and winter maximum of about 70° F. Overall coastal year-round temperature is 80° F with temperatures slightly lower in northern areas than in south. Falmouth at 4,000' elevation has yearly average temperature of 67° F. The northern, windward part of island is most affected by northeast trade winds and occasionally experiences "northerners" (cold air waves during winter) which may cause extremely heavy rainfall. On southern coastal plain, shielded from trades by mountain ranges, land and sea breezes alternate. Humidity varies with altitude but in general is about 85% in the morning, dropping to about 72% by mid-afternoon; Jamaica lies at midcenter of southern hurricane track and is frequently struck by storms during season between August and November. Severe damage was done to Kingston area by a hurricane in 1951. Hurricanes that skirt islands without directly striking may also cause damage from rain and winds.

The average annual rainfall is 71 inches, but regional variations are great. The Blue Mountains and northern coast in path of northeast trades receive heaviest rainfall. Windward slopes of the Blue Mountains receive yearly average of 100 to 150 inches in contrast to leeward regions of the island where, for example, the Kingston area range is from 25 inches annually on Palisadoes Peninsula to 50 inches on the higher northern side of city. 30 inches is average annual rainfall for southern coastal lowlands, making irrigation necessary for agriculture. Droughts may occur during dry season, with that of 1967-68 being one of worst in the island's history. In general there are two rainy seasons: August through October (major) and in May (minor) and two dry seasons: November or December to May (major) and June to July (minor); however, heavy rains or droughts may occur at any time.

### 8.2 Landforms

Jamaica lies between latitudes 17°43' and 18°32' N and longitudes 76°11' and 78°21' W and is separated from Cuba to the north by the Cayman Trench (depth 7,000 m) and from south-western tip of Hispaniola to the east by the Jamaica Channel (depth of more than 2,000 m). The Pedro Banks, part of submarine Nicaragua Ridge, lie 70 km to southwest. At its greatest length the island is 146 miles and at its greatest width, about 51 miles. Total area is more than 4,000 square miles.

A flat alluvial coastal plain, narrow in the north and more extensive in some places on southern coast, surrounds a great white limestone plateau, broken by valleys, ranges of limestone hills and mountains, and by two mountain ranges of different composition and appearance. The plateau, which ranges in elevation from near sea level to about 3,000', is of rugged landscape known as karst, characterized by irregular limestone terrain with sinks, underground caverns and streams, steep hills and caves. A 200 square mile area, mostly in Trelawney Parish, known as Cockpit Country, has most distinctive cone karst landscape. The rugged topography and heavy forests make it the Island's most inaccessible district.

### 8.3 Lowlands

A narrow coastal plain on north side of the island extends almost continuously between Annotto Bay in the east and Montego Bay in the west. The island's principal tourist centers are located here on white sand beaches. Sugar cane and rice are grown in Queen of Spain's Valley south-west of Falmouth and coconut trees grow along coastal strip eastward.

The southern coastal plains are discontinuous but more extensive. The Linguanea Plain, 130 square miles formed of delta of numerous streams and subject to flooding in Kingston area, is economic heart of country. Another extensive coastal lowland farther west (Saint Catherine and Clarendon parishes) is irrigated region along Rio Minho and lower part of Milk River and is the main sugar-producing area. An extensive swampy plain surrounds the Black River in Saint Elizabeth Parish while the Westmoreland Plain, location of port of Savanna-la-Mar, occupies western part of southern coast.

### 8.4 Land Use

21% arable, 23% meadows and pastures, 19% forested, 37% waste, urban or other.

### 8.5 Waterways

Numerous watercourses originating in interior highlands flow either northward or southward to the sea. Northward flowing rivers are generally

shorter and faster flowing than those running south in broader valleys. Streams lying beneath the plateau surface appear only intermittently in interior valleys.

The many southward flowing rivers include the Black River, known by other names for various lengths of its course and navigable by boats of considerable size for about 25 miles from its mouth in Saint Elizabeth Parish; the Milk River, navigable for about 2 miles in lower reaches; and the Yallahs and Morant Rivers, whose flood waters have caused extensive erosion of soil in cultivated areas on southern slopes of the Blue Mountains. The Rio Cobre, flowing south and west through Saint Catherine, and the northward flowing White River along with several other rapid streams, are sources of hydroelectric power. The Rio Grande, flowing northward between the John Crow and Blue Mountains and entering the sea near St. Margaret's Bay, is one of the island's largest rivers. There are several radioactive hot springs of which Milk River Bath has highest levels of radioactivity.

#### 8.6 Coast

Numerous harbors are found along Jamaica's 550 mile long shoreline. Several small coral sand islands have been built on a submarine coral limestone plateau, descending to 40 m depth, on eastern end of Jamaica's south coast. The Palisadoes Peninsula, an 8 mile long sandspit connecting coral islands, shelters the port of Kingston and provides site for the International Airport which is built on one of the cays. These recently formed coral barrier reefs contrast with many coral fringing reefs found elsewhere. Only to the south of Jamaica is the sea relatively shallow. On eastern and northern coasts, the ocean plunges to great depths not far from shoreline. See also section 8.2, Landforms.

#### 8.7 Mountains

The interior karst landscape is broken in several places by limestone hills and mountains, the nearly impenetrable John Crow Mountains in the extreme northeast between the Rio Grande River and the sea being the loftiest. Limestone hills and mountains are also found in central and western parts of the interior, and limestone ranges flank portions of both northern and southern coasts.

In other areas of Jamaica, usually along a NW to SE axis, older and folded rock strata have been exposed as a result of the uplift and warping of the white limestone formation. In mountains so formed, extensive gully

development by streams in the old strata presents a relief very different from limestone uplands where all drainage is subterranean. The Central Range in the interior and the Blue Mountains, the country's principal mountain system, are examples. The Central Range is not as high as some of surrounding limestone plateaus, for example, the Mocho Mountains to the south and the Dry Harbor Mountains and Vera Ma Hollis Savanna to the north. However, the Blue Mountains, an extension of the southern branch of the Middle American fault block mountains, have island's highest elevation in the Blue Mountain peak, rising to more than 7,400' in the northern range of the system. A more southerly range, Port Royal Mountains, reaching elevations to 4,000', extends southeastward from the principal range to Linguanea Plain.

#### 8.8 Volcanoes and Seismicity

Lava cones and hot springs remain as vestiges of volcanic activity. Earthquake epicenters are found throughout entire Antillean arc and on adjacent sea floors, and Jamaica, lying within this seismic zone, has suffered occasional serious earthquakes in the past; however, it is among low seismicity areas in recent decades, representing a "seismicity gap." A violent tremor in 1692 destroyed Port Royal, and a severe earthquake, followed by fires and a tidal wave in 1907, caused extensive damage and loss of life in Kingston area. Metropolitan Kingston, built on unconsolidated alluvium, is particularly vulnerable. Both heavy rainfalls and earthquakes may cause damaging landslides in the Blue Mountains.

## 9. Transportation and Logistics

### 9.1 Road Network

Total road network of about 8,100 miles consists of 3,000 miles of main non-urban roads, of which about 2,000 are paved and maintained by Ministry of Works; 4,500 miles of roads maintained by Parish Councils; and 600 miles of urban roads administered by Kingston and St. Andrews Council (KSAC) in metropolitan Kingston area. While system is basically complete, parts of network suffer from past neglect due to cutbacks in allocations, low equipment availability. A World Bank-assisted project will provide asphaltic overlay and resealing of about 329 miles of road, of which 200 miles are tertiary, farm-to-market roads.

The main road system follows a coastal route in north and eastern ends of the island, passing through main towns and ports: Negril, Montego Bay, Falmouth, Saint Ann's Bay, Ocho Rios, Oracabessa, Port Maria, Port Antonio, Morant Bay and Kingston. West of Kingston the main road leaves the coast, passing through Spanish Town, May Pen and Mandeville, returns at Black River and continues to Savanna-la-Mar. Several roads cross the island in a north-south pattern. The Savanna-la-Mar/Montego Bay road passes through Mackfield (alt. 1,000 feet); the Spanish Town/Ocho Rios/Saint Ann's Road crosses Mount Diablo (1,800 feet); Kingston's link with Annotto Bay passes over Stoney Hill (1,350 feet). Numerous secondary and parochial roads complete the network.

### 9.2 Vehicles

In 1973-74 there were approximately 151,591 licensed vehicles (cars, trucks, tractors, motorcycles, and trailers).

### 9.3 Railroads

The Jamaican Railway Corporation (JRC), an independent government agency, maintains 205 route miles of standard track and an additional few miles of yard, station, and siding lines. The main line from Kingston to Montego Bay (110 miles) passes through Spanish Town, from which a second line goes to Port Antonio (62 miles) by way of Bog Walk (where a connection is made with Linstead and Pleasant Farm) and Annotto Bay. A branch line

connects May Pen with Frankfield. Both freight and passenger service are provided; all engines are diesel. Bauxite companies own and operate a number of short mine and plant-to-port lines but also provide 99% of JRC's freight traffic. Lines serving bauxite-related traffic make profit; those serving passengers, general merchandise do not.

#### 9.4 Ports

The main port of Kingston, located on the south side of island, is almost landlocked and tideless. Handling 85% of the island's general cargo traffic, the port has an active free trade zone and modern facilities for container handling. A commercial waterfront development is underway. Montego Bay on north side of island is another major port. Several of the other smaller ports specialize in certain export items: six in bauxite/alumina; four in bananas and sugar.

##### Black River

Coordinates: Lat. 17°30' N; long. 77°30' W.

Accommodation: Good holding ground and facilities for loading. Maximum draft recommended, outer anchorage 6.70 m, inner anchorage 4.57 m. Twenty lighters and one launch for discharging and loading. No water; fresh provisions available.

Pilotage: C. No resident pilot. Pilot should be ordered by radio to local agent 48 hours in advance.

Airport: Kingston.

##### Kingston

Coordinates: Lat. 18°01' N, long. 76°48' W.

Accommodation: Nine lateral berths operated at Newport West by Western Terminals Ltd. and Kingston Wharves Ltd., eight are 182.9 m long with a depth of 10.67 m; berth No. 1 is 160 m long with a depth of 7.92 m. The channel is 457 m wide, 10.67 m deep, with a 609.6 m radius turning basin. All berths, except No. 9, have transit sheds with 22.86 m aprons, and there is adequate open storage space.

Fresh water outlets are located at all berths.

**Development:** The Port Authority is developing on 76 ha at Newport West, container/transshipment facilities and a Free Zone. Two new berths are already in service, providing 365.7 m of additional berthing to be used in conjunction with an existing 274.3 m of adjacent berthing. The new berths, with 12.19 m depth alongside, are equipped with two 40-ton gantry cranes, each capable of handling 30 containers per hour, and other modern equipment. 16.2 ha of back up land including the container freight station, and container parking and marshalling area, will serve the terminal.

The Free Zone under construction lies adjacent to the Transshipment Port and will, within a customs free area, provide warehouses and factories for repacking, distribution and manufacturing activities.

**Container and RO/RO Facilities:** RO/RO facilities at Berth No. 1, where there is a 23.38 m ramp and at Berth No. 9.

**Shiprepairs:** Dry dock facilities for small vessels and fishing boats. Light repairs possible alongside one of regular piers or out at an anchorage.

**Pilotage:** Compulsory.

**Airport:** Norman Manley International 19.2 km.

**Local Holidays:** Port closed on Good Friday, Labor Day, Independence Day and Christmas Day.

#### Montego Bay

**Coordinates:** Lat. 18°29'25" N; long. 77°55'56" W.

**Accommodation:** Free port. Open roadstead, 9.1 to 11 m at anchorage, about 0.8 km from shore; safe, 12.8 to 14.6 m at harbor. Rail to Kingston. Designated anchorage 'A' may be reserved in advance through Harbor Master at Kingston. Channel marks in line 20°48'02" 487.6 m turning basin with 10.97 m minimum depth of water. Entry day and night. R. of T., 25.40 m. No current in harbor, W-NE.

Three berths operated by Montego Wharves Ltd.: berth 2-182.9 m long, 10.36 m depth alongside; berth 3-118.2 m long, 7.62 m depth alongside; berth 4-117.9 m long, 7.62 m depth alongside. These berths are reached through a 457 m channel 121.9 m wide dredged to a minimum of 10.36 m draft.

Modern 2,139 sq m warehouse and 2,335 cu m cold storage, adjacent to berth 2 with a wharf apron of 22.86 m. Cranes are available only if prior notice is given at least 48 hours before arrival. Largest vessel accommodated alongside 198.1 m o.a., 25,615 tons. Water available.

Shiprepairs: Minor repairs only.  
 Pilotage: Compulsory. Pilots available from Kingston Harbor Master.  
 Airport: Sangster's International Airport, 4.8 km from Town Center.

#### Ocho Rios

Coordinates: Lat. 18°25' N; long. 77°08' W.  
 Accommodation: Ocho Rios Bay has been provided with a wharf capable of accommodating vessels up to 213.4 m long with 10.67 m draft; it is chiefly used for export of bauxite ore and bulk sugar. In the winter, accommodation at the wharf is sometimes uncomfortable when northers are blowing. Fresh water available.  
 Development: Foreshore to east of Port is being extensively dredged.  
 Shiprepairs: Only minor repairs possible.  
 Pilotage: C. Order by radio to Port Superintendent 24 hours before arrival. Made available from Kingston.  
 Airport: Montego Bay or Kingston. Small landing strip approx. 5 km east of Port.

#### Port Antonio

Coordinates: Lat. 18°10' N; long. 76°27' W.  
 Accommodation: Anchorage in E harbor 9 to 20 m and in W harbor 16.4 to 23.8 m; good swinging room. Depth in center of channel,

Accommodation: 9.14 m; 9.14 m also alongside wharf. Terminus of Jamaica  
(cont'd) Government Railway. Dock in East Harbor for ships drawing  
9.14 m to 10.67 m. Water available.

Pilotage: Compulsory. Made available from Kingston.

Airport: Spring Garden, 9.6 km away.

#### Port Esquivel

Coordinates: Lat. 17°53' N; long. 77°08' W.

#### Port Kaiser

Coordinates: Lat. 17°51 1/2' N; long. 77°35' W. Also known as Alligator  
Pond and Little Pedro Bluff.

#### Port Morant

Coordinates: Lat. 18°3' N; long. 76°8' W.

#### Port Royal

Coordinates: Lat. 17°56' N; long. 76°51' W.

#### Salt River

Coordinates: Lat. 17°00' N; long. 77°9' W. Not a port of entry.

### 9.5 Shipping

Jamaica Fruit and Shipping Co., Ltd.: P.O.B. 167, Kingston; pas-  
senger and cargo services to the UK and regular cargo services to New  
Orleans, Miami, and Central America.

Jamaica Merchant Marine is national shipping line. Jamaica has  
interests in two multi-national shipping lines: NAMUCAR (Naviera  
Multinacional del Caribe) and WISCO (West Indies Shipping Corporation).

A number of foreign lines also provide services.

9.6 Airports

There are two international airports, one near Kingston, serving southern coast and business, non-tourist travel, and one in Montego Bay, serving northern shore tourist traffic. Several smaller aerodromes, some government operated and some privately owned, are located throughout the island. When ongoing civil works project to improve operational capacity of the two international airports has been completed, Jamaica's airport facilities should be adequate for future traffic.

NB: For up-to-date information consult latest issue of weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

KINGSTON/  
Norman Manley Intl

Runway Characteristics

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp C</u>	<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft/</u> <u>Length M</u>	<u>CL</u>	<u>Aircraft</u> <u>Strength</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
17°55'59" N 76°47'20" W	3 31	11/29	0.03	2480 PO	A	AUW 136/4	100,JA1

Remarks: REG/S; alternate aerodromes: Barranquilla/Ernesto Cortissoz, Cozumel Intl, Freeport Intl, Miami/Intl, Montego Bay/ Sangster Intl, Nassau/Intl, Panama/Tocumen, Port-Au-Prince/President Duvalier Intl, Santo Domingo/De Las Americas Intl.

Aids: ILS(PO), DME, VOR, LPA(PO), LSA(11,29), LVA(29+), LR, LTX, LB, LO, MD, MC, MT, MTD, MFD, MTX, MO. L4, L5, L9 Clearway, 11-203, 29-1239. Stopway 11-61. No Telex. (See Appendix I for key.)

MONTEGO BAY/Sangster Intl

Runway Characteristics

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp C</u>	<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft/</u> <u>Length M</u>	<u>CL</u>	<u>Aircraft</u> <u>Strength</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
18°30'01" N 77°54'57" W	1 31	07/25	0	2600	A	AUW 86/4	100,JA1

Remarks: REG/S; alternate aerodromes: Freeport Intl, Kingston/Norman Manley Intl, Miami/Intl, Nassau/Intl, Panama/Tocumen, Port-Au-Prince/ President Duvalier Intl, Santo Domingo/De Las Americas Intl.

Aids: ILS(PO), LPA(07-1), LVA(25+), L4, L5, L9. Stopway 07 & 25-60. (see Appendix I for key.)

### 9.7 Personal Entry Requirements

Passport: Not required for up to 6 months.

Visa: Not required for up to 6 months.

Other: US citizens must have some form of identification (i.e., birth certificate, voter's registration card, expired US passport, etc.). A visa and work permit are required of US citizens entering Jamaica to reside and work.

Immunizations: See section 1.10, Visa and Travel Information.

### 9.8 Aircraft Entry Requirements

Private and non-scheduled commercial aircraft overflying or landing for non-commercial purposes need not obtain prior permission, however, a flight plan must be on file.

Non-scheduled commercial flights landing for commercial purposes must obtain prior permission from the Director of Civil Aviation, 15 Trinidad Terrace, Kingston 5, Jamaica (telegraphic address: CIVAV JAMAICA/telex: None) at least 72 working hours prior to departure. All commercial telegraphic requests must include provision for prepaid reply. All requests must include (a) name and address of operator, (b) type of aircraft and registration marks, (c) dates, times and airports of arrival and departure, (d) places of loading and offloading of passengers and cargo, (e) number of passengers and type and amount of cargo, (f) name of consignee of cargo, (g) purpose of flight, (h) name, address and business of charterer, if any, (i) name and address of agent in Jamaica, if any.

Special Notices: Pilots are reminded that aircraft on international flights shall not enter or leave the island of Jamaica except from an International Airport of Entry and that they must obtain a coastwise clearance from the Jamaican Customs Authorities before making domestic flights. Pilots of such aircraft must file a flight plan with ATC in person before departing Sangster or Norman Manley Airports.

9.9 Airlines

Domestic:

Air Jamaica (1968) Ltd.: 76 Harbor Street, Kingston. Services to the Bahamas, Canada, Federal Republic of Germany, United Kingdom, and USA; fleet: 4 B-727-2J0, 3 DC-8-51, 1 DC-8-62, 3 DC-9-32, 2 DC-8-61.

Trans-Jamaican Air Service: POB 218, Montego Bay: internal services to Kingston, Mandeville, Ocho Rios, and Port Antonio; government corporation.

Foreign:

Air Canada, ALM, American Airways, British Airways, B.W.I.A., Cayman Airways, Cubana, Eastern Airlines, Lufthansa and TACA (El Salvador).

9.10 Air Distances

From Kingston, Jamaica to:

	<u>Statute Miles</u>
Houston (via New Orleans, Montego Bay).....	1,500
Miami.....	588
New Orleans (via Montego Bay).....	1,190
New York.....	1,583
Panama City.....	636
Washington, D.C. (via Montego Bay, Freeport Bahamas).....	1,508

## 10. Power and Communications

### 10.1 Electric Power

Government-owned Jamaica Public Service Company (JPSC) is principal supplier of electric power. About 41% of energy generated is by captive plants. Industry, mining, and commercial sectors consume 75% of total electric energy in any year. Although an estimated 73% of all Jamaican households are near public electricity distribution lines, only 35% connected to power system: 50% of potential customers in Kingston, other urban areas; 11% of rural households. Proportion of households having electricity in low-income urban areas of Kingston is thought to be only slightly greater than that in rural areas. Development of rural and low-income areas is an emphasis of planned power expansion program.

With no known indigenous energy resources except limited hydroelectric capacity (0.5% of commercial energy used in 1974), Jamaica is almost entirely dependent on imported petroleum for power generation. Fuel imports in 1977 were equal to 26% of earnings from goods and non-factor service exports. Total generating capacity in 1977: 850,000 kW; 2.6 billion kWh produced, 1,220 kWh per capita. All public electricity supplies are furnished at 110/220 V single phase and 220 V three-phase 50 cycles. Three phase 415/240 V may also be made to installations exceeding 50 kW of demand or 75 h.p. of connected load where the consumer is served from an individual transformer.

### 10.2 Telephone System

Service is provided by the Jamaica Telephone Company. Exchanges throughout the island are automatic. The number of telephones is estimated at 109,000 (5.4 per 100 population). A submarine cable linking Jamaica with US is owned and operated by Cable and Wireless and AT&T and operated by Jamaica Telephone Co., which also provides a telex service in Kingston.

Domestic and international telegraph services are available. Maritime services providing telegraphy and telephony with ships at sea are operated also by Cable and Wireless (West Indies) Ltd. through coast station Kingston Radio.

### 10.3 Radio Network

Estimated 550,000 radio receivers in Jamaica in 1975; about threequarters of population listens daily. Transistor radios popular.

The Jamaica Broadcasting Corporation: 5 South Odean Ave., Kingston 10. Publicly-owned statutory corporation; semi-commercial radio and television. JBC operates Sunday to Saturday from 4:45 a.m. until 12:00 midnight. AM transmission is from Kingston, Montego Bay, Port Maria, and Mandeville; FM transmission is from Kingston.

Radio Jamaica Ltd.: Broadcasting House, 32 Lyndhurst Rd., Kingston. Island-wide commercial and public-service broadcasting 24 hours a day, seven days a week. Transmissions are from Kingston, Montego Bay, Port Maria, and Mandeville; FM transmitters are in Kingston, Speer Tree, Christiana and Montego Bay.

Educational Broadcasting Service: Ministry of Education, Kingston. Broadcasts 12 hours a week during school term.

### 10.4 Television

In 1978 approximately 110,000 television sets in use; many sets in public places provide additional access.

Jamaica Broadcasting Corporation was awarded franchise for television broadcasting in 1963. The 625 modified RTMA system (modified American System) was adopted as line definition standard. Nine transmitters send out commercial screenings for 67 1/2 hours a week.

1. General Information1.1 Geographic Codes

AID	544
State region	ARA
FIPS	MH

1.2 Country Names

Official	Colony of Montserrat
Local	Montserrat
Short	Montserrat

1.3 Calendar and Holidays

Main holidays same as in other British Caribbean countries.

1.4 Currency

Eastern Caribbean dollar: EC \$2.70 = US \$1.00

1.5 Time Zones

Time = EST + 1; GMT - 4

1.6 Treaties and Agreements

Multilateral: CARICOM

1.7 Visa and Travel Information

Passports and visas are not required of US citizens for up to 6 months.

Yellow fever vaccination certificate required of travelers one year of age and over arriving from infected areas. Smallpox certificate required of travelers one year of age and over arriving from a country any part of which is infected.

#### 1.8 Ethnic and Sociocultural Groups

Most inhabitants of the island are of African or mixed descent.

#### 1.9 Languages

English is the legal and commercial language, spoken by many with a brogue, evidence of Irish colonization of the island in 1632.

Rate of literacy is said to be high.

#### 1.10 Religions

The Anglican Church, Roman Catholic Church, and several Protestant denominations have places of worship on the island.

## 2. Government

### 2.1 National Government

Montserrat was grouped administratively with other British Leeward Islands under a Governor until the office was abolished in 1959. Under present constitution (1960) the Island's government is executed by a Governor with responsibility for defense, external affairs, and internal security who presides over an Executive Council consisting of a Chief Minister, 3 other ministers and 2 ex-officio members. A Legislative Council consists of a Speaker (chosen from outside the Council), 2 ex-officio members, 1 nominated member, and 7 elected members chosen from single member constituencies by universal adult suffrage.

Montserrat elected in 1966 not to become part of West Indies Associated States or to move into self-governing status.

The legal system is administered by West Indies Associated States' Supreme Court, the Court of Summary Jurisdiction, and the Magistrate's Court.

### 2.2 Regional Organization

The Island is divided into 3 parishes: St. Peter, St. George's, St. Anthony.

### 3. Disaster Preparedness

#### 3.1 Disaster Types

Montserrat lies within Caribbean tectonic belt and is subject to earthquakes. (See also section 8.5, Seismicity.) Drought and hurricanes also occur.

#### 4. Population

##### 4.1 National Population

The enumerated population from 1970 census was 11,698. US Bureau of Census projected a smaller population figure of 11,000 by 1977 with a growth rate of -1.2% in 1976; other sources give 1975 population of 13,291 and a 1976 estimate of 12,162. The crude birth rate was relatively low in 1976 at 19 per 1000 population while deaths were 11 per 1000 population. Montserrat's growth rate has been significantly affected by high rate of emigration. About one-quarter of the population emigrated during the 1950's. Retirees who have built homes on the island tend to be seasonal inhabitants. 40% of the population was under 15 years of age in 1970.

Population density was estimated to be 377 persons per square mile in 1974. 11% of the population was classified as urban (defined as capital city of Plymouth) in 1970. Plymouth's population in 1976 was estimated to be 3,000.

## 5. Health, Nutrition and Housing

### 5.1 Overall Health Status

Little information is available on the health of Montserrat's people. Morbidity and mortality patterns are presumably similar to those in other Caribbean countries. The relatively high infant mortality rate of 42 deaths per 1000 live births in 1968-72 period suggests possibility of poor environmental conditions leading to malnutrition and diarrheal diseases. Clinics minister to patients with tuberculosis, mental disorders, venereal disease, and yaws, but prevalence of these diseases is not known.

### 5.2 Vital Statistics

Infant mortality:	42/1000 (1968-72)
Crude death rate:	11/1000 (1976)
Crude birth rate:	19/1000 (1976)
Life expectancy:	68 years (1968-72)

### 5.3 Health Facilities

Health network consists of a 67-bed hospital which replaced out-moded Glendon Hospital in Plymouth, 3 regional public health centers (each managed by a public health nurse), and 9 clinics (staffed by nurse/mid-wives). All health stations are reasonably accessible to the population and are visited regularly by a district doctor. The ratio of hospital beds to population (5 per 10,000) is considered adequate by regional standards.

### 5.4 Health Personnel

A doctor/population ratio of 6.6 per 10,000 includes physicians in private practice. A shortage of trained health personnel exists in certain specialties: public health inspection, pathology, laboratory, dispensary and dental services, and specialized nursing.

### 5.5 Nutrition

Data on nutritional deficiency diseases are not available.

### 5.6 Diet (based on local food production and imported foods)

Starches: white potatoes, rice, yams, sweet potatoes

Vegetables: tomatoes, onions, shallots, peppers, carrots, cabbages, peas, beans, pumpkins

Fruit: pineapples, mangoes, avocados, bananas, coconuts, limes, breadfruit

Legumes: peanuts, black-eye peas

Meat: beef, mutton, goat-meat, pork, poultry

Dairy: milk, eggs

### 5.7 Food Preferences

Popular items in diet of people of Montserrat include turtle steaks, frog's legs (which they call "mountain chicken"), and "goat water" (a kind of goat-meat stew).

### 5.8 Housing

While housing is in generally adequate supply quantitatively, much is of poor quality with most dwellings of untreated wood construction and over 25 years old. According to a 1976 UNDP study, 30% of existing dwellings are in standard livable condition, 31% are improvable, the remainder require complete rehabilitation or replacement. Present major need is for low-cost construction and renovation projects, especially in urban areas. The island's water supply, though affected by rainfall pattern, is presently adequate but is expected to be insufficient to meet increased needs of domestic and industrial users, and of irrigation after 1980. The majority of households have access to uncontaminated piped water. Although some health hazards exist in sewage disposal systems, the threat to public health is not thought to be presently significant.

## 6. Economy

### 6.1 Overview of Economy

Montserrat's economic viability has been limited by its small size and physical features. Steep slopes and rocky terrain limit arable acreage. Low volume of trade makes external shipping and air connections very costly. With budgetary aid from UK being phased out, Montserrat has to meet increasing proportion of recurrent expenditures from its own revenues. As a consequence of government's careful fiscal policies, the current deficit before budget aid declined from about 10% of GDP in 1975 to an estimated 3% in 1978. The rest of public sector has registered small surpluses.

Agriculture was replaced as dominant sector in 1960's by retiree tourism which stimulated construction. Construction and hotel sector account for approximately one fifth of GDP, government services for about same share, agriculture for 6-8%, manufacturing for 2%, other services for remaining 50%. The recovery of tourism since mid-1970's decline has been slow. A decline in GDP by about 5% in real terms in 1977 was attributed to construction slump, low agricultural production due to drought. GDP growth rate of 4% in 1978, projected increases of 3 1/2% annually over next 5 years indicate some recovery and moderately improved prospects for economic growth.

An unemployment problem (estimated at 13 to 19% of labor force) has been exacerbated by high prices (inflation rate 16% in 1977) for food, fuel, electricity, water, which, in turn, have prompted demands throughout the economy for wage adjustments. Because of limited labor absorptive capacity of retiree tourism, development is seen to be dependent on increasing and diversifying productive activity to provide employment. The government has been exploring three possibilities: expansion of tourism and diversification by type (short-term visitors have greater impact on employment than do retirees), although the Island's physical characteristics, which limit possibilities for large-scale hotel development, and its accessibility are problems; agricultural development; promotion of light industry with enclave operations.

As a result of narrow base and "openness" of economy the current account balance of payments deficit is projected to decline only slightly from 34% of GDP in 1979 to 32% in 1983. Service on public and publicly guaranteed debt was 1.2% of government current revenues in 1978.

Montserrat could achieve economic viability sooner, according to a World Bank study, by participation in a larger economic unit which would allow sharing of certain services.

## 6.2 GNP

GNP per capita in 1977 : US\$ 745

### Gross National Product in 1977

	US\$ mil.	%	Annual Rate of Growth (%, constant prices) 1975-77
GNP at Market Prices	9.3	100.0	-0.5
Gross Domestic Investment	3.6	38.7	-8.5
Gross National Saving	0.9	9.7	-4.5
Current Account Balance	2.6	38.0	n.a.
Export of Goods, NFS	3.4	36.0	3.4
Imports of Goods, NFS	7.1	76.3	-2.0

Source: World Bank, Current Economic Position and Prospects of Montserrat.

## 6.3 Imports

Imports have grown by about 13% annually since 1973, reaching EC\$18.7 million in 1977. Foodstuffs lead imports, but large increases have been registered in imports of manufactured goods, machinery and transport equipment.

UK, US, Canada, CARICOM are major suppliers.

#### 6.4 Exports

Merchandise domestic exports have shown strong growth in recent years (annual average rate of growth 80% since 1973), reaching EC\$1.1 million in 1977. Cotton lint is main export item, followed by exports of cattle on the hoof, mainly to French Antilles. As a group, foodstuffs most important line of exports: tomatoes, white potatoes main items; other fruit and vegetable exports - limes, mangoes, sweet potatoes, carrots -- are increasing.

Major trading partners are UK, US, other West Indies countries. Cotton is exported mainly to Japan.

## 7. Agriculture

### 7.1 Overview of Agriculture

Agriculture's importance in the economy has declined from about 40% of GDP in 1960 to less than 10% at present. Agricultural exports have been expanding, however, since low point of late 1960's with development of small trade in fruit and vegetables to neighboring islands and some revival of sea-island cotton for export to Japan. Drought in 1977 cut agricultural exports, permitted industrial exports to exceed them in value.

The island is subject to drought in valleys and lower mountain slopes (areas most suited to farming) especially in low rainfall period between February and July. Parts of island support growth of such crops as potatoes, onions, carrots, peas, beans, tomatoes, sea-island cotton, peanuts, pineapples, root crops (mainly taro, eddoes, yams, dasheen, and cassava). Other areas are better suited to tree crops (citrus, mangoes, avocados, guava, and tamarind). An additional 400 to 500 acres of annual crops, 1400 acres of tree crops, can possibly be developed. Consideration should be given to question of practicality of cotton expansion (once principal crop, now grown on about 350 acres).

An agricultural census of 1972 classified 6,650 acres as potentially suitable for farming: 1,950 acres for field crops, similar acreage for tree crops, 2,700 acres for pasture land. Only 25% of acreage suitable for field crops, 20% of that suitable for tree crops was under appropriate cultivation; only 6% of pasture was improved. Most cultivated land was in small uneconomic units (under 5 acres). Over 80% of 3,600 acres of farms over 50 acres were in rough pasture and woodland, thus underutilized.

Livestock numbers estimated at 2,000 cattle, 3,000 sheep, 3,000 goats, 2,250 pigs, 600 donkeys; 17,000 poultry are supported on 2,700 acres of pasture land. Improvement in pasture is necessary to increased production. 15 tons of beef are imported annually; cattle on hoof exported to Guadeloupe.

11,000 acres are classified as suitable for protecting forest. Limited exploitation of natural hardwoods, pine, eucalyptus, blue mahoe plantings could, in time, substitute for part of 700,000 board feet, 300 poles imported annually from Honduras.

The 150,000 lbs. of fish caught annually from small boats in shallow waters could be increased by addition to fleet of deep-sea craft now under construction. 250,000 lbs. of fish are imported annually.

Most short-term agricultural increases are expected from vegetables and crops, peanuts, pineapples, fish, some sawn timber, slight increases in production of mangoes, avocados, grapefruit and oranges. Tree crops could become most significant over long term if land use and tenure problems are solved, marketing outlets developed. Realization of sector's potential depends on technical and institutional support, better marketing and extension services.

## 8. Physical Geography

### 8.1 Climate

Montserrat's tropical climate has little variation in temperature, which averages 86°F. Annual rainfall is about 60" with precipitation greatest in highlands. A rainy season occurs from September to November; dry season extends from March to June.

### 8.2 Land Forms

Montserrat is situated at latitude 16° 45' N and longitude 60°15' W, about 27 miles southwest of Antigua; total land area is 39 square miles (11 miles long, 7 miles wide). Volcanic in structure, the island is mountainous with 3 main ridges: Silver Hill in the north (1,285'), Central Hills (2,450'), and Soufriere Hills (Chance Peak - 3,002'). The solfatara smolders but is otherwise inactive. Some scientists believe, however, that the volcano is dormant and activity may occur in the future. Forested hills are cut by numerous streams and waterfalls.

### 8.3 Land Use

Of total acreage (25,344), 6,650 acres have been classified as suitable for cultivation and pasture. Some 11,000 acres are suitable only for protecting forest. About 4,000 acres are developed.

### 8.4 Waterways

The island has several small rivers. The Belham River on west side of the island has been designated in an IBRD project as a possible site for large-scale water storage to be used in an irrigation scheme.

The coastline is rugged, but there are several anchorages on leeward side of the island.

### 8.5 Seismicity

Montserrat lies within seismic belt of Lesser Antilles portion of West Indies arc which forms eastern boundary of the Caribbean plate. Moderate earth tremors are occasionally felt.

## 9. Transportation and Logistics

### 9.1 Road Network

The total road network, consisting of 118 miles of paved primary roads and 40.5 miles of unsurfaced secondary roads and tracks, is generally well organized, meets needs of other sectors. One road follows leeward coast-line; another crosses the island from Plymouth to the east coast (windward side), location of country's only airfield. Development priorities include completion of ring road by linking St. John's in north with Trants near airport; replacement of worn equipment; improvement of secondary roads over 5 year period.

### 9.2 Vehicles

Licensed vehicles number 1300; 58 are heavy trucks with axle loads up to 14 tons.

### 9.3 Ports

The island's only port of entry at Plymouth is an open roadstead facing southwest between Bransby Point and Kinsale. The port presently accommodates vessels up to approximately 250 feet in length, but replacement of former northwest mooring dolphin with mooring buoy might make possible the berthing of vessels up to 500 feet in length alongside. Main jetty is 180 feet long, 40 feet wide in 28 feet of water, accessible from shore by approach bridge 228 feet long and 24 feet wide. Cargo handling equipment and a new cargo shed have recently come into operation; a Ro-Ro ramp is under construction. The port is expected to handle cargo demand projected for next 5-10 years.

The port is served by West Indies Shipping and Harrison Lines. Atlantic Lines also call regularly as do ships provided by Federal Shipping in Trinidad-Jamaica service.

### 9.5 Airports

Blackburne airfield has runway 3,000 feet long with 200 feet overrun at each end, capable of accommodating DC-3 or AVRO-748 aircraft with reduced payload. The runway is lighted; terminal has been modernized.

There have been about 3,700 aircraft movements, 15,000 arriving passengers, 450 tons freight imported, 220 tons freight exported in each of past few years.

NB: For up-to-date information consult latest issue of Weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

MONTSERRAT I./  
Blackburne

Location Coordinates	Eleva- tion M/ Temp C	Runway Characteristics			Aircraft/ Strength (1000 kg)	Octane
		NR/Type	Slope %	Aircraft/ Length M		
16°48'80"N 62°09'30"W	3 29	14/32		1017	n.a. n.a.	None

Remarks: alternate aerodromes: Pointe-a-Pitre/Le Raizet, St. Johns/Coolidge.

Aids: Runway Markings--designation, center line, and threshold. (See Appendix I for key.)

9.6 Airlines

Leeward Islands Air Transport (LIAT) provides regular inter-island services.

The government has acquired a Trislander, signed agreement with LIAT to operate it, to ensure same day connections between Montserrat and North America and Europe in effort to better serve tourist trade.

9.7 Air Distances

Montserrat to:	Statute miles
Point-a-Pitre, Guadeloupe.....	53
St. Kitts.....	53
St. Lucia.....	205
St. Vincent.....	258

## 10. Power and Communications

### 10.1 Electric Power

The Montserrat Electricity Services Ltd. supplies the island's electricity by means of three 700 kW and one 1,450 kW generators providing firm capacity of 2,100 kW. Distribution covers entire island with connections to 3,100 of island's 3,600 households (86%). While supply adequately serves present needs, demand has been increasing (3% annually between 1967-77) and is expected to continue until demand equals capacity by 1982 and exceeds it beyond. Installation of a new 1,450 kW generator is included in development plans.

The supply is a.c. operated on 60 c/s frequency distributed at 230 V between phase and neutral to domestic consumers and 400 V between phases to commercial and industrial users.

### 10.2 Radio Network

Radio Montserrat: P.O.B. 51, Plymouth; government-owned station; operates between 0600 and 2300 hours Monday through Saturday, 0900-2200 hours Sunday on frequency of 885 kHz (1 kW); broadcasts to Eastern Caribbean.

Radio Antilles: P.O.B. 35, Montserrat; commercial station broadcasts daily in English, French, and Spanish from 0530 hours.

### 10.3 Telephone System

Cable and Wireless (W.I.) Ltd. operates an island-wide automatic system as well as telegraph and telex services. International telephone service to most countries is available.

### 10.4 Television

The island has no television broadcasting, but services can be received from St. Kitts, Puerto Rico, and Antigua (ABS).

1. General Information1.1 Geographic Codes

AID	545
FIPS	SC
State region	ARS

1.2 Country Names

Official.	The State of Saint Christopher-Nevis-Anguilla
Local	
Short	St. Kitts-Nevis-Anguilla

1.3 Calendar and Holidays

New Year's Day	Labor Day
Good Friday*	State Day
Easter Monday*	Christmas Day
Whit Monday*	Boxing Day
August Monday	

\*moveable holidays

Additional holidays in Anguilla:

Anguilla Day.....	May 30
Constitution Day.....	February 10
August Thursday	

1.4 Currency (March 1980)

East Caribbean dollar is legal tender: EC\$. 2.70 = US\$. 1.00

1.5 Time Zones

Time = EST + 1; GMT - 4

### 1.6 International Organization Memberships

CARICOM, ISO

### 1.7 Visa and Travel Information

#### St. Kitts-Nevis

Passports not required for citizens of USA provided they hold proof of identity and are not staying more than 6 months. Visas not required for up to 6 months.

#### Anguilla

Passports or other travel documents are required. Visa not required of travelers within 14 days provided they hold valid documents for return or onward journey.

Yellow fever vaccination certificate required of travelers one year and over arriving from infected areas. Smallpox certificate required of travelers arriving from a country any part of which is infected.

### 1.8 Ethnic and Sociocultural Groups

The populations of all three islands are mainly of African Negro descent. Some Anguillians have traces of Irish blood, their ancestors having been members of a party of Irishmen who came to the island in 1698 and settled there. A few expatriates from Commonwealth Caribbean, the US, Canada, and England are temporary or permanent inhabitants of Anguilla.

### 1.9 Languages

English is the official and commercial language. Rate of literacy is estimated to be 80%.

1.10 Religions

In all 3 islands the major religious bodies are the Anglican Church, various Protestant denominations, and the Roman Catholic Church.

## 2. Government

### 2.1 National Government

Although still formally a part of the State in Association with Great Britain, consisting of St. Kitts, Nevis, and Anguilla, which came into existence in 1967, Anguilla has had separate administration since repudiating rule by St. Kitts shortly after State was formed. Anguilla came under direct UK responsibility in 1971 and since 1976 has had status of British Dependent Territory (crown colony) with ministerial government.

#### St. Kitts-Nevis

Under provision of the 1966 Constitution by which the colonies became a "State in Voluntary Association" with Great Britain, government comprises a Parliament (the Queen and a House of Assembly) and an executive branch consisting of a Premier and Cabinet.

The Queen is represented by a Governor appointed by her, and the House of Assembly is made up of 10 elected members and 3 appointed members. The Cabinet headed by a Premier (leader of majority party in the House) includes the Attorney-General (ex-officio) and 4 other members.

The legal system is administered by the West Indies Associated States Supreme Court, courts of summary jurisdiction, and Magistrates' Courts.

#### Anguilla

A commissioner who represents the Queen presides over Executive Council and Legislative Assembly and is responsible for defense, external affairs, internal security and audit. The Executive Assembly consists of Chief Minister, 2 other appointed and 2 ex-officio members, while the Legislative Assembly has 7 elected members (chosen for 4 year terms by universal adult suffrage), 3 ex-officio and 2 appointed members.

Justice is administered by a High Court, a Court of Appeal, and Magistrates' Courts. Anguilla's Constitution (1976) provides for the country's return to the jurisdiction of the West Indies Associated States Supreme Court should this become desirable.

## 2.2 Regional Organization

St. Kitts is divided into 9 parishes: St. Paul, St. Anne, St. Thomas, St. John, Christ Church, St. Mary, St. Peter, St. George, Trinity.

Nevis has 5 parishes: St. James, St. George, St. John, St. Paul, St. Thomas.

## 2.3 Major Government Figures (April 1981)

Governor.....	Inniss, Pobyn, Sir
Prime Minister.....	Simmonds, Kennedy Alphonse
Min. of Agriculture, Lands, Housing, Labor & Tourism.....	Powell, Michael Oliver
Min. of Communications, Works & Public Utilities.....	Stevens, Ivor
Min. of Education, Health & Social Affairs.....	Morris, Sydney Earl
Min. of External Affairs.....	Simmonds, Kennedy Alphonse
Min. of Finance & Nevis Affairs.....	Daniel, Simeon
Min. of Home Affairs.....	Simmonds, Kennedy Alphonse
Min. of Trade, Development & Industry.....	Simmonds, Kennedy Alphonse
Parliamentary Sec. for Finance.....	Caines, Richard
Attorney General.....	Seaton, Tapley

## 2.4 1980 Status (St. Kitts - Nevis)

In March 1980 elections, the Labor Party won 4 seats and the People's Action Movement 3; both joined in a coalition government with the Nevis Reformation Party.

### 3. Disaster Preparedness

#### 3.1 Disaster Types and History

The islands lie within Caribbean tectonic belt. The Antigua earthquake of October 8, 1974 was felt in St. Kitts where several buildings were damaged, some severely. Hurricanes and drought are other disaster types.

#### 4. Population

##### 4.1 National Population

The 1970 census arrived at an enumerated population of 64,000. Projected estimates by U.S. Bureau of the Census put level at 71,000 in 1977 and crude birth and death rates at 17 and 7 per 1,000 population respectively in 1976. Annual growth rate was 1.2% and the projected annual rate of growth for 1976 was 1.3% with a net emigration rate of 2.8% per 1,000 population implied. Another source gives a lower population estimate (56,000--1978) and a lower annual growth rate of 0.9%\*. 49% of the population was under age 15 in 1970.

\*National Intelligence Factbook, C.I.A., 1978

##### 4.2 Regional Population

In 1973 St. Kitts' population was estimated to be 36,000 with greatest concentration in capital city of Basseterre (12,771 in 1970). Nevis' population (11,900 in 1973) is concentrated in Charlestown and the district of Gingerland on southeast coast. The population of Anguilla in 1977 was 6,500, the most densely populated area being The Valley. Population density for St. Kitts-Nevis was estimated to be 439 persons per square mile in 1974.

## 5. Health, Nutrition and Housing

### 5.1 Overall Health Status

Little information is available on health status of the population. Morbidity and mortality patterns are likely to be similar to those of other Caribbean countries. A moderately high incidence of tuberculosis, high incidence of infections hepatitis and whooping cough were reported for St. Kitts in relatively recent past. Infant mortality rate was 42 per thousand in 1977, most deaths in infants under two resulting from gastroenteritis and malnutrition. Infant health problems are attributed partly to the fact that 40% of births occur to working women in growing age group under 20 who lack reliable means of child care. Leading causes of death in an early 1970's year: cerebrovascular disease 14.2%, heart disease 13.3%, influenza and pneumonia 8.1%, causes of perinatal mortality 8.1%, malignant neoplasms 7.0%.

### 5.2 Vital Statistics

Births/1000 population, 1976	17
Deaths/1000 population, 1976	7
Life expectancy at birth, 1959-61	60 years

### 5.3 Health Facilities

Health network consists of 2 hospitals on St. Kitts, 1 on Nevis, and public health centers in each of 6 health districts. Each health center is staffed by a community health nurse, midwives, and health officials providing primary care. The centers as well as hospitals are served by 6 district physicians and are reasonably accessible to the population. Ongoing projects include some remodeling of health centers to provide family planning and dental care facilities and construction of operating, laboratory, and x-ray rooms in Basseterre hospital; number of hospital beds in all but pediatric and psychiatric wings is considered presently sufficient.

Anguilla has a 24 bed "cottage hospital" and 4 health care centers for preventive services.

#### 5.4 Health Personnel

While the supply of general practitioners is considered adequate there is a shortage of surgeons, and the government's scheduled program of health education in response to threat to maternal and child health posed by trend of early pregnancies will require additional specialized health manpower. The Ministry of Health hopes to share with other Windward or Leeward Islands the services of certain specialists such as pathologist, psychiatrist, radiologist, and orthopedist not presently available to St. Kitts.

#### 5.5 Food and Drink\*

Starches: sweet potatoes, yams, maize, sorghum

Vegetables: cabbages, carrots, tomatoes, onions, other garden vegetables

Fruits: mangoes, breadfruits, coconuts, bananas

Meat: beef (possibly mutton, pork, goat meat, and poultry)

Fish: important in the diet; amount consumed appears to vary with locality

Legumes: peanuts, pigeon peas

Dairy: milk, eggs

Other: sugar

\* Based on locally produced foods

#### 5.6 Consumption Patterns

A survey conducted by the Interdepartmental Committee on Nutrition for National Defense in 1961 reported higher consumption of roots, tubers and sugar in St. Kitts-Nevis-Anguilla than in St. Lucia. A chart prepared by ICNND, while considerably out of date, gives an indication of types and amounts of foods consumed.

Average Daily Per Capita Consumption by Food Groups in  
Principal Towns - St. Kitts-Nevis- Anguilla, 1961  
(In grams)

Item	St. Kitts			Nevis		Anguilla
	Basse- Terre	Malyneaux Tabernacle	Old Road	Charles- Town	Cotton- ground	Valley Road
Cereals	315	247	307	229	266	350
Dried legumes	10	8	9	7	17	10
Green vege- tables	27	4	21	27	1	-
Other vege- tables	15	8	7	5	4	14
Roots and tubers	68	32	37	29	49	39
Mangoes	18	-	45	123	32	-
Breadfruit	-	130	11	40	51	31
Other Fruit	73	54	104	53	68	25
Fish	35	95	123	68	71	121
Meat	134	17	18	16	16	10
Milk and pro- ducts	206	127	124	265	131	225
Eggs	15	5	10	3	2	-
Fats	23	28	13	23	25	63
Sugar	29	76	84	53	55	78
Miscellaneous	2	5	12	9	4	3

### 5.7 Nutrition

A second ICNND chart based on survey results and showing average calculated per capita nutrient intake in the same towns, revealed that diets were marginal in all locations except Basseterre. Calorie and protein intake were low in some localities. Thiamine, riboflavin and Vitamin C were below recommended levels in all localities, while Vitamin A consumption was deficient in two. Iron intake was generally low.

Anemia is common in all 3 islands as is goiter. Anguilla appears to have lowest nutritional levels; symptoms in children suggest PCM.

### 5.8 Housing

The 1970 census reported that 75% of dwellings required significant rehabilitation or replacement. Government housing program cannot presently meet annual demand for construction of 100 new units and renovation or replacement of 320 existing units. High construction costs derived from need to import most materials and to build houses on hillsides to conserve agricultural land, inappropriate design of housing projects to serve needs of low income buyers, and non-availability of finance are major problems.

Both water supply and sewage disposal systems are presently inadequate.

## 6. Economy

### 6.1 Overview of Economy

St. Kitts-Nevis' basically monocrop economy based on sugar production has experienced little growth in past decade as sugar output and international prices have alternately declined. Some gains have been made in the sugar industry since government take-over in 1972. A once thriving Sea Island cotton industry has also been in decline.

Balance of payments, public finances are largely determined by sugar performance. Deficits in balance of payments current account averaging 15% of GDP in recent years have been financed by capital inflows. No improvement in situation is expected in next 2 years until export receipts increase and import growth moderates in line with development strategies. Through imposition of sugar levy and careful fiscal management, government has generated public savings (estimated at 5% of GDP in 1978) but may now be experiencing deficit due to 40% salary increase granted public workers in 1978. Service on external public and publicly guaranteed debt of about 3.7% of central government current revenues in 1978 is expected to increase somewhat from financing of a public investment program.

Due to seasonality of employment in sugar industry, unemployment rate is about 20% of labor force in off-season and is likely to grow as emigration slows from tightening of immigration policies in host countries. The government is thus looking for labor-intensive ways to diversify economy with emphasis on tourism, light manufacturing, and agricultural diversification into food crop growing. While having substantial infrastructure and good potential, tourism has minor role (less than 5% of GDP, employs 1000-1200 directly and indirectly); growth is believed possible with development of charter flights to St. Kitts to improve accessibility, promotion of year-round use of facilities, development of historic sites as additional attractions. Until recently manufacturing contributed no more than 7% to GDP. Sugar processing is major industry; expansion opportunities exist mainly in processing and off-shore assembly operations (e.g., electronics and clothing) which presently predominate. Agriculture is expected to remain economic mainstay (36% of GDP in 1977) with sugar principal crop. Although moderate economic growth is projected for next 5 years to be led by sugar as prices improve, production goals are not likely to be realized in near future due to discovery of sugarcane smut disease. Considerable opportunity exists for developing agricultural alternatives.

6.2 GNP: St. Kitts-Nevis

GNP Per Capita In 1977 : US \$ 650

Gross National Product in 1977

	<u>US \$ Miln.</u>	<u>%</u>	<u>Annual Rate of Growth</u> (%, constant prices)
GNP at Market Prices	30.1	100.0	n.a.
Gross Domestic Investment	5.1	16.9	13.2
Gross National Saving	-0.6	-2.0	-148.7
Current Account Balance	5.7	18.9	n.a.
Exports of Goods, NFS	16.7	55.5	-17.7
Imports of Goods, NFS	24.4	91.1	-5.4

Source: World Bank, Current Economic Position and Prospects of St. Kitts-Nevis-Anguilla.

6.3 Imports

1977 (US \$ million): food (5.0); beverages and tobacco (0.5); crude materials inedible, except fuels (0.7); mineral fuels, lubricants and related materials (1.9); animal and vegetable oils and fats (0.2); chemicals (1.7); manufactured goods (4.0); machinery and transport equipment (6.2); miscellaneous manufactured articles (1.7) for total of 21.9.

Major trade partner: 21% UK, 17% Japan, 11% US (1973).

6.4 Exports

Major exports 1977 (value in US \$ '000 and volume in units indicated '000): sugar (value 9,367.0-volume 38.0 tons); molasses (value 356.0-volume 1,480.0 gallons); cotton (value 33.4-volume 21.0 pounds); beer and ale (value 189.0-volume 75.0 gallons); lobster (value 74.2-volume 55.0) for total value of 15,174.0.

Major trade partners: 50% US; 35% UK (1973).

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## 7. Agriculture

### 7.1 Overview of Agriculture

Agriculture has major though declining role in St. Kitts-Nevis' economy (from 45% of GDP in 1961 to 36% in 1977). Sugar cultivation dominated agriculture nearly 300 years but declining interest on part of growers prompted industry take-over in 1972 by government which now owns 90% of land in St. Kitts (most in sugarcane) and employs 25% of labor force. Majority of St. Kitts population are landless sugar workers. Gains in sugar acreage and output have been significant under government management. Discovery of smut disease has dimmed short term prospects for increasing sugar output to annual goal of 50,000 tons. Since smut-resistant varieties are lower yielding, average annual sugar production over next 5 years is not likely to exceed 43,000 tons. Prospects appear good for growing vegetables and raising sheep and goats on both St. Kitts and Nevis-possibly on idle or underutilized government lands which now lack physical land use plan. Onions and peanuts show promise of becoming important secondary crops on St. Kitts.

Structure of agriculture in Nevis differs from that of St. Kitts. Although the government owns land formerly in private estates, many small farmers are engaged in growing cotton, coconuts, fruits, vegetables, root crops, corn, and livestock though with generally low productivity levels. Irrigation projects could extend growing season on Nevis.

There has been some revival of cotton (now on about 100 acres compared with 3000 acres in mid-1950's) with assured market in Japan, but significant growth of industry depends on control of pink bollworm and improved growing practices. Of estimated 1,200 acres devoted to coconut cultivation in the state, 1050 are in Nevis. Use of fertilizers, some expansion of acreage could improve yields which are presently low. A proposed replacement of obsolete corn/cassava processing plant in Nevis may create incentive to reverse declining production trend for those 2 crops which are used for food.

Most livestock raising is by small farmers on Nevis for meat rather than for dairy products. About 500 head of cattle, 700 head of sheep are exported annually to St. Kitts and French Islands. Uncontrolled sale of breeding stock as well as overgrazing and animal diseases limit industry's growth.

A small, generally on-shore fishing industry has considerable growth potential. An additional 2,000-3,000 tons of fish are required over present annual catch of 1,670 metric tons to meet local demand. Lobster production for export has fallen as result of over-fishing.

IBRD recommends government action along following lines: formulate land use policy; create effective extension service; review role of Central Marketing Corporation to increase effectiveness; develop programs to expand coconut and livestock industries; request technical assistance in several areas.

Fishing and livestock raising are important traditional occupations in Anguilla. Crops grown during one "rainy season" on garden plots ranging from half an acre to 3 acres on total cultivated land of 400-500 acres include pigeon peas, maize, sweet potatoes, sorghum and a variety of "back-yard" grown vegetables. Salt production and boat building are also important to Anguilla's economy.

## 8. Physical Geography

### 8.1 Climate

The average annual temperature for St. Kitts-Nevis is about 79°F. Anguilla has annual average of 81.3°F and an average relative humidity of just over 70%.

Because of its higher altitudes, St. Kitts receives greater annual rainfall than Anguilla. Amounts for St. Kitts-Nevis have varied annually as follows:

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Rainfall (inches)	35.07	49.53	43.15	44.27

Anguilla receives an average of 36 inches of rain annually. Heaviest rains are experienced between September and December. Droughts have also occurred in recent years.

### 8.2 Land Forms

St. Kitts, 65 square miles in area (28 miles long; 5 miles wide), and Nevis, 36 square miles (11 miles across), are 2 miles apart by sea. Both islands are of volcanic origin. St. Kitts' highest peak, Mt. Misery (3,792'), in northwestern part of the island, has volcanic crater. Brimstone Hill which rises about 750' from southwest slopes is a secondary cone without crater. The oval shaped Nevis, a volcanic cone rising some 3,500', has secondary cones on two sides. Forests cover higher slopes and cotton is grown on lower slopes. Some scientists consider future volcanic activity a possibility.

Anguilla (lat. 18° 10' and long. 63° W.) is most northerly of the Leeward Islands. It lies 70 miles northwest of St. Kitts and about 5 miles north of St. Maarten/St. Martin. The 35 square mile area extends 16 miles in length (NE-SW) and 3 miles in width. This flat island of coral limestone formation is covered by sparse dry woodlands with pockets of red loam soil. The coastline in places is characterized by steep cliffs, in others by numerous white sand beaches. Reefs surround the island.

### 8.3 Land Use

40% arable, 10% pasture, 17% forest; 33% wasteland and built on.

### 8.4 Rivers

There are no significant rivers. Several ponds, especially on Anguilla, are salt producing.

### 8.5 Volcanoes and Seismicity

There are no active volcanoes. The islands lie within Caribbean tectonic belt and are subject to earthquakes. (See Disaster Type).

## 9. Transportation and Logistics

### 9.1 Road Network

The 32-mile ring road along coast of St. Kitts and the streets of Basseterre are in reasonably good condition and scheduled for resurfacing to begin in 1979. Most feeder roads on St. Kitts are fairly well graded. The Nevis ring road, resurfaced in 1978, is generally in good condition but feeder roads need extensive repairs. The existing ferry between St. Kitts and Nevis is inadequate.

Anguilla has about 25 miles of surfaced road; 33 miles are unsurfaced.

### 9.2 Vehicles

St. Kitts-Nevis had 3,540 registered vehicles in 1976; Anguilla had about 1,000 registered vehicles in 1977.

### 9.3 Railroads

The only railroad on the Islands is on St. Kitts where 36 miles of 2'6" gauge railway serves sugar plantations.

### 9.4 Ports

The major port for the islands is at Basseterre, St. Kitts, which is a lighterage port for oceangoing vessels. Schooners, small coastal vessels, tug and barge operations for roll on/roll off containers are currently accommodated at a timber jetty in need of repair. Approximately 35,000 tons of cargo are handled there, 40,000 tons of sugar at a separate pier. A CDB approved loan will finance construction of a deepwater port, including a roll on/roll off berth. Nevis has ports at Charlestown (open roadstead, good anchorage in 8 or 9 fathoms) and at Newcastle. Anguilla's main port of entry, Road Bay, handles small steam ships. Daily ferry service is provided between this port and St. Martin.

Basseterre

Coordinates: Lat. 17°15' N; long. 62°48' W.

Accommodation: Open roadstead. Good anchorage in 11 to 16.4 m. Loading and unloading by lighters. Warehouse pier 121.9 m long 3.35 m (subject to silting) alongside and two mobile power cranes and two hand cranes cap. 7 tons.

Two passenger piers, one 54.86 m long with 2.13 m at head, and the other 137.2 m long with 3.66 m. Sugar Factory Pier with three cranes of 2 tons and one 15-ton gantry.

Development: Deep-water pier to be built.

Container and  
Ro/Ro

Facilities: Small container barges accommodated at Pier, 3.66 m depth.

Airport: Golden Rock Airport, Basseterre, suitable for jet traffic.

9.5 Shipping

A commercial motor boat service is maintained by the government for transport between St. Kitts and Nevis.

The following shipping lines call at the islands: Saguenay, Caribbean Shipping, Harrison, Booth, Lamport and Holt, Royal Netherlands, Athel, Atlantic, Booker, Grimaldi Siosa and Lauro.

9.6 Airports

When terminal building extension at Golden Rock Airport on St. Kitts has been completed, that airport and Newcastle Airfield on Nevis will be adequate to meet existing and future demand. Golden Rock has 8,000' recently paved runway, capable of accommodating all types of aircraft, including B-747's with full payloads to North America. Lack of minor support equipment is reason B-747's and DC 10's can not presently be accommodated. Newcastle has 2,000' recently paved runway but no nav aids or lights.

Wallblake Airport in Anguilla has a 3,600' bitumin surfaced runway.

NB: For up-to-date information consult latest issue of weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

ANGUILLA I/  
Wall Blake

<u>Location</u> <u>Coordinates</u>	<u>Eleva- tion M/ Temp C</u>	<u>Runway Characteristics</u>				<u>Fuel/ Octane</u>
		<u>NR/Type</u>	<u>Slope %</u>	<u>Aircraft/ Length M</u>	<u>Aircraft/ Strength (1,000 kg)</u>	
18°13'N 63°31' W	6 29 (EST)	09/27	n.a.	1100	n.a. LCN 20	None

Remarks: REG S; alternate aerodromes: Phillipsburg/Prinses Juliana St. Johns/Coolidge

Aids: L(P2), MD, MC, MT. (See Appendix I for key.)

NEVIS I/  
Newcastle

<u>Location</u> <u>Coordinates</u>	<u>Eleva- tion M/ Temp C</u>	<u>Runway Characteristics</u>				<u>Fuel/ Octane</u>
		<u>NR/Type</u>	<u>Slope %</u>	<u>Aircraft/ Length M</u>	<u>Aircraft/ Strength (1,000 kg)</u>	
17°12'N 62°35'W	6 29	10/28'	0.50	610	n.a. n.a.	None

Remarks: REG S; alternate aerodromes: St. Kitts I/Golden Rock. (See Appendix I for key.)

ST. KITTS I/  
Golden Rock

<u>Location</u> <u>Coordinates</u>	<u>Eleva- tion M/ Temp C</u>	<u>Runway Characteristics</u>				<u>Fuel/ Octane</u>
		<u>NR/Type</u>	<u>Slope %</u>	<u>Aircraft/ Length M</u>	<u>Aircraft/ Strength (1,000 kg)</u>	
17°18'38"N 62°43'10"W	52 29	07/25	n.a.	2316	n.a. LCN 70	100JA2

Remarks: RSG S; alternate aerodromes: St. John's/Coolidge.

Aids: L, VA(07), MD, MC, MT, MTX, MO. L4, 5, 9. No Telex. (See Appendix I for key.)

#### 9.7 Personal Entry Requirements

Passport and visa not required for up to six months.

#### 9.8 Aircraft Entry Requirements

All private and non-scheduled commercial aircraft overflying or landing for non-commercial purposes need not obtain prior approval; however, a flight plan must be on file.

All non-scheduled commercial aircraft landing for commercial purposes must obtain prior permission from the Director of Civil Aviation, St. John's, Antigua Island (telegraphic address: AIRCIVIL ANTIGUA/Telex: None) prior to departure. Requests must include information concerning the flight.

#### Special Notices

1. Overflying the islands of St. Christopher, Nevis and Anguilla is prohibited except for landing and takeoff. Flights over the city of Basseterre, St. Kitts, is prohibited except with the prior approval of the governor, in writing.
2. All international traffic must clear customs at an international aerodrome of entry before proceeding with the flight. Aircraft intending to land at New Castle Airport, Nevis Island must first land at and finally depart from Golden Rock Airport, St. Kitts Island, for customs clearance.

#### 9.9 Airlines

The following airlines serve St. Kitts: Anguilla Airways, Caribbean Airways, LIAT (1974), Prinair (Puerto Rico), Windward Island Airways (Netherlands Antilles).

Nevis is served by LIAT.

Anguilla is served by Air Mejlo and a small fleet of locally owned aircraft (Valley Air Service). Fleet: 1 Islander, 3 Piper Aztecs. Regular flights are made to St. Kitts and several other Caribbean islands.

#### 9.10 Air Distances

From St. Kitts to:	<u>Statute miles</u>
Houston (via New Orleans, San Juan, St. Thomas).....	2,258
Miami (via San Juan, St. Thomas).....	1,280
New Orleans (via San Juan, St. Thomas).....	1,948
New York (via St. Croix).....	1,820
Panama City (via Curacao, San Juan, St. Thomas).....	1,449
Washington, D.C. (via San Juan, St. Thomas).....	1,803

## 10. Power and Communications

### 10.1 Electric Power

St. Kitts has present installed generating capacity of 9.6 MW of which only 5.2 MW is firm supply. Peak demand of 3.9 MW in 1977 left surplus, but with rate of growth of consumption projected to be 7% annually and perhaps higher, available firm supply will be exhausted by 1980.

Nevis already has severe power shortage. Installed capacity is 670 KV, but firm capacity is only 315 KV, below peak load demand of 735 KV in 1977 and considerably deficient for meeting demand of 1400 KV predicted for 1985 with planned industrial expansion on the island. The government is seeking external financing to expand power capacity on both islands as well as to replace existing wornout electric transmission cables in Basseterre.

Electricity supply to Basseterre and all country districts is 230 volts, single phase 2 wire and 400 volts 3 phase 3 or 4 wire (60 c/s).

### 10.2 Radio Network

In St. Kitts, the Government Broadcasting System (ZIZ): P.O.B. 331, Springfield, Basseterre, broadcasts 17 hours daily; 5 hours Sunday.

Radio Anguilla: The Valley; government-operated since 1976; broadcasts 10 1/2 hours daily.

There were 3,700 radios in use in Anguilla in 1976.

### 10.3 Telephone System

Total capacity of telephone network on St. Kitts-Nevis is only 1,619 lines. There is already a waiting list of 1500 and demand is expected to grow as tourism and industry expand. The government is beginning implementation of expansion program which will need external financial assistance for completion. First phase involves replacement of defective cables and radio link between St. Kitts and Nevis and limited expansion of existing exchanges and lines; second, long-term phase involves replacement of soon-to-be obsolete Basseterre and Charlestown exchanges.

Cable and Wireless (W.I.) Ltd. provides international telegraph and telex services.

Cable and Wireless operates an automatic telephone system as well as telegraph and telex services in Anguilla, providing communication with most part of the world.

#### 10.4 Television

A television station is operated by the Government Broadcasting System in St. Kitts; transmits 5-hours daily, 6 PM - 11 PM.

1. General information1.1 Geographic Codes

AID	546
FIPS	ST
State region	ARA

1.2 Country Names

Official	St. Lucia
Local	St. Lucia
Short	St. Lucia

1.3 Calendar and Holidays

New Year's Day.....	January 1
Good Friday.....	*
Easter Monday.....	*
Labor Day.....	May 1
Whit Monday.....	*
Corpus Christi.....	*
Caribbean Day.....	July 5
Bank Holiday.....	August 1
St. Lucia Day.....	December 13
Christmas.....	December 25
Boxing Day.....	December 26

\* variable date

Note: Early closing days are Wednesday (mercantile) and Saturday (government).

1.5 Currency

Unit of currency is the Eastern Caribbean Dollar (EC) issued in denominations of 1, 5, 20, 100 notes.

1 \$ EC = 100 cents  
\$ EC 2.50 = 1 \$ US (Jan. 1980)

### 1.6 Time Zones

EST + 1; GMT -4

### 1.7 Visa and Travel Information

Passports are required by all except British subjects and Canadian and US citizens holding return tickets to their respective countries, or in the case of British subjects, the country from whence they came. All such passengers must hold some identity document.

Visas are required by all except: those exempt under passports; nationals of Belgium, Denmark, Finland, France, Iceland, Italy, Liechtenstein, Luxembourg, Netherlands, Norway, San Marino, Sweden, Switzerland, Spain, Tunisia, Turkey, Uruguay and those in direct transit.

Transit or Visitors permits are issued on arrival provided the passenger holds the correct documentation (visas, where necessary, tickets, or means to obtain same, and passports) for the onward journey.

Deposits may be required from certain persons equal to the cost of a ticket to the country from whence they came.

Smallpox vaccination required of travelers arriving from countries any part of which are infected. Yellow fever vaccinations required of travelers arriving from infected areas.

### 1.9 Ethnic and Sociocultural Groups

Most are Black. Others include a mixture of European settlers (mainly French and English), and descendants of Carib Indians, the original inhabitants.

### 1.10 Languages

English the official language but most speak a local French patois.

Literacy: about 80%.

1.11 Religions

Predominantly Roman Catholic. Other faiths represented include Anglican, Methodist, Seventh Day Adventist, and Baptist.

## 2. Government

### 2.1 National Government

Recent independence dissolved status as an Associated State of the United Kingdom; defense and external affairs now the responsibility of St. Lucia.

Executive branch headed by a Governor and a Cabinet, with latter led by a Premier; cabinet includes the Attorney General and 5 other ministers. Legislative branch vested in a House Assembly presided over by a Speaker with 17 elected members, 3 nominated members, and one official member.

Political parties include United Workers Party (UWP), presently in power, and St. Lucia Labor Party (SLP). Elections held every 5 years; adult suffrage since 1951.

### 2.2 Regional Organization

St. Lucia divided into 16 parishes: Anse-la-Raye, Babonneau, Canaries, Castries, Choiseul, Dennery, Gros-Islet, Laborie, La Ressource, Marchand, Micoud, Roseau, Soufriere, Vieux-Fort, Fond St. Jacques, and Desruisseaux. With few exceptions (Babonneau, Marchand, La Ressource, Fond St. Jacques, Desruisseaux, and Roseau) each parish represents a town or village.

### 2.3 Major Government Figures (April 1981)

Prime Minister.....	Louisy, Allan
Deputy Prime Minister.....	Odlum, George
Min. of Agriculture, Lands, Fisheries & Labor.....	Josie, Peter
Min. of Communications, Works & Transport.....	Foster, Kenneth
Min. of Education.....	
Min. of Finance, Home Affairs, Housing & Information.....	Louisy, Allan
Min. of Foreign Affairs.....	Odlum, George
Min. of Health & Local Gov't.....	Williams, Bruce
Min. of Industry, Dev. & Planning.....	Pilgrim, Michael
Min. of Legal Affairs.....	Calderon, Evans
Min. of Trade & Tourism.....	Odlum, George

Min. of Youth, Community Development,  
Sports & Social Affairs.....Odium, Jon  
Min. Without Portfolio.....Lay, Cecil  
Attorney General.....Calderon, Evans

#### 2.4 1980 Status

After 15 years in office, the centrist United Worker's Party was defeated in parliamentary elections of July 1979, four months after independence. The left-oriented St. Lucia Labor Party emerged as unexpected winner.

3. Disaster Preparedness3.1 Host Disaster Plan

Central Emergency Committee responsible for coordination of all relief operations and emergency services. On a local level, disaster plan divides St. Lucia into 10 emergency districts, each with a Local Emergency Committee. Plan on file at OFDA offices Washington, D.C.

3.2 Central and District Committees

## Central Emergency Committee:

The Premier (Chairman)  
 The Minister for Education  
 The Minister for Health  
 The Minister for Trade, Industry and Tourism  
 The Minister for Agriculture  
 The Minister for Communication, Works and Labor  
 The Minister for Housing, Community Development and Social Affairs  
 The Mayor, Castries City Council  
 The Cabinet Secretary (Secretary)  
 Secretary of Finance  
 Permanent Secretaries  
 The Chief Medical Officer  
 The Chief Engineer  
 The Water Engineer  
 The Commissioner of Police  
 The General Manager, St. Lucia Port Authority  
 The Chief Welfare Officer  
 Local Government Officer  
 The Public Relations Officer  
 Superintendent, Civil Aviation  
 British Government Representative  
 Representative of the Chamber of Commerce  
 Representative of the St. Lucia Jaycees  
 The Director, St. Lucia Red Cross  
 Director, St. John Ambulance Brigade  
 The Manager Saint Lucia Electricity Services Ltd.  
 The Manager, Cable and Wireless (W.I.) Ltd.  
 Weather Observer

3.3 District Committees

<u>District</u>	<u>Committee</u>	<u>Address and Telephone Number of Chairman</u>	
Castries	Castries City Council	The Chairman, Tel. No. 2571 P.B.X. 2121 Castries City Council Office	
Soufriere	Soufriere Town Council	The Chairman,	Office No. 7218 Tel. No. 7257
Vieux-Fort	Vieux-Fort Town Council	The Chairman, Police Station	c/o Vieux-Fort Tel. No. 6333
Dennery	Dennery Village Council	The Chairman, Police Station	c/o Dennery Tel. No. 5333
Micoud/Praslin	Micoud Village Council	The Chairman, Police Station	Micoud Tel. No. 14-238
Laborie	Laborie Village Council	The Chairman, Police Station	Laborie Tel. No. 6933
Choiseul	Choiseul Village Council	The Chairman,	Choiseul Office No. 7036
Anse-la-Raye	Anse-la-Raye Council	The Chairman, Police Station	c/o Anse-la-Raye Tel. No. 2034
Canaries	Canaries Village Council	The Chairman, Police Station	Canaries Tel. No. 7934
Gros Islet	Gros Islet Village Council	The Chairman, Police Station	c/o Gros Islet Tel. No. 8333

3.4 Red Cross

St. Lucia Red Cross responsible for the organization of immediate relief measures, and for the distribution of relief supplies of food, clothing and household requirements working in collaboration with Local Emergency Committees. In districts where there is a Red Cross Unit, the officer in charge should be co-opted by the Local Emergency Committee in connection with all advance arrangements for action in the event of a disaster.

### 3.5 Ham Radio Operators

VP 2 LA - Alvin Myers, c/o Police Headquarters, Castries  
VP 2 LB - Bernard Thomas, La Clery, Castries  
VP 2 LC - S.C. Scholar, c/o Police Headquarters  
VP 2 LF - Fred Dearman, La Clery, Castries  
VP 2 LG - G.W. Granderson, c/o Mortgage Finance Co., Castries  
VP 2 LL - Bruce Dellimore, La Pansee  
VP 2 LM - Maureen Dellimore, La Pansee  
VP 2 LO - Owen Scotland, Rock Hall, Castries  
VP 2 LS - Lionel Ellis, La Clery, Castries  
VP 2 LT - Timothy James, c/o Ministry of Housing, etc. Castries  
VP 2 LU - Malcolm Nelson, c/o Cable & Wireless, Castries  
VP 2 LV - Royal St. Lucia Police Force  
VP 2 LAW - John Loder, c/o Clarke & Co., Castries  
VP 2 LGH - Malcolm Gardner Hobbs, Brazil Street, Castries  
VP 2 LBI - Raymond Eugene, La Clery  
VP 2 LPB - Primrose Biedman, La Clery  
VP 2 LYL - Mrs. Gabrielle Elise Gardner Hobbs, Brazil Street,  
Castries

### 3.6 Disaster Types

Hurricanes the most common disaster type. Others are earthquakes and droughts.

4. Population4.1 National Population

As of mid-1977 national population estimated at 113,740 (World Bank) with average annual growth rate 2.0% (from 1970 to 1977). Density: 185 per km; population equally divided between urban and rural.

Population By Sex and Five-Year Age Groups

<u>Age Groups</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>% of Total</u>
0 - 4	9,253	9,080	18,333	18.4
5 - 9	8,893	8,578	17,471	17.5
10 - 14	6,843	6,880	13,723	13.7
15 - 19	4,634	4,960	9,594	9.6
20 - 24	2,935	3,839	6,774	6.8
25 - 29	2,130	2,733	4,863	4.9
30 - 34	1,664	2,196	3,860	3.9
35 - 39	1,619	2,286	3,905	3.9
40 - 44	1,640	2,201	3,841	3.8
45 - 49	1,726	2,052	3,778	3.8
50 - 54	1,512	1,700	3,212	3.2
55 - 59	1,300	1,490	2,790	2.8
60 - 64	1,039	1,350	2,389	2.4
65 - 69	747	1,020	1,767	1.8
70 - 74	515	821	1,336	1.3
75 & over	687	1,483	2,170	2.2
Total	47,137	52,669	99,806(1)	100.0

(1) 1,087 persons in institutions are not included

Source: Census Report 1970

4.2 Regional Distribution

Castries (same name as parish) is St. Lucia's main town and capital with a population of approximately 40,000. Other parishes and their populations are as follows:

	<u>Area</u> (Sq mile)	<u>Population</u>	<u>Density Per</u> (Sq Mile)
Castries	30.7	40,451	1,317
Vieux-Fort	17.3	8,108	469
Soufriere	19.5	7,250	372
Micoud	32.3	10,145	314
Dennery	27.2	8,851	325
Anse-la-Raye	11.1	4,769	431
Canaries	7.4	1,939	263
Laborie	14.7	6,013	408
Gros Islet	40.0	6,113	153
Choiseul	12.1	6,167	510
Totals	212.4 (1)	99,806 (2)	470

(1) The Central Forest Reserve, 26 sq miles or 66 sq km, is not included.

(2) 1,087 persons in institutions are not included.

Source: Town and Country Planning, and Population Census 1970

## 5. Health, Nutrition and Housing

### 5.1 Major Diseases and Mortality Rates

All of the following diseases in St. Lucia reported to have high incidence rates: bacillary dysentery, gonococcal infections, tetanus, tuberculosis, typhoid fever, whooping cough, measles, and schistosomiasis. In 1973 the number of cases of communicable diseases reported were: measles (960), gastroenteritis and other diarrheal diseases (661) influenza (559), schistosomiasis (362), gonococcal infections (359), syphilis (340), whooping cough (183), tuberculosis (72), and typhoid fever (36).

The first five principal causes of death with rates per 100,000 population for all age groups were as follows:

<u>1972</u>	<u>Rank</u>	<u>No.</u>	<u>Rate</u>	<u>%</u>
Total deaths.....		971	844.3	100.0
Diseases of the heart.....	1	122	106.1	12.6
Influenza and pneumonia.....	2	121	105.2	12.5
Cerebrovascular disease.....	3	86	74.8	8.9
Causes of perinatal mortality.....	4	78	67.8	8.0
Enteritis and other diarrheal diseases.....	5	74	64.3	7.6
Accidents.....	-	44	38.3	4.5
Benign neoplasms and neoplasms of Unspecified nature.....	-	69	60.0	7.1

Source: HEW, Caribbean Health Sector Study, 1977.

### 5.2 Vital Statistics

Births per 1000 population, 1977.....	36
Deaths per 1000 population, 1977.....	7.1
Annual rate of growth, 1970-77 (%).....	2.0
Life expectancy at birth, 1959-61.....	57
Infant deaths per 1000 live births, 1977.....	21.8

Source: World Bank, Current Economic Position, 1979.

### 5.3 Health Facilities

Five hospitals in St. Lucia with Victoria Hospital at Castries (233 beds and a tuberculosis wing with 50 beds) the main one. Others are Soufriere Hospital (25 beds), and Dennery (18 beds). The St. Jude Hospital (100 beds) at Vieux Fort was opened in 1966 and is under the supervision of the Sisters of the Sorrowful Mother. There are 24 Health Centers island-wide. In 1977 there was 1 physician/3,704 population; 1 hospital bed/204 population.

#### Health Centers

<u>Center</u>	<u>Telephone</u>	<u>Center</u>	<u>Telephone</u>
Castries	2827-2611 Ext.90	Babonneau	2358
Marchand	2288	Mon Repos	14-229
La Clery	No Telephone	La Fargue	7038
Anse-la-Raye	2035	Riche Fond	5355
Canaries	7921	Laborie	6930
Micoud	14-230	Mongouge	7223
La Croix	2938	Gros Islet	8326
Bexon	1261	Boguis	3341
Vanard	2937	La Ressource	No telephone
Ti Rocher	3529		

### 5.4 Health Personnel

#### Medical Service In Government and Private Hospitals, 1975

	<u>Government General Hospital</u>	<u>Government District Hospitals</u>	<u>Private Hospital</u>	<u>Total</u>
Number of:				
Doctors	8	2	4	14
Nurses	102	7	30	139
Beds	189	63	100	352

Health Personnel As of December 31st 1974

	<u>1974</u>
Doctors	30
Dentists	3
Hospital administrators	2
Veterinarians	1
Sanitary engineers	1
Health educators	1
Field nutrition officers	2
Nurses (including midwives)	186
Student nurses (1)	52
Radiographers	4
X-ray technicians	-
Physiotherapists (trained)	1
Physiotherapists (untrained)	1
Laboratory technicians	6
Dispensers	9
Public health inspectors	15

(1) Including nursing assistants trained/untrained

5.5 Diet

A 1974 nutrition survey revealed that 25% of deaths of children under 5 years old was due to malnutrition and gastroenteritis. Although the same study revealed that average calorie intake was 90% of RDA and protein intake was 140% of RDA, distribution of food intake was skewed; 35% of households failed to meet protein needs while an even higher percentage failed to meet calorie needs.

Per Capita Daily Nutrient Intake - St. Lucia 1961

<u>Nutrient</u>	<u>Castries</u>	<u>Gros Islets</u>	<u>Dennery</u>	<u>Ca-naries</u>	<u>Anse-La-Raye</u>	<u>Choi-seul</u>
Calories	2,287	2,582	2,570	1,854	2,187	2,040
Proteins (g)	82	85	86	40	64	61

<u>Nutrient</u>	<u>Castries</u>	<u>Gros Islets</u>	<u>Dennery</u>	<u>Ca-naries</u>	<u>Anse-La-Raye</u>	<u>Choi-seul</u>
Percent of animal protein	59	63	23	42	53	57
Carbohydrates(g)	321	460	487	345	369	331
Fats (g)	74	56	59	35	43	21
Calcium (mg)	431	560	553	590	405	431
Iron (mg)	7.7	17.0	16.0	15.6	15.1	12.4
Vitamin A (IU)	4,740	10,000	8,790	11,070	4,320	6,050
Thiamine (mg)	.96	1.4	1.4	1.0	1.0	.96
Riboflavin (mg)	1.4	.96	1.05	.92	.66	1.14
Niacin (mg)	10.6	13.2	18.7	12.3	12.1	13.4
Ascorbic acid (mg)	47	223	186	124	136	250

Average Per Capita Daily Food Consumption - St. Lucia 1961  
(in grams)

	<u>Castries</u>	<u>Gros Islets</u>	<u>Anse-La Raye</u>	<u>Ca-naries</u>	<u>Dennery</u>	<u>Choi-seul</u>
<u>Average monthly family income</u>	558	548	522	538	574	526
<u>Food item</u>						
Cereals	191	130	137	89	231	118
Dried legumes	17	4	4	2	9	3
Greens	23	19	4	5	24	7
Other vegetables	22	36	13	16	29	14
Tubers	40	-	2	-	-	8
Mangoes	180	640	320	240	460	260
Breadfruit	214	1,230	900	1,140	940	1,368
Other fruits	80	77	247	342	469	134
Fish	70	150	80	62	117	121
Meat	100	17	8	6	21	2
Milk and products	151	134	21	58	180	43
Eggs	16	3	-	-	5	2
Fats	24	32	25	19	26	10
Sugar	41	34	35	27	31	21
Miscellaneous	3	3	2	2	3	2

Source: Interdepartmental Committee on Nutrition for National Defense. West Indies Nutrition Survey

### 5.6 Water Supply

The combination of a fairly high rainfall, large wooded areas, and a considerable number of small rivers draining the high interior makes collection and distribution the major problem. Until recently pumping from rivers into small reservoirs was sufficient to meet the demand except in Castries where a gravity-delivered supply is drawn from surface water above the town; supply now extended by pumping from rivers and wells into two service reservoirs with a capacity of some 800,000 gal.

### 5.7 Housing

Total of 24,100 dwelling units; 13,100 in urban areas (1974). Most housing is of wooden construction and in poor condition; size averages 800-1000 sq. ft. with occupancy 4.6 persons/house. 62% of population has some type of sanitary facilities; in rural areas 31% of houses use sinks and ponds.

## 6. Economy

### 6.1 Overview of Economy

St. Lucia's economy, described as most diversified of any of Windward or Leeward Islands', managing to weather economic disruptions and world recession of early 1970's despite adverse effects of drought. Political stability cited as positive factor for foreign investment in industry off-setting recent declines in agricultural output. St. Lucia is also unique in achieving a surplus in Central Government finances every year (except 1976) without external budgetary assistance.

After exceptional growth during 1960's with real GDP averaging 7.5% annual increase due to good agricultural production, cocoa sales and tourist boom, 1970's growth slowed somewhat as agricultural production declined. However increases in manufacturing and tourism have sustained economic momentum. Expansion of industry (sector grew almost 25% in 1978) has resulted in redistribution in the export structure; export of bananas and coconuts have declined from 90% to 55% of total exports, while exports of other agricultural items, manufactured goods, and beverages rose from 11% to 45%.

### 6.2 Industry

Industry is most dynamic sector of economy: a new Heineken brewery along with new textile, cardboard box, furniture, and cosmetic factories, a flour mill and a coconut oil refinery created 1600 jobs by end of 1976. Other industries in St. Lucia are the manufacturing of rum, edible oils, cigarettes and mineral waters, as well as brewing, cotton ginning, the processing of citrus fruits, and light assembly. Industrial employment has risen from 975 in 1975 to over 2,500 in 1977. 400 workers are currently employed by Hess Oil Company on the construction of a transshipment terminal at Cul-de Sac. Initial operations of terminal began in 1978 and contributed to real GDP growth of 8%.

Production of Major Industrial Commodities

	<u>Raw Coconut Oil</u>		<u>Edible Coconut Oil</u>		<u>Laundry Soap</u>		<u>Coconut Meal</u>		<u>Rum</u>	
	<u>000 Gals</u>	<u>000 \$</u>	<u>000 Gals</u>	<u>000 \$</u>	<u>000 Gals</u>	<u>000 \$</u>	<u>000 Gals</u>	<u>000 \$</u>	<u>000 Gals</u>	<u>000 \$</u>
1974	822	3,923	460	2,590	1,784	357	3,507	263	148	1,320
1975	933	5,577	472	3,283	1,324	288	4,040	304	163	1,506
1976	747	3,585	465	2,614	938	469	3,406	301	185	1,759
1977	820	5,206	391	2,917	1,508	567	3,735	411	203	2,129

Source: World Bank, Current Economic Position, 1979.

### 6.3 Problems and Prospects

Most pressing problem of St. Lucia's economy is unemployment (13% in 1977), aggravated by migration from rural to urban areas. Agriculture no longer attracts average St. Lucian; social impact of tourism makes farming less appealing. Government strategy is to rely on manufacturing, construction (oil refinery), and tourism to provide growth impetus and generation of new employment possibilities; tax incentives also seen as essential to encourage private investment. Social welfare schemes, especially in areas of housing and urban services, also given high priority, along with pursuit of crop diversification and land tenure reform to reverse declines in agricultural production.

### 6.4 Balance of Payments

	<u>Balance of Payments</u> (US\$ million)			
	<u>Actual</u> <u>1975</u>	<u>1976</u>	<u>1977</u>	<u>Estimated</u> <u>1978</u>
Exports of goods & NFS	23.6	31.6	40.4	45.8
Imports of goods & NFS	48.1	50.1	62.3	71.4
<u>Resource Balance</u>	-24.5	-18.5	-21.9	-25.6
Net factor service payments	0.2	0.2	0.2	-0.2
Transfers (net)	7.7	6.8	7.4	7.4

	<u>1975</u>	<u>Actual</u> <u>1976</u>	<u>1977</u>	<u>Estimated</u> <u>1978</u>
<u>Current Account Balance</u>	-16.6	-11.5	14.3	-18.4
Private capital	9.0	8.4	9.4	10.4
Public capital	7.7	3.4	4.7	8.0
Grants	4.7	4.5	2.1	2.5
Loans	0.5	0.7	0.8	3.4
Amortization	--	-0.1	--	--
ECCA	0.7	--	--	--
Rest of financial system	1.8	-2.1	1.8	2.1
Other	--	0.4	--	--
<u>Capital Account Balance</u>	16.7	11.8	14.1	18.4
Change in international reserves (-increase)	-0.1	-0.3	0.2	--

Source: Statistical Office, mission estimates.

### 6.5 Imports

Imports grew 27% annually in 1976 and 1977; accounted for 92% of GDP in 1977. Major suppliers are UK, CARICOM, primarily Trinidad and Tobago, and US.

Due to diversification of agriculture and expansion of industry, merchandise exports grew an average rate of 50% during 1976 and 1977. By 1978 total of merchandise exports was more than double 1975 levels. CARICOM region bought 47% of St. Lucia's exports in 1976.

#### Merchandise Imports (CIF) (US\$ million)

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
<u>Consumer Goods</u>	20.3	20.5	19.1	24.3
Foodstuffs	10.5	11.2	11.2	13.1
Beverages and tobacco	1.9	2.0	1.5	1.7
Clothing and footwear	2.1	1.7	1.6	2.2

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Medicinal & pharmaceutical products	0.5	0.5	0.5	0.7
Perfume materials, cleansing preparations, etc.	0.8	0.9	0.9	1.2
Other	4.5	4.2	3.4	5.4
<u>Intermediate Goods and Miscellaneous</u>	12.8	12.1	15.4	18.7
Fuels and lubricants	2.9	3.2	3.7	4.6
Paperboard	1.8	1.7	2.5	3.6
Textiles	1.7	1.6	2.4	3.4
Fertilizers manufactured	0.8	1.4	1.0	1.0
Other chemicals	1.9	2.3	2.8	3.4
Other intermediate & miscellaneous	3.7	1.9	3.0	2.7
<u>Capitals Goods</u>				
Building materials	4.9	5.0	6.1	6.2
Machinery	3.9	6.1	4.9	6.5
Transport equipment	1.9	2.1	2.1	3.6
Other	0.2	0.2	0.2	0.2
<u>Total Merchandise Imports</u>	44.2	46.0	47.8	59.5

Source: World Bank, Current Economic Position, 1979.

### 6.6 Exports

Due to diversification of agriculture and expansion of industry, merchandise exports grew an average rate of 50% during 1976 and 1977. By 1978, total of merchandise exports was more than double 1975 levels. CARICOM region bought 47% of St. Lucia's exports in 1976.

Merchandise Exports by Major Commodities  
(US\$ million)

	<u>1975</u>	<u>Actual</u> <u>1976</u>	<u>1977</u>	<u>Estimated</u> <u>1978</u>
<u>Current</u>				
Bananas	8.0	8.1	9.4	10.4
Coconut oil-unrefined	0.9	1.0	0.9	0.9
Coconut oil-refined	1.5	0.8	1.2	1.3
Cardboard boxes	2.2	3.3	3.5	4.2
Fruit & vegetables	0.3	0.2	0.2	0.3
Coconut meal	0.1	0.1	0.1	0.1
Cocoa	0.1	0.2	0.3	0.3
Spices	0.1	0.1	-	-
Other(1)	2.5	5.4	7.0	9.1
Total exports	15.7	19.2	22.6	26.6
<u>1977 Prices</u>				
Bananas	6.7	9.1	9.4	10.5
Coconut oil-unrefined	0.7	1.0	0.9	0.9
Coconut oil-refined	1.2	1.0	1.2	1.3
Cardboard boxes	2.1	3.3	3.5	3.9
Fruit & vegetables	0.3	0.2	0.2	0.2
Coconut meal	0.1	0.1	0.1	0.1
Cocoa	0.2	0.2	0.3	0.4
Spices	-	-	-	-
Other(1)	3.0	5.8	7.0	8.4
Total Exports	14.3	20.7	22.6	25.7
<u>Price Index (1977-100)</u>				
Bananas	119.4	89.0	100.0	99.0
Coconut oil-unrefined	128.6	100.0	100.0	100.0
Coconut oil-refined	125.0	80.0	100.0	100.0
Cardboard boxes	104.8	100.0	100.0	107.7
Fruit & vegetables	100.0	100.0	100.0	150.0
Coconut meal	100.0	100.0	100.0	100.0
Cocoa	50.0	100.0	100.0	75.0
Spices	-	-	-	-
Other(1)	83.3	93.1	100.0	108.3
Total exports	109.8	92.8	100.0	103.5

(1) Includes re-exports

Source: World Bank, Current Economic Position, 1979.

## 7. Agriculture

### 7.1 Overview of Agriculture

Agriculture remains the major productive sector and employer in St. Lucia; 13% of GDP, 70% of exports in 1977. Bananas are main crop but drought, rising input prices, poor cross-breeding and disease have had a drastic effect on total agricultural output, especially in 1973 and 1975 when export volumes reached only 35-40% of 1969 peak. Cocoa production also down 10% between 1972-77 causing cocoa exports to fall 43% in volume for same period. However, one bright note was increase in coconut exports despite drought because of increased processing; some diversification occurred as exotic fruits reached export markets.

### 7.2 Crops

Bananas - Accounted for 50% of agricultural exports in 1977 (75% in 1971) at 40,400 tons. Small farmers account for 90% of output on an estimated 12,000 acres. St. Lucia Banana Growers Association (SLBGA) is administering agency; services include pest and disease control, fruit processing and extension work. Yield: 5 tons/acre.

Coconuts - Grown on 14,000 acres by 18,000 farmers; individual growers process nuts into copra which is then sold to Copra Manufacturers Ltd., an oil mill at Soufriere which recently began producing margarine and shortening.

Coco - 220 acres of trees. Output down due to drought, rats and black pod disease; rehabilitation program in progress due to higher world prices.

Other crops include spices (nutmeg, mace, ginger), rootcrops (dasheen, tannia, eddoes) - which are St. Lucian food staples - fruits and vegetables.

See also Land Use, section 8.5

### 7.3 Livestock

Herd size as of 1974: 9,000 cattle, 5,000 goats, 27,000 sheep,  
74,000 poultry.

### 7.4 Fishing

1,700 artisanal fishermen with 527 canoes using handlines and seines,  
3 trawlers. Modernization of industry would increase production.

### 7.5 Imports

Domestic demand for food and growth of tourism has increased imports  
of foodstuffs. See also Economic Imports section 6.5.

### 7.6 Exports

See Economic Exports, section 6.6.

## 8. Physical Geography

### 8.1 Climate

Temperatures in low-lying areas range from a minimum of 64° F at night in cool season to a maximum of 93° F in hot season; in elevated interior temperatures much lower. Hot season extends from May to October, cool season from December to March. The relative humidity ranges from 60 per cent to 95 per cent, according to time of day and season. Although lying in the track of hurricanes, St. Lucia less liable to these storms than more northerly islands; no hurricane of destructive force recently.

St. Lucia has no well-defined wet or dry season; wettest month generally July while the driest days usually in February. Rainfall varies considerably. Average yearly rainfall in Castries about 80 inches, while for the northern and southern extremities it is between 50 and 60 inches; central and leeward districts range from 100 to 145 inches. Wet season from June to December and the dry from February to May. Except in the northern and southern extremities, droughts are seldom experienced.

### 8.2 Rainfall

Rainfall Recorded At Main Stations  
1970 - 1975  
(Inches)

<u>Year</u>	<u>MA</u>	<u>UN</u>	<u>GP</u>	<u>BL</u>	<u>CE</u>	<u>FE</u>	<u>BJ</u>	<u>QU</u>	<u>Island</u> <u>Avg. (1)</u>
1970	90	88	-	121	72	84	70	151	92
1971	58	80	-	82	53	68	49	119	68
1972	69	84	-	92	64	64	54	173	80
1973	47	56	-	68	52	44	45	91	56
1974	51	68	-	83	55	60	45	129	67
1975	56	73	-	96	64	69	61	151	77

MA: Marquis

CE: La Caye Estate

UN: Union

FE: Fond Estate

GP: George V Park

BJ: Bequse Jour

BL: Barre De L'Isle

QU: Quillisse

Source: Agricultural Department.

### 8.3 Temperatures

#### Mean Air Temperature 1970 - 1975, °F

<u>Year</u>	<u>Average maximum temperature</u>	<u>Average minimum temperature</u>	<u>Mean temperature</u>	<u>Highest max.</u>	<u>Lowest min.</u>	<u>Lowest max.</u>	<u>Highest min.</u>
1971	85	72	79	87	69	82	76
1972	85	74	79	89	71	81	76
1973	86	73	79	87	68	83	77
1974	84	73	78	87	70	82	76
1975	85	73	78	87	70	82	76

Source: Agricultural Department.

### 8.4 Land Forms

Rugged and of volcanic origin, the 238 square mile island of St. Lucia lies in the chain of the Lesser Antilles between Martinique to the north and St. Vincent to the south, at longitude 60°52' West and latitude 13°42' North.

Most of St. Lucia very mountainous; main ridge runs nearly its entire length. Highest peak is Morne Gimie (3,145 feet), but there are several other mountains ranging between 2,000 and 3,000 feet. Best known mountains are twin peaks: Gros Piton (2,619 feet) and Petit Piton (2,416 feet), two old volcanic cones south of the town of Soufriere.

Unlike most of the island, northern and southern ends of St. Lucia not mountainous. In the north, few peaks which do exist scarcely higher than 400 feet, while the south is almost a flat plain (about four square miles). Uplands covered with tropical rain forest or palms in red clay soil which is highly acid and subject to rapid erosion when cleared.

There are many rivers, but none of them large. Coastline is heavily indented with several bays, but there are also a few vertical cliffs on the western coast.

8.5 Land Use

Total land area is 152,300 acres of which 24,800 acres government-owned; 82,060 acres are farmland. Land tenure laws, although changing, fractionalize holdings; 4/5ths of St. Lucia's farms less than 5 acres. In addition, rain forests cover approximately 20,000 acres of mountainous interior.

Land Utilization On Agricultural Holdings  
By District, 1973 Census

<u>Districts</u>	<u>Tree crops</u>	<u>Other crop land</u>	<u>Grass-land cultivated</u>	<u>Grass-land uncultivated</u>	<u>Forest &amp; wood-land</u>	<u>Other land</u>	<u>Total 1973</u>	<u>Total 1961</u>
Castries	3,977	3,244	45	318	2,090	985	10,659	9,256
Anse-la-Raye	2,083	666	239	256	2,371	181	5,796	
Canaries	548	429	13	304	833	119	2,248	11,459
Soufriere	3,206	1,218	133	557	1,577	262	6,953	8,289
Choiseul	553	576	185	381	265	56	2,016	2,833
Laborie	3,425	1,493	8	156	562	188	5,832	4,524
Vieux-Fort	2,407	821	203	209	997	55	4,692	10,870
Micoud	4,436	1,555	1,412	306	3,211	381	11,301	10,499
Dennerie	4,810	1,629	156	1,497	2,130	330	10,552	17,031
Gros Islet	3,091	1,515	230	738	4,964	1,414	11,952	12,614
Total								
1973	28,536	13,146	2,624	4,722	19,002	3,971	72,001	-
Total								
1961	32,584	12,609	447	4,688	28,972	8,075	-	87,375

General note: Figures for 1961 are not strictly comparable with figures for 1973, because of a change in coverage.

Source: Agricultural Census (preliminary figures).

## 9. Transportation and Logistics

### 9.1 Road Network

Approximately 500 miles of roads, of which 162 miles are main roads; remainder principally feeder roads. Main system encircles entire island and is divided into 2 sections: East Coast and West Coast Road. Beginning in northwest and running counter clockwise, the following points connected by main system: Gros Islet, Castries, Anse la Raye, Soufriere, Laborie, Vieux Fort, Micoud, and Dennery.

New highway under construction from Castries to southern tip of island. When completed will shorten north-south trip by 14 miles. East Coast Road upgraded from Ravine Polsson over the Barre de l'Isle to La Caille (7 miles), and from Ravine Pascal and Touanier Bridge (14.4 miles). West Coast Road said to be in poor condition, especially the bridges.

### 9.2 Ports

Major ongoing projects include improvement of facilities and handling capacities at both Castries and Vieux Fort. Castries channel needs widening; jetty at Vieux Fort cannot handle present cargo volumes.

#### Port Castries and Vieux Fort

Coordinates: Castries, lat. 14°01' N; long. 61°00' W. Vieux Fort, lat. 13° 44' N; long. 60° 57' W.

Accommodation: Castries: Deep and sheltered anchorages off entrance. Approach channel 91.44 m. wide, with minimum depth of 11 m. Turning basin 335.28 m. in diameter, depth 12.8 m. Inter-island cargo berths, 137.14 m. long, 3.66 to 5.49 m. deep. Short-stay cruise ship berth, 167.64 m. long, 8.54 m. deep. Berth No. 1, 182.9 m. long, 10.97 m. deep for container handling. Berth No. 2, 161.54 m. long, 11.58 m. deep with ro/ro facilities and 2,265.60 cu. m. refrigerated store. Also 6,882 sq. m. covered storage facilities.

Vieux Fort: Depth of 14.6 m. at the entrance within the port. Two berths, 152.4 m. long, 8.38 m. deep. VHF and MF wireless facilities at both ports.

**Container and  
Ro/Ro**

- Facilities:** Limited number of small containers by Geest Industries. Fork lifts and trailers available to handle palletised cargo; equipment to handle standard containers will be available.
- Bunkers:** Limited quantity for yachts and small vessels only. Refueling jetty at La Toc owned by Texaco. Water available at quay berths only.
- Development:** Slipway and floating dock for ship repairs planned. Improved facilities for yachts and fishing boats.
- Shiprepairs:** No facilities for large vessels.
- Towage:** No tugs available.
- Pilotage:** Compulsory. Pilots available on a 24-hour basis.
- Airport:** Vigie (for Castries), 3.2 km; Hewanorra International (for Vieux Fort), 4.8 km.
- Local Holidays:** New Year's Day, New Year's holiday, Good Friday, Easter Monday, Labor Day, Corpus Christi, Statehood Day, Christmas Day and Boxing Day.
- Working Hours:** 07:00 to 12:00 hours, 13:00 to 16:00 hours (weekdays);  
07:00 to 12:00 hours (Saturdays).

**9.3 Shipping**

In 1976, 80 cruise ships called at St. Lucia. Regular services are provided by the following lines: Atlantic, Booker, Booth, Federal, French, Geest, Harrison, Italia, Lamport and Holt, Royal Dutch Line, Saguenay, Seaway and West Indies Shipping Co.

Total cargo handled in 1975 was 2,815,000 tons.

9.4 Air Transport

There are two airports in use: Vigie near Castries, served by LIAT (1974) and St. Lucia Airways; Hewanorra International near Vieux Fort, served by British Airways, British West Indies Airlines (Trinidad), Caribbean Airways and Eastern Airlines.

9.5 Airports

NB: For up-to-date information consult latest issue of weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

## CASTRIES/Vigie

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp C</u>	<u>Runway Characteristics</u>				<u>Aircraft</u> <u>Strength</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
		<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft/</u> <u>Length M</u>	<u>CL</u>		
14°01'07" N 60°59'30" W	3 31.3	08/26	0	1737	B	LCN 40	100JA2

Remarks: alternate aerodromes: Bridgetown/Grantley Adams Int'l, Fort-De-France/Le Lamentin.

Aids: RL, LR, LTX, LO, L4, MD, MC, MT, MTX, MO. No telex. (See Appendix I for key.)

## VIEUX-FORT/Hewanorra Intl

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp C</u>	<u>Runway Characteristics</u>				<u>Aircraft</u> <u>Strength</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
		<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft/</u> <u>Length M</u>	<u>CL</u>		
13°44'51" N 60°56'43" W	4 29	10/28		2727 P0	A	AUW 159	100JA2

Remarks: alternate aerodromes: Bridgetown/Grantley Adams Int'l, Port-of-Spain/Piarco, St. Johns/Coolidge, San Juan/Puerto Rico Int'l.

Aids: ILS(P0), DME(P2), VOR(P2), LSA(10,P0). LVA(P0), LR, LTX, LB, L0, L4, L5, L9, MD, MT, MC, MTX, MO. No telex. (See Appendix I for key.)

#### 9.6 Air Distances

From St. Lucia to:	<u>Statute miles</u>
Houston (via New Orleans and San Juan).....	2483
Miami (via New Orleans and San Juan).....	1505
New Orleans (via San Juan).....	2173
New York.....	2012
Panama City.....	1287
Washington D.C. (via San Juan).....	2028

## 10. Power and Communications

### 10.1 Electric Power

Installed capacity 14.68 MW; however given that at any time two of largest units (2.67 MW each) may be out of service, firm capacity of system is no more than 9.34 MW. Castries has a 1.25 MW diesel generator and development of geothermal energy is under way at Soufriere Springs. St. Lucia Electric Services Ltd. (SESL) is responsible for island-wide generation and distribution.

### 10.2 Radio Network

Broadcasting stations on the island are Radio St. Lucia, operated by the St. Lucia Government, and Radio Caribbean, run by the Rediffusion group. Both are commercial stations.

Several other Caribbean stations also give coverage to the island, including Radio Antilles (in Montserrat), Radio Barbados, Radio Trinidad and NBS Radio 610 (Trinidad), Radio Dominica, and Radio ZIZ (St. Kitts). Radio Caribbean International transmits in English, French, and Creole daily on 36.3 m (840 kc/s) from 05:30 to 22:30.

81,500 radio receivers in 1976.

### 10.3 Telecommunications

Cable and Wireless (West Indies) Ltd. provides international telegraph, telex, and telephone (automatic system) services.

A television station - St. Lucia Television - has been in operation since June 1967, and relays limited programs nightly. In addition, programs from CBC-TV in Barbados and R.T.F. in Martinique are also received on the island.

1. General Information1.1 Geographic Codes

AID Standard	547
State Regional	ARA
FIPS	VC

1.2 Country Names

Official	Commonwealth of St. Vincent
Local	St. Vincent
Short	St. Vincent

1.3 Calendar and Holidays

New Year's Day.....	January 1
Discovery Day.....	January 22
Shrove Tuesday.....	March 2
Good Friday.....	*
Easter Monday.....	*
Labor Day.....	May 1
Whit Monday.....	June 7
CARICOM Day.....	First Monday in July
Statehood Day.....	Last Monday in October
Thanksgiving.....	Last Monday in October
Christmas.....	December 25
Boxing Day.....	December 26

\* variable dates

1.4 Currency

Eastern Caribbean Dollar the currency of Dominica issued in denominations of 1, 5, 20, and 100 bills: \$1 EC = 100 cents.

\$2.70 EC = \$1 US (Jan. 1980).

### 1.5 Time Zones

EST + 1; GMT - 4

### 1.6 Diplomatic and Consular Offices

St. Vincent, a State in Association with the United Kingdom, does not maintain diplomatic or consular representatives in other States as their functions are carried out by the accredited representatives of the United Kingdom.

The Eastern Caribbean Commission in the United Kingdom represents the Government in the United Kingdom and Europe. Office: King's Hse, 10 Haymarket, London, SW1 (Phone: 01-930 7902).

Commissioner: Oswald Gibbs (Ag.).

The Eastern Caribbean Commission in Canada. Office: PO Box 286, 14 Frontenac, Place Bonaventure, Montreal (Phone: (514) 866-7761).

### 1.7 Visa and Travel Information

Passports are required by all except United Kingdom subjects and Canadian and US citizens who visit the State for not more than six months holding return tickets to their respective countries, or in the case of United Kingdom subjects, the country from whence they came. All such passengers must hold some identity document.

Smallpox vaccination certificate required of all arrivals over the age of 3 months except those travelers from the following countries:

Americas: USA, Bermuda, Canada

Caribbean: Antigua, Bahamas, Barbados, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guadeloupe, Jamaica, Martinique, Montserrat, Netherlands Antilles, St. Kitts-Nevis-Anguilla, St. Lucia, Trinidad and Tobago

### 1.8 Ethnic and Sociocultural Groups

Indigenous inhabitants were the Caribs but wars, natural disasters (including volcanic eruption of 1902), and intermarriage with peoples of African descent have left the following ethnic population percentages (as of 1972): African Negro 65.5%; Mixed or Colored 19%; East Indian 5.5%; European White 3.5%; Amerindian 2.0%; others 4.5%.

### 1.9 Languages

English; some French patois. Literacy: about 80%.

### 1.10 Religions

Faiths represented include Anglican, Methodist, Roman Catholic, Salvation Army, Seventh Day Adventist, and Baptist.

## 2. Government

### 2.1 National Government

Although self-governing, St. Vincent has been an Associated State of the United Kingdom since October 27, 1969, with latter accepting responsibility for St. Vincent's external affairs and defense.

Executive branch headed by Governor and 6-member Cabinet. Legislative branch consists of a House of Assembly with 18 members: one speaker, three nominated members, one official member, and 13 elected members.

St. Vincent divided into 5 parishes: Charlotte, St. David, St. Patrick, St. Andrew, St. George. See Host Disaster Plan.

### 2.2 Major Government Figures (April 1981)

The Governor.....	Gunn-Munro, Sydney, Dr.
Prime Minister.....	Cato, R. Milton
Deputy Prime Minister.....	Tannis, Hudson
Minister of Communications, Works & Labor.....	Williams, Arthur, F.
Minister of Education, Youth Affairs & Sports.....	Dacon, Charles St. Clair
Min. of External Affairs, Internal Security & Tourism.....	Tannis, Hudson
Min. of Finance, Information & Grenadine Affairs.....	Cato, R. Milton
Min. of Health.....	Russell, Randolph
Min. of Home Affairs, Local Gov't., Housing & Community Development.....	Woods, Arthur T.
Min. of Legal Affairs.....	Issacs, Grafton Cephas
Min. of Trade & Agriculture.....	Beache, Vincent
Attorney General.....	Issacs, Grafton Cephas

### 2.3 1980 Status

In December 1979 elections, the moderate St. Vincent Labor Party (SVLP) retained its parliamentary lead, winning 11 of 13 seats. The New Democratic Party (NDP), with two seats, became the formal opposition party, while the newly formed United People's Movement, a left-wing coalition, won no representation.

3. Disaster Preparedness3.1 Host Disaster Plan

St. Vincent has established a Central Emergency Relief Committee headed by the Governor with headquarters at the Office of Ministry of Home Affairs, and is charged with ensuring the effective operation of St. Vincent's Central Emergency Relief Organization which operates via committees at the district level. The following are the District Emergency Relief Committees and their jurisdictions:

1. Chateaubelair District  
embracing Petit Bordel, Sharpes and Fitz Hughes.
2. Troumaca District  
embracing Troumaca, Westwood, Rose Hall and Rose Bank.
3. Barrouallie District  
embracing Barrouallie, Spring Village, Cumberland, Wallilabou, Peters Hope, Mt. Wynne.
4. Layou District  
embracing Layou, Rutland Vale, Vermont, Francois, Clare Valley, Debois, Chauncey, Questelles, Campden Park.
5. Kingstown District  
embracing Kingstown, Lowmans, Montrose, Edinboro, Boiswood, Slon Hill, Cane Garden, Dorsetshire Hill, Arnos Vale, Belair, Gomea, Dauphine.
6. Calliaqua District  
embracing Calliaqua, Villa, Ratho Mill, Prospect, Brighton.
7. Stubbs District  
embracing Stubbs, Diamond, Rivulet, Glamorgan, Victoria Village, Calder, Argyle, Belmont, Fairburn Pasture, Enhams.
8. Marriqua District  
embracing Mesopotamia, Richland Park, Hopewell, Evesham, Evesham Vale, Carriere.
9. Lowmans District  
embracing Lowmans (Wd.) Lauders, Union, Diamond, New Adelphi, Greggs.

10. Biabou District  
embracing Biabou, Spring, Peruvian Vale, New Prospect, Bridgetown, Cedars.
11. Park Hill District  
embracing Park Hill, Colonarie, Sans Souci, South Rivers, Mt. William, Gorse, Byera etc.
12. Georgetown (North) District  
from Dry River going north to Fancy.
13. Georgetown (South) District  
from Dry River going south to Byera.
14. Bequia
15. Union Island
16. Canouan
17. Mayreau
18. Mustique
19. Petit St. Vincent
20. Prune Island

Where Town Boards, District Councils, and Village Councils exist, they will act as Committees for the districts set out above. Where no such Boards or Councils exist, the Premier will appoint the personnel to those Committees.

### 3.2 Central Emergency Relief Committee

As of 1975, membership was as follows:

The Premier (Chairman)  
The Minister of Home Affairs (Deputy Chairman)  
The Financial Secretary  
The Commissioner of Police  
Chief Personnel Officer

Permanent Secretaries  
 The Manager, Central Water Authority  
 Chief Engineer  
 Chief Agricultural Officer  
 The Senior Medical Officer  
 Executive Secretary, C.H. & P.A.  
 Information Officer  
 The Chairman, Kingstown Town Board  
 A representative of the BRCS  
 A representative of the Chamber of Commerce  
 A representative of each of the three leading churches  
 A representative of the St. Vincent Electricity Services  
 A representative of Cable & Wireless  
 A representative of the Jaycees  
 A representative of the HAMS  
 The Deputy British Government Representative  
 A representative of Rotary  
 A representative of Lions  
 Manager, Radio St. Vincent  
 Permanent Secretary Ministry of Home Affairs (Secretary)

### 3.3 Emergency Services

The following is a list of specialized emergency services whose direction will be carried out from Kingstown:

Public relations and information	- Information Officer
Radio and telephone service	- Manager Cable and Wireless Ltd.
Road clearance, demolition and construction	- Chief Engineer
Water repairs	- Central Water Authority
Labor recruitment	- Labor Commissioner
Medical services and first aid	- Senior Medical Officer
Sanitation and disposal of dead	- Public Health Superintendent
Shipping	- Post Officer
Food and clothing	- Ministry of Trade (Control Department)
Shelter	- Red Cross
Messenger service	- Island Commissioner, Boy Scouts
Public protection and collection of homeless	- Commissioner of Police

3.4 Disaster Types and History

Hurricanes, volcanic eruptions, earthquakes. (See chart).

3.5 Volcanic Eruption

Disaster officially declared April 13, 1979 after eruption of Mt. Soufriere left 2 dead and injuries described only as "light". As of April 26, 1979 approximately 11,500 people evacuated from immediate environs of Soufriere although neither initial eruption nor subsequent rumblings has threatened major population centers.

4. Population4.1 National Population

Total population in 1977 estimated at 106,000 with an annual growth rate of 3.3%; country-wide density approximately 266 per sq km. The main population center is the capital, Kingstown (22,000 in 1973), on the southwest coast below the foothills of Mount St. Andrew; others include Chateaubelair, Barrouallie, and Layou in west, and Georgetown on east coast. In 1974, 51% of population under 15 years of age; 20% were women 15-44 years of age.

Population by Age and Sex

	1975			1978		
(years)						
Under 1	1,555	1,604	3,159	1,465	1,512	2,977
1-4	6,665	6,358	13,023	6,743	6,432	13,175
5-9	7,264	7,149	14,413	7,781	7,658	15,439
10-14	8,236	8,008	16,244	7,631	7,421	15,052
15-19	6,340	6,698	13,038	7,008	7,488	14,576
20-24	3,551	4,215	7,766	4,699	5,577	10,276
25-29	2,183	2,771	4,954	2,715	3,447	6,162
30-34	1,399	1,977	3,376	1,720	2,430	4,150
35-39	1,363	1,928	3,291	1,375	1,946	3,321
40-44	1,380	1,902	3,282	1,373	1,893	3,266
45-49	1,225	1,762	2,987	1,289	1,854	3,143
50-54	1,138	1,506	2,644	1,207	1,598	2,805
55-59	1,066	1,475	2,541	1,057	1,463	2,520
60-64	929	1,170	2,099	981	1,236	2,217
65-69	677	985	1,662	686	997	1,683
70-74	451	840	1,291	465	867	1,332
Over 75	546	1,161	1,707	594	1,262	1,856
Total	46,033	51,444	97,477	48,869	55,081	103,950

Source: Ministry of Health, mission estimates, as cited by World Bank, Current Economic Position, 1979.

4.2 The Grenadines\*

The principal islands in the Grenadines and their estimated populations:

Bequia.....	4,236
Canouan.....	200
Mayreau.....	150
Mustique.....	303
Union.....	2,300

\* Petit St. Vincent and Mustique are privately owned, Palm is a small resort island, while the rest are either uninhabited or have only seasonal tourist populations.

4.3 Vital Statistics

Births per 1,000 population, 1977.....	30.8
Deaths per 1,000 population, 1977.....	7.5
Rate of growth, 1970-77.....	2.3%
Life expectancy at birth, 1959-61.....	59
Population under 25 years, 1977.....	70%
Infant mortality per 1,000 live births, 1977.....	55.5

Source: World Bank, Current Economic Position, 1979.

5. Health, Nutrition and Housing5.1 Major Diseases

St. Vincent has the highest infant mortality rate of any CARICOM country: 64.5 deaths per 1,000 live births in 1976. High rate attributed to gastrointestinal diseases, protein-calorie malnutrition, and a chronic shortage of potable water. Other leading causes of death in children under 1 year of age, and in all age groups are as follows:

<u>1972 Under 1 yr.</u>	<u>Rank</u>	<u>No.</u>	<u>Rate</u>	<u>%</u>
Total deaths.....		258	6,963.6	100.0
Enteritis and other diarrheal diseases.....	1	90	2,429.1	34.9
Causes of perinatal mortality....	2	59	1,592.4	22.9
Avitaminoses and other nutritional deficiencies.....	3	30	809.7	11.6
Influenza and pneumonia.....	4	25	674.8	9.7
Congenital anomalies.....	5	10	269.9	3.9
 <u>1972 All Ages</u>				
Total deaths.....		890	978.0	100.0
Diseases of the heart.....	1	169	185.7	19.0
Enteritis and other diarrheal diseases.....	2	121	133.0	13.6
Avitaminoses and other nutritional deficiencies.....	3	62	68.1	7.0
Causes of perinatal mortality....	4	59	64.8	6.6
Malignant neoplasms.....	5	52	57.1	5.8
Influenza and pneumonia.....	-	49	53.8	5.5
Accidents.....	-	44	48.4	4.9

Source: PAHO, Health Conditions in the Americas, 1972

5.2 Health Facilities

Kingstown General Hospital with 210 beds is the main hospital in St. Vincent; admits 5,000 patients annually. Other hospitals located at Chateaubelair, Georgetown, and Bequia. In addition 3 specialist hospitals (Aged, Mental and Leper), and 33 Medical Clinics. Total of 300 beds; 1 bed/1,640 population.

Health care system is inadequate for needs of the population due to lack of funds, supplies and trained personnel, and the poor condition of facilities and equipment.

### 5.3 Health Personnel

As of 1970: 18 physicians, 3 dentists, 103 graduate nurses,  
67 nursing auxiliaries.  
Population per physician, 1974: 4,320.

### 5.4 Diet

Staples: rice, sweet potato, yam, cassava

Accompaniments: pulses, fish, milk, cheese-milk products, meat,  
vegetable oil

Acceptable

Alternative Staples: wheat-flour, dehydrated potato

Acceptable

Accompaniment: milk powder

### 5.5 Nutrition (MDR)

<u>Calories</u>	<u>Protein</u>	<u>Fat</u>	<u>Carbo</u>	<u>Ca</u>	<u>Ph</u>	<u>Iron</u>
2,549	463gm	1,275gm	2,868gm	8,000mgm	8,000mgm	140mgm

#### Protein-Calorie Malnutrition Among 2,490 Children of Both Sexes St. Vincent, 1967

<u>Age</u> (months)	<u>Moderately Severe PCM<sup>a</sup></u> (percent)	<u>Very Severe PCM<sup>b</sup></u> (percent)
0-11	21.5	2.5
12-23	31.5	2.0
24-35	23.3	1.2
36-47	24.1	0.6
48-59	28.5	0.5
0-59	25.7	1.5

<sup>a</sup>Weight 61-80 percent of standard

<sup>b</sup>Weight below 60 percent of standard

Source: Caribbean Food and Nutrition Institute, "A Rapid P.C.M. Survey in St. Vincent".

Daily Per Capita Supply of Calories and Proteins  
St. Vincent, 1966

Food Item	Local Production		Imports		Total Available	
	Calories	Proteins	Calories	Proteins	Calories	Proteins
Cereals	5.0	0.1	660.0	17.0	665	17.1
Roots and tubers	191.0	2.8	-	-	191	2.8
Sugars	-	-	334.0	-	344	-
Pulses and seeds	20.0	1.3	7.0	0.5	27	1.8
Fresh vegetables	21.0	1.2	-	-	21	1.2
Fruits	44.0	1.0	-	-	44	1.0
Meats and products	31.9	2.0	20.1	1.3	52	3.3
Fish	15.1	3.0	17.5	3.4	33	6.4
Eggs	2.7	0.2	4.5	0.4	7	.6
Milk and products	4.4	2.1	67.0	4.8	71	6.9
Fats and oils	-	-	156.0	-	156	-
Miscellaneous	-	-	8.0	0.2	8	0.2
Total	335.1	13.7	1,274.1	27.6	1,619	41.3

Source: Caribbean Food and Nutrition Institute, "A Regional P.C.M. Survey in St. Vincent".

### 5.6 Housing

Housing standards island-wide described as poor with housing for agricultural and road workers especially bad. Housing development plans to deal with shortages and squatter settlements the responsibility of the government and the Central Housing and Planning Authority.

51% of both rural and urban populations have access to electricity but potable water supplies a chronic problem.

## 6. Economy

### 6.1 Overview of Economy

Tourism and export agriculture the basis of the economy. Like other Eastern Caribbean Islands, St. Vincent's economy suffered prolonged stagnation during 1970's as a result of drought, faltering international demand, and energy-induced inflation, all of which had drastic effects on output, exports, and standard of living. Brief relief provided by growth in tourism in 1974 but accounts deficits continued despite budgetary restraints. United Kingdom assistance averted a major financial crisis.

However, economic prospects brightened in 1976. Ideal weather, increased world prices and demand led to vigorous increase in output boosting real growth of GNP and giving relief to unemployment problem; GNP estimated at \$33.5 million in 1976 at market prices or \$316 per/capita. Emphasis on export diversification also began in 1976 as lands previously used only for arrowroot (world's only exporter) shifted to banana, vegetable, and tobacco production. In 1977 economic growth continued; real growth of GDP placed at 4.5% as a result of slight increases in tourism, further expansion of non-traditional exports (fruits, vegetables, tobacco), and development of philatelic industry. However, consumer prices also rose 6% in 1977.

Increased output and export of bananas, arrowroot for computer software and other agricultural products led to a 11% increase in real GDP growth in 1978. An 80% jump in manufacturing output based on a new flour mill, a yacht factory and a banana box plant contributed to the increase, along with modest rises in tourism, construction and distributive trades.

### 6.2 Industry

Approximately 100 individual, privately owned, manufacturing operations (many very small) employ 1,300-1,400 people. Estimated total value added at EC \$9.6 million (1978); 9% of GDP. Processing agricultural products for export is major industry although several other industries have potential for CARICOM export: food processing, air conditioner assembly and muffler assembly.

### 6.3 Prospects

Continued economic expansion hinges on developing export potential more fully, increasing both private and public savings, the success of export investment programs and continuation of prudent economic management. Assets include the untapped potential of the Grenadines and a high level of remittances from abroad. A major problem, however, is the inability of the economy to generate enough jobs; unemployment reached 17.5% in 1978 as compared to 9% in 1970.

#### Sectoral Origin of Gross Domestic Product at Current Factor Cost (EC\$ million)

	<u>1976</u>	<u>1977</u>	<u>Estimated</u> <u>1978</u>
Agriculture	14,263.7	16,505.3	21,209.1
Quarrying	1,143.7	979.6	1,267.6
Construction	2,620.0	2,028.4	3,500.0
Manufacturing	4,500.0	5,250.0	9,620.0
Electricity & water	1,011.0	886.9	1,031.3
Transport & communications	3,253.9	3,768.1	4,741.7
Wholesale & retail trade	8,009.8	8,605.4	10,677.5
Hotels & restaurants	4,860.1	5,920.0	6,512.0
Banking & finance	1,260.0	1,386.0	1,512.0
Ownership of dwellings	4,304.8	4,885.4	5,343.9
Public administration	5,767.2	6,125.1	6,611.3
Other services	8,370.8	9,163.1	9,343.0
Gross domestic product at factor cost	59,365.0	65,503.3	81,369.4

Source: World Bank, Current Economic Position, 1979.

### 6.4 Balance of Payments

Resource gap for 1974-78 averaged 50% of GDP. However, due to remittances, external budgetary aid, and an inflow of net factor services, the current account deficit for same period was 20% of GDP.

Balance of Payments  
(US\$ million)

	1976	1977	1978
<u>Exports of Goods NFS</u>	14.2	15.4	17.4
Merchandise exports	9.4	9.9	11.5
Non-factor services	4.8	5.5	5.9
<u>Imports of Goods and NFS</u>	26.4	32.9	35.8
Merchandise imports	23.7	30.3	33.2
Non-factor services	2.7	2.6	2.6
<u>Resource Balance</u>	-12.2	-17.5	-18.4
Factor services & transfers	7.6	9.6	12.2
Net factor service payments	(1.7)	(1.4)	(1.5)
Transfers to private sector	(5.3)	(7.8)	(9.3)
Transfers to public sector	(0.6)	(0.4)	(1.4)
<u>Current Account Balance</u>	-4.6	-7.9	-6.2
Private capital	2.1	5.3	2.7
<u>Public Sector</u>	3.0	0.1	4.3
Capital grants	1.7	1.5	2.9
Loan disbursements	0.8	0.1	1.6
Other	-	-0.5	-
Amortization	-0.1	-1.0	-0.2
ECCA	0.2	-	-
Emergency assistance	0.4	-	-
Banking system	-0.5	2.5	-0.8

Source: World Bank, Current Economic Position, 1979.

### 6.5 Exports

See Agricultural Exports, section 7.5.

6.6 Imports

High international prices and inflation have caused import prices to far outstrip export prices (See Balance of Payments, section 6.4). Consumer goods account for over 2/3rds of imports.

	<u>Merchandise Imports (CIF)</u>		
	(US\$ 000)		
	<u>1976</u>	<u>1977</u>	<u>1978</u> (est.)
<u>Total Merchandise Imports</u>	23,671.8	30,341.8	33,177.4
<u>Consumer Goods</u>	17,087.4	20,388.1	23,446.3
Food, beverages & tobacco	8,829.0	10,069.6	11,076.7
Raw materials & manufactures	8,258.4	10,318.5	12,369.6
<u>Intermediate Goods</u>	4,313.4	5,480.4	6,027.4
Minerals & fuels	1,651.5	2,085.2	2,293.7
Chemicals & fertilizers	2,661.9	3,395.2	3,733.7
<u>Capital Goods</u>	2,271.0	4,473.3	3,703.7
Machinery & equipment	2,271.0	4,473.3	3,703.7

Source: Statistical Unit - Ministry of Finance, mission estimates.

## 7. Agriculture

### 7.1 Overview of Agriculture

Agriculture the basis for the St. Vincent economy employing 30% of the labor force, accounting for 20% of GDP and 95% of merchandise exports in 1978. Bananas, arrowroot, and coconuts are major crops with bananas contributing about 60% of total export value and volume; area planted with bananas estimated at 5,000 acres, 70% of which cultivated by smallholders. Other crops include nutmeg, mace, cocoa, groundnuts and cassava. Sugar is being reintroduced to eliminate imports and create employment.

### 7.2 Crop Production

Bananas: estimated 1978 volume 63.4 million lbs; efforts being made to increase low yields of 4-7 tons/acre to a target of 9-10 tons/acre. Quality improvement needed as approximately 25% are rejected for export.

Arrowroot: 826 tons exported with EC\$ 1.6 million value in 1978. Total area cropped is 1,000 acres. Found to possess good qualities for computer paper.

Coconuts & Copra: account for 2% of total exports. Production could be increased through use of pesticides, increased fertilizer and disease control.

### 7.3 Food Crops

Food crops include sweet potatoes, tannias, dasheen, eddoes, carrots, yams, plantains, maize, pigeon peas, tomatoes, pumpkins, avocado pears, and mangoes.

	<u>1973</u>	<u>1974</u>	<u>1975</u>
Sweet Potatoes			
Qty. 000 lbs.	3,049,841	3,793,148	2,643,583
Value EC\$	345,040	600,108	506,567

	<u>1973</u>	<u>1974</u>	<u>1975</u>
Tannias			
Qty. 000 lbs.	147,344	701,660	244,476
Value EC\$	27,665	106,305	63,994
Eddoes			
Qty. 000 lbs.	5,407	2,682,294	122,263
Value EC\$	1,029	250,166	32,382
Yams			
Qty. 000 lbs.	151,138	701,913	333,519
Value EC\$	37,555	135,630	115,645
Carrots			
Qty. 000 lbs.	519,525	1,420,000	1,081,110
Value EC\$	149,825	495,024	451,116
Ginger			
Qty. 000 lbs.	157,612	464,605	2,025,570
Value EC\$	65,220	195,642	713,571
Pumpkins			
Qty. 000 lbs.	95,850	294,719	160,100
Value EC\$	13,375	44,074	31,276

Source: World Bank, Current Economic Position, 1979.

#### 7.4 Agricultural Land

Of 28,440 acres classified as agricultural land, 9,687 acres devoted to tree crops: 5,600 for coconuts, 700 for cocoa, 400 for nutmegs, 180 for limes, 50 for oranges, and 40 for grapefruit. Remaining acreage is for permanent cash crops.

#### 7.5 Exports

Majority of agricultural production aimed at export; principle buyers are the UK, other CARICOM countries and North America.

Volume, Value and Unit Price of Major Exports, 1976-78  
(Volume-Ibs Millions; Value-US\$ Million; Unit Price-US\$)

	<u>1976</u>	<u>1977</u>	<u>1978</u> <u>(est.)</u>
<u>Total Merchandise Exports</u>	9.4	9.9	11.5
Re-exports	0.4	0.7	0.3
 <u>Domestic Exports</u>	 9.0	 9.2	 11.2
Bananas			
Value	5.3	5.5	6.8
Volume	66.4	57.6	63.4
Unit Price	0.080	0.096	0.107
Arrowroot			
Value	0.4	0.5	0.6
Volume	1.6	1.6	1.8
Unit Price	0.266	0.315	0.330
Coconuts			
Value	0.1	0.3	0.3
Volume	2.7	4.1	4.0
Unit Price	0.0496	0.0630	0.063
Sweet Potatoes			
Value	0.5	0.2	0.3
Volume	4.1	1.3	2.0
Unit Price	0.118	0.130	0.133
Nutmeg			
Value	0.1	0.1	0.2
Volume	0.380	0.286	0.400
Unit Price	0.340	0.370	0.407
Carrots			
Value	0.3	0.1	0.2
Volume	1.6	0.7	1.1
Unit Price	0.172	0.181	0.185
Eddoes and Dasheens			
Value	0.3	0.4	0.4
Volume	1.9	2.4	2.5
Unit Price	0.172	0.174	0.174

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	<u>1976</u>	<u>1977</u>	<u>1978</u> <u>(est.)</u>
Yams			
Value	0.2	0.2	0.2
Volume	0.876	0.1071	0.1000
Unit Price	0.176	0.185	0.185
Other	1.8	1.9	2.2

Source: Statistical Unit - Ministry of Finance, Agricultural Marketing Corporation, Ministry of Trade and Agriculture, mission estimates as cited by World Bank, Current Economic Position, 1979.

#### 7.6 Imports

Since agricultural production is geared almost exclusively for export, large food imports are necessary to meet domestic needs. Foodstuffs imported include grain and cereal products, sugar, dairy and poultry products, meat, processed fruits and vegetables, various fats and oils, legumes and canned fish. UK, other CARICOM countries and North America supply 80% of imports.

8. Physical Geography8.1 Climate

St. Vincent's climate is tropical. From January to June northeast trade winds predominate and temperatures are equable, ranging from lows of 66° F to highs of 88° F. Dry season runs from December to April; 70% of rain falls from May to November and ranges from 60" per year on south-east coast to 150" per year in the central mountains.

St. Vincent lies just within the hurricane belt of Caribbean but seldom receives hurricane damage.

	<u>1974</u>	<u>1975</u>	<u>1976</u>
Total rainfall, (Inches)	103.07	78.76	74.01
Temperature (mean monthly), F.	84.25	83.70	84.32
Relative humidity (mean) %	72.05	73.20	73.88
Barometric pressure (mean), inches	30.050	29.135	29.375

8.2 Land Forms

St. Vincent and its Grenadine Island dependencies lie at the lower end of Caribbean chain at 13° 15' N latitude and 60° 56' W longitude, or about 30 miles south of Castries, St. Lucia and 60 miles north of Grenada; nearest landfall in west is Nicaragua, and in east Barbados (approx. 100 mi). St. Vincent itself is 18 miles long and 11 miles wide with its capital, Kingstown, in the southwest on a large sheltered harbor at the foothills of Mt. St. Andrew.

A nearly impenetrable volcanic range of mountains dominates island center, largest of which is Mt. Soufriere that rises rapidly from north shore to 4,000' elevation; other peaks are Richmond (3,253'), Grand Bonhomme (3,181'), and St. Andrew (2,483') nearly equidistant from Soufriere. On windward (east) side of Soufriere and its crater lake, land slopes gently to coast through undulating country of flat valleys; contrasts sharply with leeward (west) terrain which is rugged and deeply ridged with only narrow alluvial plains along river courses. There are many rivers (fast flowing in upper reaches) but they are often dry, especially in west.

### 8.3 The Grenadines

A chain of islands between St. Vincent and Grenada extending from latitudes 12° 47' 48" and 12° 32' 00" N; all have chains of coral reefs, enclosed bays, and scrub-covered hills. Largest islands are Bequia, Mustique, Canouan, and Union; Other smaller ones include Petit St. Vincent, Mayreau, Palm (or Prune), Baliceux, Battawia, and Isle de Quatre. See Population, section 4.1.

### 8.4 Land Use

Total land area (including Grenadines) is 150 sq mi or 85,000 acres. Of latter, 28,440 acres classified as agricultural land, 5,915 acres as non-agricultural, 50,645 acres as forests, roads, rivers and housing areas.

State lands total 28,800 acres; agricultural holdings divided more or less equally into large estates and small holdings of less than 10 acres. Greater part of central mountain range is Crown property and is covered by forests.

### 8.5 Volcanism

See Disaster Preparedness, sections 3.4 and 3.5.

## 9. Transportation and Logistics

### 9.1 Road Network

633 miles of roads: 270 miles oiled, 193 miles rough motorable, 170 miles tracks and byeways. Principal oiled roads encircle most of island, running from Chateaubelair on west coast through Kingstown and Calliaqua in the south, and on to Georgetown on east coast. Also a jeep driveable road from Georgetown to Fancy at northernmost part of island. Feeder roads lead up the valleys linking the villages but no road crosses central mountains.

Work to reinstate 20 miles of highway (7 1/2 on Leeward, 11 1/2 on Windward Highways) with dual lane, single carriageway of 22 ft now complete. Other roads: on Bequia, 11 1/4 miles of road widened to 18 feet on Port Elizabeth-Paget Farm Road; on Union, 3/4 mile of Clifton-Ashton Road widened to 18 foot carriageway.

Weakest sections are in mountainous areas and on Windward side of island. Landslides are frequent problem due to bad drainage and insufficient masonry; bridges inadequate for heavy truck loads.

### 9.2 Port

Kingstown harbor the principal port; 900' pier can accommodate two ocean-going ships.

#### Kingstown

Coordinates: Lat. 13° 23' N; long. 61° 13' W.

Accommodation: Depth at entrance, 88 to 83 m. Open harbor. Unusal anchorage in about 24 m. Deep water pier in operation; two berths, one 9.14 m., and one 8.23 m. maximum draft.

Provisions: Available.

Water: Available.

Bunkers: Available for small craft only.

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Pilotage: Compulsory.

Airport: St. Vincent Airport, 3.2 km.

Local Holidays: Caricom Day and Carnival (first Monday and Tuesday in July).

Working Hours: 08:00 to 16:00.

### 9.3 Shipping

In addition to Kingstown, other points, including Bequia and Union Islands, served by motor launches/open boats which ply daily between Kingstown and leeward ports; tri-weekly motor vessels between Grenadines and mainland.

Bi-weekly cargo/passenger service provided by West Indies Shipping Service (see Barbados). Also Great Industries Ltd. steamships call weekly at Kingstown taking bananas and a limited number of passengers to United Kingdom. Monthly cargo and passenger services are provided by the Royal Netherlands Steamship Co., Booth American Shipping Co., Harrison Line, Atlantic Line, West India Shipping Co., Booker Seaway, Blue Ribbon Line, and Saguenay Shipping Ltd.

### 9.4 Air Transport

Principal airport at Arnos Vale at southwestern end of St. Vincent 2 miles from Kingstown.

The island is served by daily scheduled services operated by LIAT (1974) Limited. Services extend from Trinidad in the south to St. Thomas in the north, as well as to other scheduled points.

LIAT also operates daily scheduled services between Arnos Vale and aerodromes (Mustique & Union Island) in the St. Vincent Grenadines. An airstrip has been constructed on Canouan Island and is at present available for small chartered aircraft.

"Tropic Air" and "Aero Services" have small aircraft based in St. Vincent for charter. St. Vincent Grenadines Air Ltd. also has small aircraft based in St. Vincent. They operate a charter air service specially for the Grenadine Islands.

9.5 Airports

NB: For up-to-date information consult latest issue of weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

NEVIS I/  
Newcastle  
REG S

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp</u>	<u>Runway Characteristics</u>			<u>Fuel/</u> <u>Octane</u>
		<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft/</u> <u>Length M</u> <u>CL</u>	
13°08'40"N	20	07/25	1463	n.a.	n.a.
61°12'50"W	29				

Remarks: alternate aerodromes: Castries/Vigie, St. Lucia I.

Aids: RL, LVA(P2), MD, MC, MT. (See Appendix I for key.)

9.6 Air Distances

From St. Vincent to:	Statute Miles
Miami (via San Juan, St. Lucia).....	1,559
New Orleans (via San Juan, St. Lucia).....	2,227
San Juan (via St. Lucia).....	514
Tobago (via Grenada, Port-of-Spain).....	236
Washington, D.C. (via San Juan, St. Lucia).....	2,082

10. Power and Communications10.1 Electric Power

Electricity for St. Vincent and Bequia provided by St. Vincent Electricity Services Ltd. System on mainland consists of 4 power stations: South Rivers Hydro (850KW), Richmond Hydro (1,100KW), Kingstown (2,125KW), and Cane Hall Diesel (3,570KW), all of which linked by 11,000 volt overhead transmission system covering Kingstown to Richmond on leeward side and Kingstown to Georgetown on windward side. Bequia served by one diesel power station (350KW) with 11,000 volt and 3,300 volt transmission network. In 1974 8,960 consumers on St. Vincent, 610 on Bequia. Total installed capacity 7,976 KW of which 63% is diesel, the rest hydroelectric.

10.2 Telephone System

Fully automatic internal telephone system serves St. Vincent, and Union, Bequia, Palm (Prune), Petit St. Vincent, and Mustique Islands with main exchange building in Kingstown; public pay phones being installed. International telephone, telegraph, and telex services also provided by Cable and Wireless (West Indies) Ltd.

10.3 Radio

Radio St. Vincent: P.O.B. 75, Kingstown

1. General Information1.1 Geographic Codes

AID	533
State region	ACA
FIPS	TD

1.2 Country Names

Official	Republic of Trinidad and Tobago
Local	Trinidad and Tobago
Short	Trinidad and Tobago

1.3 Calendar and Holidays

New Year's Day.....	January 1
Good Friday.....	*
Easter Monday.....	*
Whit Monday.....	*
Corpus Christi.....	*
Eid.....	*
Divali.....	*
Carleon.....	*
Labor Day.....	May 1
Independence Day.....	August 31
Christmas Day.....	December 25
Boxing Day.....	December 26

\* variable date

1.4 Currency (March 1980)

Trinidad and Tobago dollar is legal tender.  
US\$ = TT\$ 2.40



Economic and Technical Cooperation  
Extradition  
Investment Guarantees  
Peace Corps  
Postal Matters

### 1.9 International Organization Membership

CARICOM, Commonwealth, FAO, G-77, GATT, IADB, IBRD, International Coffee Agreement, ICAO, IDA, IDB, IFC, ILO, IMCO, IMF, ISO, ITU, IWC (International Wheat Council), NAM, OAS, SELA, UN, UNESCO, UPU, WHO, WMO.

### 1.10 Visa and Travel Information

A passport is required. A visa is not required for tourists for up to 6 months.

Yellow fever certificate required of travelers one-year of age and over arriving from a country any part of which is infected. Smallpox certificate required of travelers arriving from any country any part of which is infected.

### 1.11 Ethnic and Sociocultural Groups

The indigenous inhabitants, Caribs in Tobago and Arawaks in Trinidad, were nearing extinction by the time the islands came under British control (late 18th - early 19th centuries) after periods of Spanish (Trinidad) and French (Tobago) rule. The present multi-ethnic population is largely descended from an early plantation society. Blacks, Whites, and people of Mixed (Black-White) ancestry make up the Creole population. Later arriving East Indians and smaller numbers of Chinese, Middle Easterners, Portuguese and others have not been fully integrated into Creole complex. Some racial mixing has occurred but occupations and, to some extent, settlement patterns are along ethnic lines with ethnicity and religious differences keenly felt.

The 1970 census gave ethnic breakdown as follows: blacks (42.8%), East Indians (40.1%), whites (1.2%), Chinese (0.9%), mixed (14.2%) and other (0.8%). Blacks are generally concentrated in industrial urban areas as well as making up bulk of Tobago's population; East Indians constitute a majority of agricultural workers in western sugar belt; whites, colored,

and other non-Creoles have dominated commercial and professional sector in urban areas.

### 1.12 Languages

English is the official language but three Creole languages, French, and Spanish are also spoken. Trinidad English is a Creole-form language of lower classes but understood by all and popularized by authors, poets, and calypsonians. French has survived as a local patois, spoken mainly in rural areas in the North. English has also been influenced by Spanish - the Creole form of which is spoken in mountain enclaves in the north.

Hindustani, language of the East Indians, has undergone change from Indian Hindi and is largely dying out as a spoken tongue as the younger generation increasingly uses English.

### 1.13 Literacy

The literacy rate is high (95% in 1970) with functional literacy believed to be among highest in Americas. Literacy is not significantly lower in rural than in urban localities.

### 1.14 Religions

The 1970 census found 63% of the population to be Christian, 25% Hindu, 6% Muslim, 6% other. The majority of Christians were either Roman Catholic (33.6%) or Anglican (18.1%), but several other Christian denominations were also present as were the African influenced groups - Shouter and Shango.

## 2. Government

### 2.1 National Government

Trinidad and Tobago became an independent member of the Commonwealth of Nations with dominion status in 1962 and in August 1976, officially became a republic, adopting a new constitution. The former governor general, Ellis Clarke, was sworn in as the country's first president for a five year term (elected by both Houses sitting as electoral college).

A two-house parliament is legislative branch consisting of a Senate of 31 appointed members and a House of Representatives of 36 members chosen by universal adult suffrage for 5 year terms. A Cabinet charged with control of government and responsible to parliament has prime minister (leader of House majority and appointed by president) as head and other appointed ministers (of whom the Attorney General must be one) in number deemed necessary.

The legal system, based on English common law, consists of an Attorney General, a Supreme Court (a High Court of Justice and a Court of Appeal), summary and petty civil courts. Highest appeal is to UK Privy Council.

### 2.2 Political Parties and 1980 Status

The predominantly Black People's National Party (PNM) has been dominant since creation of two-party system in 1956; opposed by the Democratic Labor Party (DLP), a coalition of European and Hindu elements as minority party in legislature until 1971. Several new groups emerged in early 1970's in wake of violent political disturbances. A Commission of Enquiry appointed following 1971 general elections underscored need for reform and presented a revised constitution to Parliament. In general elections of 1976, the PNM retained majority.

The question of internal self-rule for Tobago, which would grant the smaller Island the right to create its own parliament, has become a major issue with Trinidad. In the first elections for that new body in November 1980, the Democratic Action Party, which favors autonomy, won 54% of the vote. A political coalition (United Labor Front), growing out of labor unrest in the sugar, oil, and transport industries, has become the principal opposition party to the ruling PNM.

### 2.3 Regional Organization

There are 8 counties in Trinidad (subdivided into 29 wards); Tobago (divided into 7 parishes) is the 30th ward. Local government, however, is administered by 3 municipalities and 7 county councils. The 3 municipalities -- Port-of-Spain, San Fernando, and Arica -- have elected mayors, aldermen, and councillors with responsibility for conducting local government affairs. The 7 councils, St. George, St. David -- St. Andrew, Nariva -- Mayaro, Caroni, Victoria, St. Patrick, and Tobago, each have one councillor and 3 aldermen representing each electoral district for 3 year terms, while chairmen and vice-chairmen are elected annually. Councils are responsible for maintaining local roads, recreation areas etc.

### 2.4 Key Leaders (April 1981)

President.....	Clarke, Ellis Emmanuel Innocent
Prime Minister.....	Chambers, George
Min. of Agriculture, Lands & Fisheries.....	Chambers, George
Min. of Caribbean Community Affairs.....	de Souza, Mervyn
Min. of Education & Culture.....	Joseph, Cuthbert
Min. of Energy & Energy-Based Industries...	Mahabir, Errol
Min. of External Affairs.....	Donaldson, John S.
Min. of Finance.....	Chambers, George
Min. of Govt. Construction & Maintenance...	Padmore, Overand
Min. of Health & Local Government.....	Mohammed, Kamaluddin
Min. of Industry & Commerce.....	Chambers, George
Min. of Labor, Social Security & Co-ops....	Cartey, Desmond
Min. of Legal Affairs.....	Richardson, Selwyn
Min. Natl. Security.....	Donaldson, John S.
Min. of Public Information.....	Manning, Patrick
Min. of Tobagan Affairs.....	Manning, Patrick
Min. of Transport & Communications.....	Francis, Hugh
Min. in the Office of Education & Culture..	Donewa-McDavidson, Muriel
Min. in the Ministry of Finance.....	Gordon, Marilyn
Min. in the Ministry of Finance.....	Lewis-Phillips, Norma
Min. in the Ministry of Finance.....	Mahabir, Errol
Min. in the Ministry of Finance.....	Manning, Patrick
Min. in the Ministry of Finance.....	Padmore, Overand
Min. in the Ministry of Finance.....	de Souza, Mervyn
Min. in the Office of Industry & Commerce..	Gordon, Marilyn
Min. in the Office of the Prime Minister...	Donewa-McDavidson, Muriel
Attorney General.....	Richardson, Selwyn
Ambassador at Large.....	Pitt, Basil

### 3. Disaster Preparedness

#### 3.1 Host Disaster Plan

A National plan defines responsibilities of government services and voluntary agencies and provides for coordination of disaster assistance. The responsible authority is the National Emergency Relief Organization (NERO) under the Social Welfare Department.

In the event of disasters, the government coordinates relief assistance.

#### 3.2 US Plan

No Mission Plan

#### 3.3 Contact List

Red Cross: Trinidad and Tobago Red Cross, the Regional Community Park, Wrightson Road, Port-of-Spain. Cable: TRINI-CROSS Port-of-Spain. Tel: 62-27220.

Red Cross is assigned responsibility for provision of food, clothing, shelter and personnel. Red Cross has an organized disaster service also at local level. Close contacts with NERO are maintained.

The many voluntary agencies whose cooperation is assured include:

Society of St. Vincent de Paul: Catholic Centre, 10 Conblentz Ave., Cascade, Port-of-Spain. Cable: VINCENPAUL Trinidad. Tel: 6244113.

WCC: Christian Council of Trinidad and Tobago, Diego Martin Road, Diego Martin, Trinidad.

UNDP: 19 Keate Street, Port-of-Spain. Cable: UNDEVPRO Port-of-Spain. Telex: 387 257. Tel: 37056.

### 3.4 Disaster Types

Though Trinidad is generally considered to be south of hurricane path, most frequent disaster types are hurricanes and floods. Trinidad and Tobago also within an earthquake zone. See Seismicity, section 8.7.

Tobago hurricane - 1963; hurricane Alma - 1974; various floods and fires.

#### 4. Population

##### 4.1 National Population

After Barbados, Trinidad and Tobago was the most densely populated of western-hemisphere countries in mid-1970's (498 per square mile in 1974). An enumerated population of 940,719 was arrived at by the 1970 census. A projected estimate for 1977 (US Census Bureau World Population 1977) of 921,000 is considerably lower than estimates of several other sources, some of which put the figure as high as 1,200,000 in 1977.

The birthrate has shown a generally downward trend since 1960 to 28 per 1,000 population in 1976, reflecting, public authorities believe, the country's active family planning program. The crude death rate has shown dramatic decline to 8 per 1,000 population in 1976, while the infant mortality rate (about 80.3 per 1,000 live births in 1950) dropped to 31 per 1,000 live births in 1976. Growth rate was estimated to be 0.2% in 1976\*.

A moderating influence on population growth has been the net emigration of citizens since 1964, reversing prior trend of national growth by immigration. A decline in number of emigrants since 1970 was expected to cause at least a short-run rise in growth rate. About 41.2% of the population was under age 15 in 1970.

\* Another source gives growth rate of 1.0% (1974-75).

##### 4.2 Regional Distribution

Population of Trinidad is heavily concentrated on western lowlands facing Gulf of Paria where good soils and climate for agriculture, easily accessible harbors, and oil fields have encouraged settlement. In 1970, about 90% of the island's population lived in the 4 western counties of St. George, Caroni, Victoria, and St. Patrick. The island's small size and relatively good road system have made commercial expansion beyond western area unnecessary. Urbanization increased rapidly in 1960's, but urban spread into outlying farmland makes a clear distinction between urban and rural populations difficult.

The government has sought to slow pace of urbanization by offering incentives for farmland settlement, and by developing new petroleum and gas fields off east coast that should make that sparsely populated area more attractive for settlement.

The population of Tobago is concentrated in area of Scarborough on the southwestern coral platform. Extensive migration to Trinidad has occurred.

Population By Political Subdivision 1970

<u>Political Subdivision</u>	<u>Population</u>	<u>Percent</u>
Municipalities:		
Port-of-Spain	67,867	7.2
San Fernando	37,313	3.9
Arima	11,792	1.2
Counties:		
Caroni	115,035	12.2
Mayaro	7,900	0.8
Nariva	20,917	2.2
St. Andrew	39,167	4.1
St. David	6,144	0.7
St. George	319,188	33.8
St. Patrick	117,124	12.4
Tobago (ward)	39,280	4.2
Victoria	163,483	17.3
Total	945,210	100.0

## 5. Health, Nutrition and Housing

### 5.1 Health Sector Overview

Death rate and incidence of disease levels approaching those of developed countries. Campaigns against cholera, malaria, and tuberculosis have brought those diseases under control. However, presence of aedes mosquito, vector of yellow fever, necessitates continued active control measures. Use of tuberculosis vaccine halved incidence of disease between 1968 and 1971.

Preventive medicine programs also brought about decline in incidence of such infectious and communicable diseases as influenza, dysentery, whooping cough, and chicken pox between 1962 and 1972. An increase in cases of polio, measles, ophthalmia neonatorum (inflammation of eyes of newborns often leading to blindness) appeared short-term within a general downward trend. Cases of pneumonia and enteric fever showed some increase over the period. Incidence of both yaws and leprosy remains higher than in most tropical countries in the Americas. Venereal diseases showed resurgence in mid-1970's, mainly in urban areas. Streptococcal diseases with severe renal involvement has been a problem in children.

Dengue outbreaks have occurred in recent years as have occasional cases of typhoid fever. Diabetes mellitus and mental illness are serious problems. Anemia, parasitic and respiratory disease, related to poor nutrition are most prevalent among the poor. Cancer, cardiac and vascular diseases are growing in frequency as infectious diseases show decline.

Leading causes of mortality between 1960 and 1970: circulatory diseases, complications of the respiratory system, cancer, diabetes mellitus, gastritis, enteritis, vitamin deficiency diseases and anemia, tuberculosis, and tetanus.

### 5.2 Vital Statistics

Births/1,000 population, 1976	28
Deaths/1,000 population, 1976	8
Infant mortality/1,000 live births, 1976	31
Life expectancy at birth, 1975	67 years

### 5.3 Health Facilities

There were 5,839 hospital beds in 1972, the majority (4,986) in government institutions and 853 in private hospitals. Of the 28 hospitals in the country in 1970, 24 were general and 4 were other types. Two regional hospitals, one in Port-of-Spain and one in San Fernando, provide increasingly specialized services. There is another large hospital in Tobago. County and district hospitals and maternity units make up rest of hospital network. In addition, more than 100 health units throughout the country, staffed with public health personnel and visited weekly by a doctor, provide outpatient preventive and curative services. 4 are located in Port-of-Spain, 1 in San Fernando, 11 in St. Andrew and St. David counties, and 16 in Tobago. A small private St. John ambulance Brigade supplements public health program.

Construction plans for health facilities, with IBRD credit, included in mid-1970's a new 100 bed Mount Hope Maternity Hospital in Port-of-Spain, 31 additional health centers, and expansion of San Fernando Hospital.

### 5.4 Health Personnel

A reported (IDB) 441 medical doctors, 62 dentists, and 2,815 graduate and auxiliary nurses were in practice during 1972. In 1971, about three fifths of doctors, one-third of dentists, and a majority of graduate and auxiliary nurses staffed government institutions. Large majorities of doctors and other medical personnel in private practice were concentrated in heavily urbanized western area of Trinidad. Other health personnel by categories per 100,000 population (about 1970): 289 pharmacists; 10 laboratory technicians; 23 x-ray technicians; 15 nutritionists and dietitians; 3 sanitary engineers; 97 sanitary inspectors; 18 veterinarians.

Large-scale migration of professionals and skilled workers in 1960's and early 1970's has seriously affected medical field. The shortage of doctors and dentists in 1970's was seen also as a consequence of the absence of training facilities.

### 5.5 Diet (Minimum Daily Requirement/Recommended Daily Allowance)

Calories: 2,429

<u>Carbohydra</u>	<u>Protein</u>	<u>Fat</u>	<u>Calc</u>	<u>Phos</u>	<u>Iron</u>	<u>Sodium</u>	<u>Pot</u>	<u>Vit-A</u>
273.3g	42.1g	121.5g	800mg	800mg	14mg	-	-	-

### 5.6 Food and Drink

**Starches:** rice (staple of all ethnic groups), wheat (in bread form by Blacks and in roti pancakes by East Indians), maize, sweet potatoes, cassava, yams, taro (locally dasheen), plantains; white potato consumption increasing

**Vegetables:** callaloo (green leafy vegetable), eggplants (locally melongenes), onions, pumpkins, cabbages, canned peas, vegetable soup; vegetable consumption quite low

**Fruits:** oranges, bananas, grapefruit, mangoes, pineapples, coconuts. Imported apples, pears, peaches, grapes are holiday specialties

**Meat:** beef and pork most popular; also poultry. See Food Habits and Taboos, section 5.8.

**Fat:** primarily coconut oil; some animal fats and butter

**Dairy:** milk, eggs; consumption of both increasing

**Legumes:** pigeon peas, groundnuts, seeds; consumption highest among East Indians

**Fish:** fresh fish, shellfish, imported salt cod, tinned salmon, sardines. Fish consumption high among East Indians; otherwise quite low

**Other:** sugar, spices (curry popular); angostura bitters produced only by Trinidad and used frequently for flavoring

**Beverages:** milk, coffee, cocoa, soft drinks, ginger beer, fruit juices, beer, and locally produced rum

### 5.7 Meals

**Morning:** bread, coffee or cocoa, occasionally eggs

**Noon:** meat, rice, a green vegetable, fruit, beverage

**Evening:** dinner served late in day is similar to lunch

### 5.8 Food Habits and Taboos

Ethnic preferences, religious restrictions, and income levels govern food choices. Hindus eat no beef and little meat, generally preferring fish and dried legumes. Pork is prohibited for Moslems who eat as much beef as Blacks and somewhat more fish. Cereal consumption is generally high with rice a common staple among all groups.

### 5.9 Nutrition

Malnutrition appears to be limited to pockets of the population and is believed to be caused in part by local food habits and traditional patterns of living. While nutritional standards are lowest among low income groups, they are reported to be higher than those of corresponding groups in most other developing countries. High cereal consumption, low intake of green and yellow vegetables, especially among lower income groups; frequent deficiencies of vitamin A, riboflavin, and iron. Anemia occurs most frequently in women and children. About 19% of population of Tobago is afflicted with goiter. PEM occurs most frequently in suburbs of Port-of-Spain, San Fernando, and Sangre Grande.

### 5.10 Housing

Population growth and need to replace substandard housing were factors in housing shortages in early 1970's. National Housing Authority under Ministry of Housing is central housing agency.

Most dwellings are small (rarely more than 3 rooms, exclusive of kitchens, bathrooms, storage areas). Rural occupancy rates are generally higher than urban with that of East Indian families slightly higher (5.2 urban; 6.4 rural) per dwelling than that of Black population (4.9 urban; 5.2 rural).

Public services distribution is among highest in Latin America and Caribbean area. 83% of urban and 40% of rural population, according to PAHO report in 1970, had indoor piping; most others had access to public water supplies. Water is generally safe to drink but shortages may occur in dry season. Only 17% of population, nearly all urban, lived in dwellings with sewer connections in 1970, although expansion of facilities was occurring. Sewerage systems serve Port-of-Spain, San Fernando, Arim and some surrounding suburbs, and oil field areas in mid-1970's. Nearly all urban dwellings have electricity; service is being extended to rural areas.

**Urban:**

A variety of styles exists. Older homes are often built of wood; most new buildings are single-story dwellings of concrete and tile. High rise apartments have frequently replaced old buildings in slum clearance. New units in government-assisted low income projects are of concrete; older homes of poor usually with corrugated metal roofs and plank flooring. Squatter shantytown units (about 3% of total housing) are built of scrap materials but many have windows and about one-third have electricity.

**Rural:**

The more common rural dwelling has a mud or slab floor, a thatched or metal roof, walls of wattle filled with mud-grass mixture, and a separate kitchen and pit latrine. Kerosene lighting is usual where electricity is not available.

## 6. Economy

### 6.1 Overview of Economy

Petroleum production and refining account for major share of exports and government revenues. Production levels from on-shore oil wells fell toward end of 1960's but the discovery of new off-shore fields and natural gas sources brought about renewed expansion of the industry while higher international prices brought large increases in exports and revenues. The government planned to use these revenues to lower unemployment rate (14% in 1977) by creating new jobs, and to combat inflation (12.4% in 1977).

In addition to oil production (229,081 b/d average in 1977), much of it now from Amoco field off southeast coast, the petroleum industry includes a large oil refining complex which processes imported crude oil (75% of total refined) for reexporting. Natural gas from east coast fields with proven reserves for about 20 years (as of 1975) is to be piped to Point Lisas Industrial Port Development Corporation (PLIPDECO) on west coast where it will be used in such projects as an electricity generating station, a smelting complex, and several petrochemical industries. Trinidad's other major mining product is asphalt extracted from a pitch lake at La Brea.

Manufacturing, which prior to 1950 was generally limited to secondary industries from local agricultural products, had expanded by 1975 to include over 600 factories producing more than 400 categories of goods, many of them import substitution items. With the exception of sugar and petroleum products, 90% of manufactured goods are used locally, those exported going mainly to CARICOM countries. Government housing projects and factory building have stimulated the construction industry, and development of the tourist industry has received increased attention and encouragement from the government in recent years.

Government control of the economy is considerable (second only to Cuba in Caribbean) and includes investment (major share) in the sugar industry and ownership of 2 large petroleum companies as well as several other companies.

Trinidad and Tobago is committed to concept of regional economic integration and is founder member of Caribbean Community and Common Market (CARICOM).

## 6.2 GNP and GDP

GNP at 1976 market prices: \$2,400 million; \$2,190 per capita.. GNP per capita (real) growth rate for 1960-76 and 1970-76: 1.6% and -1.2% respectively.

Source: World Bank Atlas 1978.

Note: GNP at market prices rounded to US \$ tens of millions. GNP per capita rounded to nearest US \$10

1977 estimate of GDP: \$3,159 million; per capita \$3,060. By sector: mining and petroleum 49%; manufacturing 6%; agriculture 4%; other 41%. Growth rate for 1977 was estimated to be 7.7%.

Source: CIA, National Basic Intelligence Factbook, 1978

## 6.3 Imports

Balance of trade was favorable in 1974, 1975, and 1976. Crude oil accounts for about half of all imports by value. Such foods as cereals, dairy and meat products constituted 24% of imports in 1974. Other imports were mining, construction, and industrial machinery (5-7%), motor vehicles (about 3%), electrical machinery (2-3%), iron and steel and paper products (2%). Total value of imports (1977): \$1.8 billion (c.i.f.).

Leading trade partners in 1976 were U.S. (principal supplier), U.K., Japan, Canada, Commonwealth Caribbean, and Venezuela. Other countries supplying significant amounts of imports have been Indonesia (petroleum), Ecuador, Nigeria, The Federal Republic of Germany, New Zealand, Guyana, and the Netherlands.

## 6.4 Exports

The leading export is petroleum and its derivative products which by 1970's accounted for between 80 and 83% of all annual exports -- much of it reexports of processed petroleum. Sugar is the second leading export, accounting for 4 to 5% of total in early 1970's. Other important exports: chemicals, fertilizers, cosmetics, paper goods, clothing and footwear, coffee, citrus, and cacao. Total value of exports (1977): \$2.2 billion (f.o.b.).

Trade partners include U.S. (principal market for exports of petroleum products), Sweden, U.K., Guyana, Jamaica (CARICOM members are markets for manufactured goods), Canada, and the Netherlands.

## 7. Agriculture

### 7.1 Overview of Agriculture

Agricultural production has not kept pace with population growth and large quantities of foodstuffs must be imported. For many farmers, agriculture is a secondary source of income. In the hope of boosting local production, the government has provided loans, subsidies, and a system of guaranteed prices to farmers as incentives.

Holdings tend to be either large, modern estates producing such cash crops as sugar, cacao, and citrus or small, low-yielding farms growing food crops of rice, peas, beans, yams, corn, garden vegetables, and fruit. 1963 agricultural census put total number of farms at 35,800, occupying over 531,000 acres or 42% of local land area. The majority (25,800) of farms were between 1 and 9 acres on total acreage of 94,700; 42 farms of over 1,000 acres totaled 131,000 acres. The government owns 588,000 acres on Trinidad and nearly 13,000 acres on Tobago -- much of it in forest reserves.

Land settlement programs have provided small farms for settlers since 1934; recent government programs (since 1965) under the Crown Land Development Project have established more productive medium size farms and provided such inputs as fertilizers and seeds at cost or on credit with generally increased yields.

Traditional techniques in agriculture predominate, mechanization being used mainly on large estates. Many farmers practice monoculture.

### 7.2 Crops

Sugarcane, the most important cash crop, is grown almost entirely in Caroni and Victoria counties on total acreage varying between 90,000 and 112,000. Three large companies (1 government owned, one privately owned, and 1 jointly owned) are major producers, although thousands of small-scale farmers whose numbers are declining also grow sugarcane. The industry (growing and processing) employs about 17,000 people. Sugar is produced between January and June, and yields, which vary with weather and other conditions, totaled 200,400 tons in 1976.

Cacao trees occupy about 100,000 acres, about half of which is owned by smallholders, although over 80% of total output is from large farms. Cacao is grown in Central Range and surrounding hilly districts in Trinidad and is leading crop on Tobago. Yields vary greatly, depending on soils

and weather. Total exports (1976): 7,163,000 lbs. Bananas are grown intercropped with cocoa as is coffee in limited areas.

Citrus, mainly oranges and grapefruit, is cultivated on about 11,000 acres. Whole fruit, juices, and preserves are exported. Crates of citrus fruit exported in 1976 totaled 394,800.

Coconuts, second most important cash crop in Tobago and also grown in coastal regions of Trinidad, are planted on 40,000 acres, with bulk of production from estates. The entire crop of copra (9,000 tons in 1976) goes to local manufacture of oil and other products.

Rice, a subsistence crop of small farmers, occupying over 20,000 acres with an annual yield of about 12,000 tons, is not grown in sufficient quantity to meet local demand. The main crop is grown during the wet season between June and December.

Tobacco, a wide variety of vegetables, and honey are other agricultural products.

### 7.3 Livestock

The government has promoted growth of the livestock sector, particularly beef and dairy cattle, but domestic output of beef and dairy products does not presently meet demand. Pork production had regained pre-1973 levels (when hog cholera hit the industry) by 1975. Poultry industry has shown greatest growth with the country now self-sufficient in poultry meat and eggs.

### 7.4 Fishing

The annual catch of about 13,000 tons (more than half of which is exported) does not meet local demand. To stimulate the fishing industry, the government has subsidized fishermen for fuel used in their boats, operated a fish farm, and, through the Fisheries Development Fund, financed modern fishing methods and facilities.

### 7.5 Forestry

About 43-45% of land surface is forested but much is state-owned and kept in reserves. More than half of the high local demand for

timber is met by imports. Total production of wood in early 1970's was about 4.9 million cubic feet. Annual exports of about 1 million board feet is mainly in cedar.

#### 7.6 Imports and Exports

See Imports and Exports, sections 6.3., 6.4.

## 8. Physical Geography

### 8.1 Climate

Trinidad's tropical climate is modified by ocean environment and prevailing northeasterly trade winds. Seasonal variation of temperature is only 5° F. Days are generally warm (mean day time temperature 82° F) with temperatures declining in the evening (mean night time temperature 74° F). The annual mean temperature is 78° F with range from maximum 92° F (day) to 64° F (night). Tobago's smaller size allows greater exposure to trade winds' cooling effect. Humidity is generally high, especially in morning when it averages 85-87%.

A dry season occurs from January to May; the June to December wet season is often interrupted briefly in September. (Monthly precipitation in rainy season exceeds that of dry season by margin of 3 or 4 to 1). Rainfall varies considerably by region as well as from year to year. Both damaging droughts and floods may occur. Annual total precipitation for eastern lowlands ranged from 71.7 inches to 115.0 inches between 1962-72, while range for western belt was 59.3 inches to 77 inches. Highest precipitation occurs at highest altitudes of Northern Range which may receive 150 inches a year in a cycle which does not include a dry spell. Tobago's rainfall is greatest in the northwest, lowest in south-western coral platform where water shortages frequently occur.

Trinidad and Tobago is below most hurricane tracks; however, damaging hurricanes have occasionally diverted from usual track. Violent local storms may also occur. See Disaster History, section 3.4.

### 8.2 Landforms

Trinidad is most southerly of West Indies islands but geologically a detached part of South American continent, separated from it (Venezuela) by Gulf of Paria. It lies between latitudes 10°3' and 10°50' N and longitudes 60°55' and 61°56' W, has land area of about 1,865 square miles, extending E-W 35 to 60 miles and N-S an average of about 60 miles. Tobago, in latitude 11°9' N and longitude 60°40' W, is north-east of and separated from Trinidad by a 21 mile channel. Tobago 25 miles long and 7 miles wide for a total area of 116 square miles.

Trinidad has 3 parallel mountain ranges running W-E which are a continuation of Venezuelan coastal cordillera. The Northern Range rises steeply as cliffs from north coast, covers entire northern part of island, and has highest peak, el Cerro del Aripo, with elevation of 3,085 feet.

The Caroni Plain (most extensive lowland), made up of alluvial sediment from regional rivers, extends south between Northern Range and Central Range which runs SW-NE at average elevations of 200 to 500', and reaching maximum height of 1,009'. The hilly country surrounding Central Range is cut into by valleys of the Oropuche and Ortoire Rivers, the former flowing to west coast and forming Oropuche Lagoon and the latter flowing into Nariva Swamp (largest mangrove swamp). A discontinuous Southern Range reaches altitudes of less than 1,000' in Trinity Hills.

Tobago is mountainous in center and northeast of island where the Main Ridge, 18 miles long, has maximum elevation of about 1,800'. Deep fertile valleys are found in lower hills south of Main Ridge, and an extensive coral platform makes up southwestern part of the island.

### 8.3 Land Use

41.9% is in agricultural use (25.7% cropped or fallow, 1.5% pasture, 10.6% forests, and 4.1% unused or built on); 58.1% outside of farms includes grassland, forest, built-up area, and wasteland.

### 8.4 Waterways

Numerous rivers and streams in Trinidad (none navigable) provide generally good drainage, mostly through swamplands; flooding often occurs during heavy seasonal rains. Only two rivers are of significant length: the Ortoire, 31 miles long, extends eastward to Atlantic Ocean in the south; the Caroni, 25 miles long, runs westward to Gulf of Paria in the north, and ends in mangrove swamp which stretches well into interior. The Courland River in Tobago flows westward into Caribbean Sea between coral platform and the Main Ridge. The island's numerous small rivers cause less flooding and erosion than do those of Trinidad.

### 8.5 Coast

Trinidad's only good harbors are on the western coast. Heavily indented north coast has no coastal plain and bays are rockbound. Shallow coastal waters and bays too narrow for shipping characterize south coast, while the east coast is almost unapproachable because of dangerous Atlantic Ocean currents.

There are several small harbors and numerous inlets and sheltered beaches along Tobago's coast but only one important port in Scarborough.

### 8.6 Mountains

The faultblock mountains of Trinidad and Tobago, a continuation of Cordilleras of Western South America, form a linear pattern in the Northern Range. This range, deeply incised and covered with tropical rain and montane forests, is almost inaccessible, and crossed only by two winding roads with steep gradients. Tropical rain forest which covers the Southern Range, discouraging settlement, is also characteristic of Tobago's Main Ridge. See Landforms, section 8.2.

### 8.7 Seismicity

Trinidad and Tobago lies within circum -- Caribbean earthquake belt and earth tremors are common. The frequency of damaging earthquakes, based on total historical record, average 14 for Port-of-Spain per century.\* An important seismic laboratory is maintained by the University of the West Indies at St. Augustine.

\* John Tomblin. Geological Hazards in the Caribbean. 6-9 March 1978.

## 9. Transportation and Logistics

### 9.1 Road Network

Road network totals about 4,500 miles: 1,750 miles of main roads maintained by Works Department, 2,600 miles of local roads maintained by the Ministry of Local Government, and a small balance maintained by local governments. Of the 4,000 miles of road considered "all weather", about 2,500 miles are paved. Surfacing of unpaved roads is gradually occurring, but poor road conditions in many areas contribute to a high accident rate.

### 9.2 Vehicles

Registered vehicles in 1976: 94,261 private cars, 10,717 hired and rented cars, 932 buses, 20,968 goods vehicles, 6,947 tractors and trailers, 4,162 motorcycles. Vehicles have right hand drive.

### 9.3 Railway

Railway service was discontinued in 1968.

### 9.4 Ports

Most ports (Trinidad has 8 and Tobago 1) are special use, seaports. Port-of-Spain, principal port for general cargo and refrigerated goods, provides bunkering for ships traveling between North and South America. Very large ships must anchor at a distance and use lighters for unloading. Congestion is also a problem; ships may have to spend up to 10 days waiting for a berth, although on-going development should alleviate problem. Warehouse space was considered inadequate as of 1975.

Other ports and their special use: Point-a-Pierre (lat. 10°20' N; long. 61°30' W) -- port of entry; Point Fortin (lat. 10°10' N; long. 61°42' W -- southernmost port of island) -- petroleum importing and exporting; Brighton (lat. 10°15' N; long. 61°38' W on south side of Gulf of Paria) -- asphalt shipping; Chaguaramus (lat. 10°41 1/2' N; long. 61°38' W. Chaguaramus Bay) -- port of entry; Tembladora (lat. 10°41' N; long. 61°36' W, 8 km northwest of Port-of-Spain) -- transshipment of bauxite from Guyana and Surinam; Point Lisas (lat. 10°22' N; long. 61°29' W,

privately owned by the authority) -- importing of sulfur and exporting of fertilizer, liquid ammonia, sulfuric acid, sugar, and molasses.

#### Port of Spain

Coordinates: Lat. 10°38' N; long. 61°32' W. Capital city and main Port of Entry.

Accommodation: 4.8 km from shore for vessels of unlimited tonnage. The approach to the King's Wharf and its Extension is through the Grier Channel and basin where a depth of 9.75 m at M.L.W.O.S.T. is maintained; vessels up to 8.99 m are handled at L.W.R. of T. Springs rise 1.12 m neaps 0.91 m.

Ships lie either at anchorage or alongside the wharves. King's Wharf and King's Wharf Extension provide berthing for eight large vessels and three small coasters. No. 1 berth, at E end of the Grier Basin, has a turning space of only 213.4 m and only cruise vessels of 160 m and under can be berthed in this area. Larger cruise vessels, when accepted, are berthed at Nos. 6 and 7 at King's Wharf Extension. There is a public warehouse at the King's Wharf Extension.

Development: Container port between berth 6 and shed 7 being constructed. It is envisaged that Port-of-Spain will become a break bulk port for Brazil, Argentina, Venezuela and the Southern Caribbean area.

Container and Ro/Ro Facilities: Berth No. 6 is suitable for container vessels.

Shiprepairs: Several firms available to undertake any type of ocean going ships' repairs afloat. No dry dock for ships over 800 tons displ.

Towage: Two 1,200 h.p. and one 800 h.p. tugs available for berthing.

Pilotage: Compulsory.

Airport: Piarco International Airport 25.6 km.

#### Scarborough, Tobago

Coordinates: Lat. 11°11' N; long. 60°44' W.

Accommodation: Depth at entrance about 27.5 m; good anchorage in 14 to 18 m. No wharfage for ocean-going vessels. Wharf 150.6 m long for coastal craft up to 4.57 m.

Pilotage: Not compulsory. By agreement.

### 9.5 Shipping

Port Authority of Trinidad and Tobago: Wightson Rd., Port-of-Spain.  
West Indies Shipping Service: c/o West Indies Shipping Corporation, 1 Richmond St., Port-of-Spain.

Chief foreign shipping lines which call at Port-of-Spain: Atlantic Lines, Booker Line, Booth Line, CGM Line, Caribbean Overseas Lines, Cia., Anonima Venezolana de Navegacion, Columbus Line, Furness Lines, Hamburg-America Line, Hapag-Lloyd, Harrison Line, K Line, P. and O. Orient Lines, Presidential Grace Line, Royal Netherlands Steamship Co., Saguenay Shipping Ltd. and Surinam Navigation.

### 9.6 Airports

Two major airports serve the country. Piarco International is located 17 miles east of Port-of-Spain, operates 24 hours, and can accommodate all aircraft. Remodeling and expansion projects were due for completion in 1978. Crown Point Airport on Tobago also handles night flights.

NB: For up-to-date information consult latest issue of weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

PORT-OF-SPAIN  
Piarco  
Trinidad

<u>Location</u>	<u>Eleva- tion M/ Temp C</u>	<u>Runway Characteristics</u>					
		<u>NR/Type</u>	<u>Slope %</u>	<u>Aircraft/ Length M</u>	<u>CL</u>	<u>Aircraft/ Strength (1,000 kg)</u>	<u>Fuel/ Octane</u>
10°35'35" W	14	10/28	n.a.	3050	A	AUW 165	100JA2
61°20'55" W	31.6						

Remarks: REG S; alternate aerodromes: Bridgetown/Grantley Adams Int'l, Caracas/Maiquetia-Simon Bolivar Int'l, Fort-De-France/Le Lamentin, Georgetown/Timehri Int'l, Pointe-A-Pitre/Le Raizet, St. Johns/Coolidge, San Juan/Puerto Rico Int'l, Scarborough/Crown Point, Willemstad/Dr. A. Plesmon.

Aids: ILS(10-1), DME, VOR, PA(P3), SA(10), VA(P0), LR, LTX, LB, LO, MD, MC, MTD, MS, MTX, MO(P3). L 569. No telex. (See Appendix I for key).

SCARBOROUGH/  
Crown Point  
Tobago

Location Coordinates	Eleva- tion M/ Temp C	Runway Characteristics				Fuel/ Octane
		NR/Type	Slope %	Aircraft/ Length M	Aircraft/ Strength (1,000 kg)	
11°08'42" N 60°50'27" W	3 27	10/28	n.a.	1980	AUW 120	

Remarks: REG S; alternate aerodromes: Bridgetown/Grantley Adams Int'l, Port-of-Spain/Piarco.

Aids: LR, LO, MD, MC, MT, MO. L 49. No telex. (See Appendix I for key).

### 9.7 Personal Entry Requirements

Passport required. Visa is not required for tourists for up to 6 months.

Vaccination - See Visa and Travel, section 1.9.

### 9.8 Aircraft Entry Requirements

All private and non-scheduled commercial aircraft overflying or landing for non-commercial purposes need not obtain prior permission. However, a flight plan must be on file and radio contact must be made with ATC authorities prior to crossing into the airspace of Trinidad and Tobago (Piarco Control Area).

All non-scheduled commercial aircraft landing for commercial purposes must obtain prior permission from the Department of Civil Aviation, P.O. Box 552, 8 Melville Lane, Port-of-Spain, Trinidad (telegraphic address: CIVILAV TRINIDAD/TELEX: None) at least 60 days prior to departure for passenger charter flights and 30 days prior to departure for cargo flights. All requests must include all pertinent information concerning the flight, and for passenger flights, include (a) a copy of the charter contact, (b) a complete passenger list giving names, addresses and passport numbers, (c) a bond or irrevocable letter of credit executed in the favor of the Director of Civil Aviation for a sum equal to the prevailing one-way air fare between the point of the flight's origin and the point of the flight's destination for all passengers.

#### Special Notices

All aircraft inbound to Trinidad and Tobago requiring fuel must notify the Department of Civil Aviation of fuel type and amount desired for approval at least 72 hours prior to departure.

#### 9.9 Airlines

Domestic: Trinidad and Tobago Air Services (TITAS): 37 Wrightson Rd., Port-of-Spain; f. 1974; services between Trinidad and Tobago; fleet of 2 Avro 748 and 1 DC-6.

British West Indian Airways (BWIA): Kent House, Maraval Rd., Port-of-Spain; incorporated 1948; owned by the Government of Trinidad and Tobago; points served include Trinidad, Tobago, Antigua, Barbados, St. Lucia, Puerto Rico, Jamaica, Surinam, Guyana, Caracas, New York, Toronto, Miami and London; fleet of 7 Boeing 707 and 3 DC-9.

Foreign: The following airlines serve Trinidad and Tobago: Air Canada, Air France, ALM (Netherlands Antilles), British Airways, Cubana, Eastern (USA), KLM, LAV (Venezuela), LIAT (Antigua), Pan Am, SAS, and Viasa (Venezuela).

9.10 Air Distances

From Port-of-Spain, Trinidad to:	<u>Statute Miles</u>
Houston (via New Orleans, Miami, Haiti).....	2,611
Miami (via Haiti).....	1,632
New Orleans (via Miami).....	2,301
New York.....	2,219
Panama City (via Caracas).....	1,234
Washington, D.C. (via Grenada, St. Vincent, St. Lucia, San Juan).....	2,266

## 10. Power and Communications

### 10.1 Electric Power

Both per capita installed capacity and per capita output are highest in all of Latin America. Almost all electricity is generated by natural gas, there being virtually no hydropotential. Except for a few small plants generating electricity for private use, the government-owned Trinidad and Tobago Electricity Commission supplies all electricity.

All communities in Tobago and 85% of Trinidad had access to electricity in 1974, and there were plans for extension of the national grid. There are 3 power stations in Trinidad (at Port-of-Spain, Penal, and Port Lisas) and a standby plant in Tobago.

The Commission, which supplies only single and three-phase 60 cycle alternating current with a variety of voltage characteristics, should be consulted by potential users to determine particular characteristics of service to be supplied.

Total generating capacity in 1977 was 375,000 kW; 1.3 billion kWh were produced; kWh per capita was 1,250.

### 10.2 Radio Network

An estimated 293,000 radio receivers were in use in mid-1970's.

Radio Trinidad -- owned and operated by Trinidad Broadcasting Company, Ltd.: Broadcasting House, 11 B Maraval Rd., Port-of-Spain; subsidiary of Rediffusion of London. Frequency and power: 730 KC/S; 95.1 MC/S (20 KW AM; 4 KW FM). Transmissions: 05:30 - 24:00 local time. Coverage: Trinidad and Tobago, the Windward and Leeward Islands.

Radio 610 -- owned and operated by the Government of Trinidad and Tobago; 17 Abercromby St., Port-of-Spain. Frequency and power: 610 KC/S; 98.9 MC/S (10 KW AM; 250 W FM). Transmissions: 05:30 - 24:00 local time. Coverage: 360' rotating aerial gives effective coverage of over 1,000 miles.

### 10.3 Telephone System

The government-owned Trinidad and Tobago Telephone Company (TELCO) provides domestic telephone (automatic subscriber trunk dialing) and telex service. There are an estimated 30,400 telephones in use (6.6 per 100 population).

All international services (telex, telegraph, telephone, and ship to shore) are provided by Trinidad and Tobago External Telecommunications Ltd. (TEXTEL), owned jointly by the government and Cable and Wireless (W.I.) Ltd. Connections with Europe and North America are by satellite, with Caribbean islands and neighboring mainland countries by a microwave system, and with other areas by very high frequency radio.

### 10.4 Television

Trinidad and Tobago Television Co. Ltd.: Television House, Maraval Rd., Port-of-Spain. The station jointly owned by the Columbia Broadcasting Co. of the USA (10%) and the Trinidad government (90%). Broadcasts 73 hours weekly (in mid-1970's) and provides a variety of programming. All of Trinidad and Tobago is within receiving range. The number of sets in 1977 was 125,000.

KeyAbbreviations

INSTR	Instrument Approach Runway
N-INSTR	Non-Instrument Runway
PA I	Precision Approach Runway Category I
PA II	Precision Approach Runway Category II
REG-NS	Intl Non-Scheduled Air Transport, Regular Use
REG-S	International Scheduled Air Transport, Regular Use

Radio Aids

ILS	Instrument Landing System
DME	Distance Measuring Equipment
VOR	VHF Omni-Directional Range
RL	Radio Locator

Lighting Aids

LPA	Precision Approach Lighting System
LSA	Simple Approach Lighting System
LVA	Visual Approach Slope Indicator System
LAV	Abbreviated Approach Slope Indicator System
LR	Runway Edge, Threshold & Runway End Lighting
LC	Runway Center Line Lighting
LTD	Runway Touchdown Zone Lighting
LTX	Taxiway Lighting
LB	Aerodrome or Identification Beacon
LO	Obstruction Lighting

Marking Aids

MD	Runway Designation Markings
MC	Runway Center Line Markings
MT	Runway Threshold Markings
MTD	Runway Touchdown Markings
MS	Runway Sidestripe Markings
MFD	Fixed Distance Markings
MTX	Taxiway Center Line & Holding Position Markings
MO	Obstruction Markings

Runway Surface and Length

H	Hard Surface (numbers = ft. in hundreds)
S	Non-Hard Surface (number = ft. in hundreds)

Additional Lighting

- L1 Portable Runway Lights (electrical)
- L2 Boundary Lights
- L3 Runway Flood Lights
- L4 Low Intensity Runway Lights
- L5 Low Intensity Approach Lights
- L6 High Intensity Runway Lights
- L7 High Intensity Approach Lights
- L8 Sequenced Flashing Lights
- L9 Visual Approach Slope Indicator (VASI)

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