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Countries of the Caribbean Community

A Regional Profile

1982

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

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The Caribbean



COUNTRIES OF THE CARIBBEAN COMMUNITY

A Regional Profile

prepared for

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

by

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This profile of the CARICOM member countries continues the series designed to provide baseline country data in support of the planning and relief operations of the Office of U.S. Foreign Disaster Assistance (OFDA). The content, scope, and sources have evolved over the course of the last several years, and no doubt will continue to do so. The relatively narrow focus is intentional. To avoid redundancy, some topics one might expect to find in a "country profile" are not covered here.

If the information provided can also be useful to others in the disaster assistance and development communities, so much the better. Every effort is made to obtain current, reliable data; unfortunately it is not possible to issue updates as fast as changes would warrant. A cautionary note, therefore, to the reader: statistics are indicators at best, and if names and numbers matter, the bibliography will point to a current source.

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

February 1983

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This profile focuses on eleven English-speaking countries in the Caribbean: the eight independent countries of Trinidad and Tobago, Guyana, St. Vincent and the Grenadines, Barbados, Grenada, Belize, Dominica, and St. Lucia; the two Associated States of Antigua and Barbuda and St. Kitts-Nevis-Anguilla; and the crown colony of Montserrat. All share a common British Colonial heritage of language and culture, and all except Grenada, which has a socialist form of government, maintain British democratic traditions.

With the exception of Belize in eastern Central America and Guyana in northeastern South America, all are islands. Trinidad, the largest island, is geologically part of the South American continent. Those islands in the outer chain of the Lesser Antilles (from Anguilla to Barbados) are low-lying, relatively arid, and of coral formation; those in the inner chains 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 evidenced by frequent earthquakes, the epicenters of which are located throughout the entire Antillean arc. Volcanic activity is limited to the inner arc of the islands.

In general, the population is racially heterogeneous and descended from an early plantation society. Blacks predominate in the Lesser Antilles; Asian Indians make up a large percentage of the population of Guyana and Trinidad; whites, Amerindians, and others are small minorities. Population densities vary, but the ratio of labor to arable land is high in all countries except Belize and Guyana. Birth and death rates have generally been declining; continued high rates of emigration have 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 matri-focal with women as wage earners and heads of families - a situation thought to adversely affect the 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 foreign trade, and uneven distribution of resources resulting in a dichotomy of more/less developed countries. Industry, relatively undeveloped, is concentrated in those countries with mineral resources (Guyana and Trinidad and Tobago have bauxite, alumina, and petroleum). Tourism is a valuable foreign exchange earner in many of the islands, although recently the industry has felt the effects of the worldwide recession. Agriculture, the traditional mainstay of the Caribbean economies, is still the most important productive sector with sugar, bananas, cocoa, citrus, fruit, and spices the principal crops. However, agriculture has not realized its potential, as output and farm employment have been declining due in

part to both 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 Caribbean countries. The eleven countries included in this profile (in addition to Jamaica which appears in a separate profile) comprise the membership of CARICOM. All are committed to the concept of regional integration as embodied in this organization. Although the movement has been slowed by economic difficulties experienced by member countries in the 1970s, modest progress toward integration has been made as a consequence of trade and monetary arrangements.

1. General Information1.1 Geographic Codes

AID	541
FIPS	AC
State region	ARA

1.2 Country Names

Official	Associated State of Antigua and Barbuda
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 11
Carnival.....	August 1-2
State Day.....	November 1
Christmas Day.....	December 25
Boxing Day.....	December 26

* variable dates

Early closing day - Thursday.

1.4 Currency (December 1982)

East Caribbean Dollar: EC \$ 2.50 = US \$ 1.00

1.5 Time Zones

EST + 1; GMT - 4

1.6 Host Mission and Staff in U.S.(August 1982)

Embassy of Antigua and Barbuda
2000 N Street, NW
Suite 601
Washington, D.C. 20036
Telephone: (202) 296-6310, 11, 12

Ambassador.....Edmund Hawkins Lake

1.7 U.S. Mission and Staff in Antigua and Barbuda (September 1982)

Embassy of the United States
FPO Miami 34054
Telephone: AC 809-462-3506

Ambassador.....Milan D. Bish (resident in
Bridgetown, Barbados)
Charge d'Affairs.....Norman M. Bouton
Consul, Consular Section.....Bryant J. Salter
Administration Section.....James Copeland

The U.S. Embassy in Antigua and Barbuda also serves as the Embassy for St. Kitts-Nevis-Anguilla and Montserrat.

1.8 International Organization Memberships

Member of CARICOM, ISO, IMF

1.9 Travel and Visa Information

Passport and visa not required for stays of 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.

1.10 Ethnic and Sociocultural Groups

Nearly all Antiguan are of black African descent.

1.11 Languages

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

1.12 Religions

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

1.13 Education and Literacy

The literacy level is high at about 80%. However, there is a shortage of skilled technicians and professional workers.

2. Government

2.1 National Government

Antigua, and its sparsely populated sister island Barbuda, became a single independent nation on November 1, 1967 bringing to an end 350 years of British rule. Prior to Independence, Antigua's status was that of a dependent territory. However, it had been largely self-governing since 1967 when it became a member of the West Indies Associated States.

The exercise of government is provided for through a Parliament consisting of an appointed Senate of 10 members and an elected House of Representatives of 17 members. General elections are held every five years. Executive power is vested in a Cabinet headed by a Prime Minister.

2.2 Regional Organization

Antigua and Barbuda is divided into six parishes, the island of Barbuda, and the small uninhabited island of Redonda. The parishes are St. John, St. George, St. Mary, St. Peter, St. Phillip, and St. Paul.

There is only one local government authority which serves the sister island of Barbuda.

2.3 Major Government Figures (November 1982)

Governor General.....	Jacobs, Wilfred E., Sir
Prime Minister.....	Bird, Vere C., Sr.
Deputy Prime Minister.....	Bird, Lester
Min. of Agriculture, Lands & Fisheries.....	Yearwood, Robin
Min. of Labor, Housing, Cooperatives & Development Control Authority.....	Freeland, Adolphus
Min. of Economic Development, Tourism & Energy.....	Bird, Lester
Min. of Education, Culture & Youth Affairs..	Harris, Reuben
Min. of External Affairs.....	Bird, Lester
Min. of Finance.....	Bird, Vere C., Sr.
Min. of Local Affairs.....	Myers, Joseph
Min. of Legal Affairs.....	Ford, Keith
Min. of Public Works & Communications.....	St. Luce, John
Min. of State for Public Works and Public Utilities.....	Humphreys, Hilroy

3. Disaster Preparedness3.1 Host Disaster Plan

Emergency operations are coordinated through a Central Disaster Committee co-chaired by the Minister and Permanent Secretary of Health. The Disaster Committee comprises the following:

- All Permanent Secretaries
- Chief Establishment Officer
- Commissioner of Police
- Chief Medical Officer
- Director, Meteorological Service
- Aerodrome Superintendent
- Harbor Master
- Broadcasting Officer
- Warden, Barbuda
- Officer-in-Charge, Barbuda Police Station
- Chairman, Regional Committee
- Chairman, St. John's Committee
- Two representatives of the Antigua Red Cross
- One representative of the St. John's Ambulance Brigade
- Commanding Officer, Antigua Defense Force
- General Manager, Antigua Public Utilities Authority
- Representative, Disaster Relief, Emergency, and Welfare

The Ministry of External Affairs will act as the clearinghouse for all offers of assistance from abroad.

Community councils will function as the local emergency relief committee for their respective villages. The city of St. Johns has a special appointed Emergency Relief Committee. These local committees operate under the direction of Regional Officers who communicate between them and the Central Emergency Committee.

3.2 Emergency Supplies and Storage

The Permanent Secretary of Home Affairs and Labour is responsible for the reception and storage of all emergency supplies arriving consigned to the Government. However, the Antigua Red Cross is responsible for organizing the distribution of relief supplies in collaboration with Local Committees and Regional Officers.

If disaster damage in St. Johns makes it necessary for ships to use alternative landing points, shipments will be landed and stored at any of the following places: High Point Jetty, Coolidge Airfield, Nelson's

Dockyard, and Crabbes' Peninsula /D/ Bay Aerodrome. The Copper and Lumber Store at the Dockyard has also been allocated as a depot.

3.3 U.S. Plan and Resources

There is no formal Mission plan but, at a July 1982 regional disaster preparedness meeting, the Embassy indicated that they intend to develop a disaster plan focused on services to U.S. citizens, actions of the Embassy, and disaster relief operations. Embassy operations during a hurricane would probably be relocated to the U.S. Naval Facility.

U.S. military representatives indicated that it is likely that only open-air storage would be available for post-disaster relief operations. Once base operations and the 30 resident families were secured, the U.S. military and its 30-man SEABEE group could assist in relief activities. They have no spare stand-by power resources but might be able to assist with tanktrucks.

3.4 Regional Disaster Plan

The USAID Regional Development Office/Caribbean (RDO/C) in Bridgetown, Barbados has developed a Disaster Relief Plan for the Eastern Caribbean. This plan provides action guidelines for a U.S. disaster relief response in the countries of Anguilla, Antigua, Barbados, Grenada, St. Kitts/Nevis, St. Lucia, St. Vincent, and Dominica, and supplements the generally limited Mission Plans for each Island.

In the event of a disaster, the Chief of Mission will supervise all disaster relief operations. The RDO/C Director will serve as the Disaster Relief Officer (DRO) and be responsible for all AID relief activities and contacts with host country and other donor agency officials. Other members of the Mission Team and their functions are as follows:

<u>Function</u>	<u>Officer</u>
Administrative and programming operations	Disaster Relief Operations Officer
Mobilization of logistical and manpower resources	Joint Administrative Officer (JAO)
Financial records and accounting	USAID Controller
Coordinate PCV assistance	Peace Corps Director

<u>Function</u>	<u>Officer</u>
Coordination with U.S. military relief activities	Embassy Military Liaison Officer (MLO)
Public affairs and media releases	USICA
Cable, telex, and radio communications	Embassy Communications Unit (C&R)
Medical, clothing, and sanitation activities	RDO/C Health Officer
Public infrastructure, transportation, utilities, and shelter assessment and repair	RDO/C Engineer Officer
Food and agriculture relief activities	RDO/C Agricultural Development Officer

During a disaster, the RDO/C Office Library will serve as the Disaster Relief Operations Center. A Regional Emergency Communications Network SSB radio is located there and will be the primary link between the disaster area and RDO/C.

In addition to the RDO/C team, a Regional Disaster Preparedness Team for the Caribbean has been established in Antigua under ECCM auspices. The Team is managed by the United Nations Disaster Relief Office (UNDRO) and has a permanent full-time staff that includes a Project Manager, an Executive Officer, and two representatives each from PAHO and the League of Red Cross Societies. The Team assists in disaster preparedness and mitigation activities in participating countries, and will assume the principal coordinating role during emergency relief operations in the Caribbean.

Note - For more detailed information on the regional disaster plan see U.S. Mission: Eastern Caribbean Foreign Disaster Relief Plan on file at the Office of U.S. Foreign Disaster Assistance in Washington, D.C.

3.5 Voluntary Agencies

Anglican Mother's Union
 c/o The Deanery
 P.O. Box 71, St. Johns
 Tel: 23286

Most activities are church-related, but also include assistance to the elderly, handicapped, and other vulnerable sectors of society.

Antigua Christian Council
P.O. Box 863

Independence Ave. and Redcliffe Street, St. Johns
Tel: 20261

Extends loans for craft projects, fishing, agriculture, and catering.
Has \$5,000 in contingency funds for disasters.

Antigua and Barbuda Red Cross
P.O. Box 727

Parham Road, St. Johns
Tel: 20800, 21052, 21655

Collects, packs, and sends food, clothing, and other resources to disaster victims. In the event of a disaster, the Red Cross would be responsible for the distribution of relief materials.

Antigua Salvation Army

Long Street, St. Johns

Tel: 20115

Manages and operates a day-care center, an Over 60's Club, an Alcoholism Rehabilitation Center, and a League of Mercy for elderly persons.

Young Women's Christian Association

P.O. Box 711, St. Johns

Tel: 20066

Sponsors a Parents Club and other social activities. Has recently built their own headquarters and begun offering lectures, including a number on disaster preparedness sponsored by the Pan-Caribbean Disaster Preparedness Project (PCDPP).

3.6 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	pulses	wheat flour	milk powder
yams	peanuts		
	mung beans		
	vegetables		
	milk		

3.7 Disaster Types and History

Antigua suffered the effects of a damaging hurricane on 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. Population4.1 National Population

In 1981 the total population was estimated to be 76,138. Both crude birth and death rates were relatively low, the former 16.4 per 1,000 population, and the latter 5.2 per 1,000 population. The growth rate has been estimated at 1.3% over the last six years. In 1982, 32% of the population was under the age of 16.

With a labor force growing faster than the overall population, unemployment has become a serious problem. In 1981, the unemployment rate was 20.5%. Of the employed labor force, 9% were in the agricultural sector, 8% in manufacturing and mining, 11% in construction, 22% in trade and hotels, and 50% in transport, communications, utilities, banking, and other services.

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 1981. The capital city, St. Johns, has a population of 24,000 and 1,200 people live on the island of Barbuda. Rural settlement tends to be in compact villages of varying sizes.

5. Health, Nutrition, and Housing

5.1 Overall Health Status

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 (22.5%), cerebrovascular disease (16.9%), malignant neoplasms (12.7%), enteritis and other diarrheal diseases (4.4%), and influenza and pneumonia (3.7%). A high incidence of gastroenteritis contributed to an infant mortality rate of 24 per 1,000 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 on Antigua (Holberton) and one on Barbuda, with a 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 the health care delivery network.

5.3 Health Personnel

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

5.4 Diet

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

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, eddoes (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 foundations; newer structures in housing developments are likely to be masonry or concrete block. A serious housing shortage exists. Of the estimated minimum of 650 housing units needed annually, 70% are for the low-income group.

The Central Housing and Planning Authority was established in the 1940s primarily for the purpose of carrying out an island-wide low-income housing scheme. The program has received substantial assistance both from the British government in the form of grants and loans, and from private estate owners in the form of housing sites. In recent years the

Authority has tapped resources of the Caribbean Development Bank and of the Social Security Scheme for its housing and rehousing programs.

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 Crabbes 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 current shortage of water is likely to persist until the several projects that the Government plans to implement and for which additional funding may be required are completed. The Potswork Dam and proposed Creekside Dam project should provide an adequate water supply with some available for irrigation. The water distribution system in Barbuda consists of a town well.

6. Economy

6.1 Overview of Economy

Antigua and Barbuda's real GDP grew at an average annual rate of almost 8% during 1977-79; however, it slackened to 6% in 1980 and to about 4% in 1981. This deceleration was due mainly to a decline in the tourist industry, the most important economic activity in the country. The downturn in tourism was a consequence of low off-season occupancy rates, insufficient promotional activities abroad, and recessionary conditions in the major industrial countries. The performance of other sectors of the economy has been mixed. Agriculture continued to decline in importance and has experienced virtually no growth over the last two years. Manufacturing has undergone considerable changes in recent years. It had consisted mainly of import substitution industries including consumer goods, building materials, motor vehicle assembly, and tire retreading. Over the last three years, however, export-oriented manufacturing such as textiles and garments, rum, and mattresses has grown in importance. This shift has been responsible for real growth rates in industry of about 28% annually over the period 1977 to 1980. After declining for three years, construction activity expanded by 10%, 13%, and 9% in 1979, 1980, and 1981 respectively. Over the last two years the sector's activity has been dominated by the construction of one hotel, expansion of another, refurbishing the oil refinery, and some public projects including a new airport terminal and a new parliament building.

The current account deficit of the balance of payments widened sharply in 1981, representing 44% of GDP. This was the result of large increases in food and capital goods imports, and the slowdown in tourist earnings. Public finances also deteriorated in 1981 after three years of steady improvement. This was due principally to large increases in expenditures. In 1981 the rate of inflation decelerated somewhat to 11.5% after reaching a high point of over 19% in 1980.

With a good investment climate, favorable industrial relations, and the advantage of its proximity to major export markets, Antigua and Barbuda has good prospects to further develop its economy. A requirement for this, however, is the existence of a well-organized and soundly-financed public sector able to upgrade and expand the needed infrastructure, mainly energy, water, telephone, and roads. This is a major prerequisite to attracting further private investments in agriculture, tourism, and manufacturing.

6.2 GDP

	<u>Gross Domestic Product</u>		
	<u>(EC \$million)</u>		
	<u>1979</u>	<u>1980</u>	<u>1981</u>
GDP at market prices	229.0	288.2	338.9
Gross domestic investment	76.2	138.3	189.8
Gross national saving	-24.1	-45.5	-58.6
Resource gap*	100.3	183.8	248.4
Export of goods, NFS	116.5	143.7	158.2
Import of goods, NFS	-216.8	-327.5	-406.6

* Defined as the deficit in the goods and nonfactor services account of the balance of payments with inverse sign.

Source: World Bank, Economic Memorandum on Antigua and Barbuda, 1982.

6.3 Imports

Total imports rose at an annual rate of 14% in 1977-78, but increased four times as rapidly during 1979-80 to reach 110% of GDP in 1981. This increase in imports is due to a burgeoning food import bill to support the tourist industry, continued growth in domestic fuel consumption, and the large import component of both public and private investment projects.

The major suppliers of goods to Antigua and Barbuda are the United States, the United Kingdom, and other West Indian Islands.

6.4 Exports

Domestic exports value almost doubled in 1978, declined slightly in 1979, and then increased threefold in 1980. Export growth has been propelled mainly by outstanding developments in exports of manufactured goods (69% of total exports in 1981). Exports of food and live animals to other Commonwealth countries peaked in 1980 and dropped significantly in 1981 as major hotels became more inclined to use local food. In spite of increased domestic export earnings, Antigua and Barbuda's foreign exchange earning ability is still determined chiefly by development of the tourist sector.

Three-quarters of the goods produced in Antigua and Barbuda are exported to other West Indian Islands.

7. Agriculture

7.1 Overview of Agriculture

Agriculture, once the key sector of the economy, has been declining in relative importance since the 1960s. This demise is due mainly to the abandonment of sugar production and the top priority given to tourism as the main sector of the economy. From a real annual growth rate of 9% for 1978, the sector experienced negative growth of over 4% in 1979 followed by no growth over the last two years.

A manpower shortage is the main constraint to agricultural development. In spite of high unemployment rates, the traditional aversion to agriculture of young people, and expectations of better remuneration in the urban service sector has resulted in a scarcity of farm labor and very low efficiency in the fields. It is estimated that 50% of the available agricultural lands are underutilized or completely abandoned.

The Government owns about 60% of agricultural lands, including crop and grazing areas. The Government policy of short-term land leasing offers little incentive to on-farm investment. In addition, lending institutions are reluctant to finance farmers who cannot offer land mortgage guarantees. In an attempt to address this issue, the Government has articulated a new land tenure policy which envisages long-term leasing and sale of viable acreages of land to farmers.

In 1978, a public project to reestablish the sugar industry was initiated in order to satisfy domestic requirements and provide molasses for rum production. The old sugar factory was replaced by a smaller unit; however, severe technical and managerial difficulties and a serious cane-cutters shortage have resulted in heavy financial losses. Cotton lint production, once an important crop in Antigua, has declined dramatically in the last three years as unfavorable weather, labor shortages, and high levels of infestation have reduced yields per acre.

Livestock production, including cows, pigs, sheep, goats, and poultry, has declined over the last three years. Fishing has also suffered; fish catches fell by 25% in 1979 and remained stagnant for the next two years due to use of outdated equipment and the relatively low price at which fish is marketed. Lobster catches, too, have fallen significantly because of overexploitation in the early and mid-1970s.

7.2 Crop Production and Marketing

The production of fruits and vegetables in Antigua and Barbuda has shown wide variation due to the vagaries of the weather and an underlying disinterest of small farmers to cultivate if employment becomes available in the service sector. In an average year, the country can produce about two-thirds of its requirements of fruits and vegetables. The main crops are avocados, pineapples, mangoes, bananas, cucumbers, yams, and sweet-potatoes. The Central Marketing Corporation (CMC) is the governmental agency responsible for marketing cash crops. It buys the product from farmers and sells it either directly to hotels or through its own retail store. The CMC also imports rice and sugar in competition with other private traders and is responsible for importing and distributing fertilizers, seeds, and pesticides.

Agricultural Production

	<u>1979</u>	<u>1980</u>	<u>1981</u>
	(In thousands of pounds)		
Agriculture			
Fruits and Vegetables (by small farmers)	5,175.7	1,764.4	2,700.0
Cotton lint	12.3	34.9	13.2
Cotton yield (lbs/acre)	68.0	334.0	166.0
	(In thousands of units)		
Livestock			
Cattle	7.3	6.1	6.0
Sheep	8.4	8.6	8.5
Goats	6.6	6.3	6.4
Pigs	0.1	1.2	1.2
	(In thousands of pounds)		
Fisheries			
Fish landings	2,469.4	2,444.7	2,439.4
Lobster landings	223.8	141.3	141.1

Source: World Bank, Economic Memorandum on Antigua and Barbuda, 1982.

8. Physical Geography

8.1 Climate

The tropical climate of Antigua and Barbuda is moderated by sea breezes. Temperatures range from 16°C in January to 34°C in August, although 24°C and 29°C are averages for winter and summer respectively. The mean average temperature is about 27°C.

Annual rainfall is variable but generally low, with 1,150 mm. being the average.

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
Rainfall (cm.)	127.1	91.0	72.3	124.1

Antigua experiences hurricanes which usually occur in early autumn.

8.2 Land Forms

Antigua and Barbuda and its dependency, 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, 208 sq. km., Barbuda, 155 sq. km., and Redonda, a rocky islet of less than 1.2 sq. km.

The mountainous region of volcanic origin in the southwest of Antigua has the island's highest elevation at Boggy Peak (405 m.). It is cut by a number of small alluvial valleys and is bounded on the south and west by a narrow coastal plain.

The northeast limestone region has several steep hills (91 m. to 122 m.) separated by small valleys. A broken escarpment on the southern edge rises in places to over 107 m. Between the limestone and volcanic regions is a gently undulating plain of clay soils which in parts rises to 152 m.

Barbuda, 40 km. north of Antigua, is a flat coral island, nowhere exceeding 44 m. in elevation.

8.3 Coasts

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

8.5 Seismicity

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

9. Transportation and Logistics9.1 Road Network

The road network consists of 240 km. of asphalted roads and 320 km. of gravel and earth secondary roads. Most paved roads are in reasonably good condition. The lack of proper drainage in many places is not a problem because of the generally light rainfall.

9.2 Railroad Network

A 75.3 km. railway formerly used for transporting sugarcane to the factory has ceased operation.

9.4 Ports

The country's only major port is St. Johns. It is operated by the Port Authority which is responsible for all cargo handling and distribution, and receives income from berthing fees, wharfing fees, and lighting dues. The Port Authority manages a subsidiary company, the Terminal Operating Company, and employs an executive staff of 20, about 40 long-shoremen, and 15 maintenance personnel. Plans are underway to expand the facilities of the Port Authority as present berthing space is congested and inadequate to cope with the growing volume of maritime traffic. In addition, there is a need for adequate unloading equipment, containers, and space for cargo storage to relieve landside congestion. Personnel trained in port operations and maintenance are also needed.

St. Johns

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.

9.4 Shipping

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

9.5 Airports

Antigua's Coolidge Airport has been remodeled and extended to accommodate jet aircraft. A new terminal and apron extension have recently been completed. There is a small airstrip at Codrington on Barbuda.

Note: 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

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>
7°8'28" N 61°47'8" W	19 30.6	07/25	0.37	2743	A	LCN80176 & h 50	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. L6, 7, 9. No telex.
 (See Appendix I for key.)

9.6 Personal Entry Requirements

Passports and visas are not required for stays of up to 6 months. See also section 1.7, Visa and Travel Information.

9.7 Aircraft Entry Requirements

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

9.8 Airlines

Domestic: LIAT 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.

9.9 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

Until very recently, the shortage in power generating capacity was judged one of the country's most serious infrastructure deficiencies. However, with the installation in early 1982 of a new power plant inclusive of three generators with a combined capacity of 19.5 MW., power supply in Antigua is expected to be adequate for several years to come.

The Antigua Public Utilities Authority (APUA) is a statutory body established by law to manage the three public utilities, electricity, water, and telephone. In recent times the Authority has been plagued by the problem of large dues outstanding from consumers, including the Central Government and other public sector bodies. There is a critical need to strengthen APUA, both financially and managerially, and to separate the operations of the three public utilities.

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 the northern part of the island, including St. Johns, was completed in November 1978. The second phase, covering the rest of the island, and a proposed microwave link between Antigua and Barbuda, is still awaiting funding. Cable and Wireless (W.I.) Ltd. provides international telecommunications services (telegraph, telephone, telex).

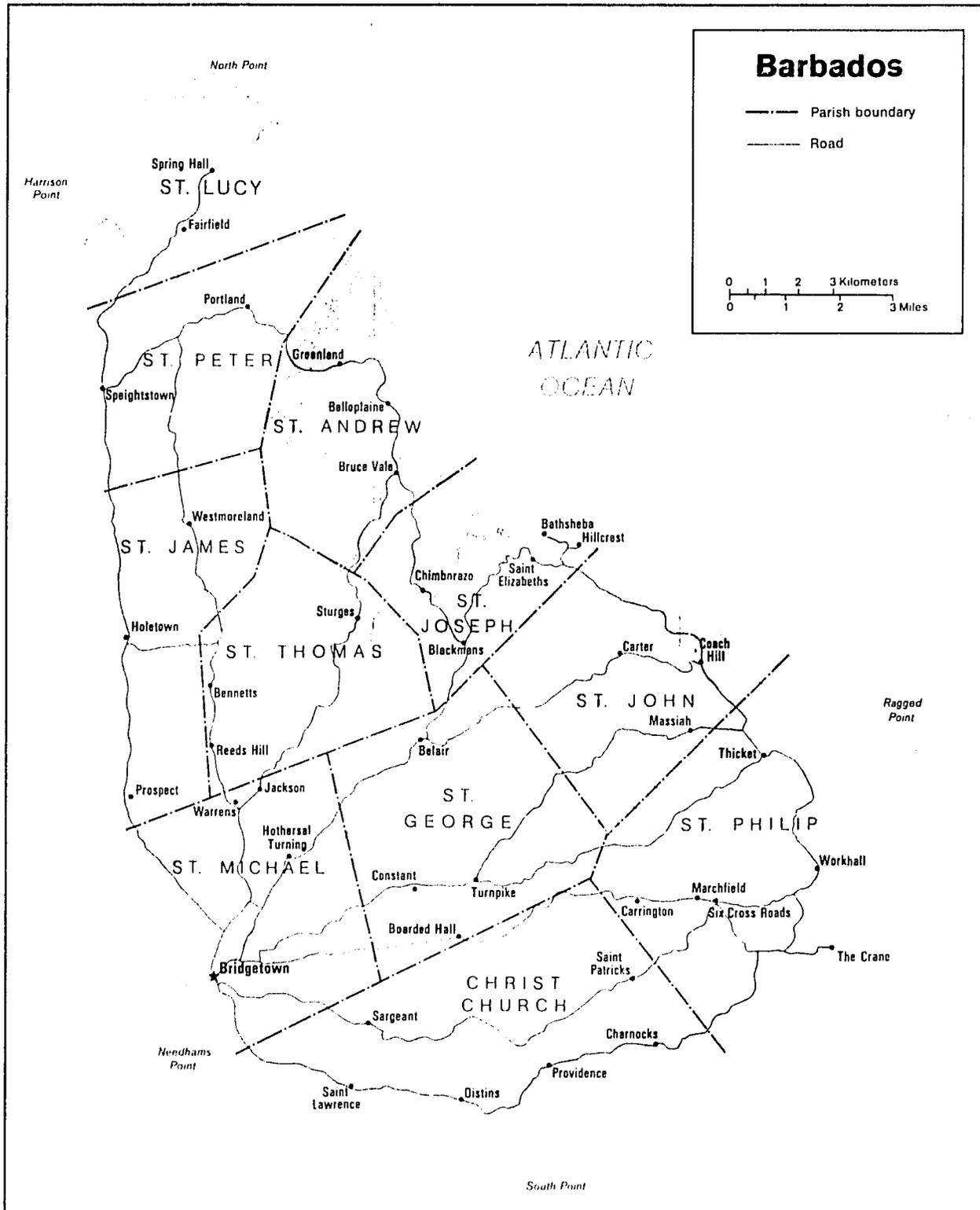
10.3 Radio Network

Antigua and Barbuda Broadcasting Corporation (ABS), P.O.B. 590, St. Johns, the government-owned station, transmits on 483.9 m (620 kc/s, 5.0 kW).

Radio ZDK: Grenville Radio Ltd., P.O.B. 1100, St. Johns, with a transmitter at McKinnons (99 Mhz FM-10 watts, 1,100 kHz AM - 10,000 watts), broadcasts nineteen hours daily Monday to Saturday 6 AM to 1 AM.

10.4 Television

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



24-

1. General Information1.1 Geographic Codes

AID	534
State region	ARA

1.2 Country Names

Official:	Barbados
Local:	Barbados
Short:	Barbados

1.3 Holidays

New Year	January 1
Good Friday	*
Easter	*
May Day	May 1
Whit Monday	*
CARICOM Day	First Monday in July
United Nations Day	First Monday in October
Independence Day	November 30
Christmas	December 25

* Varies from year to year

1.4 Currency (December 1982)

Barbados Dollar: B \$1.00 = US \$0.50

1.5 Time Zones

EST + 1; GMT - 4

1.6 U.S. Mission and Staff to Barbados (September 1982)

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

Ambassador.....Milan D. Bish
 Deputy Chief of Mission.....Ludlow Flower III
 Economic/Commercial Section.....John E. Hope
 Political/Economic Section.....Kenneth A. Kurze
 Consul/Consular Section.....Karl I. Danga
 Labor Section.....Anthony M. Kern
 Administration Section.....Lemuel D. Coles
 Agricultural Section.....Harry C. Bryan
 (resident in Caracas)
 Agency for International Development.....William B. Wheeler
 Public Affairs Officer.....E. Ashley Wills

1.7 Host Mission and Staff in U.S. (August 1982)

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

Ambassador.....Charles A.T. Skeete
 Minister-Counselor.....Clifton Maynard
 Counselor.....R. Orlando Marville
 First Secretary.....Teresa A. Marshall

1.8 Treaties and Agreements

Defense	Peace Corps
Economic and Technical Cooperation	Telecommunications
Investment Guaranties	Visas
Meteorology	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

Passports and visas are not required for stays of up to 6 months. However, tourists must have return tickets and proof of citizenship. Business visas are valid for 3 months and are available at no charge (a work permit may be necessary). Check the consul in New York, Boston, Atlanta, Chatsworth (California), Detroit, Winter Park (Florida), or Chicago, or the Embassy in Washington, D.C., for residence/business visas and specific requirements.

Cholera and yellow fever vaccinations are required of arrivals from infected areas.

1.11 Ethnic and Sociocultural Groups

Barbados was originally populated by Arawak Indians who migrated from the South American mainland. Carib raids and deportation to Spanish mines have left virtually no trace of them, although remains of Arawak settlements are still being discovered in shoreline caves. The population of Barbados today is predominantly of African extraction, with smaller numbers of whites and mixed peoples and a very small number of East Indians. As of 1970, there were 224,318 blacks, 9,354 whites, 9,305 mixed peoples and 675 East Indians on the island.

1.12 Languages

The official language is English.

1.13 Education

Education is free, and compulsory for children between the ages of 5 and 14. Secondary schools are also free. The curriculum is based on the British model. The adult literacy rate is 99%.

1.14 Religions

Seventy percent of the population is Anglican. The remaining 30% includes various denominations, primarily Roman Catholic, Methodist, and Moravian.

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 third oldest colonial legislative body in the western hemisphere.

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.

The Barbados Labor Party (BLP) and the 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 (primarily sanitation, child care, and national assistance). Parishes: Christ Church (southwest); 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); and St. Thomas (immediately north of St. George).

2.3 Major Government Figures (November 1982)

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.....	Cheltenham, Richard L. "Johnny"
Min. of Caribbean Affairs.....	St. John, H. Bernard
Min. of Education.....	Miller, Billie Antoinette
Min. of External Affairs.....	Tull, Louis R.
Min. of Finance & Planning.....	Adams, J.M.G.
Min. of Health.....	Brathwaite, Lloyd B.
Min. of Housing, Lands & Environment.....	Bradshaw, DeHise O.

Min. of Information &
Communications.....Barrow, Nigel Ansley
Min. of Transport & Works.....Blackman, Donald

3. Disaster Preparedness

3.1 Disaster Types

The most common disaster types affecting the island are hurricanes, floods, and earthquakes. Hurricanes pose the most likely threat to Barbados; the official hurricane season in the Gulf of Mexico, the Caribbean Sea, and the Atlantic Ocean runs from June to November.

3.2 Disaster History

<u>Disaster</u>	<u>Date</u>	<u>Number Killed</u>	<u>Number Victims</u>	<u>Dollar Damage ('000)</u>
Hurricane	1780	4,000	n.a.	n.a.
Flood	10/2/70	3	200	\$500,000

3.3 Host Disaster Plan

Barbado's emergency relief operations are coordinated by the Central Emergency Relief Organization (CERO). The general direction and control of the organization resides with the Prime Minister. The Prime Minister also approves appointments to the Coordinating Advisory Council, the overseer of all CERO operations. District level emergency organizations carry out the 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 (1982)

<u>Council Member</u>	<u>Responsibility</u>
Min. of Health & National Insurance	Medical services, health sanitation, first aid
Min. of Civil Aviation & Tourism	Airport control
Min. of Trade & Industry	Ordering bulk supplies, storage
Min. of Agriculture, Food & Consumer Affairs	Food supplies, depots, distribution
Min. of Labor & Community Services	Relief supplies, rehabilitation, lanterns, candles
Min. of Finance & Planning	Customs clearance, damage statistics, reconstruction
Min. of Housing, Lands, & Environment	House repairs, relief workers
Min. of Education & Culture	Shelters

<u>Council Member</u>	<u>Responsibility</u>
Attorney General	Telecommunications, fire, flood rescue
Min. of External Affairs	Coordination of overseas requests
Min. of Communications & Works	Road clearance and transportation
Min. of Information	Public relations and awareness

CERO Operations Secretary: Grace Pilgrim
Tel: 78513 (office); 67808 (home)

District Emergency Organizations

<u>Area</u>	<u>Headquarters</u>
1. Constituencies of - City of Bridgetown St. Michael West	Queen's Park House
2. Constituencies of - St. Michael South Central St. Michael South	Ursuline Convent
3. Constituencies of - St. Michael East St. Michael South East	Community College
4. Constituencies of - St. Michael Central St. Michael North East	District 'A' Police Station
5. Constituencies of - St. Michael North St. Michael North West St. Michael West Central	Black Rock Police Station
6. Constituency of - Christ Church West	Hastings Police Station
7. Constituency of - Christ Church West Central	St. Lawrence Police Station
8. Constituencies of - Christ Church East Central Christ Church East (along with the districts of Charnocks and Spencers)	Oistins Police Station

<u>Area</u>	<u>Headquarters</u>
9. Parish of St. George (along with the districts of Windsor and Hannays)	District 'B' Police Station
10. Parish of St. Phillip	District 'C' Police Station
11. Parish of St. John	Four Roads Fire Station
12. Parish of St. James	Holetown Police Station
13. Parish of St. Peter	District 'E' Police Station
14. Parish of St. Lucy	Crab Hill Police Station
15. Parish of St. Thomas	District 'D' Police Station
16. Parish of St. Andrew	Belleplaine Police Station
17. Parish of St. Joseph	District 'F' Police Station

In the event of a disaster, an emergency operations center will be set up to coordinate all emergency relief activities and to supervise all communications to the public. The center will be in the control room of police headquarters on Coleridge Street in Bridgetown, and will be manned by three teams working in rotation.

The complete plan, along with a list of emergency shelters by parish, are on file with the Office of U.S. Foreign Disaster Assistance, USAID, Washington, D.C.

3.4 Warning and Communications System

The emergency telecommunications center is located in the control room of police headquarters, where there is VHF equipment linked to the 18 police stations around the country and the police mobile patrol units as well as to control points for the Amateur Radio Society and a Citizen's Band Base Station.

The Amateur Radio Society has been requested to assign members to the following points:

Before, during, and after a disaster -

Police Headquarters
 Airport (Control Tower)
 Airport (Meteorological Office)
 Caribbean Meteorological Institute

Before and after a disaster -

Ministry of Health
 Ministry of Agriculture
 Transport Board Depots (Haggatts, Speightstown, Weymouth, and Mangrove)

After a disaster -

Government House
 Government Headquarters
 Marine House
 Ministry of Transport & Works
 Ministry of Health
 Bridgetown Harbour
 Queen Elizabeth Hospital
 Barbados Red Cross Society
 St. Joseph Hospital

A Citizen's Band telecommunications system has been set up within CERO. It consists of one base station, located in the control room at police headquarters, and some portable (walkie-talkie) sets intended to facilitate various types of field work. The sets may also be used in mobile units as magnetic antennae are available.

The following is a list of telecommunications contacts included in the CERO Directory of Resources:

<u>Name</u>	<u>Telephone Number</u>
Mr. Bill Montague, Radio Ham	20938 (home)
Mr. Tony Webster, Radio Ham	95151, ext. 251, 260, 259 (office) 95650 (home)
Mr. Mark King, Radio Ham	63511 (office); 94551 (home)
Mr. R. Chandler, President, Citizen's Band Radio Association	62817 (office) 77118 (home)
Mr. Lindon Parris, Emergency Officer, Citizen's Band Radio Association	60794 (office) 65580 (home)
Mr. R.W. King, Cable & Wireless	65892 (home)
Mr. Eugene Fingall, Telecommuni- cations Engineer, Ministry of Information & Culture	79101 (office) 66730 (home)

3.5 Local Voluntary Organizations

In the event of a disaster, the following organizations form part of the Welfare Committee under the Chief Welfare Officer:

Barbados Red Cross Society
Red Cross House
Jemmotts Lane
Bridgetown, Barbados
Tel. 62052

The Salvation Army
Reed Street
Bridgetown, Barbados
Tel. 62467

Seventh Day Adventist Churches
Tel. 77987

Caribbean Conference of Churches (CCC)
Barbados Programme Centre
Corner George Street and Bannister Land
P.O. Box 616
St. Michael, Barbados
Tel. 72681, 72683
Telex: 2335 Answerback: CADEC WB
Cable: CHRISTOS

Coordinator, Disaster Emergency Relief and Welfare Program (DERAW):
Mr. John McDonald

Other Voluntary and Service Organizations

	<u>Telephone Number</u>
Women in Development	78154
Moravian Church	62337
Worldwide Church of God	75855
Soroptomist International	
Rotary Club of Barbados	
P.O. Box 645-C	
Bridgetown, Barbados	

	<u>Telephone Number</u>
LIONS Club of Bridgetown Barbados Spry Street Bridgetown, Barbados	65833
Partners of the Americas c/o Mrs. Jackie Griffith Banfield "Richmond" Welches St. Michael	65129

3.6 International Organizations

United Nations Development Programme
Jemmotts Lane
Bridgetown
St. Michael
Barbados
Tel. 92521

Pan American Health Organization/World Health Organization
Abergeldie
Dayrells Road & Navy Gardens
Christ Church
Barbados
Tel. 63821

Food and Agriculture Organization
Kays House
Roebuck Street
Bridgetown, Barbados
Tel. 92002

Delegation of the Commission of the European Community
Sunset House
Independence Square
Bridgetown, Barbados
Tel. 74362

Organization of American States
Bank Hall & Road
St. Michael
Barbados
Tel. 61564

Inter-American Development Bank
 Maple Manor
 Hastings
 Christ Church
 Barbados
 Tel. 73612, 73613, 97141

3.7 Emergency Water Supply and Storage

All Barbados water is produced from wells, located principally on the west and south coasts. In a major hurricane, the main danger to the water system would be the interruption of electrical current, upon which the wells and pumping stations depend. However, the Hampton and Heymans Stations have standby generator power, and the Belle Station is being connected through underground conductors to the Garrison Station this year. With these three stations in operation, about 60% of normal production (57 gallons per capita per day) can be maintained. In addition, the Barbados Water Authority has two portable generators which can be placed at any pumping station.

Water distribution, in the event of a hurricane, presents a greater problem. Parts of the east and west coasts and the higher elevation areas would be cut off from normal distribution. The Sugar Producers Association has tanktrucks which can be used for distribution. Additionally, USAID has eight rubberized canvas water storage units of 2,000 gallons each which can also be used for delivery and storage.

Reservoir Storage Capacities

<u>Location</u>	<u>Storage</u>
1. Half Acre	1.00 mgd
2. Lamberts	.75
3. Ashton Hall	.26
4. Warleigh	1.10
5. Rock Hall	.50
6. Carlton	2.00
7. Castle Grant	.29
8. Shop Hill	2.00
9. Golden Ridge 1 & 2	2.40
10. Bowmanston	1.80
11. Vineyard	2.00
12. Lodge Hill	1.50
13. St. Stephens	4.00
14. Grand View	1.15
15. Fort George	1.00

<u>Location</u>	<u>Storage</u>
16. Rising Sun	1.00
17. Providence	2.00
18. Brittons	<u>1.20</u>
TOTAL	25.95 mgd

Source: Robert Gersony, Barbados Resource Institutions for Disaster and Development Programs, August 1982.

3.8 Cold Storage Facilities

Cold storage facilities at the Bridgetown Port can handle 1,000 tons of frozen cargo (22° - 12° C) and 200 tons of chilled cargo (2° - 5° C). In addition, the Port can handle containerized refrigerated cargo and bulk cargo.

3.9 Emergency Shelters

There are currently 204 emergency shelters located throughout the island. Responsibility for the shelters belongs to the Chief Education Officer of the Ministry of Education, a member of the Coordinating Advisory Council of CERO.

3.10 Regional Disaster Plan

See also Antigua, section 3.4, Regional Disaster Plan.

4. Population4.1 National Demographic Characteristics

With a land mass of only 431 sq. km., Barbados has one of the highest population densities in the world. Virtually the entire island is inhabited. Although the annual growth rate is one of the world's lowest (1.1% counting only births and deaths; 0.5% counting emigration as well), the government's official population policy is aimed toward further reductions, and migration is actively encouraged. Family planning is widespread, and sterilizations and abortions are legal in public hospitals.

Population (May 1980)	248,983
Average annual growth rate (1970-79)	0.5%
Density per sq. km. (1980)	580
(agricultural land)	958
Urban population (1978)	33.6%
Age structure (1980) 0 - 14	27.8%
15 - 64	63.0%
65 and above	9.2%

4.2 Regional PopulationParish Population of Barbados (Preliminary 1980 Census)

<u>City</u>	<u>Population</u>
Bridgetown	7,552
<u>Parishes</u>	
Christ Church	40,790
St. Andrew	6,731
St. George	17,361
St. James	17,255
St. John	10,330
St. Joseph	7,211
St. Lucy	9,264
St. Michael (including Bridgetown)	99,953
St. Peter	10,717
St. Philip	18,662
St. Thomas	10,709

5. Health, Nutrition, and Housing

5.1 Health Sector Overview

Barbados is divided into three health districts, each with a main health center and a number of subcenters. In 1976, there were 13 hospitals (10 government-owned, 3 private), 15 day nurseries, and 7 children's homes. The largest hospital is the 543-bed Queen Elizabeth Hospital in St. Michael's parish, with 110 physicians. The Catholic Church operates St. Joseph Hospital with a capacity of 100 beds. Additionally, there were 20 health centers and posts, and 7 clinics and dispensaries as of 1972. Barbados has a national health service, introduced in 1978.

Health Data and Other Social Indicators

Births per 1,000 population (1980)	16.5
Deaths per 1,000 population (1980)	8.0
Infant mortality per 1,000 live births (1980)	22.7
Life expectancy at birth (1980)	70 years
Hospitals (1976)	13
Hospital Beds (1976)	2,160
Population per physician (1980)	1,174
Population per nursing person (1978)	233
Access to safe, piped water (1977)	100%
Access to sanitary facilities (1978)	100%
Access to electricity (1980) - urban	96%
- rural	90%

5.2 Diet and Nutrition

The Barbadian diet is typical of the Caribbean diet in general. Barbadians eat imported salted codfish, accompanied by locally grown yams, sweet potatoes, and beans and imported rice and fruit. The estimated daily per capita intake of food is 3,207 calories (133% of the minimum daily requirement) and 82.8 g of protein (228% of the minimum daily requirement). Two-thirds of the protein intake comes from meat, fish, and pulses.

5.3 Staples

Staples: rice, potatoes, sweet potatoes, and wheat flour

Accompaniments: pulses, pigeon peas, fish, meat, milk, and vegetable oil

Acceptable

Alternatives: dehydrated potatoes and milk powder

5.4 Nutritional Deficiencies

Under-nutrition, not malnutrition, appears to be the chief nutritional disease in Barbados. One of the prevalent nutritional disorders is anemia, which is found in 33% of pre-school children, 9% of school-age children, and 19% of adult women. Iron and folate deficiencies are the main causes.

5.5 Housing and Related Services

Barbados continues to suffer from a severe housing shortage which primarily affects lower income groups. The National Housing Corporation receives at least 1,000 applications for new low and medium income housing each year, but can only provide for 200 applicants. The lack of natural resources needed for housing construction increases the already high demand for imported goods of all kinds. The Government of Barbados has initiated a program to fund low cost housing, as well as a Guaranteed Housing Program which provides mortgages to low income families.

Seventy percent of the houses in Barbados are built of wood. The majority of these are chattel houses, i.e., complete wood houses not tied to a foundation, but rather placed on stone or concrete blocks. Barbados families rent the land which they occupy; however, the chattel houses belong to them. Thus, if they are forced to move, they take their homes with them. Chattel-type houses are very vulnerable to hurricanes. A Tenantry Act was recently legislated in order to help families purchase their land and construct permanent, safer houses.

Potable water, which is available to all Barbadians, is provided by 24 pumping and repumping stations; the largest stations are at Belle and Hampton. Barbadians also have access to sanitary facilities, although there is no public sewerage system. Waste water and excreta are disposed of by the use of privy pits, septic tanks, or sewerage absorption wells. Water from baths and sinks is discharged into open drains which enter public storm drains and are eventually disposed into the sea.

6. Economy6.1 Overview of Economy

The Barbadian economy is open, although small, with a limited resource base (primarily sugar, beaches, and a pleasant climate) that makes it exceptionally vulnerable to external world market trends. The first half of the 1970s was characterized by stagnant growth. The second half, 1976 to 1980, was a strong growth period, with the economy growing at an average rate of 5% annually. A strong export market contributed to the improvement: manufacturing output rose an average of 7.5% each year. Additionally the number of tourist arrivals increased 68% over the five-year period. The result of this growth performance was a rapid fall in unemployment and an increase in real wages, though rising inflation remained a problem.

In 1981, adverse international events and a difficult domestic situation combined to bring about an economic decline. The GDP fell 2.6% as sugar production, manufacturing output, and tourist arrivals all suffered declines. Sugar production declined by 35% as excessive rains delayed the harvest and prevented its completion. The drop in tourist arrivals led to a reduction in real value-added of 9%. Construction, wholesale and retail trade, and government services were the only sectors to show any significant growth. Inflation remained high, with an average annual rate of 14.6%.

The rapid growth in the Barbadian economy during the five years prior to 1981 has had the greatest impact on employment. In 1975, more than 22% of the labor force of Barbados was unemployed. This number has declined each year since then, down to 11.4% by 1980. Most of the newly created jobs were in the manufacturing, tourism, and construction sectors. Employment in the agricultural sector has declined.

Sectoral Growth of GDP (percentages)

	<u>Annual Growth Rates</u>				<u>GDP Shares</u> (current prices)	
	<u>1977</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1976</u>	<u>1981</u>
Sugar	-16.7	12.8	18.8	-30.6	6.1	4.3
Other Agriculture & Fishing	-21.4	1.4	-16.1	0	3.6	3.4
Mining	-15.4	0	1.3	0	0.3	1.1
Manufacturing	-1.9	10.4	14.1	-9.4	10.8	12.3
Electricity & Water	13.9	11.3	6.3	1.2	1.4	1.4
Construction	-13.6	13.8	7.0	4.6	7.1	7.9
Wholesale & Retail Trade	2.0	9.7	10.4	2.1	21.0	22.4
Tourism	33.2	24.0	3.8	-9.1	8.3	11.8

	<u>Annual Growth Rates</u>				<u>GDP Shares</u> (current prices)	
	<u>1977</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1976</u>	<u>1981</u>
Transport Storage & Communications	2.5	3.6	2.9	2.6	7.1	6.0
Business & General Services	2.5	2.5	1.6	0.7	18.1	15.8
Government Services	0	2.5	0	3.9	16.2	13.6
GDP	3.7	7.9	4.9	-2.6	100.0	100.0

Source: Barbados Statistical Service, Central Bank, as cited in the World Bank, Economic Memorandum on Barbados, 1982.

6.2 Tourism

From 1976 to 1980, tourist arrivals to Barbados increased from 220,000 annually to 370,000. Reflecting this trend, gross earnings from tourism nearly tripled and the sector's contribution to GDP increased in importance. Tourist arrivals in 1980 and 1981 declined although revenues continued to rise due to higher prices. The ability to attract visitors from many countries, a well-developed industry, and an aggressive promotional campaign have all contributed to the rapid growth of tourism in Barbados. Currently the major issue facing the tourist industry is price competitiveness.

6.3 Balance of Payments

The performance of Barbados' balance of payments has mirrored the situation in the rest of the economy. The current account balance, while remaining negative throughout the second half of the 1970s, improved substantially over the five-year period. Export earnings have grown rapidly from 51.2% of GDP in 1976 to 70.8% in 1980. Imports have also increased, reflecting higher levels of income and increased imports of inputs to the tourism and manufacturing sectors. The current account deficit has historically been financed through direct foreign investment and through project-related disbursements. Net international reserves increased through 1980 due to the improved current account and high inflows of private capital.

In 1981, the current account deficit increased sharply to 11% of GDP, reflecting a decline in domestic exports, a stagnation in tourist receipts, and an increase in fuel imports. To finance the deficit, the Barbadian Government borrowed on the Eurodollar market, and the Central Bank borrowed from commercial banks.

6.4 Exports

Sugar is Barbados' principal export, accounting for more than 20% of export earnings. Other major exports include rum, processed food, and manufactured products. Barbados exports its goods primarily to the United States, Ireland, Trinidad and Tobago, Canada, and Jamaica.

6.5 Imports

The principal imports include foodstuffs, machinery, motor vehicles, lumber, and fuels. Barbados imports most goods from the United States, the United Kingdom, Trinidad and Tobago, Canada, and Venezuela.

7. Agriculture

7.1 Overview of Agriculture

Sugar production continues to be the mainstay of the Barbadian agricultural sector, with over half of the arable land planted with sugarcane. Agricultural land is intensely cultivated; one-fifth of the land cultivated with sugarcane is also used to produce food crops on a rotation basis. All farmers are required to plant a minimum of 12% of their arable land with a food crop. Sugarcane is grown on both plantations and small farms, while food crops are grown primarily by smallholders. Most Barbadian farms (more than 95%) are under 4 hectares in size. While offering greater economic efficiency, mechanization has been adopted only on plantations where the larger acreage justifies its use. The agricultural sector employs approximately 9% of the working force.

Because adverse weather and depressed world prices have brought severe hardship to the local sugar industry, there have been efforts to expand and diversify the nonsugar agricultural sector. This has led to the expansion of root crop cultivation (although marketing problems have constrained output) and to the establishment and management of grazing lands. Bananas are now being cultivated on a limited basis, and sea island cotton (which was once grown extensively) has been reintroduced. Despite these efforts, the nonsugar agricultural sector has been stagnant. A lack of coordination among institutions, poor irrigation systems, inadequate local marketing, a shortage of workers, a lack of farmer organization, and an unwillingness among farmers to take risks pose constraints which have prevented any significant growth.

Overall, the agricultural sector has had a mixed performance since 1976. Between 1976 and 1980, agriculture averaged a 3.8% annual growth rate. Much of the sector's performance depends on sugar output, which grew at a rate of 4.9% during this period. Production of domestic food crops was below the levels achieved during the early 1970s. The livestock sector achieved a growth rate of 4.2% annually, with rapid increases in the production of poultry and milk. 1981 was a very poor year for agriculture as sugar production experienced a decline in output due to crop damage from excessive rains, lower market prices, and higher production costs. Production of most domestic food crops also declined; however, the livestock sector experienced an increase in all areas except milk production.

7.2 Sugar

Sugarcane production accounts for more than 20,000 hectares of cultivated land in Barbados. The area currently planted with sugarcane is 10% less than the level planted in the early 1970s. Weather conditions are the main determinant of output.

Labor is becoming an increasingly important issue in sugar production. Labor costs have risen rapidly, and despite the halving of employment in the sugar sector since the early 1970s, wages remain at 50% of total production costs. Additionally, sugar producers are currently faced with the problem of an aging labor force. An estimated 28% of the existing labor force of sugar workers will retire by 1987, with little prospects of replacement by new entrées into the industry. In 1980, only 11.5% of the sugar crop was mechanically harvested, and without expansion of mechanization, the industry may face further declines.

7.3 Non-Sugar Agriculture

Vegetables: The principal domestic vegetable crops are yams, sweet potatoes, beets, pumpkins, carrots, string beans, tomatoes, cucumbers, and cabbage. Onions are exported to neighboring countries.

Fruits: Most fruits are grown for local consumption. These include mangoes, avocado pears, citrus fruits, bananas, breadfruit, golden apples, hog plums, gooseberries, watermelon, cantaloupes, and cherries.

Livestock: Livestock are owned mainly by smallholders, although there are a few large dairies. Poultry and milk production have grown rapidly due to recent modernization of these industries. A modern dairy was recently completed at Pine Hill, and the poultry industry has changed from a "backyard" activity into a commercial enterprise. The 1978 livestock population consisted of 18,000 cattle, 38,000 pigs, and 50,000 sheep and goats.

Fishing: The fishing industry is a small industry catering only to domestic needs. During the 1960s, the industry was a major export earner, specializing in shrimp. However, rising fuel costs and the introduction of exclusive fishing zones brought the fishing industry to a standstill by the mid-1970s. Today the industry employs 2,000 fishermen in about 450-500 fishing boats. The annual catch is 3,000-4,000 tons (compared to an annual consumption of twice that much). Fifty percent of the catch is flying fish; another 30% is dolphin. Prospects for the industry are good: the fleet is being modernized with ice boats; new icemaking facilities are being built in Barbados; and the island's cold storage facilities are being improved.

7.4 Agricultural Exports

Barbados' principal agricultural exports include sugar and sugar products, onions, cotton, and peanuts. (See also section 6.4, Economic Exports.)

7.5 Agricultural Imports

Domestic demand for food and the growth of the tourist industry have increased imports of foodstuffs. (See also section 6.5, Economic Imports.)

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. The rainy season is from July to November. Annual rainfall varies from about 100 cm. in some coastal districts to 230 cm. in the central ridge area.

Barbados experiences little annual variation in temperature. The mean temperature ranges from 22°C to 30°C. Cool, northwest trade winds during the dry season (December to June) keep temperatures comfortable. The greatest diurnal variation is during winter, with possible highs and lows between 32°C and 17°C.

Average Temperature (°C) and Rainfall (cm) in Bridgetown

	<u>January</u>		<u>April</u>		<u>July</u>		<u>October</u>		<u>Extreme</u>	
	<u>Max</u>	<u>Min</u>	<u>Max</u>	<u>Min</u>	<u>Max</u>	<u>Min</u>	<u>Max</u>	<u>Min</u>	<u>Max</u>	<u>Min</u>
Temperature	28	21	30	32	30	23	30	23	35	16

	<u>J</u>	<u>F</u>	<u>M</u>	<u>A</u>	<u>M</u>	<u>J</u>	<u>J</u>	<u>A</u>	<u>S</u>	<u>O</u>	<u>N</u>	<u>D</u>	<u>Year</u>
Rainfall	6.6	2.8	3.3	3.6	5.8	11.2	14.7	14.7	17.0	17.8	20.6	9.7	127.8

Source: Climates of the World, 1972.

8.2 Land Forms

Barbados is the most easterly of the West Indian islands, located at the lower end of the Antilles chain. The island is situated 480 km. from the mainland territory of Guyana and 160 km. east of St. Vincent, the nearest island neighbor. Total land area is 433 sq. km.

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; along the west coast ridges rise sharply to about 300 m., then fall steeply to the sea. The highest point on the island is Mount Hillaby (336 m.) near the center. The coast is covered with coral reefs.

8.3 Land Use

Of the total land area of 43,000 hectares, approximately 26,000 are under cultivation. 4,850 hectares have been designated as permanent pasture.

8.4 Waterways

Barbados has no rivers. Rainwater percolates rapidly through the soil to form underground channels, the best known of which is Cole's Cave in the middle of the island. There are also a number of gullies or watercourses, and two rivulets known as Indian River (southwest) and Joes River (northeast), neither of which affords navigation or fishing.

9. Transportation and Logistics

9.1 Road System

The 1,450 km. of roadway, 1,350 km. of which are paved, are maintained by the Ministry of Communications. Main roads radiate from Bridgetown and connect with secondary roads.

9.2 Ports

Bridgetown

Coordinates: Lat. 13° 5' N; long. 59° 28' W.

Approach: Carlisle Bay is an open roadstead about 2 km in width and 0.8 km deep, with good shelter from prevailing winds. Vessels may anchor in depths from 7 m upward.

Weather: Winds northwesterly to southwesterly.

Tides: Maximum rise 0.8 m.

Accommodation: Bridgetown Harbor: Situated on the northeastern side of Carlisle Bay, approx. 1-2 km NW of the molehead of the Careenage. This harbor is dredged to 9.75 m LWOST, provides 518 m of quay space, and approximately 823 m of protective breakwater, and berths for eight ocean going vessels. All berths including breakwater arm are equipped with fresh water and telephones.

Storage: 9,542 sq m of transit shed and in excess of 69,750 sq m of open stacking area are available. Modern equipment and pallets are available.

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 and wheat silos are also available.

- Cranes: There are no quay cranes, but two mobile cranes, one of 20 tons and one 5 ton capacity available.
- Provisions: Available.
- Water: Supplied by hose, 50 tons/hr.
- Container Facilities: Container park, wharf, transit shed and container crane.
- Tanker Terminals: Four berths available. Deepwater, Essc Pier, Needham's Point, and Black Rock.
- Liquified Gas Terminal: Available at Spring Gardens.
- Bunkers: All grades of bunker fuel are available and loading rates up to 3,000 bbls/h are possible. Diesel fuel available at quayside in Carenage from tank trucks.
- Shiprepairs: Available.
- Towage: Compulsory. Three tugs available, 1,100, 1,500 and 1,700 hp respectively. Two tugs compulsory for vessels of over 10,000 nrt or 167.6 m length oa; three tugs compulsory for vessels over 20,000 nrt.
- Pilotage: Compulsory. Watch kept on VHF Channel 16; working frequency VHF Channel 12.
- Medical Facilities: Port Health Officer and Medical Doctor available: modern hospital.
- Airport: Grantley Adams Airport, 20.8 km from Bridgetown.
- Working Hours: 07:00 - 11:00 and 12:00 to 16:00.

9.3 Shipping

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

9.4 Airports

Note - 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 International

Runway Characteristics (as of 1979)

<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>
13°04' N 59°29' W	51 28.3	09/27	0.05	3353 80	A	LCN100I95 & h58	100JAI

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.

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, H110, L4, 5, 9. Clearway 09-610. No telex. (See Appendix I for key.)

9.5 Passport Entry Requirements

Passport not required of U.S. citizens holding proof of citizenship. Visa not required of U.S. citizens traveling as tourists for a stay of up to 6 months. Cholera and yellow fever immunization required for arrivals from infected areas.

9.6 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 and Tourism Division,

Herbert House, Fontabelle, St. Michael, Barbados (telegraphic address: CIVILAV BARBADOS/TELEX: 2312 CIVILAB WB) at least 10 working 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.

9.7 Airlines

Domestic: Caribbean Airways, Lower Bay St., Bridgetown, provides low-cost jet services to Montreal, Luxembourg, and London.

Foreign: Scheduled services are 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.

9.8 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 Communications

10.1 Electric Power

Approximately 90% of Barbados' primary energy is supplied by petroleum, with the remainder supplied by natural gas, liquefied petroleum gas, and bagasse (unused portions of sugarcane). In 1977, 14% of the total energy was provided by domestic crude oil, natural gas, and bagasse, while remaining fuel requirements were imported. Fuel imports have increased from 11.5% of total merchandise imports in 1978 to 15.4% in 1980, reflecting higher costs. The Barbados Light and Power Company (BLPC), the island's only electric utility, is the major consumer of primary energy.

While Barbados has no hydroelectric or geothermal prospects, it has significant solar potential, with 100 solar water heaters already installed. Additionally, the sugar industry produces bagasse, which provides all of its energy needs. Surplus bagasse is now being utilized by BLPC for the public network.

BLPC has an installed generating capacity of 96 MW, which serves 96% of the urban population and 90% of rural residents.

10.2 Telephone System

Telephone service is provided by the Barbados Telephone Company, Ltd., a subsidiary of the Continental Telephone Corporation of St. Louis, Mo. Automatic telephone exchanges are present at Bridgetown and at seven other locations. International telex services are readily available. In 1976 there were 44,049 telephones in Barbados.

10.3 Radio Network

Barbados has two radio stations: 1) Barbados Rediffusion Service, Ltd. broadcasts on an island-wide network to approximately 25,000 rented loudspeakers; the studio is located in Bridgetown. 2) Radio Barbados provides 18-hour service Sunday through Friday, and 20-hour service on Saturday. In 1977 there were an estimated 110,000 radio receivers in Barbados.

10.4 Television

Television services on Barbados are provided by the Caribbean Broadcasting Corporation, with daily transmission from 4:30 p.m. to 11:05 p.m. In 1977 there were 48,000 television sets in Barbados.



1. General Information1.1 Geographic Codes

AID	505
FIPS	BH
State region	ARA

1.2 Country Names

Official	Belize
Local	Belize
Short	Belize

1.3 Calendar and Holidays

New Year's Day.....	January 1
Baron Bliss Day.....	March 9
Labor Day.....	May 1
Commonwealth Day.....	May 24
St. George's Caye Day.....	September 10
Independence Day.....	September 21
Pan American Day.....	October 12
Garifuna Day.....	November 19
Christmas Day.....	December 25
Boxing Day.....	December 26

Holidays with variable dates are Good Friday, Holy Saturday, Easter Sunday, Easter Monday,

1.4 Currency (December 1982)

Belize Dollar: Bz \$2 = US \$1.00

1.5 Time Zones

6 AM = noon GMT
EST - 1

1.10 Ethnic and Sociocultural Groups

Many Belizeans are of multiracial descent, making it difficult to compile an accurate breakdown of the population by ethnic background. The Creole population, made up of people of African and mixed African descent, comprises about 40% of the population. Mestizos, people of mixed European-Amerindian descent, make up about one-third of the populace. The Garifuna, descendants of African and Amerindian Caribs, account for 8%. Amerindians comprise 10% of the population, with the remainder divided among Mennonite Germans, East Indians, and Europeans.

1.11 Languages

English is the official and commercial language. Spanish is spoken as a first language by about 35% of the population and as a second language by a good portion of the remainder. A Creole dialect, similar to that found in the English-speaking Caribbean islands, is widely spoken. Most Caribs and Amerindians speak their original languages. The Mennonites speak a low German dialect.

1.12 Education and Literacy

The literacy rate of around 85-90% is one of the highest in Central America.

1.13 Religion

Freedom of religion is guaranteed by the Belizean Constitution. Sixty percent of the population is Roman Catholic. Anglicans, Methodists, Mennonites, and several other Protestant groups account for the rest of the population.

2. Government

2.1 National Government

On September 21, 1981, Belize, the former British Honduras, became an independent state after 300 years of British rule. Since 1964 it had been a crown colony of the United Kingdom but had been given full internal self-government. It will remain in the British Commonwealth and be governed as a parliamentary democracy.

Executive power is vested in a Cabinet, headed by the Prime Minister. The bicameral legislature consists of a Senate of appointed members and a House of Representatives with 18 members chosen by universal suffrage for a five year term. A permanent civil service administers the government.

Prime Minister George Price has been in office since 1964, and his People's United Party (PUP) continues to be the majority party. Price is a centrist who is respected for his ability to maintain friendly relations with both left and right-wing governments throughout Latin America. The United Democratic Party (UDP) is the principal opposition party.

Independence came in the wake of lingering fears of a Guatemalan invasion. A century-long dispute has existed between the two countries as Guatemala continues to claim territorial sovereignty over its smaller neighbor. Negotiations between the United Kingdom, Belize, and Guatemala in early 1982 failed to resolve the issue; as a result, Britain will maintain a defense force of 1,600 troops in Belize as a security measure.

2.2 Regional Organization

Belize is divided into six administrative districts: Belize City and 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 the 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 (November 1982)

Governor General.....	Gordon, Minita
Prime Minister.....	Price, George C.
Deputy Prime Minister.....	Rogers, C. L. B.
Min. of Natural Resources.....	Marin, Florencio
Min. of Health, Housing and Cooperatives.....	Shoman, Assad
Min. of Education and Sports.....	Musa, Said
Min. of Energy and Communications.....	Sylvestre, Louis
Min. of Finance and Economic Development.....	Price, George C.
Min. of Foreign Affairs.....	Price, George C.
Min. of Defense and Home Affairs.....	Rogers, C. L. B.
Min. of Local Government and Social Security.....	Briceno, Elijio
Min. of Labor, Social Services, and Community Development.....	McKoy, David
Min. of State.....	Courtenay, V. H.
Min. of Trade and Industry.....	Pech, Guadalupe
Min. of Works.....	Hunter, Fred
Attorney General.....	Musa, Said

3. Disaster Preparedness

3.1 Host Disaster Plan

Belize has a Hurricane Disaster Preparedness Plan which is updated before June each year. The Central Emergency Organization, composed of all Cabinet Ministers (the Governor-General and Prime Minister are co-chairmen), has overall direction and control of hurricane precautions and post-hurricane action. Twelve sub-committees are charged with the task of preparing hurricane precautionary plans for consideration by the Central Emergency Organization. Ministries have been allocated responsibility for these subcommittees.

In the event of a hurricane, the Central Emergency Organization will set up headquarters in the Albert Cottouse Building, Belize City. The Prime Minister is responsible for deciding when government operations should move from the capital to the Cottouse Building.

Local emergency organizations exist in each of the districts and are responsible to the Minister of Labour, Social Services and Community Development.

3.2 US Plan

No Mission Plan.

3.3 Hurricane Warnings

The system of hurricane warnings is divided into four phases. Each phase indicates the progressive stages of an approaching hurricane and is represented by a different flag flown from nine signal centers in Belize City. The preliminary phase is indicated by one red flag; Red I phase, by one red flag with a black center; Red II, announced when a hurricane appears likely to strike the coast within hours, consists of two red flags with black centers; and the green phase, when the hurricane has passed and search and rescue plans can be put into effect, is denoted by a single green flag.

3.4 Food supplies

According to the 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 phase. Provisions have been made to set up food kitchens and dry ration centers

after a hurricane. Other districts make separate provisions for their emergency food supplies.

The following foods are classified as acceptable by the 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	wheatflour	milk powder
plantains	meat	maizeflour	
	fish	cassava farina	

3.5 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 hanger, Belize Marketing Board facilities, Belize Storage Limited warehouse, or the emergency food depot, although the latter would present additional transport problems.

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

3.6 Host Resources

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

Army (on request of the Minister of Defense and Home Affairs to the Commander, British Forces, Belize) approximately two companies and a helicopter, engineer and water borne facilities.

Belize Defense Force - approximately 100 officers and men.

Police Special Force - approximately 60 officers and men.

National Fire Services (in Belize City) - six vehicles and crews.

Ministry of Works - 12 demolition gangs with equipment and transport. One tugboat, heavy equipment, and one road clearing unit.

The Red Cross, the Boys' Brigade, the Scouts, the Medical Department, and the Belize City Council may also provide resources for search, rescue, and clearance operations.

3.7 US Volags

Care, Inc.

P.O. Box 612, Belize City

Conducts programs in agricultural production and water resources development, particularly in rural areas.

The Carr Foundation

Supports daily radio broadcasts of practical messages on health issues.

Catholic Medical Mission Board, Inc.

Bishop's House, Belize City

Has sent medicine, books, and medical equipment to facilities in Belize.

Church of the Nazarene, General Board

P.O. Box 537, Belize City

Operates four primary schools and two health dispensaries.

Direct Relief Foundation

Donates pharmaceuticals, medical supplies, equipment and personnel to hospitals and clinics throughout Belize upon request.

Eastern Mennonite Board of Missions and Charities

Mennonite Mission

P.O. Box 461, Belize City

Sponsors a farmers cooperative in San Felipe and a day care center in Belize City. Provides technical assistance in agricultural methods, and medical personnel for a clinic in Orange Walk.

Gospel Missionary Union

P.O. Box 21, Orange Walk

Operates elementary schools in Belize City and in several rural districts.

MAP International

Makes periodic shipments of donated drugs and medical supplies in response to the requests from missionary doctors.

Mennonite Economic Development Associated (MEDA)

Box 30, Orange Walk

Has introduced programs in crop development, fertilizer and used control practices, and fishing.

National Association of the Partners of the Alliance, Inc.
c/o National Economic Development Council
Belize City

Has shipped educational and agricultural supplies and equipment to Belize. Also assists in staff training at national hospitals and health clinics.

The Salvation Army
P.O. Box 64, Belize City

Provides financial assistance and personnel to a day school and a hostel for the indigent in Belize City. Also distributes food, clothing, and other supplies.

3.8 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. Belize City 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.

Summary Disaster History

<u>Disaster</u>	<u>Location</u>	<u>Date</u>	<u>Number Killed</u>	<u>Number Affected</u>	<u>Dollar Damage</u>
Hurricane	Belize City	9/10/31	1,500	n.a.	\$7,500
Hurricane Hattie	Belize City, other towns	10/31/61	275	n.a.	n.a.
Hurricanes Carmen & Fifi	Southern Coast	9/1/74	n.a.	70,000	\$4,000
Hurricane Greta	Southern & Central Coasts	9/18/78	5	6,000	\$6,000
Flood	Widespread	12/1/79	n.a.	17,000	n.a.

Source: Disaster History on file at OFDA in Washington, D.C. Covers 1900 to the present.

4. Population4.1 National Population

An enumerated population of 145,353 was arrived at by the census of 1980. Of this, 73,617 were males and 71,736 were females. The population growth rate for the period 1970-80 was estimated at 1.9%. External migration has had less effect on population growth than in most CARICOM countries, although there has been movement of workers into Guatemala and Mexico.

In 1980, 49% of the population was under age 15, indicating a high dependency ratio. About half of the population is urban and Belize City is the most heavily populated city with nearly 40,000 inhabitants. The other principal towns, with the exception of Benque Viejo del Carmen, San Ignacio, and Orange Walk Town, are all located on the coast. Population density countrywide is 6 persons per kilometer; on arable land density is 15 persons per kilometer. This is one of the lowest population densities in Latin America and the Caribbean.

Developing its human resources is one of the key issues facing Belize. The country's physical resources have the potential to support considerable development of the economy. However, with a relatively small, untrained population, it does not have enough human resources to develop its physical potential.

4.2 Regional Distribution

Belize District	-	50,801	Stann Creek District	-	14,181
Belize City	-	39,771	Dangriga City	-	6,661
Belize rural	-	11,030	Stann Creek rural	-	7,520
Corozal District	-	22,902	Toledo District	-	11,762
Corozal City	-	6,899	Punta Gorda City	-	2,396
Corozal rural	-	16,003	Toledo rural	-	9,366
Orange Walk District	-	22,870	Cayo District	-	22,837
Orange Walk City	-	8,439	San Ignacio City	-	5,616
Orange Walk rural	-	14,431	Belmopan City	-	2,935
			Cayo rural	-	14,286

Source: 1980 Census in Latin America and the Caribbean.

5. Health, Nutrition and Housing

5.1 Overall Health Status

Reported malaria cases have been rising for the past several years; 11 cases per 1,000 population were reported in 1980, and 14 cases per 1,000 population in 1981. More cases were reported in the first eight months of 1982 than in all of 1981. Dengue fever reappeared in Belize in 1978, and 450 cases were reported in the first eight months of 1982.

Diarrheal diseases are the leading cause of death in children under five years of age. For the entire population, the leading causes of death in 1981 were circulatory system diseases (31.7%), perinatal conditions (10.1%), pneumonia and influenza (9.3%), and malignant neoplasms (8%).

5.2 Vital Statistics (1980)

Births/1000 population	38.5
Deaths/1000 population	4.6
Infant mortality/1000 live births	45.1

5.3 Health Facilities

Twenty-seven public health centers are spread throughout the country. Six district hospitals and the Belize City Hospital comprise the secondary care facilities. There is also a 16-bed private clinic in Belize City. The total number of hospital beds in Belize is 381.

The health care system suffers from a chronic shortage of personnel and funding. Fifty nursing positions went unfilled in 1980. The Belize City Hospital is overcrowded and subject to flooding.

5.4 Health Personnel

Sixty physicians practice in Belize (as of 1982), 48 of whom are general practitioners. Of the remainder, there are 3 in internal medicine, 5 surgeons, 2 gynecologists, 2 pediatricians, and 1 ophthalmologist. Some of the specialists have not completed their specialized training. There are 300 nurses staffing hospitals and health centers and 5 dentists. Medical attendants, technicians, and nutritionists, approximately 100 in all, comprise the rest of the health personnel in Belize.

5.5 Food and Drink

- Starches: rice, corn, yams, cassava, plantains, potatoes
- Vegetables: wide variety of garden vegetables
- Fruits: citrus, bananas, coconuts
- Meat: beef, pork, poultry
- Fat: butter, lard, margarine
- Milk: powdered, canned, fresh
- Legumes: red kidney beans
- Fish: scalefish, conch
- Beverages: tea, coffee, soft drinks
- Food staples are chicken, fish, rice, and beans.

5.6 Housing

The lack of adequate housing is a perennial problem in Belize. Only 180 units of public housing are being constructed yearly, a number which falls far short of the demand. Building costs are high, as many construction materials are imported and land along the coast must first be reclaimed from its swampy condition before construction can begin. Most houses are built of wood, although the number of concrete houses is growing.

Belmopan was built with a safe water supply and public sewage system. Belize City has a less satisfactory system. The first stage of a CIDA-funded potable water supply system has been completed, but the second stage of construction will not begin until 1983. Sewage is still flowing through open-air canals in parts of the city. Many rural areas lack a safe water supply.

6. Economy6.1 Overview of the Economy

Agriculture accounts for roughly 25% of GDP and for almost 65% of exports. The sugar industry alone generates more than half of all exports and employs 25% of the total workforce. Citrus growing and processing, the second largest agricultural industry, has registered steady growth over the past several years.

Economic growth slowed in 1981 and 1982, under the effects of the worldwide recession and the decline in world sugar prices. Nominal GNP rose by 6% in 1981, but real GNP was off by about 3%. Final 1982 figures are expected to show a similar performance. Total exports for 1981 rose by 11% on the strength of increased re-exports, which were up by 54%. Re-exports for 1982 are expected to decline, however, due to the devaluations of the Mexican peso. The Belizean economy continues to be an import-dependent one, and the value of imports in 1981 once again was greater than the total GDP.

The main potential for economic growth lies in agriculture and agriculture-related industries. The citrus, banana, and coconut plantings are all presently undergoing rehabilitation and/or expansion. As much as 85% of the arable land in Belize is not yet under cultivation. The principal constraints on agricultural development are a shortage of farm laborers and the lack of well-developed transportation links.

Most industry is located in Belize City and environs. Garment assembly is the largest industry in terms of both employment and earnings. Light manufacturing companies are engaged in import substitution and limited processing of agricultural products. Industrial growth is limited by the small size of the domestic market and by a lack of capital.

Gross National Product in 1981

	<u>US\$ mln.</u>	<u>%</u>
GNP at market prices	184.5	100.0
Gross domestic investment	37.2	20.1
Gross national saving	15.2	8.2
Current account balance	-22.0	-11.9
Exports of goods, NFS	147.5	79.9
Imports of goods, NFS	173.0	93.8

Source: World Bank, Economic Memorandum on Belize, 1982.

6.2 Balance of Payments

Following a strong performance in 1980, the balance of payments deteriorated in 1981 as the current account deficit widened to \$22 million, equivalent to 12% of GDP. This was due to a decline in sugar exports which negated the growth in other domestic exports, principally citrus and fish, and the increase in re-exports. As in the past, most of the current account deficit was financed by capital inflows in the form of grants and loans to the public sector.

6.3 Imports

The high rate of growth in total imports in the late 1970s moderated to an estimated 8% in 1981. Petroleum imports constituted 15% of total imports. There are, however, good prospects for reducing the current dependence on imported oil since geological evidence indicates possible deposits of oil and gas in Belize. There is also potential for exploiting indigenous energy sources such as hydroelectricity, wood, and gasohol.

6.4 Exports

Though citrus and fish exports showed growth in 1981, the value of total exports remained virtually unchanged because of reduced earnings from sugar, Belize's principal export. Bananas and garments are other important exports.

Merchandise Exports (in US \$mln)

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Sugar	32.9	31.1	47.7	9.4
Citrus products	2.1	4.1	5.0	5.4
Fish products	3.3	2.0	4.2	5.0
Bananas	1.7	3.4	3.5	3.7
Mahogany	0.8	1.4	1.8	2.0
Molasses	1.5	2.1	2.3	2.1
Garments	9.4	9.5	10.0	10.1
Other	3.2	3.0	3.2	3.4
Total domestic exports	54.9	56.6	77.7	71.0
Re-exports	24.9	33.9	46.2	54.0
Total exports	79.8	90.5	123.9	125.0

Source: World Bank, Economic Memorandum on Belize, 1982.

7. Agriculture

7.1 Overview of Agriculture

Agriculture is the most important economic sector of Belize and, in the absence of discoveries of significant mineral resources, economic growth will continue to depend largely on its development. The country is fortunate to have large areas of undeveloped land suitable for crop and livestock production, a favorable climate, close proximity to important export markets, and guaranteed European markets for some commodities under the Lome Convention. However, agricultural performance is well below potential due to several problems. The lack of a developed transportation infrastructure remains a serious constraint. Much of the land lies under heavy jungle and clearing costs are high. Agriculture suffers from a shortage of both skilled management and labor. The lack of capital has hampered the provision of agricultural credits and long-term financing.

Of the total area of 2.3 million hectares, 890,000 hectares are classified as suitable for agricultural production, and 1.2 million hectares, including steep terrain, are suitable for the extraction of mahogany, cedar, rosewood, and other commercial timbers. It is estimated that less than 15% of the agriculturally suitable land is being farmed and the rest remains under heavy tropical forest or jungle.

Agriculture currently contributes about 20% of GDP, employs 40% of the labor force, and accounts for about 70% of domestic exports. However, production has grown little during the last five years. While recognizing the importance of existing small farmer production to the economy, it appears essential to base future agricultural expansion on medium to large, commercially viable farms.

7.2 Crops

Sugar is by far the most important commodity accounting for about 20% of GDP and 60% of exports. There are two sugar factories and about 24,000 hectares under sugarcane cultivation, located in the north of the country.

The sector employs about 4,200 growers, 5,000 field workers, and 1,600 people in the factories. Production reached a peak in 1978 but has declined in recent years due to smut disease, inadequate husbandry, and froghopper. Farmers have replaced a great deal of diseased cane but 4,400 hectares still need to be replanted with the smut-resistant variety. Production for 1982 is expected to increase by 3% over that of 1981 but will still be below the 1980 level.

7.3 Livestock

Beef production is sufficient to meet local demand. Canned and dried milk is imported in relatively large quantities, while fresh milk is supplied by a local dairy. There are approximately 58,000 head of cattle in Belize.

7.4 Fishing

Lobster, conch, shrimp, and scalefish are all caught by boats operating inside of the barrier reef. Most lobster and shrimp are sold for export. Potential exists for deep-sea fishing outside of the barrier reef.

7.5 Forestry

Although forests were once the economic mainstay of Belize and remain its major natural resource, the forestry industry now has difficulty meeting increased local demand for timber and sawn wood. There are about 688,000 hectares of forested lands under government reservations and 243,000 hectares under private management. Of an estimated 49 million cubic feet of tropical hardwoods that could be cut annually, only 2 million cubic feet are currently produced per year.

7.6 Agricultural Imports

Belize is not self-sufficient in food production despite its considerable land resources and agricultural potential. The food import bill grew from \$19 million in 1976 to \$30 million in 1979, but it remained stable as a percentage of total imports at around 23%. Imported food items include packaged, high quality items as well as dairy products, corn, and a variety of beans.

7.7 Agricultural Exports

After increasing by almost \$17 million to \$48 million in 1980, sugar export earnings fell in 1981 by \$8 million due to both reduced shipments and lower export prices. Sugar shipments dropped by 6.7% to 90,600 tons and average prices declined by 11.5%. The value of other agricultural exports, mainly citrus, fish, and bananas, increased somewhat in 1981, but not enough to offset the decline in sugar receipts.

8. Physical Geography

8.1 Climate

The climate of Belize is subtropical and humid. Trade winds moderate the coastal temperature which ranges from 10°C to 36°C. The average maximum shade temperature in Belize City is 29°C; minimum is 23°C. Inland temperatures have a wider range. Lowland temperatures average 27°C and highland temperatures about 22°C. November to March is the cool season when night temperatures may drop to 7°C in the lowlands and to 3°C in the highlands. "Northers" may lower temperatures considerably and bring accompanying rains.

Annual rainfall averages vary from 127 cm. in the northern part of the country to 440 cm. in the extreme south. Averages over a ten year period are as follows: Belize District, 175 cm.; Corozal, 135 cm.; Orange Walk, 137 cm.; Cayo, 175 cm.; Stann Creek, 241 cm.; Toledo, 396 cm. 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 3.8, 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 22,973 sq. km. 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 the southern continuation of the Yucatan Peninsula.

A 16-kilometer 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 610 m. to 915 m. Victoria Peak is the highest point at 1,104 m. The country is forested with hardwoods on all but the coastal savanna, swamplands, and mountain tops. Thirty-eight percent of the land is suitable for agriculture, 46% is exploitable forest, and 16% is urban, waste, water, offshore islands or other.

8.3 Rivers

The country is drained by 17 rivers including: the Rio Hondo, which forms the northern boundary with Mexico; the New River, which rises in the north central region and flows roughly parallel to the Rio Hondo; the Belize River, which rises near the border with Guatemala and flows eastward across the country; and the Sarstroon, which forms the southern boundary. Some river transportation is apparently possible but information is lacking as to its extent.

8.4 Coasts

The coastline from the mouth of the Rio Hondo in the north to mouth of the Sarstroon River in the south is 280 km. long. Small offshore islands or cays and a long coral barrier reef provide protection for harbors. The coastal waters north of Belize City are shallow; those to the south are deep enough to accommodate large ships.

9. Transportation and Logistics

9.1 Road Network

All highways connecting the major towns are paved, with the exception of the Southern Highway which connects Dangriga with Punta Gorda. The new Northern Highway, from Belize City to the Mexican border, was recently completed and is the best highway in the country. The Western Highway between Belize City and Belmopan is asphalted except for several low-lying stretches. The Southern Highway becomes impassable at times during the rainy season as rising waters cover some of the bridges. Traffic densities are very low throughout the country. There are 5,300 cars and 3,000 commercial vehicles registered in 1982.

9.2 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

9.3 Railroad Network

There are no railroads in Belize.

9.4 Ports

The new Belize City Deepwater Port became fully operational July 1, 1980. In order to create sufficient depth, the port was constructed at the end of a trestle 762 m. long which contributed to the high cost of the project. It is designed to handle conventional and ro/ro vessels, but cannot accommodate either sugar ships or very large container vessels. Despite its limitations, the new port is an improvement over previous arrangements and has facilitated the increase in transit cargo bound for Mexico, which now accounts for about 40% of all cargo handled.

Belize

Coordinates: Lat. 17°28'N; long. 88°11'W

Authority Belize Port Authority, Belize City. Tel: 022439

Accommodation: Channel depths range from 36.6 m. to 7.3 m. at the harbor anchorage. One pier has 5.18 m. alongside. A concrete wharf is 61 m. long and 2.44 m. deep. There are also 152 m. of private wharves. Belize stands on both sides of the mouth of the river. Vessels anchor about 1.6 to 5 km. from the town according to draft, and discharge into barges.

Storage: 3,773 sq. meters of storage. No refrigerated space.

Cranes: One 35-ton capacity Port Authority crane and one 70-ton cane for hire.

Water: Available.

Container and Ro/Ro Facilities: Available

Tanker Terminals: Available through Esso Standard Oil.

Bunkers: Available in very limited quantities and with prior notice from Esso Standard Oil.

Development: There are plans to dredge the pier and basin to 9.14 m. The pier and port area will also be extended.

Pilotage: Compulsory. Six hours notice required. VHF channel 16.

Local Holiday: March 9 (Baron Bliss Day).

Airport: Belize International 14.4 km.

9.5 Shipping

Shipping lines serving Belize from the United States include coordinated Caribbean Transport, Pan Atlantic, Carigulf, and Nexos Lines. Service is provided from the U.S. ports of Miami, Tampa, New Orleans, Mobile, and Houston.

9.6 Airports

With regular air connections to Miami, New Orleans, San Salvador, San Pedro Sula, and Tegucigalpa (Honduras), Belize City International Airport, 16 km. from the city, has a 1,920 m. foot runway, accommodating aircraft up to a Boeing 720B. The airport is a transport stop for Belize Airways Ltd. (BAL), TACA, and TAN/SASHA. There are an additional 12 government-owned and maintained airstrips and 8 privately-owned airstrips which have runways of approximately 610 m. Given the relatively small number of international passengers, the present facilities at Belize International require only minor improvements. At times there is severe passenger congestion, but this is caused by poor flight scheduling rather than by capacity constraints. On the other hand, improvements to the domestic airport at Ambergris Caye, serving primarily the tourist trade, are urgently needed. The runway needs resurfacing, and terminal facilities are poor.

A major gap in air services is the absence of direct flights to the Caribbean. Such service would not only benefit passengers but also allow for exports and imports within the CARICOM region.

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

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>Aircraft</u> <u>Strength</u> <u>CL</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
17°32'10"N 88°18'20"W	5 30	07/25	0.01	1920	n.a. 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.)

9.7 Personal Entry Requirements

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

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 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 (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; (h) name of aircraft handling and dispatch agent.

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 air-worthiness, pilot's license, and medical certificate. Customs, health and immigration clearances are required.

9.9 Airlines

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

Maya Airways Ltd.: P.O.B. 458, 111 North St., Belize City; internal services; fleet: 4 B N2A Islander, 2 Cessna U 206.

Other: National Air, Tropic Air, Caribee Air, and Su-Bee Air.

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

9.10 Air Distances

From Belize to:	Statute <u>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 Electrical Power

The Belize Electricity Board supplies power through diesel powered generators located in the major cities. Installed capacity for the Belize City area is 8,600 kW, but only four of the six generators are presently in service. Load shedding and power surges are both common. Lack of maintenance is the principal difficulty. Some interest has been expressed in the possibility of using mini-hydroelectric generators for small villages.

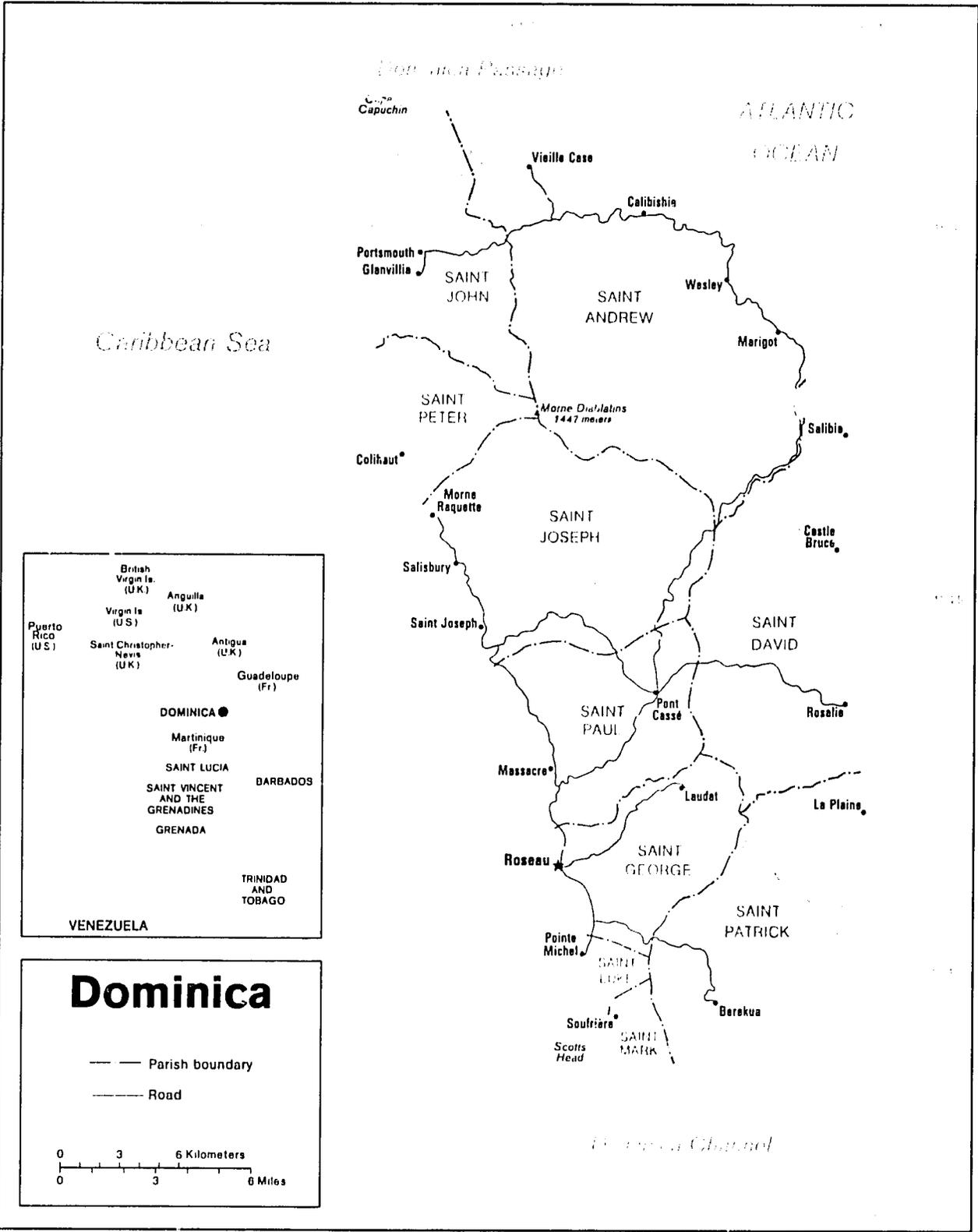
10.2 Telephone System

The present system has 470 trunk lines and 5,230 subscribers. Service is fairly reliable, with interruptions in service occurring relatively infrequently. The Belize Telecommunications Authority is responsible for domestic and Central American service while Cable & Wireless, Ltd. provides telephone service with the rest of the world. Cable & Wireless, Ltd. also provides telegraph, cable, and telex service.

10.3 Radio Network

Radio Belize is the only radio station licensed to broadcast in Belize. The station is operated by the Government of Belize from its studio in Belize City. Broadcasting hours are from 6:00 a.m. to 11:00 p.m. Broadcasts are in both English and Spanish at 834 KHZ on the AM dial, with 20 kW of power.

68,000 radio receivers were in use in 1975. No public television service exists, but growing numbers of people own video systems and operating receivers for other countries' transmissions. Given this situation, the Government has decided to introduce a national television network in the near future.



1. General Information1.1 Geographic Codes

AID Standard	542
State Region	DOA
FIPS	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 Tues.).....	*
Good Friday.....	*
Easter Monday.....	*
May Day.....	May 1
Whit Monday.....	*
Emancipation Day.....	*
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 (December 1982)

Eastern Caribbean Dollar: EC\$ 2.50 = US\$ 1.00

1.5 Time Zones

EST +1; GMT -4

1.6 Visa and Travel Information

Passports are not required for U.S. citizens holding proof of citizenship, such as a birth certificate, expired passport (if photograph still clearly resembles the bearer), U.S. naturalization certificate, or a signed U.S. voter registration card. Permanent U.S. resident aliens must have their U.S. alien registration card to return to the U.S. A driver's license will not suffice as identification. Visas are not required for stays of up to 6 months.

Yellow fever and cholera certificates required of travelers arriving from infected areas. Smallpox vaccination required of travelers over one year of age arriving from a country any part of which is infected.

1.7 Host Mission and Staff in U.S. (August 1982)

Dominica does not currently maintain an embassy in the United States. The Ambassador to the United States, Franklin Baron, is resident in Dominica.

1.8 U.S. Mission and Staff in Dominica (September 1982)

The United States does not maintain a separate embassy in Dominica. However, the U.S. Embassy in Barbados also serves as the embassy for Dominica, St. Vincent, St. Lucia, and Grenada.

Embassy of the United States

P.O. Box 302

Bridgetown, Barbados

Telephone: 63574-7

Ambassador: Milan D. Bish

(See Barbados, Section 1.7, for a complete listing of U.S. Embassy staff.)

1.9 Treaties and Agreements

Investment Guaranty Agreement
Peace Corps

1.10 International Organization Membership

CARICOM, U.N., OAS, CDB, IMF, Eastern Caribbean Currency Authority, World Bank.

1.11 Ethnic and Sociocultural Groups

Most of the population is of Black African descent; 2% is white. About 600 Caribs live mainly in the village of Salybia.

1.12 Religions

Eighty percent of the population is Roman Catholic. Other faiths represented include Anglican and Methodist.

1.13 Languages

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

1.14 Education and Literacy

Education is compulsory and free from ages 5-15. In 1980, the adult literacy rate was 80%.

2. Government

2.1 National Government

On November 3, 1978, Dominica gained independence, dissolving its status as an Associated State of the United Kingdom; defense and external affairs are now the responsibility of Dominica.

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

2.2 Regional Organization

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

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

Village: There are 25 village councils on the island, some of which are nominated and some 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 (November 1982)

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, Heskeith
Attorney General.....David, Roman

2.4 1982 Status

After a period of political instability, 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 Preparedness3.1 Host Disaster Plan

Dominica's disaster plan is designed specifically for hurricanes, although the plan's procedures apply to all other disaster types as well. The Central Hurricane Committee advises the government on damage and regional relief operations; however, the seven district and local hurricane committees are responsible for most of the immediate relief efforts and assessment. District committee chairmen are empowered to initiate most urgent relief measures as they see fit.

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. George
18. The Methodist Superintendent
19. The Director of the Dominica Red Cross
20. The Commissioner of Police
21. The Local Government Commissioner
22. Weather Reporting Officer
23. The Chief Medical Officer - Health and Medical Supplies

3.3 Specialized Services

<u>Function</u>	<u>Officer</u>
Public relations and information	Public Relations Officer
Radiophone and telephone service	Superintendent of Telephones
Road clearance, demolition and construction	Chief Technical Officer
Water repairs	Chairman, Central Water Authority
Labour recruitment	Labour Commissioner
Medical services and first aid	Chief Medical Officer
Sanitation and disposal of dead	Medical Officer of Health
Shipping	Harbour Master
Food and clothing	Welfare Officer, Dominica Red Cross, Chief Agricultural Officer
Shelter	Dominica Red Cross
Messenger service	Island Commissioner, Boy Scouts
	Island Commissioner, Girls Guide
Public protection and collection of homeless	Commissioner of Police

3.4 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; the signal type depends upon whether the warning denotes caution, danger, or cancellation of alert. Procedures in the event of a warning will be posted in the Roseau and Portsmouth Police Stations.

3.5 Disaster Types

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

3.6 Hurricanes David and Frederick

During August 1979, Hurricanes David and Frederick devastated Dominica. Forty-two people died, 2,500 were injured and over 60,000 were left homeless. Approximately 70% of housing and 80% of agricultural crops (100% of banana crop) were destroyed; the newly completed warehouse at Roseau port, and much of Princess Margaret Hospital were also in ruins

(only sturdy concrete buildings withstood the winds). The island's infrastructure and public utilities also suffered severe damage, and for three months the country was without electricity. In spite of considerable aid from foreign governments and private sources, Dominica has yet to fully recover from these disasters.

4. Population4.1 National Population

Because of its mountainous features, the majority of the island's population (60%) resides in clusters along the coasts, particularly the leeward (west) side. The largest population concentration is at Roseau, the capital, and its environs. Portsmouth, on the northwestern coast of the island, is the second largest town.

In 1980, the total population was estimated at 83,690 with an annual rate of increase of 1.2%. The low rate of net population growth results partly from migration of working age males. This migration rate has averaged 0.3-0.4% a year in the last three years and has resulted in a high dependency ratio. Thus, in 1980 the labor force was estimated at only 33% of the total population.

4.2 Population Distribution by Parish

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

4.3 Urban Centers

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

5. Health, Nutrition and Housing5.1 Major Diseases

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

5.2 Vital Statistics (1980)

Crude birth rate (per 1,000)	22.1
Crude death rate (per 1,000)	5.6
Infant mortality (per 1,000 live births)	19.6
% of population under 15 (1976)	43.0
Life expectancy at birth (1958-62)	58.0

Source: World Bank, Economic Memorandum on Dominica, 1981.

5.3 Health Facilities

Princess Margaret Hospital in Roseau is the main facility on Dominica, and includes a tuberculosis ward. In addition, there is a 40-bed hospital in Portsmouth, small cottage hospitals at Marigot, Grand Bay and Stock Farm, and 44 health centers and clinics island-wide. As of 1972, 289 hospital beds were available on Dominica.

Dominica's health services can be characterized as substandard and inadequate to meet 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 1979: 21 physicians, 2 dentists, 239 nurses and nursing assistants, 1 pharmacist, 5 lab technicians, and 3 x-ray technicians.

As of 1977: 1 physician per 4,560 population
1 hospital bed per 230 population

5.5 Housing

The majority of dwellings are old and in deteriorated condition, and lack adequate sanitary facilities. Following the hurricanes of 1979, the housing situation became even worse, with 70% of the island's dwellings destroyed. Over 90% of low cost housing erected in the previous five years was lost.

The Housing Development Corporation is responsible for developing parcels of land, building low and middle-income housing for rent, and selling them for Dominicans. The corporation owns 40 acres of land, and so far has built 375 houses.

Although Dominica has ample supplies of water, developed sources of potable water are inadequate for the 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 the urban population and 56.9% of the rural population had access to piped water.

6. Economy

6.1 Overview of Economy

Dominica is one of the poorest Caribbean islands and is heavily dependent on agriculture. In the first half of the 1970s the economy experienced several years of declining output. The agricultural sector performed badly, infrastructure was neglected, and private investment fell. A moderate recovery in the mid-70s was reversed by increasing social and political instability and the devastation of Hurricanes David and Frederick. In August 1980, Hurricane Allen hit Dominica severely, aborting an incipient recovery of the economy. As a consequence, real GDP declined 8.1% and 1.4% in 1979 and 1980 respectively.

Given the openness of the economy (imports are equivalent to about 70% of GDP), price movements abroad are the main factors influencing domestic inflation. In 1979-80, however, Dominica's inflation rate was twice as high as that of its trading partners, due mainly to shortages related to the hurricanes. Inflation rates of 34% and 25% were registered in 1979 and 1980.

The principal development issues facing the country revolve around releasing the productive potential of the economy to generate increased income and exports while expanding the opportunities for employment. Of central importance in this agriculturally based economy is implementation of appropriate land use and land tenure policies to bring idle and underutilized land into cultivation. In addition, measures are required to strengthen public sector institutions in the areas of management and promotion, to stimulate private entrepreneurship, expand industry, and attract more tourists to the island.

6.2 Public Finances

Public finances are largely determined by Central Government operations as the Central Government budget represents about 80% of total public sector revenue and over 90% of total expenditure. Domestic revenue has not kept pace with GDP growth while current expenditures have increased dramatically. The result has been a widening of the fiscal deficit over the last six years, reaching 11.7% of GDP in 1979-80. The main factor behind the unusually large expenditure increase in 1977-78 was the payment of EC \$8.6 million in backpay (accumulated since 1974) to government employees. In 1979-80, the situation deteriorated further as public sector salaries rose again and the hurricanes of 1979 occasioned substantial revenue losses and relief outlays.

6.3 Balance of Payments

Despite rising exports between 1976 and 1978, Dominica's trade deficit averaged about 28% of GDP due to a strong upward trend in imports. Developments since 1979 have been dominated by the effects of Hurricanes David, Frederick and Allen. Export receipts fell while imports for relief and reconstruction rose substantially. As a result, the trade deficit increased from \$12.6 million in 1978 to \$30 million in 1979 and \$40 million, or 71% of GDP, in 1980.

Balance of Payments, 1977-80 (US \$ million)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>Prelim.</u> <u>1980</u>
Exports (f.o.b.)	12.0	15.9	9.4	8.9
Imports (c.i.f.)	-27.9	-28.5	-39.4	-49.3
Travel (net)	2.7	3.0	2.3	3.0
Interest on public debt	-0.3	-0.4	-0.4	-0.1
Other services (net)	0.3	0.2	7.2	3.1
Private transfers	1.7	3.6	6.8	5.2
Balance on current account and private transfers	-5.5	-6.2	-14.1	-29.2
Official capital	2.0	1.1	0.6	2.1
Private capital	-0.8	-0.1	-12.1	6.5
Official transfers	4.0	5.6	22.6	19.9
SDR allocation	-	-	0.3	0.3
Overall surplus or deficit (-)	-0.3	0.4	-2.7	-0.4

Source: World Bank, Economic Memorandum on Dominica, 1981.

6.4 Industry

Dominica's manufacturing sector is very small, contributing approximately 4% of GDP and providing employment to less than 7% of the labor force. Most enterprises are locally owned, use simple technology, are low-energy consumers, and labor intensive. Coconut processing has been the most dynamic subsector of manufacturing and soap products now represent Dominica's second largest export product. The sector mainly comprises enterprises in agroprocessing, garments, crafts, building materials, rum, cigarettes, and soft drinks. In the last few years, output of the sector rose about 10% a year, but in 1979, a general strike and the hurricane caused a 6.4% decline in output.

6.5 Imports

In the period 1975-80 imports increased by over 17% per year in value terms, and by about 5% per year in volume. In 1980 an even sharper rise was recorded due to restocking and the post-hurricane reconstruction effort.

	<u>Imports, c.i.f.</u> (US \$ million)			
	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Food	6.3	6.2	8.5	5.6
Beverages and tobacco	0.6	1.0	1.2	1.3
Oils and fats	0.2	0.5	0.5	0.4
Crude materials	0.4	0.8	0.5	0.5
Chemicals	2.4	2.8	3.5	3.0
Fuels and lubricants	1.4	1.4	1.6	1.4
Manufactured goods	4.5	4.9	6.0	4.2
Miscellaneous	1.4	1.7	2.1	1.3
Machinery and transport equipment	1.8	2.6	4.6	4.5
Adjustment	-	-	-	7.2*
Relief imports	-	-	-	10.0
Total imports, c.i.f.	19.0	21.9	28.5	39.4

* The adjustment represents the estimated value of unrecorded imports landed during the weeks immediately following the hurricane.

Source: World Bank, Economic Memorandum on Dominica, 1981.

6.6 Exports

Bananas constitute Dominica's principal export product and accounted for 60% of export earnings between 1975-78. Other exports include a variety of fresh fruits and vegetables and processed agricultural products such as lime oil, coconut oil, citrus juices, and soap. Due to hurricane damage, the volume of exports in 1979 fell to about 75% of their 1975 level, and to 61% in 1980. Despite higher unit prices, the value of exports in 1979 and 1980 was about 40% below the level reached in 1978. (See Agricultural Exports, section 7.5.)

7. Agriculture

7.1 Overview of Agriculture

Of crucial importance to Dominica is the worsening state of agriculture, its main economic sector. In 1977 agriculture accounted for 37% of GDP and 80% of export earnings (bananas 57.1% of total exports), and employed 40% of the labor force. But production has been declining throughout the 1970s while no other sector has grown enough to compensate for revenue losses. Declining farmgate prices, increased production costs, poor land use practices, falling yields, and a poor marketing infrastructure, have all led to increased urban migration and unemployment, precipitating a financial crisis in public sector accounts. The situation became even more critical as Hurricanes David, Frederick, and Allen destroyed nearly 100% of the banana crop and severely affected almost every agricultural product. In 1979, agricultural production fell nearly 26%; it declined an additional 16% in 1980.

The Agricultural Marketing Board is the sole exporter of root crops, plantains, citrus, coconuts and other products. The Dominica Banana Grower's Association (DBGGA) is responsible for the marketing of bananas, purchase and sale of fertilizers, packaging, transportation, leaf-spot disease control, and operation of the banana industry insurance scheme. Both agencies suffer from weak management and a shortage of working capital.

7.2 Land Distribution

Land distribution is skewed in favor of large land holdings with 1.4% of the total number of holdings occupying about 56% of the land. A large percentage of farmers are either tenants or own holdings of less than one hectare. The Land Management Authority owns 1,370 hectares of land and manages another 555 hectares on behalf of the Government. The Authority rents lands to farmers and also engages in the production of various crops with hired labor. The Government has recently announced its intention to phase out the Authority and to offer lands for sale to small farmers on a "controlled freehold" basis.

7.3 Crops

The island's chief crops are bananas, coconuts, citrus fruits, and cocoa; lesser crops include plantains, dasheens, tannias, and cinammon.

- Bananas:** This is Dominica's main export crop, accounting for almost 20% of the agricultural sector value added and more than half of exports, and utilizing some 60% of total arable land. Bananas are shipped primarily to the United Kingdom at preferential prices. Declining output was reversed in the mid-1970s as a result of improved crop husbandry and fertilizer use promoted by the DBCA. In 1979, however, production declined by 50% because of leaf-spot disease and the hurricanes, and in 1980 output fell to 17% of the 1978 level.
- Coconuts:** Formerly a relatively important export crop, coconut production has not expanded in recent years. In the 1975-79 period, production fluctuated around 11,000 long tons, but in 1980 the crop was less than 4,000 tons, a decline of 70% due to hurricane damage. Most coconut production is now being processed locally into soap and other products for export.
- Citrus:** Dominica's grapefruits find a seasonal market in Europe between the crops of larger producers. Most limes and oranges are processed into juices for export. Production of the latter fell 50% in 1979 while grapefruit output declined nearly 40%.
- Other crops:** In the last five years output of domestic food crops such as dasheens, tannias, cucumbers, and plantains, has increased significantly and their contribution to agricultural value added has almost doubled. Some of these crops are now being exported to neighboring islands.

Production of Selected Agricultural Products (long tons*)

	<u>1978</u>	<u>1979</u>	<u>1980</u>
Bananas	47,484	23,945	13,684
Coconuts*	12,251	11,721	9,161
Limes	8,371	3,350	4,350
Grapefruit	9,866	5,920	6,800
Oranges	3,188	1,913	2,400
Dasheen	13,726	10,208	10,800
Tannia	6,335	5,109	5,300
Yams	4,031	2,793	3,100
Plantains	2,710	2,028	2,600
Cocoa	695	382	400

* 1 long ton is equivalent to 1,700 nuts

Source: World Bank, Economic Memorandum on Dominica, 1981.

7.4 Agricultural Imports

Increased production of staple foodcrops has resulted in a gradual decline in food imports in recent years. (See also Imports, Section 6.5.)

7.5 Agricultural Exports

Agricultural products account for 80% of exports. However, poor output and severe hurricane damage in recent years has seriously restricted export earnings.

	<u>Exports, f.o.b.</u> (US \$ million)		
	<u>1977</u>	<u>1978</u>	<u>1979</u>
Bananas	6.9	9.2	4.4
Cocoa	0.1	0.1	0.1
Coconuts	0.2	0.3	0.2
Coconut meal	0.1	0.1	0.1
Coconut oil	0.7	0.8	0.6
Grapefruit	0.4	0.7	0.2
Grapefruit juice	0.5	0.4	0.2
Limes	0.1	0.1	0.1
Lime juice	0.3	0.3	0.2
Oranges	0.1	0.2	-
Fresh vegetables	0.3	0.3	0.1
Plantains	0.1	0.2	0.1
Toilet and laundry soap	0.9	1.9	1.7
Total domestic exports	11.7	15.7	9.1
Re-exports	0.3	0.2	0.3
Total exports	12.0	15.9	9.4

Source: World Bank, Economic Memorandum on Dominica, 1981.

8. Physical Geography

8.1 Climate

The tropical heat and humidity of Dominica are tempered by nearly continuous sea breezes which occasionally become hurricanes. From November to March cooler temperatures prevail. The hurricane season is generally around September and lasts about three months. The mountains to some extent neutralize the destructive effects of high winds.

8.2 Rainfall and Temperatures

The west coast is usually drier than the east as the mountains take most of the precipitation from the Atlantic winds. In contrast, 5,000-7,600 mm. may fall on the eastern mountain slopes each year. The Botanical Gardens at Roseau has recorded an 1,800 mm. to 2,000 mm. average per year. June to October is the rainy season, although January may sometimes be wetter than June.

	<u>Rainfall (mm.)</u>			
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Roseau	1,032.25	1,890.00	1,581.91	1,831.08

Temperatures range between 26° and 32° C with only a small diurnal range of perhaps 2 or 3 degrees.

8.3 Land Forms

Dominica is the largest of the Windward Islands, roughly rectangular in shape with rounded projections at both ends; 46.7 km. long and 25.7 km. wide, for a total land area of 790 sq. km. 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 and are rich, but porous and unstable. Approximately 40,500 hectares are occupied by 9,000 farmers; 52% of the land is held by 1% of the farmers, while 75% of farmers occupy less than two hectare farms.

Land Use, 1980

Arable land	24%
Pasture	2%
Forests and woodland	67%
Other	7%
Total	100%

8.5 Waterways

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

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

8.6 Mountains

Dominica is dominated by a high mountain range running the length of the island west of center with two lateral spurs at both ends, all of which contribute to its characteristically rugged scenery. The principal peaks are: Morne au Diable and Morne Brule at the northern projection of the main range; Morne Diablotin (1,446 m.), the highest peak, and Morne Couronne dominate the central area; Morne Trois Pitons is at the southern end; Morne Anglais and Morne Palt Pays dominate the lower end of the island where the mountains terminate in an escarpment of high cliffs to the west and south.

9. Transportation and Logistics9.1 Road Network

All internal traffic is carried by roads. As of 1978 there were 756 km. of "motorable" roads of which 370 km. are asphalted, 270 km. gravel or tarrish (a kind of laterite), 116 km. unsurfaced, and approximately 454 km. of tracks through the forests. Access to the interior is mainly by gravel or unsurfaced roads. Major problems include poor drainage, insufficient maintenance, and no comprehensive rehabilitation program. Some road development is now underway.

Major Road Networks

	Total Paved Width (m.)	Paved Length (km.)	Unpaved Length (km.)
West Coast			
Portsmouth-Layou	3.65	11.2	14.5
Layou-Roseau	3.65	19.3	-
East Coast			
Marigot-Petit Soufriere	-	-	23.0
Petit Soufriere-La Plaine	3.65	7.4	-
La Plaine-Grand Bay	-	-	24.1
Northern Dominica			
Portsmouth-Marigot	3.04	29.0	-
Central Dominica			
Roseau-Pointe Casse	2.13	14.2	-
Pointe Casse-Marigot	2.74	29.0	-
Pointe Casse-Petit Soufriere	3.65	16.1	-
Pointe Casse-Layou Village	3.65	13.5	-
Southern Dominica			
Roseau-Grand Bay	3.04	17.1	-
Roseau-Soufriere	-	-	13.2

Source: Dominica National Plan, 1976.

9.2 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, 45.1 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 arrangements 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., 18:00 to 06:00 hours. Sat. 18:00 to 06:00 hours, also Sun. and Bank Holiday (100% extra).

9.3 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, Harrision Line, Seaway Line, Booker Steamship Co., and Caribbean Shipping Line.

9.4 Airports

The main airport is at Melville Hall in the northeast, 58 km. from Roseau.

Note - 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.

DOMINICA I./Melville Hall

Runway Characteristics (as of 1979)

<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>
15°32'30"N	24	08/26	n.a.	1460		AUW 14	n.a.
61°18'38"W	30.1					PO	

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.)

9.5 Airlines and Air Service

Leeward Islands Air Transport, along with Air Guadeloupe and Air Martinique, provide 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. A locally based company also offers passenger and cargo charter flights using DC-3 aircraft.

9.6 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 Permanent Secretary, Ministry of Communication, Works and Tourism, Roseau, Dominica. Telegraphic address: External Dominica/Telex 03948613 External DO.

9.7 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 Communications10.1 Electric Power

Total installed capacity in 1979 was 6,621 kW, of which 2,840 kW was hydropower; installed diesel capacity (2,250 kW) is used primarily for peak load generation. Three electrical systems supply Dominica: the Roseau system connected to the Trafalgar and Padu power stations serves 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 Vieille Case, Melville Hall Airport and Marigot. Trafalgar hydropower 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 the Roseau area. Melville Hall and Blenheim Stations each have two diesel sets of 220 kW and 120 kW capacity respectively.

The hurricanes of August 1979 did substantial damage to hydroelectric installations and transmission lines, and for three months the island was virtually without public electricity service. The country had to depend on diesel-generated power until May 1980 when one of the hydro units was repaired. A second unit resumed operation in September 1980, and the system was fully restored by mid-1981.

Electricity Generation

	Total Generated ('000 kWh)	Hydroelectric		Diesel	
		('000 kWh)	(%)	('000 kWh)	(%)
1976	15,406	14,125	91.7	1,281	8.3
1977	16,276	14,429	88.7	1,847	11.3
1978	17,358	15,388	88.7	1,970	11.3
1979	12,131	8,930	73.6	3,201	26.4
1980	6,515	3,785	58.1	2,730	41.9

Source: World Bank, Economic Memorandum on Dominica, 1981.

10.2 Telephone System

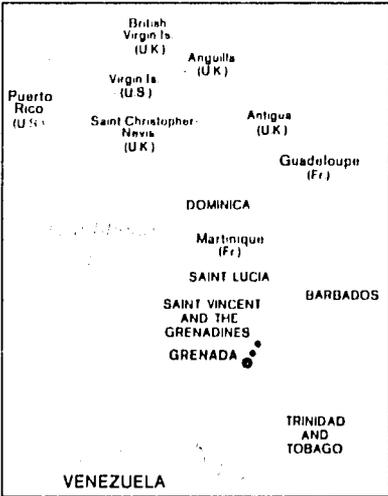
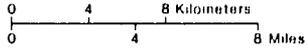
The system consists of eight main exchanges: three at Roseau, and one each at Portsmouth, Marigot, St. Joseph, Canefield, and Grand Bay. Total number of stations is 2,619. The system is fully automatic and is operated by Cable and Wireless Ltd. (West Indies). International telegraph, telephone, and telex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

10.3 Radio Network

Dominica Broadcasting Corporation: Victoria St., Roseau; government station; 10kW transmitter on the medium wave band for 11.5 hrs. per day; programs are received throughout the Caribbean excluding Jamaica and Guyana. There were 9,000 radio receivers in 1977.

Grenada

- ★ National capital
- Parish boundary
- Road



Caribbean Sea

GRENADINES

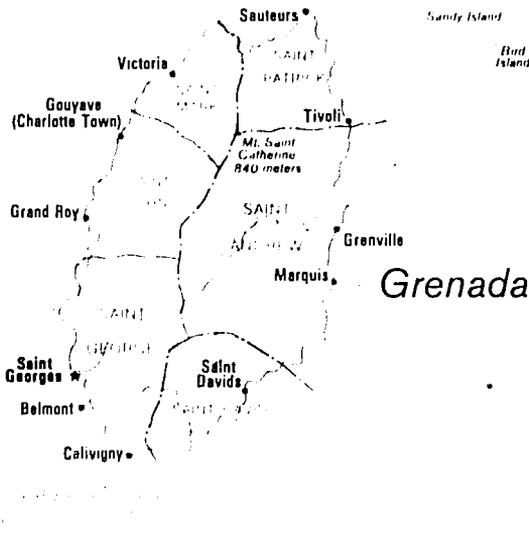
Mayreau
TOBAGO CAYS
Union Island
Ashton
SAINT VINCENT AND THE GRENADINES
Pruno Island
Moutoupin
Pottle-Saint Vincent Island
Little Martinique

Hillsborough
Grand Bay
Carriacou

Selino Island
Frigate Island
Large Island

Diamond Island
Rondo Island
Caille Island
London Bridge
Green Island
Sandy Island
Bud Island

ATLANTIC OCEAN



1. General Information1.1 Geographic Codes

AID	543
State region	ARA
FIPS	GJ

1.2 Country Names

Official	Grenada
Local	Grenada
Short	Grenada

1.3 Calendar and Holidays

New Year's Day.....	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 (December 1982)

East Caribbean Dollar: EC\$ 2.50 = US\$ 1.00

1.5 Time Zones

EST + 1; GMT - 4

1.6 Host Mission and Staff in US (August 1982)

Embassy of Grenada
1704 R St., N.W.
Washington, D.C. 20009
Tel: 265-2561

Ambassador.....Bernard K. Radix
Cultural Attache.....Ms. Irma C. Francis

1.7 US Mission and Staff in Grenada (September 1982)

The United States does not maintain a separate embassy in Grenada. However, the U.S. Embassy in Barbados also serves as the embassy for Grenada, St. Vincent, St. Lucia, and Dominica.

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

Ambassador: Milan D. Bish
(See Barbados, section 1.6, for a complete listing of U.S. Embassy staff.)

1.8 Treaties and Agreements

Investment Guaranties
Peace Corps
Telecommunications
Visas

1.9 International Organization Memberships

CARICOM, G-77 (Group of 77), IMF, IBRD (World Bank), OAS, SELA, UN

1.10 Visa and Travel Information

Passports and visas are not required of US citizens holding return tickets, and who are on a visit to Grenada for a period not exceeding six months.

Cholera and yellow fever vaccinations are required for arrivals from infected areas.

1.11 Ethnic and Sociocultural Groups

Most of the present population is of African descent. There is now little trace of the early Indian population, the Arawaks and the Caribs. A few East Indians and a small community of descendents of European settlers also reside in Grenada.

1.12 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.

1.13 Religions

Seventy percent of the population is Roman Catholic. The Church of England is the largest of the Protestant denominations.

1.14 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. The adult literacy rate in 1977 was 85%. Primary school enrollment in 1977 was 90%.

2. Government

2.1 National Government

Grenada achieved full independence from the United Kingdom in February 1974 after seven years as an Associated State. Since that time, the country has had a parliamentary system of government based on the British model. The executive branch consists of a Prime Minister and Cabinet. There is a bicameral legislature with a 13-member Senate and a 15-member House of Representatives.

On March 13, 1979, the New Joint Endeavor for Welfare, Education, and Liberation (JEWEL) Movement ousted former Prime Minister Sir Eric Gairy in a nearly bloodless coup. Since then, the government has been headed by Maurice Bishop. His People's Revolutionary Government, politically aligned with Cuba, has instituted land reform but has maintained a relatively unchanged free market economy.

2.2 Regional Organization

Grenada is 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 exists at the present time. Grenada also has one dependency, the island of Carriacou.

2.3 Major Government Figures (November 1982)

Governor.....	Scoon, Paul, Sir
Prime Minister.....	Bishop, Maurice
Deputy Prime Minister.....	Coard, Bernard
Min. of Agriculture.....	Louison, George
Min. of Communications, Works & Labor.....	Austin, Hudson, Gen.
Min. of Defense and Interior.....	Bishop, Maurice
Min. of Education, Youth, & Culture	Creft, Jacqueline
Min. of Finance Planning and Trade.....	Coard, Bernard
Min. of Health.....	De Riggs, Christopher
Min. of Housing.....	Bain, Norris, Dr.

3. Disaster Preparedness3.1 Disaster Plan

Grenada does not have a detailed national disaster plan. There is, however, a Central Emergency Relief Organization consisting of representatives of all government departments, public utilities, and voluntary organizations. The Chairman is the Secretary for Home Affairs who reports to the Cabinet. The Emergency Operations Center is the Prime Minister's office.

Areas of responsibility within the Organization are as follows:

<u>Function</u>	<u>Officer/Ministry</u>
Contact with outside world for aid	Cabinet Secretary
Emergency internal communications; transport	Army
Law and order; fire service; search and rescue by land	Police
Pre-disaster requirements of other sections; relief vouchers	Finance Ministry
Pre-disaster publicity and information	Minister of Education
Food and clothing supplies	Minister of Agriculture
Water, port, airport; search and rescue at sea; public buildings; roads, bridges and restoration.	Ministry of Communication and Works
Electricity, internal and external telecommunications; radio and television	Ministry of Social Affairs
Emergency shelter	Minister of Housing
Medical care	Minister of Health

3.2 U.S. Plan

There is no specific U.S. plan for Grenada, but there is a regional plan for the Eastern Caribbean which includes this island. See Antigua, section 3.4, Regional Disaster Plan.

3.3 Disaster Types

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

4. Population4.1 National Population

The national population was estimated at 108,000 in January 1980. St. George's, the capital and chief commercial center, had about 30,000 in 1980. The growth rate is about 2% a year.

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

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

5.2 Vital Statistics

Birth rate/1000 population, 1980.....	24.0
Death rate/1000 population, 1980.....	7.3
Infant mortality/1000 live births, 1980.....	15.4
Annual growth rate, 1975-80.....	2.0%
Life expectancy at birth, 1979.....	63 yrs.

5.3 Health Facilities

The main hospital is Grenada General in St. George's with 240 beds. Services include adult and pediatric medicine and surgery, obstetrics and gynecology, and casualty and outpatient services; special facilities consist of an operating theater, two 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 a separate wing for Hansen's disease); a TB sanatorium (60 beds); and the Kennedy Home for Handicapped Children (24 beds).

6. Economy

6.1 Overview of Economy

The performance of the Grenadian economy is largely determined by developments in export agriculture and tourism, the two major sectors of the economy. In the early 1970s, the dislocation of estate farming and the disruption of tourism and foreign trade due to internal political unrest, culminated in a 20% decline in GDP by 1974. With the recovery of both sectors, output rose sharply in 1975-76 and continued to expand at about 7.5% a year during 1977-78. The growth in tourism leveled off in 1979-80, while agriculture was adversely affected by floods in 1979 and a major hurricane in 1980. In spite of a tripling of construction activity which somewhat compensated for the setback in these sectors, output rose by only 2% in 1979 and declined by 1% in 1980.

In addition to agriculture and tourism, there is also a small manufacturing sector which accounts for less than 5% of GDP. Most industry consists of the processing of agricultural commodities and is geared to the domestic market. Major products include rum, beer, malt, coconut products, and sugar. Production, which tends to fluctuate according to the availability of agricultural inputs, fell in 1980. Construction activity, following steady declines during the last several years, tripled in 1980 owing mainly to the construction of a new international airport.

Because of its large external sector and open nature, Grenada's economy is very vulnerable to changes in international prices and demand. In spite of a system of price controls, rising petroleum prices spurred inflation to its 1980 level of 22%.

Severe unemployment continues to be a serious problem in Grenada and is estimated to be between 30% and 40% of the labor force.

6.2 Balance of Payments

As a member of the East Caribbean Currency Authority, Grenada has no central bank, and the Government's holdings of foreign assets are very small. Consequently, the balance of payments is dependent upon the private sector's willingness to increase its net foreign exchange liabilities and the Government's limited capacity to borrow abroad. Except for a near balance in 1977 and 1980, the overall balance of payments position has been in deficit since 1975 and has been financed largely by net IMF borrowing.

Balance of Payments
(US \$ millions)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>Est.</u> <u>1980</u>
Merchandise exports (f.o.b.)	14.2	17.0	21.7	15.8
Merchandise imports (c.i.f.)	-31.4	-35.7	-53.6	-55.0
Travel (gross)	11.6	14.3	15.3	16.9
Other services and transfers	6.8	-0.1	27.4	21.7
Balance on current account	1.2	-4.5	10.8	-0.6
Official capital (net)	2.1	0.4	2.0	2.0
Private capital (net)	-3.2	2.6	-14.4	-1.6
IMF transactions and operations	-	0.2	0.8	0.5
Overall balance	0.1	-1.3	-0.8	0.3

Source: World Bank, Grenada, Recent Economic Developments, 1981.

6.3 Imports

In the last few years, merchandise imports changed structurally as their total value reached a new peak in 1979 and their composition adjusted to accommodate more producer goods. Between 1975 and 1978, import value grew at an average annual rate of 13.7%. In 1979, total value increased by 50%, reflecting the huge increase in investment goods, fertilizer, and cement. The import of machinery and equipment for the airport construction alone was \$10 million. In 1980 the growth rate of import value decelerated sharply due to the low level of investment activity in the private sector and reduced airport-related imports.

Merchandise Imports by End Use
(US \$ million)

	<u>1978</u>	<u>1979</u>	<u>1980</u>
Food, beverages, tobacco	13.3	14.3	16.7
Capital goods	5.4	7.5	7.5
Fertilizers	0.4	0.9	1.2
Cement	0.5	0.7	0.8
Petroleum and products	2.4	3.6	4.4
Airport-related imports	-	10.0	4.4
Other	13.7	16.6	20.0
Total merchandise imports	35.7	53.6	55.0

Annual Percentage Change in Import Value

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Value	24.1	13.7	50.2 (22.1)	2.6 (16.1)

Note: Figures in brackets refer to all imports excluding those directly related to the construction of the new airport.

Source: World Bank, Grenada Recent Economic Developments, 1981.

6.4 Exports

See section 7.3, Agricultural Exports.

7. Agriculture

7.1 Overview of Agriculture

Agriculture is the basis of Grenada's economy, accounting for 24% of GDP in 1980 and employing about 35% of the labor force. Agricultural output has, however, remained substantially below its full potential since the mid-1960s due to structural problems of land holding and land use. These basic problems have been exacerbated by poor cultivation practices, inadequate infrastructure, lack of agricultural credit, and unfavorable weather conditions in the early 1970s. After a strong recovery in 1975 and 1976, output leveled off because of adverse weather, plant disease, and reduced acreage. As a result of damage from floods in 1979 and Hurricane Allen in 1980, agricultural output declined nearly 10% in 1980.

The Government has recently embarked on a comprehensive agricultural investment program aimed at rehabilitating primary agriculture and developing agroindustry. The Government has already established agricultural and fishing training schools and a land reform commission to reactivate 1,600 hectares of idle land. Other major projects include the cocoa rehabilitation program and expansion of the fruit processing plant.

7.2 Crops and Production

The three main crops are nutmeg, cocoa, and bananas. The production of nutmeg is subject to a biennial botanical cycle and reached a peak at 5.4 million lbs. in 1977. As the trough of the cycle coincided with the incidence of nutmeg tree wilt, output fell 14% in 1978. The recovery was interrupted by hurricane damage which resulted in an 8% drop in output to 4.9 million lbs. in 1980.

Cocoa is grown throughout the island except in the dry south and northeast, and the central highlands. Its peak production level was 5.7 million lbs. in 1976. Output has fallen in recent years due to adverse weather.

From 1976 to 1979, banana production gradually declined because of the incidence of ring disease and reduction in acreage. As a consequence of the hurricane, output fell another 17% in 1980.

A wide variety of other crops is grown for local consumption. These include yams, sweet potatoes, tannia, edoe, dasheen, pumpkin, corn, and cassava. Several thousand hectares are grown almost exclusively by smallholders, usually on steep land. Production is seasonal, according to rainfall, and prices fluctuate considerably.

Production of Major Agricultural Products
(in lbs. millions)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Cocoa	4.85	5.47	5.53	4.85
Bananas	33.60	34.50	32.40	27.00
Nutmeg	5.37	4.63	5.28	4.90
Mace	0.69	0.58	0.64	0.60

Source: World Bank, Grenada Recent Economic Developments, 1981.

7.3 Agricultural Exports

The value of Grenada's exports rose at an average rate of 11.4% per annum between 1975 and 1979. During this period, exports of cocoa, bananas, nutmeg, and mace constituted about 94% of the total value of domestic exports. In 1980 the value of all four exports declined because of decreased domestic production due to hurricane damage, lower export prices for cocoa, and the slow rise in nutmeg prices.

Major Agricultural Exports
(US \$ millions)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Cocoa	3.29	7.25	10.01	6.35
Bananas	3.20	3.45	3.87	3.68
Nutmeg	5.93	3.98	4.60	3.10
Mace	0.60	0.65	0.89	0.53
Fresh fruits	0.05	0.21	0.40	0.30

Source: World Bank, Grenada Recent Economic Developments, 1981.

8. Physical Geography

8.1 Climate

The climate of Grenada is tropical with average annual temperatures of about 28°C. A mild dry season lasts from January to May with night temperatures dropping to 16°-18°C. The rest of the year is wet; the average temperature rises to 32°C and the humidity remains high day and night. Rainfall varies from 152 cm. per year in the coastal districts to 381-508 cm. in the mountains. The prevailing northeast trade winds blow across the highlands and there is no rain-shadow area as such. Carriacou has an average annual rainfall of about 127 cm. The hurricane season extends from June to December.

8.2 Land Forms

Grenada is the most southern of the Windward Islands and is located 109 km. south/southwest of St. Vincent and 145 km. north of Trinidad. The mainland is about 34 km. long and 19 km. at the widest point for a total area of 310 sq. km. Carriacou, the largest island dependency, is 34 sq. km.

With the exception of some limestone in the north, Grenada is wholly volcanic. Most of the island is mountainous and thickly wooded. In the center of the island is a verdant rain forest. The country is traversed by a mountain ridge that forms a spine down the length of the island. Lakes have formed in the craters of three of the extinct volcanoes along this ridge; the largest of these is Grand Etang. The highest peak is Mt. St. Catherine at 840 m. The southern coast has an uneven, deeply indented coastline with several natural harbors and sandy beaches.

8.3 Land Use

Land Use, 1980

Cultivated	44%
Pastures	4%
Forests	12%
Unused but potentially productive	17%
Built on, wasteland, other	23%

Source: CIA, National Basic Intelligence Factbook, 1981.

9. Transportation and Logistics

9.1 Road Network

There are 303 km. of primary roads, 220 km. of secondary roads, and 386 km. of tertiary roads. Of this total, about 579 km. are asphalted; major reconstruction is needed on most roads and bridges.

Main north-south roads: Sauteurs - Tivoli - Grenville -
and links 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

The chief port is St. George's. Grenville on the mainland and Hillborough on Carriacou are 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 a 243.8 m. pier with 8.53 m. draft. Vessels up to 182.9 m. length 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 Jones Browne & Hubbard Ltd.

Cranes: One 10-ton mobile crane; 8 forklifts.

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. Two pilots available.

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 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

The main airport is at Pearls, 29 km. 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

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>
12°09'N 61°37'W	9 0.6	08/26	n.a.	1,615	n.a.	n.a.	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), 32 km. north of Grenada. Runway: Direction 094°/274°. Dimensions: 549 m. by 46 m.

Lauriston is restricted to aircraft whose weight does not exceed 5,443 kg. 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 is generated and distributed by Grenada Electricity Services Ltd. which was formed jointly by the Government and the Commonwealth Development Corporation. Power is supplied by diesel generators at Queen's Park Power Station, St. George's. There are five 11,000 volt, 50 Hz, earthed-neutral, radial overhead lines distributing to all townships and districts en route, as well as to residential, commercial, and industrial developments.

In 1979, 20.1 million kWh were consumed, or 230 kWh per capita. Total generating capacity is 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. In 1979 there were 5,200 telephones (4.9 per 100 population).

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

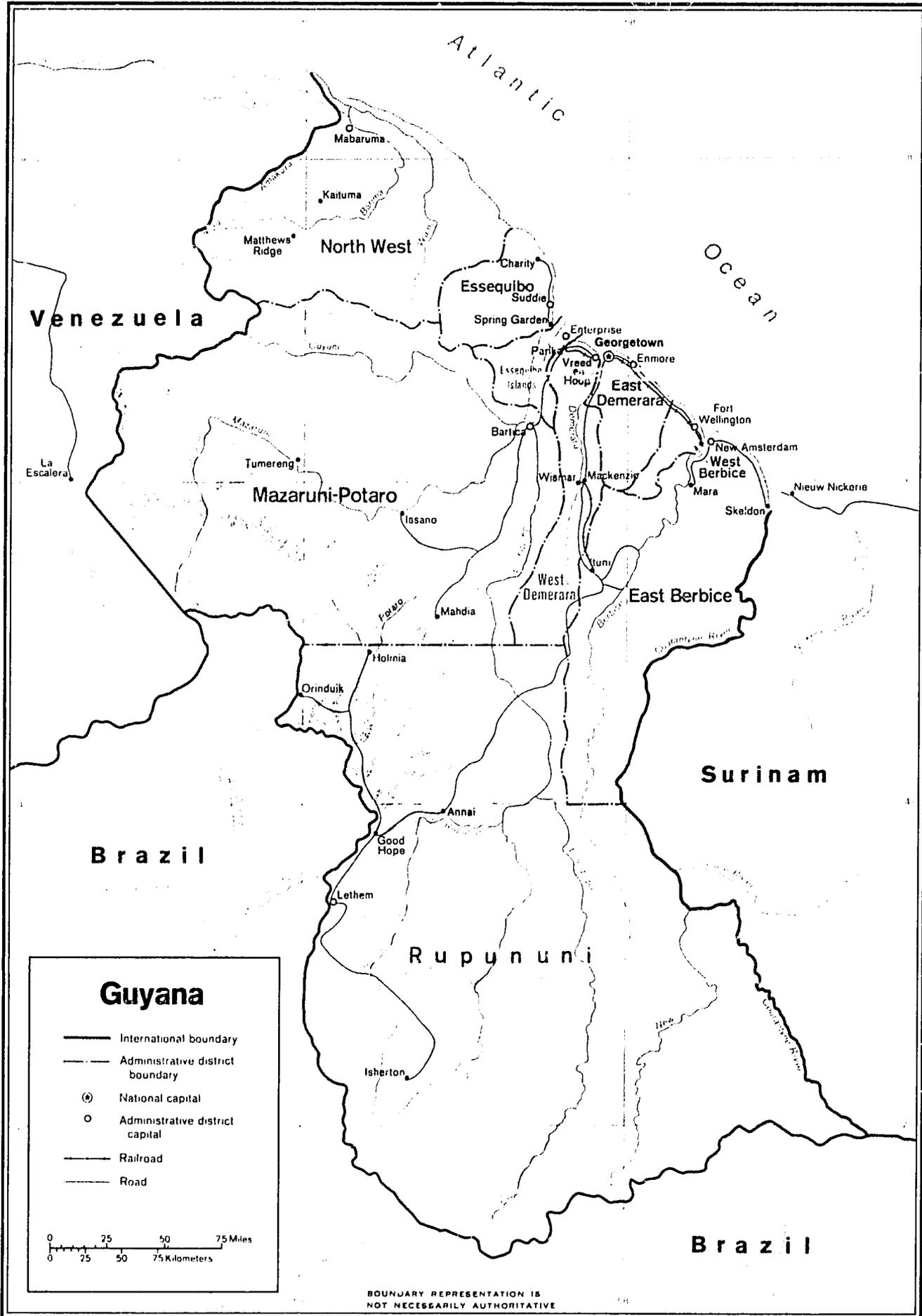
The government owns and operates the telephone service in Carriacou, where there is a VHF radio-telephone link into the Grenada telephone system.

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 located in St. George's, transmits programs for 2 1/2 hours per day, six days each week.



Atlantic Ocean

Ocean

Venezuela

Surinam

Brazil

Brazil

North West

Mazaruni-Potaro

Rupununi

Essequibo

Georgetown

East Demerara

East Berbice

West Berbice

West Demerara

Guyana

- International boundary
- - - Administrative district boundary
- ⊕ National capital
- Administrative district capital
- Railroad
- - - Road

0 25 50 75 Miles
0 25 50 75 Kilometers

BOUNDARY REPRESENTATION IS NOT NECESSARILY AUTHORITY

1. General Information1.1 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 (December 1982)

Guyana Dollar: G\$ 2.50 = US\$ 1.00

1.5 Time Zones

EST + 2; GMT - 3

1.6 US Mission and Staff to Guyana (September 1982)

Embassy of the United States
31 Main Street
Georgetown (E)
Telephone: 02-54900

Ambassador.....Gerald E. Thomas
Deputy Chief of Mission.....David K. Beall
Economic/Commercial Section.....Karen Brown
Political Section.....Thomas W. Sonandres
Consul, Consular Section.....Micaela A. Cella
Labor Section.....Anthony M. Kern
Administrative Section.....Clyde E. Nora
Agricultural Section.....Harry C. Bryan
Agency for International Development.....Harry P. Johnson
Public Affairs Officer.....Thavanh Svengsouk

1.7 Host Mission and Staff in US (August 1982)

Embassy of Guyana
2490 Tracy Pl., N.W.
Washington, D.C. 20008
Telephone: (202) 265-6900-03

Ambassador.....Dr. Cedric Hilburn Grant
First Secretary.....Patrick W. Pahalan
Second Secretary.....Elma Rockcliffe

Consulates: New York, Indiana, Florida, California, Texas

1.8 Treaties and Agreements

Agricultural Commodities
Aviation
Consuls
Defense and Mutual Security
Economic and Technical Cooperation
Extradition
Investment Guarantees
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,

1.10 Visa and Travel Information

Passports are required. Visas are not required for stays of up to six months. Return tickets or proof of means of departure must be held by all visitors to Guyana.

Cholera and yellow fever vaccinations are required for arrivals from infected areas. Typhoid, paratyphoid, and polio are recommended by the U.S. Public Health Service.

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 the total. Blacks (31%) and people of mixed black-white descent (12% and the most common of many racial mixtures) are primarily urban dwellers.

The indigenous peoples (Amerindians) make up 4-5% of the 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 the forest regions. Many Amerindians are employed in cattle and logging industries.

A small minority of whites (predominantly Portuguese) and Chinese, constitute about 2% of the population. These minorities have a disproportionate influence in the country and are active in urban businesses and professions.

1.12 Languages

English is the official and commercial language although Creole is widely understood and spoken and might be considered the lingua franca. Hindi and Urdu are used for religious purposes; the former is still spoken by older East Indians. About nine distinct tribal dialects are spoken by Amerindians. Spanish is taught in the secondary schools.

1.13 Religions

The constitution guarantees freedom of worship. The major faiths are Christianity (57%), Hinduism (34%) and Islam (9%). The largest of many Christian denominations are the Anglican Church (about 170,000 members) and the 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. The literacy rate is estimated to be 90%.

2. Government2.1 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 the 1980 Constitution executive power is held by the President, who leads the majority party in the National Assembly and holds office for its duration. The President appoints and leads a cabinet, including a Prime Minister. The cabinet is collectively responsible to the National Assembly.

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 the 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 1982 Status

Since independence, Guyana politics have been dominated by the People's National Congress (PNC), founded by Forbes Burnham in 1955, after he broke away from Cheddi Jagan's People's Progressive Party. The PNC is the main spokesman for the African community, while the PPP draws its support largely from the East Indian population. Both parties openly espouse Marxist-Leninist doctrine. The United Force Party, a member of the government coalition from 1964-1968, represents conservative business and other interests and is supported by whites, Amerindians, and other minorities opposed to communism. The Working People's Alliance, a coalition of left-wing groups, has emerged as the most vocal of the opposition groups appealing to both African and East Indian constituencies.

Prime Minister Forbes Burnham assumed the office of President in October, 1980, when the new constitution expanding the powers of that office went into effect. He has stated that he intends to establish Guyana as the first "orthodox Socialist state" in South America, and has sent all key civil servants to Marxist indoctrination courses. In recent years, government control over the economy and nationalization of foreign business interests has increased as a result of this political ideology.

2.3 Regional Organization

Guyana is divided into six administrative regions containing nine districts. A regional minister is in charge of one or more districts and daily administration is in the hands of a commissioner.

Administrative Regions, 1982

<u>Regions</u>	<u>Ministers</u>
East Berbice and Corentyne	Oscar E. Clarke
Mazaruni - Potaro	Kenneth Bancroft
East Demerara and West Coast	Seeram Prashed
Rupununi	Fitz U. A. Carmichael
Essequibo Coast and West Demerara	Joshua P. Chowritmootoo
North West	Leonard A. Durant

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 (November 1982)

Executive President.....	Burnham, Forbes
First Vice President (Public Service).....	Reid, Ptolemy A.
Vice President (Economic Planning & Finance)....	Hoyte, Hugh Desmond
Vice President (Agriculture & Public Welfare)...	Green, Hamilton
Vice President (Works, Transport & Housing)....	Naraine, Steve S.
Vice President (Party & State Matters).....	Ramsaroop, Bishwaishwar
Prime Minister.....	Reid, Ptolemy A.
Min. of Agriculture.....	Maitland-Singh, Jean
Min. of Defense.....	Burnham, Forbes
Min. of Economic Development.....	Sallahuddin
Min. of Energy & Mines.....	Jack, Hubert O.
Min. of Foreign Affairs.....	Jackson, Rashleigh
Min. of Health.....	Van West-Charles, R.
Min. of Justice.....	Shahabuddeen, Mohamed
Min. of Natl. and Regional Development.....	Corbin, Robert
Min. of Public Service.....	Harewood-Benn, Yvonne
Min. of Office of President.....	Rashid, Harun

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 (GRC), Eve Leary, Georgetown.
Cable: GUYCROSS Georgetown. Telex: GY226 Georgetown.
Tel: 02-65174.

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

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

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

U.N. Development Program (UNDP): 42 Brickdam, Georgetown.
Cable: UNDEVPRO Georgetown.
Tel: 64040.

3.4 Food Supplies

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

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

3.5 Storage

Storage and warehousing facilities were considered inadequate in 1970. Some storage is available on the piers of Georgetown and New Amsterdam ports.

3.6 Disaster Types and History

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

Disaster History

<u>Date</u>	<u>Disaster Type</u>	<u>Number Killed</u>	<u>Number Affected</u>	<u>Damage ('000)</u>
1964	Civil Strife	150	13,500	\$2,900
07/14/71	Flood	n.a.	21,000	200
04/12/78	Power Shortage	n.a.	250,000	n.a.
11/18/78	People's Temple Accident	900	n.a.	n.a.
12/06/79	Fire	1	n.a.	n.a.

Source: OFDA Disaster History on file in Washington, D.C. covers 1900-present.

3.7 US Volags

Sisters of Mercy (R.S.M)
P.O. Box 10461, Georgetown
Tel: 64856

Provides administrators and teachers to schools. Manages and staffs St. Joseph's Hospital (124 beds), in Georgetown. Administers an orphanage in Plaisance and a night-shelter for homeless women in Georgetown.

Salvation Army

5 Church Street, P.O. Box 259
Georgetown, Tel: 66638

Operates four schools and non-formal education programs at 20 centers. Operates a feeding center for severely malnourished children and a food depot in Georgetown. Provides counseling services at 22 centers.

Seventh-day Adventist World Service

Operates Davis Indian Training School, Georgetown Academy, and Davis Memorial Clinic and Hospital in Georgetown.

Wesleyan Church

P.O. Box 693, Georgetown
Tel: 61758

Runs two small clinics in the interior jungle region.

Young Women's Christian Association

106 Brickdam, Georgetown
Tel: 65618/64295

Supports the Early School Leavers Centre, a training program that prepares young women for employment.

4. Population

4.1 National Population

In 1982, the estimated population was 797,000. The rate of growth for the period 1970 to 1981 was 1%. The age profile shows 44% of the population under 14 years old, and a consequently high dependency ratio. Substantial emigration, particularly among males, has occurred in recent years and is largely attributable to frustrations with the country's economic and political problems.

4.2 Regional Distribution

Population distribution is extremely uneven: over 90% of the population is concentrated on 4% of the available land in the narrow coastal region, while vast areas of the interior are virtually uninhabited. The overall population density is 3.7 per sq. km., rising to 22 per sq. km. in agricultural areas. Although the urban growth rate at 10% is five times the national growth rate, the society is still considered to be predominantly rural. The majority of people live in small villages along the estuary of the Demerara River and near the mouths of the Berbice and Courentyne rivers. The urban-rural distribution is closely related to the country's ethnic composition. Although East Indians constitute a numerical majority in the nation, they account for less than one-fourth of the urban population while the Afro-Guyanese constitute over 70%. Nearly 45% of the Afro-Guyanese live in the cities of Georgetown and New Amsterdam, as do two-thirds of the Europeans and Chinese. The major urban areas are Georgetown, New Amsterdam, Linden, Corriverton, and Rose Hall.

5. Health, Nutrition and Housing

5.1 Health Sector Overview

Among the many complex factors determining health conditions is a drainage problem in the low-lying coastal areas which contributes to mosquito breeding and vector-borne diseases. In spite of a PAHO-sponsored malaria control program, 3,202 cases were registered in 1980. 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 the high incidence of enteroparasitic diseases. Helminthiasis is common, especially in rural areas, and gastroenteritis and protein-calorie malnutrition particularly afflict children. Reported cases of diseases per 100,000 population in 1979 were as follows: measles 108.5; diphtheria 0.6; tetanus 3.2; tuberculosis 8.2. 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, 1982	29
Deaths/1000 population, 1982	7.6
Infant mortality/1000 live births, 1980	44
Life expectancy at birth, 1975-80	69 years

5.3 Health Facilities

The majority of health services are publicly provided through facilities in six regions. The intent is to provide an 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, largely 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 the benefit of their employees, completes the network.

Hospital beds in 1975 numbered 3,969 in 42 hospitals or one bed per 199 inhabitants.

5.4 Health Personnel

A chronic shortage of health personnel, especially in rural areas, is aggravated by the migration of many trained people in the medical field to other countries and more attractive positions abroad. Physicians are not available in sufficient numbers and are concentrated in urban areas. In 1974 there were 237 physicians in the country, or one physician per 3,249 inhabitants, 22 dentists, and seven pharmacists.

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

5.5 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, blackeyed beans, soybeans, red kidney beans

Fish: cod and fresh fish

Beverages: coffee, rum, tea, milk

5.6 Nutrition

Place of residence (urban or rural), income, and ethnic differences are major factors in determining nutritional status. Over 40% of Guyanese children under the age of five suffer some degree of malnutrition, with approximately 10% judged to be moderately to severely malnourished. 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, most often severe in pregnant women, suggested the 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 the growing public awareness concerning nutrition into action programs.

Amerindians hunt, fish and cultivate a number of crops, supplementing their diet with a variety of berries, reptiles, game, and insects. As a result, their diet may be richer in protein and vitamins than that of the more affluent populations.

5.7 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 the street by foot bridges which cross the drainage ditches that run parallel to the streets. Tenements from old barracks are frequently used for plantation housing; tenements are also found in Georgetown.

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

6. Economy

6.1 Overview of Economy

Guyana's export-oriented economy is based primarily on the production of sugar, rice, bauxite, and alumina. With the exception of bauxite mining, economic activity is limited to a narrow coastal strip, leaving the country's vast hinterland and its forest and hydropower reserves largely undeveloped. Since independence the government has played an increasing role in the economy by expanding state enterprises, creating state-owned financial institutions, and nationalizing the bauxite/alumina and sugar industries. High priority has been given to an equitable distribution of income and to the provision of basic social services, in part through the development of the cooperative sector.

Economic developments during the 1970s, particularly during the second half of the decade, have on balance been unfavorable. By 1981, per capita income was US \$690, nearly 30% below the level reached in 1975. Although external developments, particularly the sharp rises in oil prices, have been a negative effect on Guyana's economy, the fundamental cause of the country's problems has been low productivity in all sectors, most significantly in the production of bauxite and sugar. Reasons for this low productivity include inefficient public sector management, poor incentives to the private sector, and the continued emigration of skilled and experienced human resources.

In spite of Government measures to address the structural problems of the economy, the economic situation has deteriorated continuously since 1977, with the exception of a partial recovery in 1980. In 1981, GDP declined 1% as output of the key productive sectors, in particular bauxite and rice, remained well below the Government's program targets. Production and export problems were compounded by a worsening of the terms of trade as international sugar prices fell. Government finances also deteriorated as current expenditures continued to grow more rapidly than current revenues. In addition, capital expenditures expanded to nearly US \$175 million in 1981, doubling the total public sector deficit to more than \$250 million, or 40% of GDP.

Faced with this severe economic crisis, the Government has adopted a new action program which aims at improving efficiency in production by strengthening public sector management, encouraging private sector expansion, decentralizing public sector functions, and rationalizing the regulatory framework. Prospects for the future will depend upon the success of this program.

6.2 GNPGross National Product, 1981

	US \$mil.	%	Annual Rate of Growth (%, constant prices)		
			1970-75	1975-80	1981
GNP at Market Prices	560.7	100.0	5.2	-0.6	-3.1
Gross Domestic Investment	203.7	36.3	10.6	-11.0	16.5
Gross National Saving	5.3	0.9	19.1	-13.5	-80.3
Current Account Balance	-198.4	35.4	-	-	-
Exports of Goods, NFS	366.6	65.4	-2.3	-3.5	-4.2
Imports of Goods, NFS	509.5	90.9	3.1	-7.2	5.3

Source: World Bank, Guyana, Recent Developments and Short-Term Prospects, 1982.

6.3 Balance of Payments

Following a strong improvement in 1978, the balance of payments steadily deteriorated during 1979-81. Net international reserves fell by US \$135 million during 1979-80, while gross reserves dropped from more than two months of imports in 1978, to less than two weeks by the end of 1980. In 1981, the situation worsened, as the production performance in key economic sectors was poor while public expenditures continued to expand. The export value of all major commodities declined while imports rose. As a result, both the resource gap and the current account deficit doubled to 23% and 32% of GDP respectively.

6.4 Imports

The value of merchandise imports has climbed steadily in recent years. In 1980, a 10% rise reflected increases in the fuel bill, resulting from the doubling of oil prices in 1979/80 and higher levels of bauxite sector activity, and in capital good imports to support the expansion of public investment. In 1981, an 11% rise was due to increased volumes for all major import categories except fuel, whose volume declined in response to the depressed state of the bauxite industry. However, fuel and lubricants continued to represent the largest share of imports (34% in 1981), illustrating Guyana's dependency upon imported energy sources. In general, consumer goods have been kept under strict surveillance and control because of chronic balance of payments problems.

6.5 Exports

Guyana's principal exports are bauxite products, sugar, and rice. Due to the aforementioned production problems, export levels of those products have been disappointing for most of the past five years. An exception was 1980, when the recovery of bauxite sector exports and favorable price developments for all major export commodities contributed to a more than 30% increase in export earnings. The following year saw a reversal of this trend as the output of all major export commodities (except sugar), declined and remained far below capacity level. The combined effect of lower export volumes and a drop in average export prices, particularly the 17% fall in average sugar prices, was a 12% decline in the value of merchandise exports to US \$342 million.

	<u>Exports, 1978-81</u>			
	<u>(US \$ Million)</u>			
	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Bauxite Sector	130.3	128.4	187.9	152.2
Dried Metal	19.1	21.6	24.4	27.8
Calcined	79.3	85.7	119.8	91.6
Alumina	31.9	21.1	43.7	32.8
Sugar	92.0	90.4	120.8	106.3
Rice	37.6	31.7	34.1	39.1
Other	35.6	42.0	46.1	44.4
Total Goods	295.5	292.5	388.9	342.0
Non Factor Services	18.1	18.4	19.7	24.6
Total Goods and NFS	313.6	311.0	408.6	366.6

Source: World Bank, Guyana, Recent Developments and Short-Term Prospects, 1982.

Direction of Trade, 1976

	<u>Imports (%)</u>	<u>Exports (%)</u>
United Kingdom	23.0	26.9
United States	28.5	20.0
Trinidad and Tobago	19.1	6.6
Algeria	n.a.	7.9
Japan	4.4	n.a.
Canada	4.2	n.a.
Federal Republic of Germany	n.a.	6.0
Other	32.6	20.8

Source: Encyclopedia of the Third World, 1982.

7. Agriculture

7.1 Overview of Agriculture

Agriculture, mainly sugar and rice production, continues to dominate the economy, accounting for an average of 25% of GDP and nearly half of all exports. However, since 1976, the overall performance of the sector has been poor due to a number of complex factors: poor labor relations resulting in work stoppages, especially in the sugar subsector; adverse weather patterns; inadequate flood control and irrigation, particularly for rice; problems associated with pest and disease control; and the lack of key agricultural inputs such as fertilizers, equipment and spare parts.

The country is divided into three agricultural zones: the coastal strip, the forest, and the savanna. Agriculture is at present limited to the coastal plain between the Essequibo and Corentyne Rivers, but even here most of the land lies in part below the high tide mark of the sea and rivers. Agricultural expansion, therefore, requires heavy expenditures on dikes and dams.

Guyana has a two-crop economy based on sugar and rice. However, the sugar plantations also produce bananas and the rice farmers also produce coconuts, coffee, cocoa, and citrus fruits.

Livestock has been decreasing in numbers because of a shortage of pastures and reduced demand for draft animals. In 1978 the livestock population was 270,000 cattle, 135,000 pigs, 112,000 sheep, and 66,000 goats.

Forests cover 72% of the land area, but only 20% of this is accessible to commercial exploitation. Most of the forest consists of hardwoods, especially greenheart which is exported.

Coastal and inland waters are rich in a wide variety of fish, especially shrimp which is exported. The fish catch in 1977 was 21,800 tons.

7.2 Export Crops

Sugar and its byproducts exceed the combined value of all other export crops. Its production is dominated by the Booker Sugar Estates, which was nationalized in 1976. Sugar production has declined from a level of nearly 400,000 tons in the late 1960s to less than 300,000 tons during the second part of the 1970s, reflecting a steady decline in sugar yields. The industry's export earnings have fluctuated wildly as a result of volatile international prices which are presently lower than Guyana's production costs. While it is expected that prices will improve beyond 1982, sugar production is not likely to be profitable unless cost efficiency is sharply improved.

Rice is the second most important crop and is particularly well suited to the low-lying coastal plain in Berbice, Demerara, and Essequibo districts. Farms range in size from one hectare to 2,000 hectares, but most are small. Some operate on a part-time basis, which is a drawback to increased production.

While rice sector output was higher during the second half of the 1970s than it was during the first half, it has remained significantly below its potential. After reaching a record 211,000 tons in 1977, production fell to an average of only 165,000 tons during 1978-81. The industry's physical potential is likely to increase substantially following the completion of ongoing irrigation and drainage schemes. In order to realize this physical potential, however, it will be necessary to maintain remunerative prices for farmers, to rationalize the industry's organization, and to improve the efficiency of production and marketing.

8. Physical Geography

8.1 Climate

The climate is typical for an equatorial lowland and is characterized by high rainfall, high humidity, high average cloud cover, and high temperatures with a narrow seasonal range. Northeast trade winds moderate the coastal temperatures.

The country has three main climatic zones. A wet, tropical, maritime climate is found on the coast to about 32 km. inland. An average annual rainfall of 200-250 cm. occurs in two well marked wet seasons, May to August and December to January. The average monthly temperature in Georgetown varies from 26° to 28° with a daily range of about 8°.

Most of the interior hills and mountains have a wet, tropical rain-forest climate. Rainfall varies from 200-250 cm. annually in the central to southeastern region, to an average of about 350 cm. yearly on the eastern side of the Pakaraima Mountains. The temperature in the interior often rises to 32°C at midday, dropping to the low 20s at night.

A tropical savanna climate is characteristic of Rupununi in the southeast areas which, with 150-180 cm. of annual rainfall occurring in one wet season (May to August), is the country's driest region. High midday temperatures are usual.

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

8.2 Landforms

Guyana, on the northeast coast of South America, lies between latitudes 1° and 9° N and longitudes 57° and 62° W. Its area of 214,970 sq. km. extends some 150 km. N-S, and along the coastline E-W for 435 km. It is bounded on the north by the Atlantic Ocean, and on the south and southwest by Brazil. Part of its eastern boundary with Suriname is in dispute as is part of the northwestern boundary with Venezuela.

Three natural regions with well-defined features characterize the country's relief. A narrow coastal belt, 32 to 48 km. wide, originally marshes and mangrove swamps, is a continuation of the continental shelf which extends from 160 km. to the north. The coastal belt lies below the high tide level and has been reclaimed from the sea by a system of dikes and canals.

A middle region, 128 to 160 km. wide, of undulating hills, rises from 15 m. on the coastal side to 122 m. on the 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 Kaieteurian Plateau (about 500 m.) 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 the Pakaraima range for another 322 km., is cut by the Kanuku Mountains (914 m.) which extend from west to east, and ends in the Wassari and Marudi-Karawaimentau 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 the watershed of the Amazon and Orinoco rivers, has four main rivers: the Essequibo, Demerara, Berbice, and Courantyne. All flow northward and empty into the sea along the eastern section of the coast.

The 644 km. Essequibo is fastflowing and, broken by a series of falls and rapids, ends in a tidal estuary. It is navigable by steamship about 20 km. beyond Bartica. Principal tributaries include Rupununi, the Potaro (contains the 266 m. Kaieteur Falls), the Cuyuni (483 km. long, navigable by shallow draft vessels as far as Karima Falls 8 km. 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 64 km.

The 483 km. Berbice, between Demerara and Courantyne, joins the sea at New Amsterdam; Canje River is its only large tributary.

The Courantyne forms the boundary with Suriname and runs the length of the country from the Brazilian border to the sea. It is navigable by ocean-going vessels for 80 km. upstream to Orealla and by smaller vessels for some distance beyond.

9. Transportation

9.1 Road Network

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

The total network of roads and trails suitable for vehicles is about 3,500 km., of which 800 km. are paved. Most of the unpaved roads are in poor condition and interior roads are only little better than trails. The main road on the Atlantic Coast extends from Charity to Crabwood Creek on the Courantyne. Ferries carry vehicles across the unbridged gaps over the Essequibo, Demerara, and Berbice Rivers. Rail and vehicle bridges cross the 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 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 (198 km. from Bartica). Vehicular trails in the Rupununi savanna total some 755 km.

In 1970, a national "self-help" project was begun in which a 193 km. road was to have been built from Mahdia to Annai in the Rupununi. Construction of a highway from Hoballi on the Mazaruni to the site of the proposed hydroelectric dam at Sand Landing has been slowed because of lack of funds.

The present lack of roads makes it difficult and costly to develop 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 1977 there were 28,400 passenger cars and 14,700 commercial vehicles. Per capita passenger ownership was 34.7 per 1,000 inhabitants.

9.3 Railroads

There are a total of 109 km. of railways, all single track. Eighty km. are 0.914 m. gauge and 29 km. are 1.06 m. gauge.

9.4 Ports

Georgetown and New Amsterdam are the principal ports.

The port of Georgetown is situated at the mouth of the Demerara River where entrance depths are limited by coastal draft and siltation. (At the entrance bar, draft limitations are about 4.6 m. at low tide and about 6.4 m. at high tide). Poor maintenance at many terminals, lack of modern cargo-handling equipment, and low efficiency characterized port facilities in the recent past.

New Amsterdam is situated near the eastern end of the seaboard in the Berbice River, which is navigable by small power-driven vessels as far as Arima (about 183 km.). The port is about 8 km. upstream and 16 km. from the bar, which restricts the draft of vessels to .91 m. 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, 95.7 km. from the 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 stations. Coastal Radiophone.

The La Penitence improvement project has been completed. The wharf is 231 m., which provides facilities for berthing two vessels of limited length 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 23:00 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.

9.5 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.

9.6 Airports

Timehri International, 37 km. 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. There are 94 airfields throughout the country; 88 are usable, four have permanent surface runways, and 13 have runways 1,220 to 2,439 m. long.

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

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>
06°29'18" N 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/Malquetia Simon Bolivar Int'l, CAYENNE/Rochambeau, PARAMARIBO/Zanderij, PORT-OF-SPAIN/Piarco.

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

9.7 Personal Entry Requirements

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

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.

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/Telex: 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 Timehri 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.

9.9 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), KLM, and Pan American.

9.10 Air Distances

From Georgetown, to:	<u>Statute Miles</u>
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

From Georgetown, to:	Statute <u>Miles</u>
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 the 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 of electricity. In 1977, the total capacity was 175,000 kW; 370 million kWh were produced (450 per capita).

The country's limited generating capacity and consequent power shortages, retard economic growth. Development of a maintenance program and interconnection of existing systems for maximum utilization are among measures seen as necessary. Increasing energy demands and the high cost of fuel imports underscore the urgency of hydropower 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. Trunk and junction lines extend to New Amsterdam and several other district telephone exchanges. Direct distances dialing is used in all areas. About 27,000 telephones (3.3 per 100 population) were in use in 1980.

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 the cable and wireless systems, giving Guyana high grade telecommunications service to most parts of the world.

10.3 Radio Network

There are six AM and two FM 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 AM on other days.

1. General Information1.1 Geographic Codes

AID Standard	544
State Region	ARA
FIPS	MH

1.2 Country Names

Official	Colony of Montserrat
Local	Montserrat
Short	Montserrat

1.3 Calendar and Holidays

The main holidays of Montserrat are the same as in other British Caribbean countries.

1.4 Currency (December 1982)

East Caribbean Dollar: EC\$ 2.50 = US\$ 1.00

1.5 Time Zones

EST +1; GMT -4

1.6 Treaties and Agreements

Multilateral: CARICOM

1.7 Host Mission and Staff in U.S.

Montserrat does not currently maintain an embassy in the United States.

1.8 U.S. Mission and Staff in Montserrat (September 1982)

The United States does not maintain a separate embassy in Montserrat. However, the U.S. Embassy in Antigua and Barbuda also serves as the embassy for Montserrat and St. Kitts-Nevis-Anguilla. Milan D. Bish (resident in Bridgetown, Barbados) is the U.S. Ambassador to these islands.

1.9 Visa and Travel Information

Passports and visas are not required for stays up to 6 months. Apply to the British Embassy/Consulate for longer stays.

Yellow fever vaccination certificates are required of travelers one year of age and over arriving from infected areas. Smallpox certificates are required of travelers one year of age and over arriving from a country any part of which is infected.

1.10 Ethnic and Sociocultural Groups

Approximately 95% of the inhabitants of Montserrat are of African descent. The remainder are primarily of white or mixed descent.

1.11 Languages

English is the official language of the island. As of 1980, the adult literacy rate was 76.3%.

1.12 Religions

70% of the population are either Anglican or Methodist. Other faiths represented include Roman Catholic, Pentecostal, Seventh-Day Adventist, and Church of God.

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 the present constitution (1960), the island's government is executed by a Governor with responsibility for defense, external affairs, and internal security. The Governor presides over the Executive Council consisting of a Chief Minister, three other ministers, and two ex-officio members. A Legislative Council consists of a Speaker (chosen from outside the Council), two ex-officio members, one nominated member, and seven elected members.

Montserrat elected in 1966 not to become part of the West Indies Associated States or to move into self-governing status.

2.2 Major Government Figures (December 1982)

Chief Minister.....John Osbourn

3. Disaster Preparedness

3.1 Disaster Types

Hurricanes pose the greatest threat to the island of Montserrat. Earthquakes and drought may also occur. (See also Section 8.5, Seismicity.)

3.2 Host Disaster Plan

The Montserrat Emergency Organization consists of a Central Executive Committee at Plymouth and ten Rural District Committees. A Government Hurricane Instruction serves as a disaster plan. Emergency responsibilities with the Government are as follows:

1. The Governor is the head of all emergency operations; he makes any and all requests for international assistance.
2. District Chairmen are responsible for initial assessments and relief distribution activities in the districts. The chairmen report to the Governor.
3. Manager Cable and Wireless is responsible for external radio links.
4. Port Manager is responsible for shipping clearance.
5. Water Manager/Engineer is responsible for water and electricity operations.
6. Director, Public Works is responsible for roads, airport/seaport operational capability, emergency transport, and basic infrastructure. The Permanent Secretary, Communications and Works, is responsible for public and private property damage assessments.
7. Commissioner of Police is responsible for security and establishing aid dropping zones for emergency supplies if required.
8. Defense Force Commander is responsible for making Defense Force personnel available as required by the Central Executive Committee.
9. Director of Agriculture is responsible for stocking ration stores and for receipt and distribution of central emergency food supplies.

- 10. Chief Medical Officer is responsible for deployment of the St. John Ambulance Brigade and all other medical requirements.
- 11. Red Cross Society is responsible for collecting and issuing clothing, blankets, etc., and for operating emergency centers and providing assistance for the homeless.

Additional details are contained in the Montserrat Hurricane Instruction Guide on file at the RDO/C Disaster Relief Office.

3.3 Host Disaster Plan Organization and Personnel

District 1 - Centre and Plymouth (Including Ryner's Village to the east, south of Foxes Bay Road to the north, and north of Fort Barrington Road to the south)
 Committee Chairman: His Excellency, the Governor

<u>Casualty Stations</u>	<u>Shelters</u>	<u>Wardens</u>	<u>Ration Stores</u>
Plymouth Health Centre Tel. 2552	The American University of the Caribbean Tel. 2913	Defense Force N.C.O.'s	The Old Police Armoury at the Ministry of Education
Glendon Hospital Tel. 2552	Court House Tel. 2129	Defense Force N.C.O.'s	
Government House Tel. 2409, 2150	Secondary School Tel. 2342	Defense Force N.C.O.'s	
Red Cross Hdqtrs. Dagenham Tel. 2699	Defense Force Building Tel. 2525	Defense Force N.C.O.'s	

District 2 - Gages (Gages Village to Longfield including Dyers and Molyneaux)
 Committee Chairman: Mr. Alfred Joseph

<u>Casualty Stations</u>	<u>Shelters</u>	<u>Wardens</u>	<u>Ration Stores</u>
Adventist Church Vestry (Dyers)	Dyers Adventist Basement	Mr. Joseph Bradshaw	Molyneaux

<u>Casualty Stations</u>	<u>Shelters</u>	<u>Wardens</u>	<u>Ration Stores</u>
Sanitation Division Plymouth		Mr. James Bramble	Mr. Duberry's house for Gages and Lees; Mr. Alfred Joseph's house for Dyers Tel. 2672
Molyneaux Clinic Tel. 2435	Lee's School	Mr. Harry Corbett	

District 3 - Harris (Streatham to Harris including Windy Hill)
Committee Chairman: Mr. Edward Williams

<u>Casualty Stations</u>	<u>Shelters</u>	<u>Wardens</u>	<u>Ration Stores</u>
Harris Clinic Tel. 4318	Harris Infant School	Mr. William Irish	Harris Police Station
		Rev. A. Gunthropes	Harris Domes- tic (Centre) Farrells

District 4 - Eastern (Bethel, Farms Tar River, Tuitts, Hermitage, Whites,
Long Ground, and Roaches)
Committee Chairman: Mr. W. H. Ryan

<u>Casualty Stations</u>	<u>Shelters</u>	<u>Wardens</u>	<u>Ration Stores</u>
Bethel Clinic Tel. 4257	Bethel New School	Mr. Noel Tuitt	Mr. Austin Fergus' house for Long Ground Bethel Manse Tel. 4215
Long Ground Clinic Tel. 4258	Long Ground School, Agricul- tural Instructor's House, Trants Farm Estate House	Mr. W.H. Ryan	
		Mr. Mulcare	
		Mr. T. Robinson	

District 5 - Cork Hill (Cork Hill, St. Georges Hill, John Blakes, Weekes)
Committee Chairman: Mr. T. Christopher

<u>Casualty Stations</u>	<u>Shelters</u>	<u>Wardens</u>	<u>Ration Stores</u>
Cork Hill Health Centre Tel. 2695	Cork Hill Infant School	Mr. D.H. Bramble	Cork Hill School
	Seventh Day Adventist School		

District 6 - Salem (Belham Bridge to Woodlands)
Committee Chairman: Mr. William Fergus

<u>Casualty Stations</u>	<u>Shelters</u>	<u>Wardens</u>	<u>Ration Stores</u>
Salem Clinic Tel. 5256	Salem Government Primary School	Mr. N. Daley Officer i/c	Salem Govern- ment Primary School
	Salem Community Centre	Salem Tel. 5255 Mr. William Fergus	Salem Domestic Centre

District 7 - St. Peters (North of Woodlands to Soldier's Ghaut)
Committee Chairman: Mr. J.P. Osborne

<u>Casualty Stations</u>	<u>Shelters</u>	<u>Wardens</u>	<u>Ration , Stores</u>
St. Peters Clinic Tel. 5436	St. Peters School	Mr. Jim Bass	The Hideaway Hotel Tel. 5252
	The Hideaway Hotel Tel. 5252	Mr. J.P. Osborne	Anglican Rectory
	Anglican Rectory Tel. 5223	Minister St. Peters Anglican Church Tel. 5223	St. Peters Tel. 5223

District 8 - Cudjoe Head (Soldier's Chaut to Gerr's Bay including Cudjoe Head, Banks, Baker Hill, Cavalla Hill, and Caines River)
Committee Chairman: Mr. J.W. Edgecombe

<u>Casualty Stations</u>	<u>Shelters</u>	<u>Wardens</u>	<u>Ration Stores</u>
Cudjoe Head Clinic Tel. 5258	Cudjoe Head Police Station Brade School Methodist Church Pentecostal Church	Police Officer Cudjoe Head Tel. 5222 Mr. Eastern Farrell Mr. J.W. Edgecombe Mr. Richard Weekes	Cudjoe Head Police Station

District 9 - St. John's (Caines River, Rendezvous, Davy Hill including Blakes)
Committee Chairman: Mr. Alfred Warner

<u>Casualty Stations</u>	<u>Shelters</u>	<u>Wardens</u>	<u>Ration Stores</u>
St. John's Clinic Tel. 5218	St. John's School Tel. 5218 Anglican Church Pilgrim Holiness Church	Mr. Raymond Sweeney Mr. Christopher Weekes Mr. Robert Fergus	St. John's Clinic Tel. 5218

District 10 - Kinsale (South of Fort Barrington Road)
Committee Chairman: Mr. John Dyer

<u>Casualty Stations</u>	<u>Shelters</u>	<u>Wardens</u>	<u>Ration Stores</u>
Kinsale Clinic Tel. 2694	Methodist Church of Kinsale	Mr. R.J. Carty	Mr. R.J. Carty's House at Kinsale
Sweeney's Restaurant at Trials	Kinsale Primary School	Mr. Aubrey Joseph	

District 11 - South (Gingoes to O'Garro's)

Committee Chairman: Mr. Thomas Farrell

<u>Casualty Stations</u>	<u>Shelters</u>	<u>Wardens</u>	<u>Ration Stores</u>
St. Patrick's Clinic Tel. 2436	St. Patrick's School, St. Patrick's Police Station Tel. 2355	Police Officer i/c St. Patrick's	St. Patrick's Police Station Tel. 2355
	St. Patrick's Community Centre	Mr. John Irish	

Telephone Numbers
Central Committee Members

	<u>Office</u>	<u>Other</u>
1. His Excellency, the Governor - Chairman (District 1)	2409	2150
2. Honourable Chief Minister	2444/8	2131
3. Hon. Minister of Communications & Works	2521	5403
4. Permanent Secretary (Manpower & Administration-Secretary)	2444/8/2114	2146
5. Permanent Secretary, Ministry of Communications & Works	2522	5433
6. The Commissioner of Police	2555	2733
7. The Deputy Commissioner of Police	2555	2733
8. Director of Public Works Department	2438/9	5225
9. Assistant Director of Public Works	2438/9	2231
10. Chief Medical Officer	2552	2249
11. Director of Agriculture	2546	2709
12. Controller of Customs	2452/2456	2145
13. Manager, Port Authority	2791	2729
14. Manager, Montserrat Electricity Services	2441/2	2683
15. Manager, Radio Montserrat	2885	2710
16. Manager/Engineer, Montserrat Water Authority	2527	2579
17. Manager, Radio Antilles	2585/2755/2758	5645
18. Manager, Cable & Wireless	2112	2979
19. Officer i/c Blackburne Airport Control Tower	4229	
20. Director, Montserrat Branch British Red Cross Society		
21. Representative, Montserrat Christian Council	2139	
22. Development Finance Marketing Co-operation	2545/2549/2333	

	<u>Office</u>	<u>Other</u>
23. Mr. Alfred Joseph, Gages (District 2)		2672
24. Mr. Edward Williams, Harris (District 3)		4224
25. Mr. W.H. Ryan, Eastern (District 4)		4282
26. Mr. T. Christopher, Cork Hill (District 5)		2476
27. Mr. William Fergus, Salem (District 6)		
28. Mr. J.P. Osborne, St. Peters (District 7)		5252
29. Mr. J.W. Edgecombe, Cudjoe Head (District 8)		5207
30. Mr. Alfred Warner, St. John's (District 9)		
31. Mr. John Dyer, Kinsale (District 10)	2118	2761
32. Mr. Thomas Farrell, South (District 11)	2546	2436

3.4 Host Communications

Montserrat's internal communications include a VHF radio at each police station and fifteen amateur radio operators.

<u>Call Sign</u>	<u>Name</u>	<u>Address</u>	<u>Tel. No.</u>
VP2MGB	Geraldine Bramble	Tuitts	4244
VP2MF	Konrad Hollatz	Woodlands	5287
VP2MG	Ehler Hollatz	Woodlands	5287
VP2MJ	Montrose J. Werry	Richmond Hill	2372
VP2MU	Ernest Welling	Isles Bay	5244
VP2MAI	James J. McRae	Spanish Pointe	4203
VP2MH	Arnold Golutheir	Foxes Bay	
VP2MAG	John Makipaa	Foxes Bay	2751
VP2MB	John McKenna	Wapping	
VP2MZ	Jack Beverstein	Spanish Pointe	4244
VP2MC	Sydney St. A. Meade	Richmond Hill	2478
VP2MAW	John Wall	Dagenham	2306
VP2MK	E. Karney Osborne	Dagenham	
VP2MO	Errol Martin	Parsons	
VP2MP	Hans J. Holz	Woodlands	5287

Local network frequency is 3770 kHz.

3.5 Host Stockpiles

Emergency food supplies are available at each district during the hurricane season.

Emergency Food Supplies
Food to be Stored for Emergency Use
For at Least 7 Days

	<u>Plymouth District</u> (approximately 1,000 persons)	<u>Outer Districts</u> (approximately 300 persons each)
<u>Cereals</u>		
Rice	7,500 lbs.	500 lbs.
Flour	2,500 lbs.	850 lbs.
Macaroni	800 lbs.	275 lbs.
Corn Meal	800 lbs.	275 lbs.
Oatmeal	400 lbs.	120 lbs.
<u>Fats</u>		
Margarine	200 lbs.	70 lbs.
Cooking Oil	35 gals.	12 gals.
<u>Protein</u>		
Dried Full Cream Milk	300 lbs.	100 lbs.
Dried Skim Milk	375 lbs.	125 lbs.
Evaporated Milk	250 tins	90 tins
Commercial Infant Formula (Lactogen or SMA for example)	30 lb. tins	10 lb. tins
<u>Tinned Meat</u>		
Corned Beef	500 lbs.	170 lbs.
Luncheon Meat	500 lbs.	170 lbs.
<u>Tinned Fish</u>		
Mackerel	600 lbs.	210 lbs.
Sardines	600 lbs.	210 lbs.
Tuna	600 lbs.	210 lbs.
<u>Miscellaneous</u>		
Dried Salted Fish	250 lbs.	90 lbs.
Tinned Cheese	15 5 lb. tins	5 5 lb. tins
Salt	10 boxes	4 boxes
Sugar	10 bags	4 bags
Dried Peas & Beans	500 lbs.	170 lbs.
Cocoa	70 lbs.	25 lbs.
	14 boxes	5 boxes
Tea	(500 bags each)	

3.6 Regional Disaster Plan

See also Antigua, Section 3.4, Regional Disaster Plan.

4. Population4.1 National Population

Population (mid 1980)	11,606
Average Growth Rate (1970 to 1980)	0
Urban Population	11%
Density per sq. km. (1980)	116
(Agricultural)	580
Age Structure (1970) 0 - 14	39.7%
15 - 65	49.4%
Over 65	10.9%

According to World Bank estimates, the population of Montserrat in 1980 was 11,606, a decline from previous years. While the island's natural rate of population growth is generally low (0.5% in 1980), the overall growth rate is significantly affected by a high rate of emigration. Nearly one-quarter of the population emigrated during the 1950s.

4.2 Regional Population (1970 Census)

<u>Region</u>	<u>Population</u>
Plymouth	1,267
St. Anthony	4,391
St. Peter	3,392
St. George	2,408

5. Health, Nutrition, and Housing

5.1 Health Sector Overview

Little information is available on the health of the people of Montserrat. Morbidity and mortality patterns are presumably similar to those in other Caribbean countries. Relatively high infant mortality rates continue (40 deaths per 1,000 live births in 1980), suggesting the existence of poor environmental conditions that lead to malnutrition and diarrheal diseases. However, there have been improvements in environmental sanitation as indicated by significant declines in incidences of gastroenteritis and intestinal worms.

5.2 Vital Statistics

Births per 1,000 population (1980):	19.3
Deaths per 1,000 population (1980):	8.9
Infant mortality per 1,000 live births (1980):	40.2
Life expectancy at birth (1968-72):	68 years

5.3 Health Facilities and Personnel

Montserrat has a 67-bed hospital which replaced the outmoded Glendon Hospital in Plymouth. Additionally, there are 12 district health clinics, each having a district nurse. Each clinic is visited weekly by a district medical officer. The centers conduct routine dressing, post-natal, and well-baby clinics. Montserrat has a widespread immunization program against diphtheria, pertussis, tetanus, poliomyelitis, measles, tuberculosis, and smallpox.

The doctor/population ratio of the island was 6.5 per 10,000 people in 1980, including physicians in private practice. In 1979 there was a shortage of trained health personnel in the fields of public health inspection, pathology, laboratory, dispensary and dental services, and specialized nursing.

5.5 Nutrition

Data on nutritional deficiency diseases is not available.

5.6 Diet

(Based on local food production and imported foods.)

Starches: white potatoes, rice, yams, and sweet potatoes

Vegetables: tomatoes, onions, shallots, peppers, carrots, cabbages, peas, beans, and pumpkins

Fruit: pineapples, mangoes, avocados, bananas, coconuts, limes, and breadfruit

Legumes: peanuts and black-eyed peas

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

Dairy: milk and eggs

5.7 Food Preferences

Popular items in the diet of Montserratians include turtle steaks, frog's legs (which they call "mountain chicken"), and "goat water" (goat-meat stew).

5.8 Housing

While there is a generally adequate supply of housing in Montserrat, much of it is of poor quality and in poor condition. Most dwellings are constructed of untreated wood and are over 25 years old. Other common housing materials are concrete or a combination of wood and concrete. In 1976, more than one-third of the dwellings on the island were in need of complete rehabilitation or replacement, especially in urban areas. Additionally, lower income groups are virtually excluded from the private housing market because of high building and finance costs. The government of Montserrat is currently planning a project to construct and rehabilitate housing for low income groups.

In 1980, 82.9% of urban residents and 73.1% of rural residents had access to uncontaminated piped water. There is no public sewerage system and many rural homes still have no latrine facilities. Although the island's water supply is generally adequate, the major problem is water storage, which is inadequate.

6. Economy

6.1 Overview of Economy

Montserrat's economic viability has been limited over the years by its small size and physical features. Steep slopes and rocky terrain limit arable land and usable beaches. A low volume of trade makes external shipping and air connections very costly. Budgetary aid from the United Kingdom was phased out in 1981. Despite these limitations and pressures, the GDP has averaged a 5.9% annual growth rate for the past five years, public sector finances have improved, and public sector investment continues to increase, all indicative of the central government's prudent fiscal management.

Montserrat's relatively strong economic growth since 1979 can be attributed to several factors. The 14.6% and 7.9% growth rates in 1979 and 1980, respectively, were due to the construction of a medical college (completed in mid-1980), the arrival of 450 students to the college, and sharp increases in the number of stayover tourists both years. In spite of a major storm which damaged roads and sewerage infrastructure, economic growth in 1981 was 4.6% due to industrial expansion, a high level of public investment, and increased tourist-cum-construction activity.

Agriculture was replaced as the dominant sector of the economy in the 1960s by tourism which, in turn, has stimulated construction. Construction and the hotel sector account for approximately 15% of GDP, and government services and wholesale and retail trade each account for about 15% as well. Agriculture accounts for 6% of GDP, manufacturing for 6%, and other services for the remaining 35%.

Unemployment has been relatively low (6.1% of the labor force in 1980) but has been exacerbated by high inflation rates (17.7% at year-end 1980). The construction sector employs 16% of the labor force, tourism 13%, manufacturing 11%, and agriculture 10%.

The strategy of the Montserratian government is to promote economic development in three areas: agriculture, tourism, and industry. Consequently, these three sectors account for the largest part of the public investment program. The government is attempting to revive agriculture through a plan that includes improved marketing and extension, and expansion of lands growing cotton. There has been major success in attracting industry, primarily through the construction of factory shells and direct promotion of cottage-style industries. There remains potential for considerable improvements in the tourist sector. A new Twin-Otter aircraft should greatly improve air services, and a feasibility study is underway for a proposed hotel/marina/condominium development.

6.2 Tourism

	<u>Tourism Data</u>				
	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Stayover Visitors	10,892	11,531	13,808	15,530	16,268
Cruise Visitors	1,849	3,819	3,082	4,953	3,788

6.3 Balance of Payments

The current account balance has been negative since 1978. Large trade deficits developed in 1979 and 1980 because of construction-related imports and the rise in fuel costs. The current account deficit increased from 20% of GDP in 1979 to 32% in 1980. The deficit was financed by capital inflows to the private sector, private transfers from nationals living abroad, and grants and loans to the public sector. Despite better performance in exports, the 1981 deficit (nearly 30% of GDP) failed to improve as a result of the absence of budgetary grants from the United Kingdom. Again, private transfers from nationals living abroad, transfers for foreign students and private and public capital inflows financed the deficit. While debt servicing remains low (less than 1% of exports), Montserrat is unable to borrow on conventional terms, requiring continued assistance from external donors.

6.4 Exports

Merchandise exports have shown fairly strong growth in recent years, averaging a 23% annual growth rate since 1977. Exports reached a total of \$7.6 million in 1981. Montserrat's main trading partners are the United Kingdom, the United States, and other West Indian countries. Cotton is exported mainly to Japan.

Selected Merchandise Exports by Major Commodities (US\$'000)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>Prel. 1981</u>
Cattle	32.6	11.5	45.9	1.1	40.7
Cotton Lint	50.1	21.5	0.4	--	--
Electronic Components	--	211.5	145.9	130.4	129.3
Hot Peppers	0.1	34.2	69.3	40.4	35.6
Live Plants	--	9.3	58.2	88.9	130.0
Pepper Paste	--	--	63.4	10.4	21.9
Plastic Bags	7.8	8.4	18.1	53.1	82.2
Polythene Bags	69.3	3.4	--	215.1	561.9

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>Prel. 1981</u>
T-Shirts, Shirts & Jeans	--	--	--	55.9	121.9
Tomatoes	28.6	22.3	21.1	6.7	5.9
Sea Island Cotton Goods	--	--	--	--	21.1

Source: World Bank, Economic Memorandum on Montserrat, 1982.

6.5 Imports

Imports have increased an average of 29% per year since 1977, reaching \$18.9 million in 1981. Montserrat imports its goods from the United Kingdom, the United States, Canada, and CARICOM.

Merchandise Imports By End Use Category (US\$ million)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>Prel. 1981</u>
Total	7.0	10.0	12.0	16.5	18.9
Food	1.9	2.3	2.5	3.5	3.6
Beverages and Tobacco	0.5	0.7	0.7	1.0	1.2
Crude Materials	0.4	0.2	0.6	0.5	0.6
Fuels	0.4	0.7	1.1	1.8	2.3
Oils and Fuels	0.1	0.1	0.1	0.1	0.1
Chemicals	0.4	0.6	0.7	1.3	1.4
Manufactured Goods	1.3	1.8	2.4	2.6	3.0
Machinery and Transport	1.1	2.5	2.4	4.1	3.6
Miscellaneous Manufactured Articles	0.8	1.1	1.3	1.6	3.0
Miscellaneous Transactions	0.1	0.1	0.1	0.1	0.1

Source: World Bank, Economic Memorandum on Montserrat, 1982.

7. Agriculture

7.1 Overview of Agriculture

The importance of agriculture in the economy has declined from about 40% of GDP in 1960 to less than 6% in 1981. Agricultural exports have been expanding, however, with the development of small trade in fruit and vegetables to neighboring islands, and a revival of sea island cotton for export to Japan. Further expansion of the agricultural export market has been constrained by the irregularity of supply.

Montserrat is subject to drought in valleys and on lower mountain slopes (both areas of the island most suited to farming) especially in the lower rainfall period between February and July. Parts of the island are suited to the growth of such crops as potatoes, onions, carrots, peas, beans, tomatoes, sea island cotton, peanuts, pineapples, and root crops (mainly taro, eddoes, yams, and cassava). Other areas support tree crops such as citrus, mangoes, avocados, guava, and tamarind.

An agricultural census of 1972 classified 2,690 hectares as potentially suitable for farming: 790 hectares for field crops, similar area for tree crops, and 1,090 hectares for pasture land. Only 25% of the land suitable for field crops and 20% of that suitable for tree crops was under appropriate cultivation; only 6% of pasture land was improved. 80% of the 1,247 agricultural holdings were less than 2 hectares.

The government of Montserrat is working to improve the quality of agricultural holdings as a part of its Agricultural Sector Plan 1979-1983. The six key elements of this program are: a) settlement of good farmers on economic farm units on estates (involves about 810 hectares in total), b) provision of good support services - marketing, storage, extension, and credit, c) irrigation, d) soil conservation, e) development of the integrated cotton project, and f) at a later date, development of food processing industries.

Sea island cotton, once the major crop produced in Montserrat, was grown on only 14 hectares in 1979-80. Through the integrated cotton project (which established the Montserrat Sea Island Cotton Company in 1981), cotton cultivation was expanded to 55 hectares in 1980/81. The aim is to grow on 120 hectares in 1983. However, ginning and spinning capacities must increase as well, although surplus cotton can be exported in lint form.

Livestock numbers as of 1978 were estimated at 2,000 cattle, 3,000 sheep, 3,000 goats, 2,250 pigs, 600 donkeys, and 17,000 poultry. An improvement in pasture lands is necessary to increase livestock production. Fifteen tons of beef are imported annually. Cattle are exported to Guadeloupe.

Forestry is not a major industry in Montserrat. A small-scale reforestation project is underway to promote soil conservation and replant forests destroyed for firewood and by livestock (charcoal supplies nearly half of household energy requirements). However, limited exploitation of some hardwood trees would reduce the quantities of wood imported by the construction industry.

The amount of fish caught annually from small boats in shallow water has declined (117,650 lbs. in 1976). This quantity may increase with the addition of deep-sea craft (now under construction) to the fishing fleet. 250,000 lbs. of fish are imported annually.

8. Physical Geography

8.1 Climate

Montserrat's tropical climate has little variation in temperature, averaging 26.7°C year-round. Annual rainfall is about 152 cm.; precipitation is greatest in the highlands. The rainy season occurs from August to November; the 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 43 km. southeast of Antigua; total land area is 100 sq. km. (18 km. long, 11 km. wide). Volcanic in structure, the island is mountainous with 3 main ridges: Silver Hill in the north (392 m.), Central Hills (747 m.), and Soufriere Hills (Chance Peak - 914 m.). 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 the island's total land area (10,256 hectares), 2,690 hectares have been classified as suitable for cultivation and pasture. 4,450 hectares are covered by forests which are protected from extensive exploitation. About 1,620 hectares are developed.

8.4 Waterways

Montserrat has several small rivers. The Belham River on the western 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 the leeward side of the island.

8.5 Seismicity

Montserrat lies within the Lesser Antilles portion of the West Indies arc which forms the eastern boundary of the Caribbean plate. Subduction and movement along the boundary between the Caribbean and North American plates results in mild volcanism and occasional moderate earth tremors on the island.

9. Transportation and Logistics

9.1 Road Network

The total road network consists of 190 km. of paved primary roads and 65 km. of unsurfaced secondary roads and tracks. One of the main roads follows the leeward coastline; another crosses the island from Plymouth to the eastern windward coast where Montserrat's only airfield is located. Development projects underway include the completion of a ring road connecting St. John's in the north with Trants Road near the airfield (due for completion in 1983); the upgrading (including widening and resurfacing) of 24 km. of existing roads; and repairs to roads damaged by severe rainstorms.

9.2 Vehicles

Licensed vehicles numbered 1,324 in 1977. Of these, 44 are heavy trucks, 99 are pick-up trucks, and 63 are landrovers or jeeps.

9.3 Ports

Montserrat's only port of entry is an open roadstead at Plymouth which faces southeast between Bransby Point and Kinsale. The port accommodates vessels up to approximately 76 m. in length, but plans are currently underway to construct a 137 m. clearance yacht arm to 6 m. depth of water to meet the existing demand for berthing facilities and to segregate pleasure craft from commercial craft. 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 the cargo demand projected for the next 5 years.

Plymouth

Authority: Montserrat Port Authority, P.O. Box 383, Plymouth. Tel.: 2791/2.

Approach: A sunken lphin with only 2.1 m. of water above presents a hazard, position marked by red drum buoy.

Tides: Max R of T 0.92 m.

- Accommodation: One jetty with two berths, depth alongside 8.5 m. at outer berth, 6.1 m. inner berth. Storage space is available, no refrigerated capacity. Jetty equipped with a mobile crane of 7 t capacity.
- Water: Available at jetty.
- Container and Ro/Ro Facilities: Limited facilities available.
- Towage: Not available.
- Pilotage: Not compulsory, but available. Radio frequency being installed.
- Medical Facilities: New Glendon Hospital.
- Airport: 16 km. from port.
- Working Hours: 08:00-16:00. Overtime from 12:00 Sat. over weekend.
- Cargo Workload: 140 t/day.

The port is served by the West Indies Shipping Service and Harrison Lines. Atlantic Lines also calls regularly, as do ships provided by Federal Shipping in the Trinidad-Jamaica service.

9.5 Airports

Blackburne airfield has a runway 914 m. long with a 60 m. overrun at each end, capable of accommodating a DC-3 or AVRO-748 aircraft with a reduced payload. The runway is lighted, and the terminal has been modernized.

Note - 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/Blackburne Airfield

Runway Characteristics (as of 1979)

<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>
16°48'80"N 62°09'30"W	3 29	14/32	NA	DC-3 AVRO-748 1017	NA	NA	None

Remarks: alternate aerodromes - POINTE-A-PITRE/Le Faizet;
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. LIAT provides services to 19 Eastern Caribbean islands from Trinidad to Puerto Rico.

The Government has recently acquired a new Twin Otter aircraft to replace the Trislander it previously owned. A satisfactory operational agreement with LIAT has yet to be worked out, resulting in money losses and traffic delays for tourists. In the future it is hoped that the new aircraft will help to ensure same day connections between Montserrat and North America and Europe in an effort to better serve the tourist trade.

9.7 Air Distances

Montserrat to:	<u>Statute</u> <u>Miles</u>
Pointe-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. (MONLEC) supplies the island's electricity by means of three 700 kW and one 1,450 kW generators providing firm capacity of 5 MW. Distribution covers the entire island with connections to approximately 80% of the island's households. With peak demand currently 2.1 MW, installed capacity should be sufficient until 1987.

The supply is a.c. operation on a 60 c/s frequency. Distribution is 230 V between phase and neutral to domestic customers, and 400 V between phases to commercial and industrial users.

10.2 Radio Network

Two radio stations operate in Montserrat. Radio Montserrat, the government-owned station, operates between 06:00 and 23:00 hours Monday through Saturday and between 09:00 and 22:00 hours on Sunday. Radio Montserrat broadcasts to the Eastern Caribbean on a frequency of 885 kHz. Radio Antilles, a commercial station, broadcasts daily in English, French, and Spanish, beginning at 05:30 hours.

10.3 Telephone System

Cable and Wireless Ltd. operates an island-wide automatic telephone system as well as telegraph and telex services. International telephone service to most countries is available. In 1977, there were 1,978 telephones in use in Montserrat.

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	St. Kitts-Nevis-Anguilla
Short	St. Kitts-Nevis-Anguilla

1.3 Calendar and Holidays

New Year's Day.....	January 1
Statehood Day.....	February 27
Good Friday.....	*
Easter Monday.....	*
Labor Day.....	May 2
Whit Monday.....	*
Queen's Birthday.....	June 11
August Monday.....	*
Prince Charles' Birthday.....	November 14
Christmas.....	December 25
Boxing Day.....	December 26

* variable dates

1.4 Currency (December 1982)

East Caribbean Dollar: EC \$ 2.50 = US \$ 1.00

1.5 Time Zones

Time = EST + 1; GMT - 4

1.6 International Organization Memberships

CARICOM, ISO

1.7 Host Mission and Staff in U.S.

St. Kitts-Nevis-Anguilla does not currently maintain an embassy in the United States.

1.8 U.S. Mission and Staff in St. Kitts-Nevis-Anguilla (September 1982)

The United States does not maintain a separate embassy in St. Kitts-Nevis-Anguilla. However, the U.S. Embassy in Antigua and Barbuda also serves as the embassy for St. Kitts-Nevis-Anguilla and Montserrat. Milan D. Bish (resident in Bridgetown, Barbados) is the U.S. Ambassador to these islands.

1.9 Visa and Travel InformationSt. Kitts-Nevis

Passports are not required for citizens of USA provided they hold proof of identity, and are not staying more than 6 months. Visas are not required for stays of up to 6 months.

Anguilla

Passports or other travel documents are required. Visas are not required of travelers staying less than 14 days provided they hold valid documents for return or onward journey.

Yellow fever vaccination certificates are required of travelers one year of age and over arriving from infected areas. Smallpox certificates are required of travelers arriving from a country any part of which is infected.

1.10 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.

1.11 Languages

English is the official and commercial language. The rate of literacy is estimated to be 80%.

1.12 Religions

In all three 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, Anguilla has had separate administration since repudiating rule by St. Kitts shortly after the State was formed in 1967. Anguilla came under direct UK responsibility in 1971, and since 1976 has had the status of a British Dependent Territory (crown colony) with a ministerial government.

St. Kitts-Nevis

Under the provision of the 1966 Constitution by which the colonies became a "State in Voluntary Association" with Great Britain, the 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 she appoints, and the House of Assembly is made up of ten elected members and three appointed members. The Cabinet, headed by a Premier (leader of the majority party in the House), includes the Attorney-General (ex-officio), and four 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 representing the Queen presides over the Executive Council and Legislative Assembly and is responsible for defense, external affairs, internal security, and audit. The Executive Assembly consists of a Chief Minister, two appointed, and two ex-officio members, while the Legislative Assembly has seven elected members (chosen for four year terms by universal adult suffrage), three ex-officio and two 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 nine parishes: St. Paul, St. Anne, St. Thomas, St. John, Christ Church, St. Mary, St. Peter, St. George, and Trinity.

Nevis has 5 parishes: St. James, St. George, St. John, St. Paul, and St. Thomas.

2.3 Major Government Figures (November 1982)

Governor.....	Arrindell, Clement Athelston
Premier.....	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

2.4 1982 Status (St. Kitts-Nevis)

In the March 1980 elections, the Labor Party won four seats and the People's Action Movement three; both joined in a coalition government with the Nevis Reformation Party.

3. Disaster Preparedness

3.1 Host Disaster Plan

The Government has a Hurricane Instructions notice in the event of warnings of a disaster. Should a disaster occur, the Premier will appoint a Hurricane Relief Officer who will report to the Premier. The Relief Officer will be responsible for the financial control and coordination of relief efforts of government departments and voluntary organizations. The Accountant General will arrange for appropriate funds to be placed immediately at his disposal from which he will make payments for such services as freight charges, portorage, and transportation of relief supplies. Emergency Operations headquarters will be established in Police Headquarters.

There does not appear to be any standing central committee membership. The Premier will set up a committee of the Cabinet to advise on actions. Small local committees covering St. Kitts have already been set up and will be under the direction of the local Red Cross.

3.2 Specialized Services

Medical services: The Chief Medical Officer will make the Basseterre Health Center his Headquarters and will establish casualty clearing stations at the Health Center and the Warner Park Pavilion for Basseterre. Medical Officers in charge of county districts will make the necessary arrangements for establishing local First Aid Posts. Assistance will be provided by the Red Cross Society, St. John Ambulance Brigade, and the Girl Guides.

Relief services: Government school buildings will be used as temporary shelters for homeless people and emergency relief. The Hurricane Relief Officer will maintain close contact with all relief agencies on the Island. The Red Cross will be the coordination center for the receipt and dispatch of all gifts of clothing, food, and medical supplies. Gifts of money or materials, or offers of services should be made to the Premier.

Road, water and electricity supplies: The Police, assisted by neighboring estates, the St. Kitts Sugar Manufacturing Corporation, and the Public Works Department, will be responsible for restoring temporary road communications. The Water Engineer will assure that water supplies are restored at the first possible opportunity. The Chief Electrical Engineer/Manager will be responsible for restoring the electrical supply.

Communications: The Government will maintain contact with the

Deputy British Government Representative in Antigua, the Executive Secretary of the Associated States, the Commonwealth of Puerto Rico authorities and the Government of the U.S. Virgin Islands in St. Thomas by means of Cable and Wireless (West Indies) Ltd., International Air Radio and LIAT, VHF Service, and Amateur Broadcasting Stations.

3.3 Regional Disaster Plan

See Antigua, section 3.4, Regional Disaster Plan.

3.4 Disaster Types and History

The islands lie within the 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, but the last major hurricane to hit St. Kitts-Nevis was in 1928.

4. Population4.1 National Population

The 1980 census arrived at an enumerated population of 48,699. Crude birth and death rates were 24.4 and 10.7 per 1,000 population respectively in 1979. The annual growth rate was 0.2% for the period 1972-80.

4.2 Regional Population

In 1980, St. Kitts' population was estimated at 36,000, with the greatest concentration in the capital city of Basseterre. Nevis' population is concentrated in Charlestown and the district of Gingerland on the 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 185 persons per sq. km. and 333 per sq. km. of arable land in 1980.

Estimated Population by Parish

<u>St. Kitts</u>	<u>1970</u>	<u>1980</u>
St. Peter	2,407	2,524
St. Mary	3,369	3,315
Christ Church	2,114	1,972
St. John	3,420	3,146
St. Paul	2,078	2,641
St. Ann	3,370	3,360
St. Thomas	2,212	2,244
Trinity	1,137	1,177
Basseterre and St. George	14,120	14,725
Subtotal	34,227	35,104

<u>Nevis</u>		
St. John	1,994	1,718
St. George	2,780	2,290
St. Thomas	2,147	1,839
St. James	2,147	1,682
St. Paul	2,134	1,771
Subtotal	11,140	9,300
Total	45,367	44,404

Source: Gersony, Resource Institutions, Disaster and Development Problems, St. Kitts-Nevis, 1981.

Note: Although the figures presented differ from the total population figures of the 1980 census, they provide a good indication of the islands' regional distribution.

5. Health, Nutrition, and Housing5.1 Overall Health Status

Little information is available on the 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, and a high incidence of infectious hepatitis and whooping cough were reported for St. Kitts in the relatively recent past. The infant mortality rate was 41 per thousand in 1979, 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 under 20 years of age, who lack any reliable means of child care.

5.2 Vital Statistics

Birth/1000 population, 1979	42.4
Deaths/1000 population, 1979	10.7
Life expectancy at birth, 1971-80	68 years

5.3 Health Facilities

The health network consists of two hospitals on St. Kitts, one on Nevis, and public health centers in each of six health districts. Each health center is staffed by a community health nurse, midwives, and health officials providing primary care. The centers and hospitals are served by six district physicians and are reasonably accessible to the population. Ongoing development 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 hospitals. The number of hospital beds in all but pediatric and psychiatric wings is presently considered sufficient; in 1977, the ratio was 126 people per hospital bed.

Anguilla has a 24 bed "cottage hospital" and four health 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 the rising threat to maternal and child health posed by the 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 a pathologist, psychiatrist, radiologist, and orthopedist not presently available to St. Kitts. In 1977, the ratio of population to physicians was 3,313 to 1.

5.5 Diet

Staple: wheat flour, rice, sweet potatoes

Accompaniment: pulses, fish, meat, milk, cheese-milk products

Acceptable Alternative: dehydrated potato

Alternative Accompaniment: milk powder

5.6 Housing

Surveys indicate that the demand for housing in St. Kitts is rising. About 100 new units and 200 replacement units are required annually; 65% of the requirements are for low to middle income housing. The Government has an ambitious program to alleviate the current housing shortage. About EC \$2 million has been taken from the Social Security program to be used for loans for low-cost housing. The Government has also started a scheme whereby money paid in rent is applied to the purchase of a home. Given the increased construction in the tourism sector, if the Government implements the housing program quickly, a shortage of skilled labor (masons, carpenters, contractors, etc.) could develop.

Potable water is available to an estimated 90-95% of the population. The water system on St. Kitts is adequate, but some maintenance works need to be carried out. In addition, more water storage facilities are needed to insure an uninterrupted supply because of the highly variable rainfall. A project to design a water development master plan, financed by the CDB and CIDA, is planned for late 1982. Many of the water pipes in Nevis are old and corroded and should be replaced. There is also a need to install water services in the southern part of the island near Desville, which would in turn promote agricultural activity in that area.

6. Economy

6.1 Overview of Economy

Sugar has traditionally been the major factor determining the economic performance of St. Kitts-Nevis. Although sugar production has declined since 1978, the rest of the economy has grown steadily. But in 1981, the expansion in manufacturing, tourism, and construction barely compensated for the continuing decline in sugar output. Thus, after an average annual growth rate of 3.5% from 1977-80, GDP stagnated in 1981.

Manufacturing sector performance in 1981 was mixed. Although three new plants opened, two large enterprises went out of business. Nearly a third of factories make garments, shoes, or textiles; secondary industrial activities include metalworking, assembling electronic components, data processing, and food processing and bottling. The main constraints to expansion of the sector are the absence of medium and long-term financing for domestic investment because of the weakness of the Development Finance Bank, and the lack of an industrial development strategy.

Recent improvement in air and ship travel facilities and connections accounted for the continued expansion in tourism despite the worldwide recession. In line with higher occupancy rates and cruise passenger traffic, several projects to either expand or build new facilities are planned.

Public sector finances weakened dramatically in 1981 due to conditions in the sugar industry. While in the past the consolidated public sector generated current savings, in 1981 a deficit of EC \$9.9 million (7% of GDP) was registered. The current account deficit on the balance of payments also increased by 20% to 25% of GDP as increases in receipts from tourism and personal remittances were not sufficient to offset the deterioration in the trade balance.

Private sector participation in the economy is considered vital. There are generous investment incentives and the government has developed two well-equipped industrial estates. However, obstacles that remain are the shortage of skilled labor, insufficient credit, and the need to upgrade promotion efforts.

The general strategy of the government is to reduce the economy's dependence on the sugar industry by promoting agricultural diversification, manufacturing and tourism. Nevertheless, sugar is the dominant productive sector and measures are needed to increase productivity. Prospects for Nevis have improved based on cotton, livestock, and, to a lesser extent, tourism and food processing. However, in order to promote development on Nevis, infrastructure requirements in transportation, water, and electricity must be met.

6.2 GNP

GNP per capita in 1980 was US \$920.

Gross National Product in 1980

	US \$mln	%	Annual Rate of Growth (% constant prices)	
			1979	1980
GNP at Market Price	48.1	100.0	5.0	3.3
Gross Domestic Investment	15.7	32.6	13.4	-1.5
Gross National Saving	5.3	11.0	-9.2	-52.8
Current Account Balance	-10.4	-21.6		
Exports of goods, NFS	26.0	54.1	-3.0	-13.1
Imports of goods, NFS	45.0	93.6	-0.8	9.4

Source: World Bank, Economic Memorandum on St. Kitts-Nevis, 1982.

6.3 Imports

In 1981 the value of merchandise imports rose about 12% compared to an increase of 40% in 1980. Import categories which grew the most in percentage terms were beverages, raw materials, chemicals, and manufactured goods.

Imports by S.I.T.C. Classification
(US \$mln)

	1978	1979	1980	1981
Total	24.3	31.9	44.6	50.0
Food	5.9	6.7	8.5	9.0
Beverages and tobacco	0.8	0.7	1.0	1.2
Inedible crude materials	0.5	0.7	0.8	1.0
Mineral fuels, lubricants and related materials	2.0	2.7	4.9	4.6
Animal and vegetable oils and fats	0.2	0.2	0.2	0.4
Chemicals	2.2	2.5	3.7	4.7
Manufactured goods	4.6	7.7	10.3	12.0
Miscellaneous manufactured articles	2.6	3.6	5.5	6.0
Machinery and transport equipment	5.4	7.0	9.5	10.7
Miscellaneous transactions	0.1	0.1	0.2	0.4

Source: World Bank, Economic Memorandum on St. Kitts-Nevis, 1982.

6.4 Exports

Recently sugar has accounted for about 70% of the total value of merchandise exports. As a result of the decline in the volume exported, lower world prices, and the drop in the value of the pound sterling, sugar exports fell about 13% in value in 1981. In spite of an increase in the value of other exports (molasses, cotton, and beer), total export proceeds fell from US \$20.3 million to US \$17.6 million. (See also section 7, Agricultural Exports.)

7. Agriculture

7.1 Overview of Agriculture

Agriculture has played a major, though declining, role in the St. Kitts-Nevis economy, representing 45% of GDP in 1961 and only 23% in 1981. Sugar cultivation dominates agriculture and in 1981 accounted for 70% of the total value of exports, 15% of GDP, and about 4,500 employed workers. Sugar is grown on 4,775 hectares which is about 90% of the cultivated land in St. Kitts. The industry has been government owned since 1972.

The recent decline in sugar production from a peak of 41,000 tons in 1977 to 32,000 tons in 1981 was due principally to smut disease. A replanting program to replace the sugarcane with smut-resistant plants was completed in 1981 and should result in increased output. However, because of disruptions in the crop cycle and the lower sucrose content of the new variety, production gains will still be somewhat constrained. Further measures needed to increase productivity include irrigation schemes, limited mechanization of cane harvesting, and the replacement of worn-out equipment. In addition, the financial position of the two public corporations which produce sugar deteriorated significantly in 1981 and an action program to restore the industry to a sound economic base is needed urgently.

There is considerable potential to expand several other agricultural activities including cotton, groundnuts, livestock, and fruits and vegetables. Cotton production in Nevis rose from 8,000 lbs. in 1980 to 79,000 lbs. in 1981 primarily because of an increase in the area planted from 5 to 82 hectares. Cotton production could gain in importance as a high-quality crop which commands a good price on the export market.

Groundnuts are also growing in importance with most output exported to Barbados. Although production is now being carried out largely by the National Agricultural Corporation (NACO), groundnut cultivation offers particularly good prospects for smallholders on Nevis if rotation with cotton is introduced on a large scale. Presently small farmers grow groundnuts on about 30 hectares in Nevis.

Foodcrops are grown mainly by small farmers although recently NACO has increased its share of production. The most important food crops are sweet potatoes and yams, primarily grown for family consumption. Small farmers also grow a variety of tree fruits in backyards and orchards, but NACO is the only large-scale producer managing 47 hectares of coconut, 5 hectares of banana, 10 hectares of pineapple, and 7 hectares of coffee.

While some progress has been made in crop diversification to reduce dependence on sugar, the process could be accelerated by: making available equipment to clear and prepare land for alternate crops; constructing feeder roads to reach inaccessible arable land; and exploring

crop rotation patterns. Additional constraints in the sector include the absence of a land tenure and land use policy, the inadequate delivery of credit, poor extension service, and insufficient water supply, primarily in Nevis.

7.2 Livestock and Fisheries

Livestock is generally a sideline activity for farmers with the exception of some government stock farmers. Animals graze on marginal or communal lands, or roam in the cultivated fields, thereby constituting a perennial problem to cropping.

Livestock numbers have stagnated during recent years, with the exception of pigs, which have declined. Livestock is consumed locally and also exported on the hoof, mainly from Nevis, to nearby French islands. There is a market for increased production, but expansion would require upgrading the quality of herds, improving nutrition levels and management practices, and assuring feed availability.

A small, generally on-shore fishing industry has considerable growth potential. An additional 2,000-3,000 tons of fish are required over the present annual catch of 1,670 metric tons to meet local demand. Lobster production for export has fallen off as a result of over-fishing.

7.3 Agricultural Exports

Most exports are agricultural products; sugar commands the largest share of the export market. (See also section 6, Exports.)

Major Exports
(Value in US \$'000 and volume in '000 units)

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Sugar				
Value	11,935.4	11,487.0	14,347.8	12,030.0
Volume (tons)	36.3	36.8	31.5	28.9
Molasses				
Value	384.0	324.0	470.1	501.6
Volume (gallons)	1,600.0	1,412.0	1,821.3	2,367.0

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Cotton				
Value	19.7	6.0	5.5	59.7
Volume (pounds)	15.0	5.0	2.2	23.9
Beer and Ale				
Value	124.7	143.9	347.0	385.0
Volume (gallons)	51.0	50.0	93.9	96.0
Lobsters				
Value	64.4	28.9	41.1	-1
Volume	44.0	18.0	16.8	-
Total Exports	15,818.0	16,800.0	20,336.0	17,600.0

¹Export data not available.

Source: World Bank, Economic Memorandum on St. Kitts-Nevis, 1982.

8. Physical Geography8.1 Climate

The average temperature for St. Kitts-Nevis is about 26°C. Anguilla has an annual average of 27°C 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 (mm.)	890.78	1258.06	1096.01	1124.46

Anguilla receives an average of 915 mm. of rain annually. Heaviest rains are experienced between September and December. Droughts have also occurred in recent years.

8.2 Land Forms

St. Kitts, 168.6 sq. km. in area (45 km. long; 8 km. wide), and Nevis, 93.2 sq. km. (17 km. across), are 3.2 km. apart by sea. Both islands are of volcanic origin. St. Kitts' highest peak, Mt. Misery (1,155 m.) in the northwestern part of the island, has a volcanic crater. Brimstone Hill, which rises about 228 m. from the southwest slopes, is a secondary cone without a crater. The oval shaped Nevis, a volcanic cone rising some 1,066 m. has secondary cones on two sides. Forests cover the higher slopes and cotton is grown on the lower slopes. Some scientists consider future volcanic activity a possibility.

Anguilla (lat. 18° 10' and long. 63° W.) is the most northerly of the Leeward Islands. It lies 113 km. northwest of St. Kitts and about north of St. Maarten/St. Martin. The 90.6 sq. km. area extends 25.7 km. in length (NE-SW) and 4.8 km. 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.

9. Transportation and Logistics

9.1 Road Network

The 52-km. ring road along the coast of St. Kitts and the streets of Basseterre are in reasonably good condition but secondary roads need maintenance work. CDB is financing the construction of feeder roads in areas where smallholders cultivate a variety of crops. The Nevis ring road, resurfaced in 1978, is generally in good condition but feeder roads need extensive repairs. The establishment of regular ferry service between St. Kitts and Nevis has been an important transportation improvement of the last three years.

Anguilla has about 40 km. of surfaced road; 53 km. 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 island is on St. Kitts where 57.9 km. of .76 m. gauge railway serve the 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-financed deepwater port, including a roll on/roll off berth, was completed in 1982. Nevis has ports at Charlestown (open roadstead, good anchorage in 8 or 9 fathoms) and at Newcastle. CIDA is providing funds to extend the pier at Charlestown. 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: New berth, 122 m. long 9.15 m. deep, operational as of mid-1982.

Container and
Ro/Ro

Facilities: Two ro/ro berths at new pier, 4.9 m. deep.

Airport: Golden Rock Airport, Basseterre, 1.6 km. from port.

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

A new terminal building, financed by CIDA, was complete at Golden Rock Airport on St. Kitts in 1981. That airport and Newcastle Airfield on Nevis are adequate to meet existing and future demand. Golden Rock has 2,438 m. of recently paved runway, capable of accommodating all types of aircraft, including B-747's with full payloads of North America. Lack of minor support equipment is the reason B-747's and DC 10's cannot presently be accommodated. Newcastle has 609 m. of recently paved runway but no navigational aids or lights.

Wall Blake Airport in Anguilla has a 1097 m. 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

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°13'N 63°3'W	6 29 (EST)	09/27	n.a.	1100	n.a.	LCN 20	None

Remarks: REG S; alternate aerodromes: PHILIPSBURG/Princess Juliana, ST. JOHNS/Coolidge

Aids: L(P2), MD, MC, MT. (See Appendix I for key.)

NEVIS I/Newcastle

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°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

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°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 are not required for stays of 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, are 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 Mello 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:	Statute miles
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 Communication

10.1 Electric Power

Electricity capacity increased from 670 kW in 1980 to 1390 kW in 1981. The installation of a new generator much improved service in Nevis; two additional generators, supplied by the United Kingdom, are expected to be commissioned on that island in 1982. However, the system on both islands will need to be expanded to meet increased demand from the growing tourism and light industry sectors. In addition, old cables in the system should be replaced; the government is planning to install some new cables in Nevis in 1982 using funds provided by the United Kingdom. There are also plans to install two power stations, one in St. Kitts and one in Nevis. A feasibility study examining a proposal to generate 600 kW of electricity from excess bagasse has been completed and the government is seeking external financing.

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 10.5 hours daily.

10.3 Telephone System

The total capacity of the telephone network on St. Kitts-Nevis is less than 2,000 lines and the waiting list is expected to grow with industrial and tourism expansion. There is a current shortfall of about 3,000 lines in spite of new cables and telephones that were installed in 1981. The Government believes that it is necessary to replace the present overloaded, old system. Spare parts for the existing system are difficult to obtain and manufacturers are beginning to complain about deficiencies in the phone service. The Government has a preliminary idea of the investment it will make and is consulting with various companies. Tariff levels will have to be increased on telephone service in order to raise the capital required for the expansion/replacement.

Cable and Wireless (W.I.) Ltd. provides international telegraph and telex services.

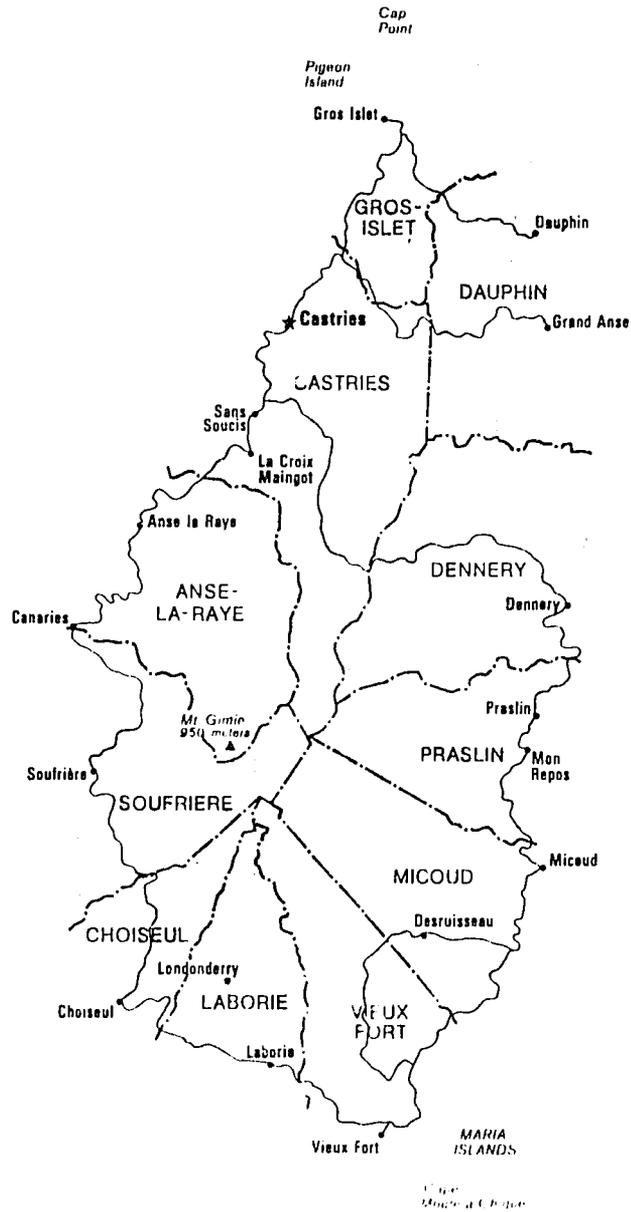
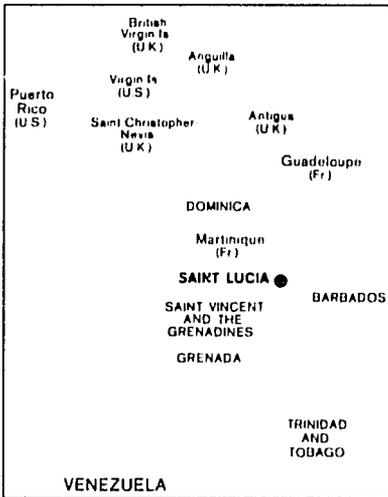
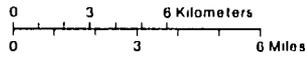
Cable and Wireless operates an automatic telephone system as well as telegraph and telex services in Anguilla, providing communication with most parts of the world.

10.4 Television

A television station is operated by the Government Broadcasting System in St. Kitts; it transmits 5 hours daily, from 6:00 PM to 11:00 PM.

Saint Lucia

- ★ National capital
- Quarter boundary
- Road



1. General Information1.1 Geographic Codes

AID	546
FIPS	ST
State region	APA

1.2 Country Names

Official:	St. Lucia
Local:	St. Lucia
Short	St. Lucia

1.3 Calendar and Holidays

New Year's Day.....January 1 and 2
 Independence Day.....February 22
 Labor Day.....May 1
 Good Friday.....*
 Easter.....*
 Whit Monday.....*
 Corpus Christi.....*
 Queen's Official Birthday June 14
 Bank Holiday.....*
 Thanksgiving.....*
 St. Lucia Day.....December 13
 Christmas.....December 25
 Boxing Day.....December 26

* variable dates

Note: Early closing days are Wednesday (mercantile) and Saturday (government).

1.4 Currency (December 1982)

East Caribbean Dollar: EC\$ 2.50 = US\$ 1.00

1.5 Time Zones

EST + 1; GMT - 4

1.6 Host Mission and Staff in U.S. (August 1982)

Embassy of Saint Lucia
41 E. 42nd Street, Room 315
New York, New York 10017
(212) 697-9360, 9361

Ambassador: Dr. Barry Bertrand Lucas Auguste

1.7 U.S. Mission and Staff in St. Lucia (September 1982)

The United States does not maintain a separate embassy in St. Lucia. However, the U.S. Embassy in Barbados also serves as the embassy for St. Lucia, St. Vincent, Grenada, and Dominica.

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

Ambassador: Milan D. Bish
(See Barbados, section 1.6, for a complete listing of U.S. Embassy staff.)

1.8 Visa and Travel Information

Passports are not required for U.S. citizens holding proof of citizenship such as a birth certificate, expired passport, U.S. naturalization certificate, or a signed U.S. voter registration card (drivers licenses are not acceptable). Aliens who are permanent U.S. residents must have their U.S. alien registration card to return to the U.S.

Visas are not required for stays up to six months. Cholera and yellow fever vaccinations are required for visitors arriving from infected areas.

1.9 Ethnic and Sociocultural Groups

St. Lucians are mainly of African Negro descent. There are also a few whites (French and English), and Carib Indians, the island's original inhabitants.

1.10 Languages

English is the official language. However, a large proportion of the population speak only a French-based patois.

The national literacy rate is about 80%.

1.11 Religions

St. Lucia is predominantly Roman Catholic. Other faiths represented on the island include Anglican, Methodist, Seventh Day Adventist, and Baptist.

2. Government2.1 National Government

St. Lucia was a member of the West Indies Associated States until 1979, when the island gained its independence. Under the 1979 constitution, St. Lucia is a parliamentary democracy with the Queen of England as the titular head of state represented locally by a Governor General. The Governor General is appointed by the Queen on the advice of the British Prime Minister. The Governor General appoints the Prime Minister of St. Lucia and the other ministers of the cabinet. Legislative power is vested in Parliament, comprising a 17-member House of Assembly elected by universal adult suffrage for up to five year terms, and an 11-member Senate appointed by the Prime Minister, opposition party leader, and Governor General.

Political parties include the United Workers' Party (UWP), presently in power, the St. Lucia Labor Party (SLP), and the Progressive Labor Party (PLP).

2.2 Regional Organization

St. Lucia is 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 a few exceptions each parish represents a town or village.

2.3 Major Government Figures (November 1982)

Governor General.....	Williams, Boswell
Prime Minister.....	Compton, John
Min. of Communications & Works.....	Mason, Wilendon
Min. of Community Development.....	Lansiquot, Romanus
Min. of Education.....	Alexander, Margarita
Min. of Finance.....	Compton, John
Min. of Foreign Affairs.....	Compton, John
Min. of Health.....	Bousquet, Allen
Min. of Legal Affairs.....	Riviere, Leonard
Min. of Trade, Industry & Tourism.....	Mallet, George
Attorney General.....	Riviere, Leonard

3. Disaster Preparedness

3.1 Disaster Types

St. Lucia is subject to hurricanes, droughts, floods, and earthquakes. Two destructive hurricanes have affected St. Lucia in recent times, Hurricane Beulah in 1967 and Hurricane Allen in 1980.

3.2 Hurricane Allen

Hurricane Allen hit St. Lucia on August 3, 1980, claiming 9 lives and causing severe damage. All telephone and teletype communications were knocked out, and there was substantial damage to the fishing fleet, livestock, forests, public utilities, roads and bridges, port facilities, public buildings, and private housing. The agricultural economy was hardest hit (90% of the banana crop and 75% of vegetable crops were destroyed). Numerous towns suffered substantial damage; Vieux Fort was reported 60-90% destroyed. Total damages were estimated at US \$88 million.

3.3 Host Disaster Plan

St. Lucia's national disaster plan is to be coordinated and implemented by the Central Emergency Committee. The Committee is comprised of representatives of all public agencies, as follows:

- The Prime Minister (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 (responsible for telecommunications, transport communications, building materials, and shelter)
- The Minister for Housing, Community Development, and Social Affairs
- The Major, Castries City Council
- The Cabinet Secretary (responsible for general administration and plan of action)
- Secretary of Finance (responsible for finance)
- Permanent Secretary, Ministry of Health (responsible for health and medical supplies)
- Permanent Secretary, Ministry of Trade (responsible for food supplies)
- Permanent Secretary, Ministry of Social Affairs (responsible for clothing)

Permanent Secretary, Ministry of Agriculture (responsible for
 fisheries and labor recruitment)
 Chief Medical Officer
 Chief Engineer
 Water Engineer (responsible for water)
 Commissioner of Police
 General Manager, St. Lucia Port Authority
 Chief Welfare Officer
 Local Government Officer
 Public Relations Officer (responsible for public relations and
 information service)
 Superintendent, Civil Aviation
 British Government Representative
 Representative of the Chamber of Commerce
 Representative of the St. Lucia Jaycees
 Director, St. Lucia Red Cross
 Director, St. John Ambulance Brigade
 Manager, St. Lucia Electricity Services Ltd. (responsible for
 electricity)
 Manager, Cable and Wireless (W.I.) Ltd.
 Weather Observer

3.4 Host Plan District Organization

St. Lucia is divided into ten districts for emergency relief action, which are headed by village/city councils, local authorities, or rural community councils.

<u>District</u>	<u>Committee</u>	<u>Address and Telephone Number of Chairman</u>
1. Castries	Castries City Council	The Chairman, Office Tel. 4066; Council Officer, Office Tel. PBX 2121
2. Soufriere	Soufriere Town Council	The Chairman, c/o Soufriere Town Council, Office Tel. 7418/7218; Police Station, Tel. 7333
3. Vieux Fort	Vieux Fort Town Council	The Chairman, Tel. 6335; Vieux Fort Police Station, 6333
4. Dennery	Dennery Village Council	The Chairman, Tel. 15-240; Dennery Police Station, Tel. 15-333
5. Micoud/ Praslin	Micoud Village Council	The Chairman, Tel. 14-212; Micoud Police Station, Tel. 14-238

<u>District</u>	<u>Committee</u>	<u>Address and Telephone Number of Chairman</u>
6. Laborie	Laborie Village Council	The Chairman, Tel. 6288; Laborie Police Station, Tel. 6933
7. Choiseul	Choiseul Village Council	The Chairman, Choiseul Village Council, Office Tel. 13-236; Police Station, Tel. 13-233
8. Anse-la- Raye	Anse-la-Raye Village Council	The Chairman, Tel. 16-226; Anse-la-Raye Police Station, Tel. 16-244
9. Canaries	Canaries Village Council	The Chairman, Tel. 7323; Canaries Police Station, Tel. 7454
10 Gros Islet	Gros Islet Village Council	The Chairman, Tel. 8331/8258; Gros Islet Police Station, Tel. 8333

3.5 Host Plan Local Organization

Rural village committees are organized to provide relief coordination, accounting, and control in their areas.

<u>Location</u>	<u>Committee</u>	<u>Chairman and Address</u>
Fond St. Jacques	Fond St. Jacques Rural Community Council	Mrs. Elizabeth Theodore Fond St. Jacque
Saltibus	Saltibus Rural Community Council	Mr. Gilbert Isaac Saltibus
Augier	Augier Rural Community Council	Mr. George St. Jour Augier
La Pointe/Delcer	La Pointe Delcer Rural Community Council	Mr. Condel Calderon Delcer
Desruisseaux	Desruisseaux	Mrs. Vermantius James Tel. 14-313
Ti Rocher	Ti Rocher	c/o Tel. 16-247
Mon Repos	Mon Repos	Mr. Joseph Serieux

<u>Location</u>	<u>Committee</u>	<u>Chairman and Address</u>
Mabouya Valley	Mabouya	Mr. Francis Laurencin Tel. 14-344
Belle Vue	Belle Vue	Mr. Edward Bellase
Baxon	Baxon Rural Community Council	Mr. Victor Perineau Tel. 1261
Barre Denis	Barre Denis	Mr. Gregory Avril
Millet	Millet R.C.C.	Mr. John Hippolyte
Jacmel	Jacmel	Mrs. Flora Girrard Tel. 16-232
Babonneau	Babonneau R.C.C.	Peterson Toussaint Tel. 3214
Marquis	Marquis	Mr. Jeffrey Smith Tel. 2436
Forrestiere	Forrestiere	Mr. Rufus Khoda Tel. 5101
Monchy	Monchy R.C.C.	Mr. Peter Poyotte

3.6 Host Communications

The St. Lucia Amateur Radio Club provides assistance in internal/external communications and is able to set up mobile communications. Club officials include:

<u>Name</u>	<u>Call Sign</u>	<u>Telephone</u>
V. A. Fudoxie (President)	J6LDJ	8625
A. Myers (Vice President)	J6LA	4902
G.J. Bobb (Secretary)	J6LCT	8421
P. Bladman	J6LPB	4696
T. Duboulay	J6LFT	3369

3.7 Red Cross

The St. Lucia Red Cross, working in collaboration with district and local emergency committees, is responsible for the distribution of relief supplies of food, clothing, and household requirements.

3.8 Regional Disaster Plan

See also Antigua, section 3.4, Regional Disaster Plan.

4. Population4.1 National Population

Population (1981)	122,000
Average Growth Rate (1976-81)	1.5%
Density per sq. km. (1980)	182
Age Structure (1979) 0-14	49.6%
15-64	45.1%
65 and over	5.3%

According to World Bank estimates, the national population of St. Lucia was 122,000 in 1981. The population is divided about equally between urban and rural areas.

4.2 Regional Distribution

Castries (same name as parish) is St. Lucia's main town and capital with a population of approximately 48,000. Other parishes and their populations are as follows:

	<u>Population (1979)</u>
Castries	48,011
Vieux-Fort	9,614
Soufriere	8,596
Micoud	12,029
Dennery	10,502
Anse-La-Raye	5,660
Canaries	2,297
Laborie	7,128
Gros Islet	7,246
Choiseul	7,317
Total	118,400*

* Excludes 1,087 persons in institutions

Source: Government of St. Lucia, Annual Statistical Digest,
1978/79

5. Health, Nutrition, and Housing

5.1 Major Diseases

A number of diseases are reported to have a high rate of incidence in St. Lucia, including 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 principal causes of death in 1978 were cerebrovascular disease, diseases of the heart, pneumonia, malignant neoplasms, enteritis and other diarrheal diseases, and causes of perinatal mortality.

5.2 Vital Statistics

Births per 1,000 population (1980)	31.0
Deaths per 1,000 population (1980)	7.0
Infant Mortality per 1,000 live births (1979)	32.9
Life expectancy at birth (1979)	67.7 years

5.3 Health Facilities and Personnel

St. Lucia has five hospitals, the largest being Victoria Hospital at Castries (233 hospital beds and a 50 bed tuberculosis wing). The other hospitals include Soufriere Hospital, Dennery, and St. Jude Hospital at Vieux Fort, for a total of 572 hospital beds. The island also has 24 health centers. In 1978, there were 42 doctors (1 physician per 2,798 people), 5 dentists, and 312 nurses.

Plans are currently underway to expand and renovate Victoria Hospital. The project includes upgrading existing wards and the laboratory building, the construction of a new wing, and construction of access roads and sewage facilities. Many health centers are also being upgraded, and several new centers are planned.

5.4 Nutrition

Data on nutritional deficiency diseases is not available. A 1974 nutrition survey revealed that 25% of deaths in children under 5 years old was due to malnutrition and gastroenteritis. Although the same study

revealed that average daily calorie intake (2,170 calories) was 90% of the recommended daily allowance and protein intake was 140% of the recommended daily allowance, distribution of food intake was skewed; 35% of households failed to meet protein needs while an even higher percentage failed to meet calorie needs.

5.5 Diet

Although much of the food is imported, St. Lucians have a varied diet. The principal foods consumed are various cereals, mangoes, bread-fruit, milk and milk products, and fish. To a lesser extent, greens and other vegetables, tubers, dried legumes, other fruits, eggs, and meat are also a part of the St. Lucia diet.

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 the 1970s, pumping from rivers into small reservoirs was sufficient to meet demand, except in Castries where a gravity-delivered supply is drawn from surface water above the town. The water supply has been extended by pumping water from rivers and wells into two service reservoirs with a capacity of 800,000 gallons.

Serious water shortages are expected to occur from 1984 onwards in the northern areas of St. Lucia. Construction of a dam in the Roseau Valley is currently underway in an effort to secure an adequate water supply.

5.7 Housing

Most housing in St. Lucia is of wooden construction and in poor condition. The average dwelling size is 75 to 95 sq. m. with an average occupancy of 4.6 persons per house. The St. Lucia National Development Bank is currently sponsoring a project to provide mortgage financing to lower income families for the purchase of new or existing housing. The project is aimed at upgrading the existing housing stock on the island and reducing rural-urban migration.

At least two-thirds of the population has access to some type of sanitary facilities. In rural areas, many houses use sinks and ponds.

6. Economy6.1 Overview of Economy

The economy of St. Lucia enjoyed a rapid expansion during the 1960s and most of the 1970s. The expansion took place in agriculture, tourism, and, more recently, in manufacturing. The effects of Hurricane Allen and a decline in private investment due to political instability sharply slowed down the economic growth during 1979-80. After a decline of almost 5% in 1980, the economy grew about 3% in 1981 as a result of a significant recovery of agriculture and an expansion of the manufacturing sector, which more than offset a further contraction in tourism.

St. Lucia's economy is one of the most diversified of any of the Windward or Leeward Islands. Agriculture, the manufacturing industry, tourism, and the construction industry continue to be the principal sectors of the economy. These sectors also provide employment for most of the island's labor force. In 1980, 44% of total employment was in agriculture and mining, 6% in manufacturing, 7% in construction, and 12% in trade and hotels. Due to the recent downturn in the tourism industry, unemployment has been high at 14% of the labor force.

Percentage Change in Gross Domestic Product By Sector

	<u>1978</u>	<u>1979</u>	<u>Prel.</u> <u>1980</u>	<u>Est.</u> <u>1981</u>
Agriculture, Fisheries, and Forestry	21.8	1.6	-13.0	35.2
Mining & Quarrying	10.5	23.8	11.5	10.3
Manufacturing	13.6	-12.0	3.2	5.4
Electricity & Water	5.0	-2.4	-4.9	-
Construction	70.8	-16.8	10.3	3.0
Wholesale & Retail Trade	8.2	8.8	-	-
Hotel & Restaurants	26.7	31.2	-12.6	-24.8
Transport & Communications	-5.7	8.7	-2.4	-3.3
Other	-1.9	12.8	-9.3	-1.2
GDP	13.5	4.4	-4.5	3.2

Source: World Bank, Economic Memorandum on St. Lucia, 1982.

Percentage of Gross Domestic Product by Sector at
Current Market Prices

	<u>1976</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Agriculture, Fisheries, & Forestry	14.5	14.0	12.3	16.8
Manufacturing	7.8	6.7	7.3	7.4
Construction	11.7	13.1	15.1	15.0
Wholesale & Retail Trade	14.3	14.6	15.3	14.8
Hotel & Restaurants	4.7	7.7	7.0	5.1
Transport & Communications	7.4	6.7	6.8	6.4
Other	39.6	37.2	35.7	34.5

Source: World Bank, Economic Memorandum on St. Lucia, 1982

6.2 Manufacturing

Manufacturing activity in St. Lucia consists mainly of food and beverage processing, a garment industry, and the production of cardboard boxes. The garment industry and the output of cardboard boxes (produced mainly for the banana industry) have been primarily responsible for recent growth in the manufacturing sector. Overall, manufacturing has experienced some problems, mainly an inadequate supply of managerial and trained personnel, and an inadequate and often unreliable electricity supply and port service. These problems contributed to the closing down of a Milton Bradley electronic toy factory after only one year of operations. Additionally, output of processed foods and coconut derivatives has declined due to operational problems in the factories.

6.3 Tourism

Tourism was stimulated in the early 1970s by improved air facilities and the construction of two major hotels. In 1975 the industry was adversely affected by the general slowdown in world tourism but recovered strongly by 1978, when total visitors reached an all-time high. Since that year, recessionary conditions worldwide, the effects of Hurricane Allen, and political unrest have resulted in a steady decline in total

visitors. More aggressive promotional campaigns and training programs to help assure that services meet adequate standards are needed to strengthen the tourist sector.

6.4 Balance of Payments

St. Lucia's overall balance of payments position has deteriorated from its approximate balance in 1977 to a deficit of \$3.7 million (3% of GDP) in 1981. The deficit has been financed by foreign borrowing, primarily from the East Caribbean Currency Authority (ECCA).

The current account deficit has widened significantly over the last few years, and in 1981, reached a record level of \$51.6 million (39.4% of GDP). The main underlying factor behind the increasing deficit was a sharp increase in imports associated with substantial foreign investment flows. In addition, a recent slowdown in export and net travel receipts (in the aftermath of the hurricane), and continued sharp growth in imports have caused a further widening of the current account deficit. Capital inflows, mainly in the form of private direct investment, provided most of the financing of the deficit.

6.5 Imports

Imports rose at an average rate of 27% annually during the period 1977-1980. In 1981, imports increased by 12%, to 111% of GDP. The rapid increase in imports is attributable in part to foreign private investments, particularly in the construction of the Hess Company oil transshipment terminal and export-oriented enterprises, and to public sector investments in large infrastructure projects such as port facilities.

The United States, CARICOM (in particular, Trinidad and Tobago), and the United Kingdom supply most of St. Lucia's imports.

Merchandise Imports by End-Use
(U.S. \$ millions)

	<u>1977</u>	<u>1979</u>	<u>1981</u>
Total Imports, c.i.f.	59.3	101.2	138.1
Food	13.1	19.3	25.0
Beverages and Tobacco	1.9	2.4	3.5
Crude Materials	1.2	2.6	4.1
Fuels	4.7	10.0	13.8
Oils and Fats	0.2	0.4	0.7
Chemicals	6.3	8.6	12.0
Manufactured Goods	15.9	29.1	32.9
Machinery & Transport			
Equipment	10.1	19.9	32.1
Miscellaneous	5.9	8.9	14.0

Source: World Bank, Economic Memorandum on St. Lucia, 1982.

6.6 Exports

Export earnings, which increased at an average annual rate of 10.7% between 1977 and 1979, rose by 20% in 1980, despite the impact of Hurricane Allen. Much of this impact was felt in 1981, however, when domestic exports declined by 2.5%. Bananas are the largest export earner, followed by coconut oil, paper, and clothing. CARICOM, the United Kingdom, and the United States are the main recipients of St. Lucia's exports.

Merchandise Exports
(thousands of U.S. \$)

	<u>1977</u>	<u>1979</u>	<u>1981</u>
Bananas	9,454	13,520	14,900
Coconut Oil (unrefined)	849	1,627	611
Coconut Oil (refined)	1,193	1,044	1,748
Fruits and Vegetables	280	529	340
Beer and Ale	953	1,590	1,253
Paper and Paperboard	3,508	1,923	3,775
Clothing	828	1,765	2,575
Other	3,526	5,945	7,675
Re-exports	1,996	3,899	7,600
Total Domestic Exports	20,591	27,943	32,877

Source: World Bank, Economic Memorandum on St. Lucia, 1982.

7. Agriculture

7.1 Overview of Agriculture

Agriculture continues to be the major economic sector and employer in St. Lucia, accounting for 17% of GDP in 1981. Agriculture on the island is quite vulnerable, however, because of its high dependence on bananas and coconuts - both crops have suffered from periodic natural disasters, low productivity, and market constraints. In addition to bananas and coconuts, major crops include cocoa, spices, and fruits and vegetables (mainly pumpkins, mangoes, plaintains, and yams). The government's agricultural policy emphasizes crop diversification and encourages the development of linkages with other sectors, particularly tourism and manufacturing.

Percentage Change of the Gross Domestic Product - Agriculture Sector

	<u>1978</u>	<u>1979</u>	<u>Prel. 1980</u>	<u>Est. 1981</u>
Bananas	26.6	15.7	-39.7	59.3
Coconut	11.5	8.2	6.0	-13.9
Cocoa	27.4	4.0	-8.0	0.9

Source: World Bank, Economic Memorandum on St. Lucia, 1982

7.2 Crops

- Bananas -** Bananas are St. Lucia's principal crop and main export commodity. Over 10,000 growers market bananas through the Banana Growers' Association and export the bulk through Geest, a shipping company. Hurricane Allen destroyed much of the 1980 banana crop, accounting for the 40% decline in production. Sizeable foreign grants helped rehabilitation and induced new growers to join the business. More efficient packing methods have also reduced waste. As a result, banana production nearly reached 1979 levels, increasing 59% in 1981.
- Coconuts -** Coconut trees are grown on 5,700 hectares by 18,000 farmers. Individual growers process the nuts into copra which is then sold to Copra Manufacturers Ltd., an oil mill at Soufriere which recently began producing margarine and shortening. The adverse effects of Hurricane Allen on the coconut crop will be felt in the years ahead since the gestation period of the tree is six to eight years.

St. Lucia's other crops include cocoa, spices (nutmeg, mace, and ginger), rootcrops (which are the island's staples), and fruits and vegetables.

7.3 Livestock

St. Lucia's livestock population in 1980 included 10,000 cattle, 10,000 pigs, 13,000 sheep, 10,000 goats, and 189,000 poultry. There has been a steady increase in the number of cattle raised, of both beef and dairy types. Graded Holsteins and Guernseys are the main breeds raised by dairy farmers. Pigs are raised mainly by peasant farmers.

7.4 Fishing

Fishermen's cooperatives account for most of the annual catch of approximately 2,600 tons. A modern fishing complex with cold storage facilities is planned for Castries.

7.5 Imports

See Economic Imports, section 6.5.

7.6 Exports

See Economic Exports, section 6.6.

8. Physical Geography

8.1 Climate

St. Lucia's tropical climate has little variation in temperature, which averages between 24°C and 30°C year-round. Annual rainfall averages about 200 cm., but varies considerably throughout the island. Average yearly rainfall in Castries is about 200 cm. while in the northern and southern areas, it ranges between 125 and 150 cm. yearly. Central and leeward regions receive the most rainfall, between 250 to 370 cm. annually. The wet season extends from June to December, the dry season from February to May.

Historically, St. Lucia has been less liable to hurricanes than the more northern Caribbean Islands, although it lies in the hurricane track. Until Hurricane Allen devastated the island in 1980, St. Lucia had not experienced major hurricane damage for nearly 100 years. Droughts are seldom experienced, except in the northern and southern extremities. See also section 3.1, Disaster Types.

8.2 Land Forms

The island of St. Lucia lies in the Windward Islands group in the Caribbean between Martinique to the north and St. Vincent to the south. Land area totals 616 sq. km. The island is of volcanic origin and is relatively mountainous. The main ridge runs nearly its entire length, although the northern and southern ends of the island are virtually flat. The highest peak is Morne Gimie (958 m.), and there are several other mountains ranging between 610 and 915 m. The best known mountains are twinpeaks: Gros Piton (798 m.) and Petit Piton (735 m.), two old volcanic cones south of the town of Soufriere.

A number of small rivers flow outward from the central highlands; the principal ones being Dennery, Fond, Playe, Dorée, Canaries, Roseau, and Marquis.

8.3 Land Use

The island's total land area is 61,630 hectares, of which 10,000 hectares are government-owned. Approximately 33,200 hectares are farmland. Pain forests cover nearly 7,690 hectares of mountainous interior.

Land Utilization On Agricultural Holdings, 1973

<u>Land Use</u>	<u>Number of Holdings</u>
Tree crops	28,536
Other cropland	13,146
Grassland cultivated	2,624
Grassland uncultivated	4,722
Forest woodland	19,002
Other land	3,971
Total	72,001

Source: Government of St. Lucia, Annual Statistical Digest, 1978/79.

9. Transportation and Logistics

9.1 Road Network

St. Lucia has the best infrastructure of all the smaller eastern Caribbean countries. The island has about 800 km. of roads, of which 260 km. are main roads and the remainder feeder roads. The main road system encircles the entire island and is divided into two sections: the East Coast and West Coast Roads. Together these two roads pass through nearly every town and village on the island. A new highway is under construction that will provide a direct route from Castries to the southern coast.

Much of the East Coast Road is in the process of being upgraded. The West Coast Road is said to be in poor condition, including the bridges.

9.2 Ports

St. Lucia has three ports. The main port is located at Castries and has recently been modernized. Further development of this port (purchase of a mobile crane, refrigeration equipment, and cargo handling equipment) is planned. Vieux Fort is the location of a smaller port where most of the island's exports are handled. Plans are underway for the expansion of this port. Soufriere is the smallest port, important because it is the entry point for many cruise and commercial ships. Construction of a new pier and port facilities are underway at Soufriere.

Port Castries

Coordinates:	Lat 14° 01' N; long 61° 00' W
Authority:	St. Lucia Port Authority, PO Box 651, Castries. Tel: 2641, 2866, 2893/4, Telex: 6355 PASLULC
Approach:	Approach channel 121.9 m wide with max depth of 12.8 m. Turning basin 426.7 m in diameter, depth 12.8 m
Largest Vessel:	Loa 213.3 m, beam 21.33 m, max d 12 m
Accommodation:	Deep and sheltered anchorage off entrance. Three berths between 158.5 and 243.9 m in length with depth alongside of 12 m
Storage:	6882 m ² of covered space and refrigerated store of 2265.6 m ³

Cranes:	140 t truck crane owned by Atlantic Lines available for hire through the Port Authority
Provisions:	Available through vessel agents
Water:	Available at quays, 15-25t/h at charge of \$24/1000 galls
Container and Ro/Ro Facilities:	Containers handled by ships gear, forklifts and trailers available for stacking in storage area. Ro/ro ramp on Berth 5 Tanker and Liquefied Gas
Tanker and Liquefied Gas Terminals:	Available at Coconut Bay, La Toc, at S side of harbor
Bunkers:	Limited quantity for yachts and small vessels only. Refuelling jetty at Coconut Bay owned by Texaco
Shiprepairs:	No facilities for large vessels
Towage:	Not available
Pilotage:	Compulsory: Pilots available on a 24-hour basis. VHF Channels 16 and 14
Traffic:	1980, 822 vessels of 3 199 142 grt. 195 313 t of cargo handled
Medical Facilities:	Victoria Hospital and also health centers
Airport:	Vigie, 3.2 km
Local Holidays:	New Year's Day, New Year's Holiday, Good Friday, Easter Monday, Labor Day, Corpus Christi, Independence Day, Christmas Day and Boxing Day
Working Hours:	0700-1600. Arrangements can be made to work outside normal hours if required.

Vieux Fort

Coordinates:	Lat 13° 43' N; long 60° 57' W
Authority:	As Port Castries. Tel: 6611
Largest Vessel:	Loa 180m, beam 21 m, max d 8 m

Accommodation:	One pier comprising two berths with 8 m depth on S side and 6 m on N side
Storage:	Covered facilities of 400 m ²
Water:	Available at \$24/1000 galls
Tanker Terminals:	Facilities available at S side of pier or at anchor to discharge by hose lines
Bunkers:	Available by road tanker
Traffic:	325 vessels of 823 875 grt. 85 710 t of cargo handled
Medical Facilities:	St. Judes Hospital and at health center
Airport:	Hewanorra, 5 km

9.3 Shipping

In 1977, 75 cruise ships called at St. Lucia. Regular shipping services are provided by the following lines: Atlantic, Booker, Booth, Federal, French, Geest, Harrison, Italia, Lamport and Holt, Royal Dutch Line, Sagueny, Seaway, Trafalgar Lines, and West Indies Shipping Company.

Total cargo handled in 1977 was 3,440,000 tons.

9.4 Air Transport

There are two airports in use: Vigie (near Castries), which is served by Leeward Islands Air Transport (LIAT), St. Lucia Airways, and Air Martinique; and Hewanorra International, which is served by Balair (Switzerland), British Airways, EWIA International (Trinidad), Caribbean Airways (Barbados), American Airways, Eastern Airlines, Monarch Airways (United Kingdom), Nordair (Canada), VIASA (Venezuela), and Wardair (Canada).

9.5 Airports

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

Gastries/VigieRunway 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>
14° 01'07"N	3	08/26	0	1737	B	LCN 40	100,JA1
60° 59'30"W	31.3						

Remarks: alternate aerodromes - BRIDGETOWN/Grantley Adams Intl., 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 InternationalRunway 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>
13° 44' 51"N	4	10/28	n.a.	2727	A	AUW 159	100,JA1
60° 56' 43"W	29			PO			

Remarks: alternate aerodromes - BRIDGETOWN/Grantley Adams Intl., PORT-OF-SPAIN/Piarco, ST. JOHNS/Coolidge, SAN JUAN/Puerto Rico Intl.

Aids: ILS (PO), DME (P2), VOR (P2), LSA (10, PO), LVA (PO), LR, LTX, LB, LO, 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</u> <u>Miles</u>
Houston (via New Orleans and San Juan)	2483
Miami (via New Orleans and San Juan)	1505

From St. Lucia to:	<u>Statute Miles</u>
New Orleans (via San Juan)	2173
New York	2012
Panama City	1287
Washington, DC (via San Juan)	2028

10. Power and Communications

10.1 Electric Power

St. Lucia Electric Services Ltd. (SESL) is responsible for island-wide generation and distribution of electricity. Installed capacity is 14.78 MW; however, firm capacity is less than 10 MW because two of the largest generating units (2.67 MW each) may be out of service at any time. In addition, Castries has a 1.25 MW diesel generator.

There are several projects aimed at developing alternate sources of energy. These include a geothermal plant at Soufriere Sulphur Springs, a wind power project, the Roseau Valley Dam, and a charcoal development project.

10.2 Radio Network

The official radio station is Radio St. Lucia (RSL), which broadcasts in English, French, and Creole. Radio Caribbean International is a private station owned by the French CIRTES, also broadcasting in English, French, and Creole.

Several other Caribbean stations also give coverage to St. Lucia, including Radio Antilles (Montserrat), Radio Barbados, Radio Trinidad, NBS Radio 610 (Trinidad), Radio Dominica, and Radio ZIZ (St. Kitts).

In 1976 there were 81,500 radio receivers.

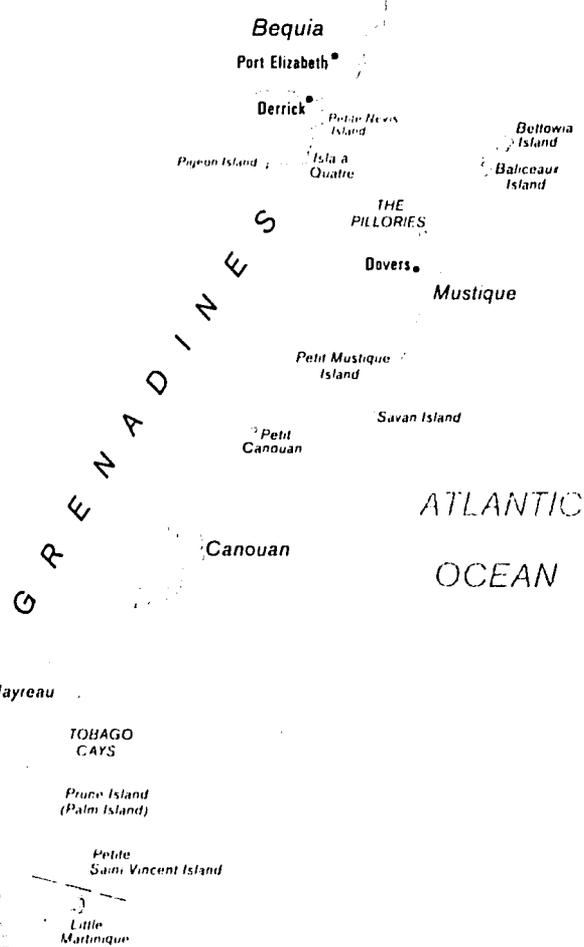
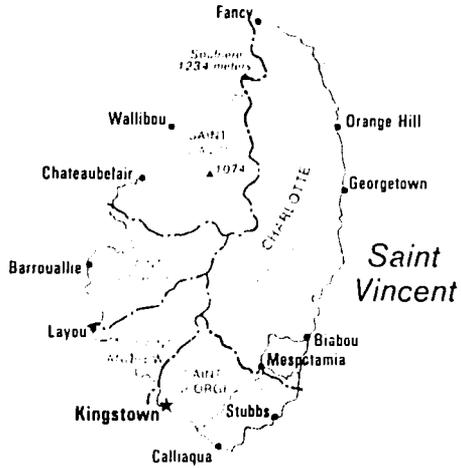
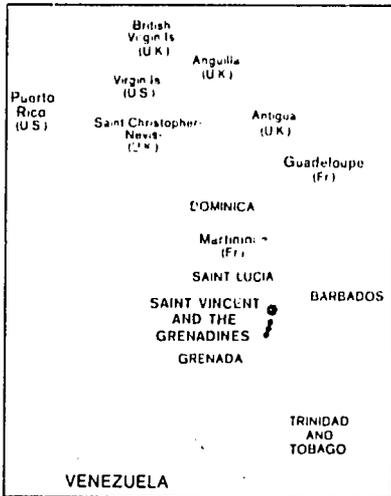
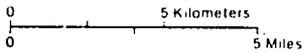
10.4 Telecommunications

Cable and Wireless (West Indies) Ltd. provides international telegraph, telex, and telephone (automatic system) services.

The islands only television station, St. Lucia Television, relays limited programs nightly. In addition, programs from CBC-TV in Barbados and RTF in Martinique are also received in St. Lucia.

Saint Vincent and the Grenadines

- ★ National capital
- Parish boundary
- Road



1. General Information1.1 Geographic Codes

AID Standard	547
State Regional	ARA
FIPS	VC

1.2 Country Names

Official	St. Vincent and the Grenadines
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
Independence Day.....	October 27
Thanksgiving.....	Last Monday in October
Christmas.....	December 25
Boxing Day.....	December 26

* variable dates

1.4 Currency (December 1982)

East Caribbean Dollar: EC\$ 2.50 = US\$ 1.00

1.5 Time Zones

EST + 1; GMT - 4

1.6 Host Mission and Staff in U.S. (August 1982)

St. Vincent does not currently maintain an embassy in the United States. The Ambassador to the United States, Hudson Kemul Tannis, is resident in St. Vincent.

1.7 U.S. Mission and Staff in St. Vincent and the Grenadines

The United States does not presently (1982) maintain a separate embassy in St. Vincent and the Grenadines. However, the U.S. Embassy in Barbados also serves as the embassy for St. Vincent, St. Lucia, Grenada, and Dominica.

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

Ambassador: Milan D. Bish
(See Barbados, section 1.6, for a complete listing of U.S. Embassy staff.)

1.8 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.

1.9 Ethnic and Sociocultural Groups

The indigenous inhabitants of St. Vincent were the Caribs; however, wars, natural disasters (including the 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 19%; East Indian 5.5%; European White 3.5%; Amerindian 2.0%; others 4.5%.

1.10 Language

English; some French patois. Literacy: about 80%.

1.11 Religions

Faiths represented include Anglican, Methodist, Roman Catholic, Salvation Army, Seventh-day Adventist, and Baptist.

2. Government2.1 National Government

St. Vincent and the Grenadines became an independent state within the British Commonwealth on October 23, 1979, after ten years as an Associated State of the United Kingdom.

The executive branch is headed by a Governor and a 6-member Cabinet. The 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 is divided into 5 parishes: Charlotte, St. David, St. Patrick, St. Andrew, and St. George. (See also Host Disaster Plan, section 3.1.)

2.2 Major Government Figures (November 1982)

The Governor.....	Gunn-Munro, Sydney, Dr.
Prime Minister.....	Cato, R. Milton
Deputy Prime Minister.....	Tannis, Hudson
Min. of Communications, Works & Labor.....	Williams, Arthur F.
Min. of Education, Youth Affairs & Sports....	Dacon, Charle St. Clair
Min. of External Affairs, Internal Security & Tourism.....	Tannis, Hudson
Min. of Finance, Information & Grenadine Affairs.....	Cato, R. Milton
Min. of Health.....	Ballantyne, Peter
Min. of Home Affairs, Local Govt., Housing & Community Development.....	Woods, Arthur T.
Min. of Legal Affairs.....	Isaacs, Grafton Cephas
Min. of Trade and Agriculture.....	Beache, Vincent
Attorney General.....	Isaacs, Grafton Cephas

3. Disaster Preparedness

3.1 Host Disaster Plan

St. Vincent's Disaster Plan contains procedures to be followed in the event of a hurricane as well as an evacuation plan in case of an eruption of La Soufriere volcano. In both cases, the major responsibility for conducting relief operations lies with a Central Emergency Relief Committee headed by the Prime Minister with headquarters at the Office of the Ministry of Home Affairs. It is charged with ensuring the effective operation of St. Vincent's Central Emergency Relief Organization which operates via committees at the district level. The twenty District Emergency Relief Committees are organized for relief distribution and coordination. Town boards, district councils, and village councils act as committees; where no such organization exists, the Prime Minister appoints committees. The District Committees and their jurisdictions include:

1. Chateaubelair District - embracing Petit Bordel, Shapes, 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, Sion 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. Marriaqua 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, Saus Souci, South Rivers, Mt. William, Gorse, Byera
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

3.2 Central Emergency Relief Committee

The Central Emergency Relief Committee consists of the following:

- The Prime Minister
- 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
- Manager, Housing and Land Development Corporation
- 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 St. Vincent Association of Professional Engineers

A representative of the HAMS
The Deputy British High Commissioner
A representative of the Rotary Club
A representative of the Lions Club
Manager, Radio St. Vincent
Permanent Secretary Ministry of Home Affairs (Secretary)

3.3 Eruption Committees

In the event of a volcanic eruption, the two Eruption Committees in the northern districts of the island will take responsibility for evacuating the area. The membership of these Committees is as follows:

North Windward Disaster Eruption Committee

District Medical Officer (Chairman)
Chairman, Georgetown Town Board
Revenue Officer, Georgetown
Police Officer-in-Charge, Eastern Division
Dispenser
Public Health Inspector
District Nurse, Sandy Bay
Four persons resident in the districts

North Leeward District Eruption Committee

Chairman, Chateaubelair Town Board
Police Officer-in-Charge, Western Division
Dispenser, Chateaubelair
Public Health Inspector, Chateaubelair
Four persons resident in the district

As soon as advice is received from the Seismic Research Unit in Trinidad that more than ten significant earthquakes have occurred in the volcano within 24 hours, the Committees will arrange to:

- 1) Disseminate information to persons living in the danger zone.
- 2) Select evacuation centers.
- 3) Select camp sites. For the Windward area these must be south of Colonarie, and for the Leeward area south of Petit Bordel.
- 4) Arrange for collection of tents, food, clothing, and medicines.
- 5) Issue warning notices.

3.4 Emergency Services

The following is a list of specialized emergency services whose direction will be carried out from Kingstown:

Public relations and information	- Information Office
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	- Port Officer
Food, fuel, and clothing	- Ministry of Trade and Agriculture (Control Department)
Shelter	- Red Cross
Messenger service	- Island Commissioner Boy Scouts
Public protection and collection of homeless	- Commissioner of Police

3.5 Regional Disaster Plan

See Antigua, section 3.4, Regional Disaster Plan.

3.6 Disaster Types and History

St. Vincent is subject to hurricanes, earthquakes, and volcanic eruptions. In recent years it has been beset by a number of natural disasters including the eruption of La Soufriere in 1979 and Hurricane Allen in 1980.

<u>Disaster History</u>				
<u>Disaster</u>	<u>Location</u>	<u>Date</u>	<u>Killed</u>	<u>No. Affected</u>
Volcanic Eruption	Northern areas	5/8/02	1,565	n.a.
Hurricane Beulah	Entire island	9/8/67	2	n.a.
Volcanic Eruption	Mt. Soufriere	10/17/71	n.a.	2,000

<u>Disaster</u>	<u>Location</u>	<u>Date</u>	<u>Killed</u>	<u>Affected</u>
Volcanic Eruption	Northern third	4/13/79	2	20,000
Hurricane Allen	Entire island	8/8/80	0	20,000

Source: OFDA Disaster History on file in Washington, D.C. Covers
1900 - Present.

4. Population4.1 National Population

The total population in mid-1980 was estimated at 109,468 with an annual growth rate of 2.1%. The country-wide density was approximately 282 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 the west, and Georgetown on the east coast.

Population by Age and Sex, 1978

<u>Male</u>	<u>Female</u>	<u>Total</u>
1,465	1,512	2,977
6,743	6,432	13,175
7,781	7,658	15,439
7,631	7,421	15,052
7,008	7,488	14,576
4,699	5,577	10,276
2,715	3,447	6,162
1,720	2,430	4,150
1,375	1,946	3,321
1,373	1,893	3,266
1,289	1,854	3,143
1,207	1,598	2,805
1,057	1,463	2,520
981	1,236	2,217
686	997	1,683
465	867	1,332
594	1,262	1,856
48,869	55,081	103,950

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

4.2 Population of The Grenadines*

The principal islands in the Grenadines and their estimated populations are:

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.

5. Health, Nutrition, and Housing5.1 Vital Statistics

Births per 1,000 population, 1980	28.7
Deaths per 1,000 population, 1980	6.9
Rate of growth, 1971-80	2.1%
Life expectancy at birth, 1981	67 years
Infant mortality per 1,000 live births	59.4

5.2 Major Diseases

St. Vincent has the highest infant mortality rate of any CARICOM country. This high rate has been attributed to gastrointestinal diseases, protein-calorie malnutrition, and to a chronic shortage of potable water. Other leading causes of death in all age groups include heart disease, influenza, pneumonia, and malignant neoplasms.

5.3 Health Facilities

Kingstown General Hospital with 210 beds is the main hospital in St. Vincent. Other hospitals are located at Chateaubelair, Georgetown, and Bequia. In addition, there are three specialty hospitals, one each for the aged, mental patients, and lepers. There are also 36 district medical clinics. In 1980, there was one hospital bed per 1,684 population.

Progress has been made in the health sector with the construction of new clinics in Georgetown, Mesopotamia, and on Union Island, and with the start of phase one of the Kingstown Hospital redevelopment. The first phase is due for completion in April 1983 and will provide 90 new beds in a three-story building. There are seven phases planned in all, but financing for the last six phases has yet to be identified.

5.4 Health Personnel

The biggest problem facing the health sector is personnel, with only five of the 27 doctors in public service being Vincentians. Over the years, 37 students have trained in medicine at the University of the West Indies, and only three are working in St. Vincent and the Grenadines. In 1980, the population per physician was 4,054.

In the early 1970s there were 103 graduate nurses and 67 nursing auxiliaries.

5.5 Diet

Staples: rice, sweet potatoes, yams, cassava

Accompaniments: pulses, fish, milk, cheese-milk products, meat, vegetable oil

Acceptable alternative staples: wheat-flour, dehydrated potato

Acceptable accompaniment: milk powder

5.6 Housing

Housing standards island-wide are described as poor with housing for agricultural and road workers being especially bad. Housing development plans dealing with shortages and squatter settlements are the responsibility of the Central Housing and Planning Authority.

The following materials are commonly used for housing in St. Vincent:

Cement: Portland cement, packed in 94 lb. paper bags. There is no bulk-cement facility in St. Vincent. People generally make their own concrete blocks for building.

Steel Rebar: People tend to use more rebar in their houses in the southern end of the island where economic levels are higher.

Capping: Capping is called "ridging" in St. Vincent and comes in uncorrugated lengths of 6', 8' and 10'.

Lumber: Mostly Guyana green/purple-heart is used, although some imported pine is also used. For floors, the tongue-in-groove style is common.

There are two types of roofing used: onderline and galvanized steel. The first is a very thick, rust-proof plastic roofing sheet which is usually factory pre-painted. The main benefit of this material is that it will not rust in the sea air. It is also believed that where galvanized steel tears in a high wind, onderline does not because of a strong plastic fiber. Despite the advantages of onderline, galvanized steel is still the most common roofing material.

Water supply services are still substandard as a result of insufficient storage capacity, leakages in the distribution network, and the weak financial position of the Central Water and Sewerage Authority (CWSA). Wastage through pipeline leakage and from inadequate storage capacity was estimated at 45% in 1981. The training and technical assistance necessary for the establishment of systematic procedures to detect and repair leaks are being provided through a regional PAHO/WHO/CDB leak detection program. The problems related to storage remain unaddressed.

6. Economy

6.1 Overview of Economy

Tourism and export agriculture continue to form the basis of St. Vincent's economy, although major progress has been made in industrial development. After two years of stagnation because of damage sustained by a volcanic eruption and Hurricane Allen, the economy rebounded strongly in 1981, growing by an estimated 9% compared with an average 0.3% growth during 1979 and 1980. The recovery was led by the agricultural sector (production rising to pre-1979 levels) and aided by a 16% increase in industrial production. Concomitantly, inflation fell from 18% to 12% despite average wage increases of 30% granted by the government.

Public sector finances weakened in 1980-81 due to the adverse effects of the natural disasters and the termination of budgetary support from the United Kingdom. The result was a current deficit of about 3% of GDP following small surpluses in the two preceding years. New measures were introduced to offset the wage increase, but despite a good performance in raising revenues by nearly 30%, a similar deficit level is expected in 1982.

The economy of St. Vincent and the Grenadines has undergone major structural adjustment in recent years with the rapid development of off-shore processing industries and increases in the tourism sector. The economy has also shown its resilience to external shocks by its rapid recovery from the natural disasters of 1979 and 1980. Medium to long-term economic prospects rest on further growth and consolidation in off-shore processing and tourism, as well as on the strengthening and diversification of the agricultural sector. Current predictions suggest that, provided the country is not beset by yet another natural disaster, continued economic growth can be expected.

6.2 Industry

The Government is committed to developing a strong private sector, and welcomes additional private investment, both domestic and foreign. With a good investment incentives package, a stable political climate, competitive wages, good industrial relations, and a relatively well educated labor force, there are good prospects for continuing the present trend of industrialization.

The growth of industry has been particularly successful in combatting unemployment problems. Garment manufacturing expanded substantially with 700 to 1,000 new jobs created in 1981. A new electronics factory started operations and output of banana boxes rose with the recovery in banana exports. Other growth industries include food processing, brewing, and

manufacturing of baseballs and false eyelashes. Overall, manufacturing output rose by an estimated 18% in 1981.

6.3 Balance of Payments

In the second half of the 1970s the current account of the balance of payments tended to strengthen as manufacturing and tourism expanded rapidly. Quadrupled earnings in tourism from 1977-80 helped curb the widening of the resource gap. This improvement was interrupted by the natural disasters which damaged agricultural exports and infrastructure in 1979 and 1980, but a recovering trend was evident in 1981. The current account deficit rose from an average of 8% to 15% of GDP in 1979 and 1980, reflecting stagnation in export earnings and increased imports for reconstruction. With the recovery in agriculture, continued buoyancy in manufacturing, and only a modest rise in imports, this deficit once again fell to 8% of GDP. Continued improvement is expected over the next few years.

6.4 Imports

A rapid increase in imports in 1979 and 1980 reflected needs for reconstruction following the natural disasters. Consumer goods account for about 60% of total imports.

	<u>Merchandise Imports (CIF)</u>		
	<u>(US \$million)</u>		
	<u>1978</u>	<u>1979</u>	<u>Prel. 1980</u>
Total merchandise imports	36.2	46.4	57.2
Consumer goods	24.3	29.6	34.3
Food, beverages, and tobacco	13.7	17.1	19.4
Manufactured goods	10.6	12.5	14.9
Intermediate goods	6.8	9.7	14.7
Minerals and fuels	2.2	3.5	4.7
Chemicals and fertilizers	3.6	4.9	8.1
Raw materials	1.0	1.3	1.9
Capital goods	5.1	7.0	8.2
Machinery and equipment	5.1	7.0	8.2

Source: World Bank, Economic Memorandum on St. Vincent and the Grenadines, 1982.

6.5 Exports

The Government of St. Vincent and the Grenadines is committed to the development of a healthy export-oriented private sector and has attempted to encourage the export sector in industry as well as agriculture. To date, however, the country's primary exports continue to be agricultural products. See section 7.4, Agricultural Exports.

7. Agriculture

7.1 Overview of Agriculture

Agriculture accounts for about 18% of GDP and 95% of merchandise exports. Value added in agriculture rose in real terms by almost 40% in 1981, after declining sharply in the previous two years. Bananas, arrowroot, and coconuts are the major products with bananas contributing almost 60% of total export volume and value. Efforts to diversify and strengthen the agricultural sector have been hampered by inadequate support services such as marketing, extension, research, and credit.

7.2 Crops and Production

Bananas, the most important crop, are grown mainly on small farms of less than one hectare. There are approximately 9,000 registered growers and an estimated 2,500 hectares under cultivation. Yields are low compared to other banana exporting countries: 12 tons per hectare on smallholder plantations and 25 tons per hectare on commercial plantations. The banana industry was recovering from setbacks inflicted by the 1979 volcanic eruption when Hurricane Allen struck in August 1980. As a result, banana exports dropped from 31,000 tons in 1979 to 18,600 tons in 1980. In 1981, production recovered to 30,000 tons helped by both good weather conditions and ready access to fertilizers. Forecasts for 1982 are uncertain because of lower prices.

Arrowroot ranks as the second export crop. Cropped area has increased slightly from 320 hectares in 1976 to 450 in 1982 while production and productivity have tended to stagnate, if not decrease. There are about 450 growers with an average 1/2 hectare cropped area and two large farmers with 140 and 70 hectares respectively. St. Vincent arrowroot is of high quality and the starch is used for home and pharmaceutical purposes, and for manufacturing computer paper. However, expansion of the industry has been constrained by a shortage of specialized laborers, factory inefficiency, soil erosion, and inadequate research.

Coconut production takes place on 2,300 hectares, mainly large farms, with nearly 400,000 trees in 1972. However, many trees have been destroyed recently by red-wing disease. In addition, mite infestations have occurred as a result of the 1979 and 1980 natural disasters. Production had decreased to 3.8 million nuts by 1980.

Vegetables and root crops are important in the diversified smallholder economy both for home consumption and for sales. Food crops include sweet potatoes, tannias, dasheen, eddoes, carrots, yams, pumpkins, and mangoes.

Production of Selected Crops
('000 lbs)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Sweet potatoes	1,619	3,493	3,200	3,595
Other tubers	3,722	6,895	6,798	5,485
Arrowroot	1,838	1,863	1,542	1,563
Bananas	63,095	71,934	63,028	53,038
Nutmeg	280	272	316	354
Mace	46	55	58	55
Carrots	758	904	638	521
Ginger	1,255	1,915	2,635	3,006
Peanuts	45	151	101	63
Copra	3,658	4,270	5,020	0

Source: World Bank, Economic Memorandum on St. Vincent and the Grenadines, 1982.

7.3 Agricultural 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, and canned fish. The United Kingdom, other CARICOM countries, and North America supply 80% of imports.

7.4 Agricultural Exports

The majority of agricultural production is aimed at the export market. The principal buyers are the United Kingdom, other CARICOM countries, and North America.

Merchandise Exports
(US \$million)

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Total merchandise exports	18.1	18.9	19.7	24.4
Bananas	7.4	5.9	6.3	9.5
Arrowroot	0.7	0.7	0.8	1.3
Coconuts	0.3	0.5	0.6	0.4

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Sweet Potatoes	0.4	0.3	0.5	0.4
Nutmeg	0.1	0.13	0.15	0.3
Carrots	0.1	0.1	0.1	0.1
Other	8.4	10.7	10.6	11.5

Source: World Bank, Economic Memorandum on St. Vincent and the Grenadines, 1982.

8. Physical Geography

8.1 Climate

St. Vincent's climate is tropical. From January to June northeast trade winds predominate and temperatures are equable, ranging from lows of 19°C to highs of 31°C. The dry season runs from December to April; 70% of rain falls from May to November and ranges from 150 cm. per year on the southeast coast to 380 cm. per year in the central mountains.

St. Vincent lies just within the hurricane belt of the Caribbean but seldom receives hurricane damage.

8.2 Land Forms

St. Vincent and the Grenadines lie at the lower end of the Caribbean chain at 13° 15' N latitude and 60° 56' W longitude, or about 48 km. south of Castries, St. Lucia and 97 km. north of Grenada. The nearest landfall in the west is Nicaragua, and in the east Barbados (approximately 160 km.). St. Vincent itself is 29 km. long and 18 km. 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 the central part of the island. The highest peak is Mt. Soufriere which rises rapidly from the north shore to 1,219 m. Other peaks are Richmond (991 m.), Grand Bonhomme (970 m.) and St. Andrew (757 m.) nearly equidistant from Soufriere. On the windward (east) side of Soufriere and its crater lake, the land slopes gently to the coast through undulating country of flat valleys. This contrasts sharply with the leeward (west) terrain which is rugged and deeply ridged with only narrow alluvial plains along the river courses. There are many rivers (fast flowing in the upper reaches) but they are often dry, especially in the west.

8.3 The Grenadines

The Grenadines is 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. The largest islands are Bequia, Mustique, Canouan, and Union. The smaller islands include Petit St. Vincent, Mayreau, Palm (or Prune), Baliceux, Battawia, and Isle de Quatre.

8.4 Land Use

The total land area, including the Grenadines, is 389 sq. km. Fifty percent is classified as arable land, 3% pasture, 44% forest, and 3% wasteland or urban.

9. Transportation and Logistics

9.1 Road Network

There are 1,019 km. of roads: 434 km. are oiled, 311 km. are rough motorable, and 274 km. are tracks. The principal oiled roads encircle most of the island, running from Chateaubelair on the west coast through Kingstown and Calliaqua in the south, and on to Georgetown on the east coast. There is also a jeep-driveable road from Georgetown to Fancy at the northernmost part of the island. Feeder roads lead up the valleys linking the villages, but no road crosses the central mountains.

Other roads include: on Bequia, 18.1 km. of road widened to 5.5 m. on the Port Elizabeth-Paget Farm Road; on Union, 1.2 km. of the Clifton-Ashton Road widened to a 5.5 m. carriageway.

The weakest sections are in mountainous areas and on the windward side of the island. Landslides are a frequent problem due to bad drainage and insufficient masonry; bridges are inadequate for heavy truck loads.

9.2 Ports

Kingstown harbor is the principal port; the 274 m. pier can accommodate two ocean-going ships.

Kingstown

Coordinates:	Lat. 13° 23' N; long. 61° 13' W.
Accommodation:	Depth at entrance, 88 to 93 m. Open harbor. Usual anchorage in about 24 m. Deep water pier in operation; two berths, one 9.14 m., and one 8.23 m. maximum draft.
Cranes:	One 35-ton mobile crane.
Provisions:	Available.
Water:	Available.
Bunkers:	Available for small craft only.
Pilotage:	Compulsory.
Airport:	St. Vincent Airport, 3.2 km.

Local Holidays: Caricom Day and Carnival (first Monday and Tuesday in July). Independence day (October)

Working Hours: 08:00 to 16:00.

9.3 Shipping

In addition to Kingstown, other ports, including Bequia and Union Islands, are served by motor launches/open boats which ply daily between Kingstown and the leeward ports. There is tri-weekly motor vessel service between the Grenadines and the mainland.

Bi-weekly cargo/passenger service is provided by the West Indies Shipping Service (see Barbados, section 9). Also Great Industries Ltd. steamships call weekly at Kingstown taking bananas and a limited number of passengers to the 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

The principal airport is at Arnos Vale at the southwestern end of St. Vincent, 3.2 km. from Kingstown.

The island is served by daily scheduled services operated by LIAT 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 currently 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 the latest issue of weekly International Notams International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

NEVIS I/Newcastle

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>
13°08'40"N 61°12'50"W	20 29	07/25	n.a.	1463	n.a.	n.a.	n.a.

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:	<u>Statute</u> <u>Miles</u>
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 Communications

10.1 Electric Power

Electricity for St. Vincent and Bequia is provided by St. Vincent Electricity Services Ltd (VINLEC). The system on the mainland consists of four power stations: South Rivers Hydro (850 kW), Richmond Hydro (1,100 kW), Kingstown (2,125 kW), and Cane Hall Diesel (3,570 kW), all of which are linked by an 11,000 volt overhead transmission system covering Kingstown to Richmond on the leeward side and Kingstown to Georgetown on the windward side. Bequia is served by one diesel power station (350 kW) with a 11,000 volt and a 3,300 volt transmission network. In 1981, hydro power provided about 26% of electricity generation. Plans to expand hydro power and to explore other energy sources such as biogas, wind-power, solar heating, and charcoal production are currently being considered.

10.2 Telephone System

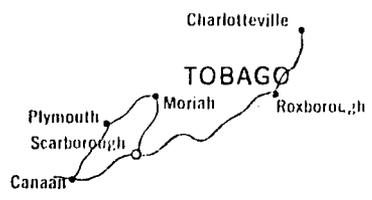
A fully automatic internal telephone system serves St. Vincent, Union, Bequia, Palm (Prune), Petit St. Vincent, and Mustique islands with a main exchange building in Kingstown; public pay phones are being installed. International telephone, telegraph, and telex services are also provided by Cable and Wireless (West Indies) Ltd.

10.3 Radio

Radio St. Vincent: P.O.B. 75, Kingstown



CARIBBEAN SEA



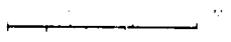
VENEZUELA

ATLANTIC OCEAN

TRINIDAD

TRINIDAD & TOBAGO

- National Highways
- District Roads
- Other Roads
- Waterways
- Airports
- Ports
- Hospitals
- District Administrative Centers
- Road



VENEZUELA

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.....	*
Carieon.....	*
Labour Day.....	May 1
Independence Day.....	August 31
Christmas Day.....	December 25
Boxing Day.....	December 26

* variable date

1.4 Currency (December 1982)

Trinidad and Tobago dollar is legal tender.
US\$ 1.00 = TT\$ 2.50

1.5 Time Zones

EST + 1; GMT - 4

1.9 International Organization Membership

CARICOM, Commonwealth of Nations, FAO, G-77, GATT, IDB, IBRD, International Coffee Agreement, ICAO, IDA, IDB, IFC, ILO, IMCO, IMF, INTELSAT, ISO, ITU, IWC (International Wheat Council), Non-Aligned Movement, OAS, SELA, UN, UNESCO, UPU, WHO, WMD.

1.10 Visa and Travel Information

A passport is required. A visa is not required for tourist stays of 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.

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 the 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 an 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 the industrial urban areas as well as making up more than 90% of Tobago's population; East Indians constitute a majority of the agricultural workers in the western sugar belt; whites, colored, and other non-Creoles have dominated the commercial and professional sectors in urban areas.

1.12 Languages

English is the official language although three Creole languages, and French and Spanish are also spoken. Trinidad English is a Creole-form language 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, a Creole form of which is spoken in mountain enclaves in the north.

Hindustani, the language of the East Indians, has undergone change from Indian Hindi and is spoken less as the younger generation increasingly uses English.

1.13 Literacy

The literacy rate is high (95% in 1980) with functional literacy believed to be among the highest in the Americas. Literacy is not significantly lower in rural than in urban localities.

1.14 Religions

In 1980, 36.2% of the population was Roman Catholic, 23% Hindu, 13.1% Protestant, 6% Muslim, and 21.7% either other Christian denominations or African-influenced groups such as 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 an electoral college).

A two-house parliament is the legislative branch consisting of a Senate of 31 appointed members and a House of Representatives of 36 members chosen by universal adult suffrage for five-year terms. A Cabinet charged with control of the government and responsible to the parliament is led by the prime minister (leader of the House majority and appointed by the president) and other appointed ministers (of whom the Attorney General must be one).

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), and summary and petty civil courts. The final appellate court, however, is the Privy Council in London.

2.2 Political Parties and 1982 Status

The predominantly black People's National Party (PNM) has been dominant since the creation of the two-party system in 1956; it was opposed by the Democratic Labor Party (DLP), a coalition of European and Hindu elements as the minority party in the legislature until 1971. Several new groups emerged in the early 1970s in the wake of violent political disturbances. A Commission of Enquiry, appointed following the 1971 general elections, underscored the need for reform and presented a revised constitution to Parliament.

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 Congress (DAC), which favors autonomy, won 54% of the vote.

In the most recent national elections in November 1981, the PNM won 26 of the 36 House seats. The United Labor Front (ULF) won eight seats as part of an electoral alliance with two other parties. The ULF, led by Basdeo Panday, draws its support mainly from rural East Indians and is closely linked with the sugar workers' union. The DAC won the remaining two seats. A new political party, the organization for National Reconstruction (ONR), participated in the 1981 election but did not win any seats.

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 councilors 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 councilor 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 and recreation areas.

2.4 Key Leaders (November 1982)

President.....	Clarke, Ellis Emmanuel Innocent
Prime Minister.....	Chambers, George
Min. of Agriculture, Lands & Food Production.....	Mohammed, Kamaluddin
Min. of Community Development & Local Govt.....	Joseph, Cuthbert
Min. of Education.....	Padmore, Overand
Min. of Energy & Natural Resources.....	Manning, Patrick
Min. of External Affairs.....	Ince, Basil
Min. of Finance & Planning.....	Chambers, George
Min. of Health & Environment.....	Connell, Neville
Min. of Housing & Resettlement.....	Mottley, Wendell
Min. in the Ministry of Legal Affairs.....	Alert, Carlton
Attorney General.....	Martineau, Russell

3. Disaster Preparedness

3.1 Host Disaster Plan

Trinidad and Tobago has a national plan which defines the responsibilities of government services and voluntary agencies and provides for the coordination of disaster assistance. The responsible authority is the National Emergency Relief Organization (NERO) under the Social Welfare Department. Emergency plans concerning essential disaster-related services are submitted by the appropriate agencies or departments and reviewed by the Central Technical Committee of NERO. New plans must be submitted and approved by March 31 of each year. Each plan must include procedures covering three phases: Stage I, when preparatory action is taken; Stage II, when standby arrangements are put into force, and; Stage III, the restoration period. Plans exist for the following activities and service entities:

1. Warning
2. Trinidad and Tobago Regiment
3. Trinidad and Tobago Coast Guard
4. Civil Aviation (Air Transport)
5. Police
6. Fire and Ambulance Service
7. Sea Transport (Harbour Master)
8. Public Works
9. Trinidad and Tobago Red Cross
10. St. John's Ambulance Brigade
11. Manpower (Labour)
12. Information
13. Health
14. Electricity
15. Finance

For further information see the Emergency Disaster Plan for Trinidad on file at the Office of U.S. Foreign Disaster Assistance in Washington, D.C.

3.2 US Mission Plan

There is no mission plan.

3.3 Contact List

The Red Cross is assigned responsibility for the provision of food, clothing, shelter, and personnel. It maintains close contacts and has a disaster plan on file with NERO. It also has an organized disaster service at the local level.

Trinidad and Tobago Red Cross
Regional Community Park
Wrightson Road, Port-of-Spain
Cable: TRINICROSS Port-of-Spain
Tel: 62-27220

Other voluntary agencies whose cooperation is assured include:

Society of St. Vincent de Paul
Catholic Center
10 Conblentz Ave.
Cacade, Port-of-Spain
Cable: VINÇEN PAUL Trinidad
Tel: 6244113

World Council of Churches
Christian Council of Trinidad and Tobago
Diego Martin Road
Diego Martin, Trinidad

The United Nations Development Programme also maintains an office on the island.

UNDP
19 Koate Street, Port-of-Spain
Cable: UNDEVPRO
Port-of-Spain
Telex: 387 257
Tel: 37056

3.4 Disaster Types and History

Although Trinidad and Tobago is generally considered to be south of the Caribbean hurricane path, the most frequent disaster types are hurricanes and floods. In 1963, Tobago experienced a serious hurricane, and in 1974 Hurricane Alma caused extensive damage to central Trinidad.

The islands also lie within the circum-Caribbean earthquake belt and earth tremors are common. Based on a total historical record, the frequency of damaging earthquakes has averaged 14 per century for Port-of-Spain. A seismic laboratory is maintained by the University of the West Indies at St. Augustine.

4. Population

4.1 National Population

The population of Trinidad and Tobago was estimated at 1,154,000 in 1980 on the basis of the 1970 census which arrived at an enumerated population of 940,719. With an overall population density of 197 per sq. km., Trinidad and Tobago is second only to Barbados in the western hemisphere in population density.

The birthrate has shown a generally downward trend since 1960 to 21.6 per 1,000 population in 1980, reflecting the country's active family planning program. The crude death rate has declined dramatically to 5.9 per 1,000 population in 1980, while the infant mortality rate dropped from 80.3 per 1,000 live births in 1950 to 23.9 per 1,000 in 1981. The annual population growth rate was estimated at 1.2% for the 1970s.

The age profile shows 39% of the population to be under 14 years old, 56% between 15 and 64, and 5% over 65. Over half the population is under the age of 20.

The flow of migrants out of the country, particularly unskilled domestics, declined after 1970 as a result of stringent controls imposed by Canada, the United States, and the United Kingdom. Emigration of professional and skilled workers has been costly for the country. Immigration is controlled by tight restrictions on the employment of aliens who are attracted by the high Trinidadian wages. With rising unemployment in the mid-1970s, the flow of immigrants has declined to a trickle.

4.2 Regional Distribution

The population of Trinidad is concentrated in an almost continuous urban area extending eastward from Port-of-Spain to Tunapuna, westward to Chaguaramas, and northward into the Northern Range. About one-third of the population lives within 16 km. of Port-of-Spain. About 90% of the island's inhabitants live in the four western counties of St. George, Caroni, Victoria, and St. Patrick where good agricultural land, accessible harbors, and oil fields have encouraged settlement. The island's small size and relatively good road system have made commercial expansion beyond the western area unnecessary.

Urbanization increased rapidly in the 1960s; but urban spread into outlying farmland has made it difficult to clearly distinguish between the urban and rural populations. For this reason, the urban component of the population has been variously estimated at as low as 22% and as high as 56%. The government has sought to slow the pace of urbanization by

offering incentives for farmland settlement and by developing new petroleum and gas fields off the east coast that should attract new settlers to that sparsely populated area.

The population of Tobago is concentrated in the area of Scarborough on the southwestern coral platform. Extensive migration to Trinidad has occurred in recent years.

5. Health, Nutrition, and Housing

5.1 Health Sector Overview

The death rate and incidence of disease are at levels approaching those of developed countries. Campaigns against cholera, malaria, and tuberculosis have brought those diseases under control. However, the presence of the aedes mosquito, the vector of yellow fever, necessitates continued active control measures. Use of tuberculosis vaccine halved the incidence of the disease between 1968 and 1971; in 1979 there were 4.4 reported cases per 100,000 population.

Preventive medicine programs also brought about a decline in the incidence of such infectious and communicable diseases as influenza, dysentery, whooping cough, and chickenpox between 1962 and 1972. Polio, measles, ophthalmia neonatorum (inflammation of the eyes of newborns often leading to blindness) pneumonia, and enteric fever are also present. The incidence of both yaws and leprosy remains higher than in most tropical countries in the Americas. Venereal diseases showed a resurgence in the mid-1970s mainly in urban areas. Streptococcal diseases with severe renal involvement have 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 and parasitic and respiratory diseases, related to poor nutrition, are most prevalent among the poor. Cancer and cardiac and vascular diseases are growing in frequency as infectious diseases show a decline.

5.2 Vital Statistics (1979)

Births/1,000 population	23.8
Deaths/1,000 population	6.6
Infant mortality/1,000 live births	23.9
Life expectancy at birth	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, 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 the rest of the 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. Four are located in Port-of-Spain, one in San Fernando, 11 in St. Andrew and St. David counties, and 16 in Tobago. A small private St. John Ambulance Brigade supplements the public health program.

5.4 Medical Supplies

Medical supplies can be imported through the Central Supplies Division, Long Circular Road, St. James, Trinidad W.I. Tel: 622-3307. There are both private and state distribution channels for medicaments in the cities and rural areas. The Ministry of Health has a standard list of drugs for common use in the country. It is available at the Central Supplies Division. Directions should be written in English.

5.5 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. The majority of doctors and other medical personnel in private practice are concentrated in the heavily urbanized western area of Trinidad.

Large-scale migration of professionals and skilled workers in the 1960s and early 1970s has seriously affected the medical field. The shortage of doctors and dentists in the 1970s was attributed to the absence of training facilities.

5.6 Cold Chain

Cold storage facilities exist at the airport but are under the control of the airlines. A small 7 cu. ft. refrigerator, the property of the PAHO/WHO Caribbean Epidemiology Centre, has been installed at the airport.

The Ministry of Health uses a private cold store, operated by Furness and Gordon, Port-of-Spain, for storage of vaccines. At the Ministry of Health's Central Medical Store there are several refrigerators where insulin and vaccines are stored. Dry ice is available from Industrial Gases, a private company.

Around the country, health centers have refrigerators varying in capacity from 7 to 12 cu. ft. Hospitals have cold storage facilities in their laboratories and pharmacies. The cold chain is operational at the Ministry of Health: some vaccines are purchased through local agents who

are responsible for maintaining the cold chain from the airport to the Medical Stores.

5.7 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, 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, gingerbeer, fruit juices, beer, and locally produced rum

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. Cereal consumption is high and intake of green and yellow vegetables is low, especially among lower income groups. Consequently, there are frequent deficiencies of vitamin A, riboflavin, and iron. Anemia occurs most frequently in women and children. About 19% of the population of Tobago is afflicted with goiter. PEM occurs most frequently in the suburbs of Port-of-Spain, San Fernando, and Sangre Grande.

5.10 Housing

The National Housing Authority under the Ministry of Housing is the central housing agency.

Most dwellings are small (rarely more than 3 rooms, exclusive of kitchens, bathrooms, and storage areas). Rural occupancy rates are generally higher than urban ones with that of East Indian families slightly higher (5.2 urban; 6.4 rural) per dwelling than that of the black population (4.9 urban; 5.2 rural).

Public services distribution is among the highest in Latin America and the Caribbean area. Eighty percent of the urban and 40% of the rural population, according to a 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 the dry season. Sewerage systems served the Port-of-Spain, San Fernando, Arim and some surrounding suburbs, and oil areas in the mid-1970s. Nearly all urban dwellings have electricity, and service is being extended to rural areas.

Urban:

A variety of housing 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 as slums have been cleared. New units in government-assisted low income projects are of concrete; older homes of the poor usually have 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 concrete kitchen and pit latrine. Kerosene lighting is used where electricity is not available.

6. Economy

6.1 Overview of Economy

Trinidad and Tobago's economy has shown considerable growth during the past five years, due largely to the strong performance of the petroleum sector, the main source of export receipts and government revenues. A major effort to diversify the economy is underway to provide an industrial base which will sustain the economy after petroleum reserves are depleted. Petroleum production peaked in 1978 and is running at about 200,000 barrels per day. That figure is expected to drop to 150,000 b.p.d. by 1990 unless significant new discoveries are made.

Fortunately, enough natural gas has been found to provide for the country's domestic energy requirements for more than a century. Booming construction has provided thousands of jobs and has been paramount in reducing unemployment from 17% to 10% over the past few years. Food processing industries also expanded rapidly in recent years. Agricultural productivity and employment, however, have declined.

The public sector has become an increasingly dominant factor in the economy during the past seven years. Government revenues, capital expenditures, and public investment have grown tremendously relative to GDP. On the other hand public consumption has increased more in line with current GDP. As a result, the overall fiscal deficit, which averaged 5.1% of GDP in 1972-73, was converted to a surplus equal to 1.9% of GDP in 1980. Moreover, with rising current savings in the public sector, the Government is investing heavily and becoming an important factor in many sectors. The energy-intensive heavy industrial sector, several petroleum exploration, refining, and marketing facilities, a major regional airline (BWIA), and several commercial and development banks are all largely financed by the Government.

Despite the economy's inherent strength and the dramatic increase in per capita income over the past decade (to \$4,800 in 1980, the fourth highest in the hemisphere), serious problems remain. Public service facilities such as electricity, water, the telephone network, and road system are inadequate to support the thriving economy. Capital improvement programs are underway in these areas, but progress has been slow. Housing is another problem; building material shortages and increasing demand for housing have contributed to a 19% inflation rate in 1980.

Trinidad and Tobago is committed to the concept of regional economic integration and is a founding member of the Caribbean Community and Common Market (CARICOM). In mid-1981, it announced an oil facility to provide long-term soft loans to its CARICOM partners for purchases of Trinidadian oil, asphalt, and fertilizer.

6.2 Balance of Payments

The external trade of Trinidad and Tobago has been increasingly dominated by the petroleum sector since increases in international oil prices have far outrun the slow decline in export volumes. Export earnings have grown at an average 38% annually during 1979-80 with petroleum earnings constituting 90% of the total since 1974. While merchandise imports have also grown rapidly, their growth rate has consistently fallen short of that of exports. As a result, the current account balance improved dramatically from a small deficit of \$9 million in 1978 to a surplus of \$21.4 million in 1979 and \$357 million in 1980.

6.3 Imports

Non-petroleum imports are primarily machinery and transport equipment (about 40% of imports in 1979 versus 33% in 1975) and manufactured goods. The share of intermediate goods and capital good imports has been increasing recently while consumer goods have been on a relative decline, 28% in 1976 to 21% in 1979.

The U.S. is the major supplier, providing one-fourth to one-fifth of imports, followed by the European Economic Community (EEC) with one-sixth. While the Caribbean share of imports has increased, it still only totaled 5% in 1979, up from 3% in 1976; the CARICOM countries provided 90% of those imports.

6.4 Exports

Aside from petroleum exports, which have constituted some 90% of total export earnings since 1974, the largest category of exports has been chemicals, principally fertilizers. Chemical exports increased from 27% of the total in 1975 to 45% in 1980. The other important export category is food (principally sugar, coffee, cocoa, and citrus fruits) and live animals, which has fallen over the same period from 46% to 30%.

While the U.S. continues to provide the largest market for the country's exports, approximately 75%, the Caribbean countries have taken a growing share recently, from 15% in 1976 to 20% in 1979.

7. Agriculture

7.1 Overview of Agriculture

The role of the agricultural sector has been steadily declining for several years; in 1980 it accounted for only 2.4% of GDP and less than 10% of employment. Productivity and income levels remain low in general and factors ranging from crop diseases and adverse weather to ineffective marketing and extension systems have lowered output in most subsectors. As a result, the volume of food imports has steadily escalated.

One aspect of the problem has been the decline in local fertilizer sales since 1973, so that by 1980 they were at about the same level as 1972, despite substantial growth in fertilizer production and exports. In 1979, fertilizer exports reached 89.5% of domestic production.

Holdings in Trinidad and Tobago 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. An agricultural census in 1972 reported 35,800 farms occupying 128,937 hectares. The average farm size is about six hectares. Forty-two of the largest farms have over 400 hectares each. Disparities in ownership are even greater on Tobago. In spite of this, land reform has not been a major issue because large areas of state lands are available for distribution.

Traditional techniques in agriculture predominate with mechanization being used mainly on large estates. 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.

7.2 Crops

Sugarcane, the most important cash crop, is grown almost entirely in Caroni and Victoria counties on a total of between 36,500 and 45,500 hectares. Three large companies (one government-owned, one privately owned and one jointly owned) are the major producers, although thousands of small-scale farmers, whose numbers are declining, also grow sugarcane. The industry employs about 17,000 people. Sugar production was down 21% in 1980 to 110,300 tons, or less than one half the level recorded in 1972, following declines averaging 3.2% annually in 1976-79. Exports were down even more and consequently, Trinidad has been unable to fill its export quota of 74,000 tons under the Lome Convention. Problems exist on both the agricultural and industrial fronts, and include shortages of factory equipment, declining yields, labor shortages, and unplanned cane fires.

Cacao trees occupy about 40,500 hectares, about half of which are owned by smallholders, although over 80% of total output is from large farms. Cacao is grown in the Central Range and the surrounding hilly districts of Trinidad, and is the leading crop on Tobago. Yields vary greatly depending on soils and weather. Bananas are intercropped with cacao, as is coffee in limited areas. Production of cacao and coffee declined 24.5% and 12.1% respectively in 1980.

Citrus, mainly oranges and grapefruit, is cultivated on about 4,500 hectares. Whole fruit, juices, and preserves are exported. Production fell 53% in 1980.

Coconuts, the second most important cash crop on Tobago and also grown in the coastal regions of Trinidad, are planted on 16,200 hectares with the bulk of production from estates. The entire copra crop goes to the local manufacture of oil and other products.

Rice, a subsistence crop of small farmers, occupies over 8,100 hectares. It is not grown in sufficient quantity to meet local demand.

7.3 Livestock

The government has promoted the growth of the livestock sector, particularly beef and dairy cattle, but domestic output of beef and dairy products does not presently meet demand. Most East Indian farmers keep water buffalo, while some 10,000 farmers keep either dairy or beef cattle. Pork production had regained its pre-1973 levels (when hog cholera hit the industry) by 1975. Poultry production has shown the greatest growth; the country is now self-sufficient in poultry meat and eggs.

7.4 Fishing

Fishing, like livestock, is underdeveloped as a result of past neglect. There are an estimated 3,300 full-time and 2,200 part-time fishermen. To stimulate the fishing industry, the government subsidizes fishermen for fuel used in their boats, operates a fish farm, and, through the Fisheries Development Fund, finances modern fishing methods and facilities.

7.5 Forestry

Forests cover about 43% of the land area; most are government-owned. More than 60 different species are exploited including teak, mora, cedar, and other hardwoods. There are more than 60 sawmills in the country.

production has been declining from the high of 4.9 million cubic meters in the early 1970s.

7.6 Imports and Exports

See Imports and Exports, sections 6.3 and 6.4.

8. Physical Geography

8.1 Climate

Trinidad's tropical climate is modified by an ocean environment and prevailing northeasterly trade winds. The seasonal variation of temperature is only 3°C. Days are generally warm (mean day-time temperature is 27°C) with temperatures declining in the evening (mean night-time temperature is 23°C). The annual mean temperature is 26°C which ranges from a maximum 33°C (day) to 18°C (night). Tobago's smaller size allows it greater exposure to the trade winds' cooling effect. Humidity is generally high, especially in the 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 the rainy season exceeds that of the dry season by a 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 the eastern lowlands ranges from 180 cm. to 292 cm. Highest precipitation occurs at the highest altitudes of the Northern Range which may receive 381 cm. a year in a cycle that does not include a dry spell. Tobago's rainfall is greatest in the northwest, and lowest in the southwestern coral platform where water shortages frequently occur.

Trinidad and Tobago is below most hurricane tracks; however, damaging hurricanes have occasionally diverted from the usual track. Violent local storms may also occur. See Disaster Types and History, section 3.4.

8.2 Landforms

Trinidad is the most southerly of the West Indies islands but geologically it is a detached part of the South American continent, separated from it (Venezuela) by the Gulf of Paria. Located between latitudes 10°50' N and longitudes 60°55' and 61°56' W, it has a land area of about 4,830 sq. km, extending E-W 56 to 97 km. and N-S an average of about 97 km. Tobago, in latitude 11°9' N and longitude 60°40' W, is northeast of and separated from Trinidad by a 33 km. channel. Tobago is 40 km. long and 11 km. wide for a total area of about 300 sq. km.

Trinidad has three parallel mountain ranges running W-E which are a continuation of the Venezuelan coastal cordillera. The Northern Range rises steeply as cliffs from the north coast, covering the entire northern part of the island; its highest peak is el Cerro del Aripo, with an elevation of 940 m. The Caroni Plain, made up of alluvial sediment from regional rivers, extends south between the Northern Range and the Central Range. The hilly country surrounding the Central Range is cut into by valleys of the Oropuche and Ortoire Rivers, the former flowing to the west coast and forming Oropuche Lagoon and the latter flowing into Nariva Swamp

(the largest mangrove swamp). A discontinuous Southern Range reaches altitudes of less than 305 m. in Trinity Hills.

Tobago is mountainous in the center and northeast of the island where the Main Ridge, 29 km. long, has a maximum elevation of about 549 m. Deep fertile valleys are found in the lower hills of the Main Ridge, and an extensive coral platform makes up the southwestern part of the island.

8.3 Land Use

Forty-two percent of the total land mass is in agricultural use (25.7% cropped or fallow, 1.5% pasture, 10.6% forests, and 4.1% unused or built on); 58% outside of farms includes grassland, forest, build-up area, and wasteland.

8.4 Waterways

Numerous rivers and streams in Trinidad (none navigable) provide generally good drainage, mostly through the swamp lands; flooding often occurs during heavy seasonal rains. Only two rivers are of significant length: the Ortoire, 49.8 km. long, extends eastward to the Atlantic Ocean in the south; the Coroni, 40.2 km. long, runs westward to the Gulf of Paria in the north and ends in the mangrove swamp which stretches well into the interior. The Courland River in Tobago flows westward into the Caribbean Sea between the 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. The heavily indented north coast has no coastal plain and bays are rockbound. Shallow coastal waters and bays too narrow for shipping characterize the south coast, while the east coast is almost unapproachable because of dangerous Atlantic Ocean currents.

There are several 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 the 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. The tropical rain forest which covers the Southern Range, discouraging settlement, is also characteristic of Tobago's Main Ridge. See Landforms, section 8.2.

9. Transportation and Logistics

9.1 Road Network

The road network totals about 7,242 km.: 2,816 km. of main roads are maintained by the Works Department, 4,184 km. of local roads are maintained by the Ministry of Local Government, and a small balance are maintained by local governments. Of the 6,437 km. of roads considered "all weather", about 4,023 km. 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 1979: 88,872 private cars, 19,175 hired and rented cars, 403 buses, 20,252 goods vehicles, 6,154 tractors and trailers, 3,474 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, the principal port of 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 the 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°41.5' 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 Suriname; 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 King's Wharf 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 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 is 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 has accommodation for two container vessels and is equipped with two 40t paceco gantry cranes.
- Shiprepairs:** Several firms available to undertake any type of ocean going ships' repairs afloat. No dry dock for ships over 800 tons displ.
- Towage:** Four 1,200 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: 1D Wrightson Rd.,
Port-of-Spain.

Shipping Corporation of Trinidad and Tobago (SCOTT) Port-of-Spain.
Government-owned; assumed freighting for state corporations in 1981.

West Indies Shipping Corporation: 48-50 Sackville Street, P.O.B.
448, Port-of-Spain; operates a regional shipping service, including a
service to Miami.

9.6 Airports

Two major airports serve the country. Piarco International is
located 27.4 km. east of Port-of-Spain, operates 24 hours, and can
accommodate all aircraft. Remodeling and expansion projects are
underway. Crown Point Airport on Tobago also handles night flights.

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.

PORT-OF-SPAIN/Piarco, Trinidad

Runway Characteristics

<u>Location</u> <u>Coordinates</u>	<u>Eleva- tion M/ Temp °C</u>	<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft</u> <u>Length M</u>	<u>CL</u>	<u>Aircraft/ Strength</u> <u>(1,000 kg)</u>	<u>Fuel/ Octane</u>
10°35'35" W 61°20'55" W	14 31.6	10/28	n.a.	3050	A	AUW 165	100JA2

Remarks: REG S; alternate aerodromes: BRIDGETOWN/Grantley Adams Int'l,
CARACAS/Maiquetis-Simon Bolivar Int'l, FORT-DE-FRANCE/Le Lamentin,
GEORGETOWN/Timohri Int'l, POINTE-A-PITRE/Le Riazet, 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(PO), LR, LTX, LB,
LO, MD, MC, MTD, MS, MTX, MO(P3). L 569. No telex. (See
Appendix I for key).

SCARBOROUGH/Crown Point, Tobago

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>
11°08'42" W 60°50'27" W	3 27	10/28	n.a.	1980	n.a.	AUW 120	n.a.

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 tourist stays of up to 6 months.

Vaccination - See Visa and Travel, section 1.10.

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, and (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 4 HS. 748.

British West Indian Airways (BWIA): Kent House, Maraval, 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, Suriname, Guyana, Caracas, New York, Toronto, Miami and London; fleet of 6 Boeing 707, 5 DC-9, 6 HS 748, and 3 Lockheed 1011.

Foreign: The following airlines serve Trinidad and Tobago: Air Canada, Air France, ALM (Netherlands Antilles), British Airways, Cruzeiro do Sul (Brazil), Cubana, Eastern, KLM, LAV (Venezuela), LIAT (Antigua), Pan Am, SAS, and Viasa (Venezuela).

9.9 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).....	2,148

10. Power and Communications

10.1 Electric Power

Both per capita installed capacity and per capita output are the highest in all of Latin America. Almost all electricity is generated by natural gas, there being virtually no hydro potential. 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 three 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 the 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 the mid-1970s.

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 KW FM). Transmissions: 05:30-24:00 local time. Coverage: 360° rotating aerial gives effective coverage of over 1,600 km.

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 is jointly owned by the Columbia Broadcasting Co. of the USA (10%) and the Trinidad government (90%). Broadcasts are 73 hours weekly (in mid-1970s) and provide a variety of programming. All of Trinidad and Tobago is within receiving range. The number of sets in 1980 was 210,000.

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 (numbers = 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)

CARICOM Regional Population

Antigua and Barbuda	76,138
Barbados	248,983
Belize	145,353
Dominica	83,690
Grenada	108,000
Guyana	797,000
Montserrat	11,606
St. Kitts-Nevis-Anguilla	48,699
St. Lucia	122,000
St. Vincent and the Grenadines	116,657
Trinidad and Tobago	<u>1,154,000</u>
TOTAL	2,912,126

Note: All population figures are from 1980 World Bank or national census estimates, except for Guyana (1982 figures) and St. Lucia (1981 figures).

- American Council for Voluntary Agencies for Foreign Service.
Technical Assistance Information Clearing House. TAICH
Country Report. Belize, August 1976.
- _____. TAICH Country Report: Guyana, May 1975.
- Banks, Arthur S. Political Handbook of the World 1978. New York:
McGraw-Hill, 1978.
- Barbados, Prime Minister's Office. The Central Emergency Relief
Organization, 1980.
- Black, Jan Knippers, et. al. Area Handbook for Trinidad and
Tobago. Washington, D.C.: GPO, 1976.
- Blume, Helmut. The Caribbean Islands. London: Longman Group, 1974.
- Butland, Gilbert, J. Latin America: A Regional Geography. New York:
John Wiley and Sons, Inc., 1966.
- Encyclopedia Britannica. London: William Benton Publishers, Inc., 1981.
- Encyclopedia of the Third World. Revised ed. Vol. I, II, III. New York:
Facts on File, Inc., 1982.
- The Europa Yearbook 1982. A World Survey. Vol II. London: Europa
Publications Ltd., 1982.
- Gersony, Robert. Resource Institutions for Disaster and Development
Programs, Barbados. Washington, D.C.: AID/OFDA, August 1982.
- _____. Resource Institutions for Disaster and Development Programs,
St. Kitts/Nevis. Washington, D.C.: AID/OFDA, May 1981.
- _____. Resource Institutions for Disaster and Development Programs,
St. Lucia. Washington, D.C.: AID/OFDA, May 1981.
- _____. Resource Institutions for Disaster and Development Programs,
St. Vincent and the Grenadines. Washington, D.C.: AID/OFDA,
May 1981.
- _____. Resource Institutions for Disaster and Development Programs,
Dominica. Washington, D.C.: AID/OFDA, May 1981.
- Government of Dominica. National Structure Plan 1976-1990. Roseau:
Tropical Printer Ltd., 1976
- Government of Montserrat. Sixth Statistical Digest. Montserrat:
Statistical Office, 1977.

- Government of St. Lucia. Development Planning and Statistics Division.
Annual Statistical Digest, 1978/79.
- Hurricane Plan for Belize. Belize Government Printer, 1974.
- Inter-American Development Bank. Barbados, Proposed Loan for a Soil
Conservation Project in Scotland District, Washington, D.C.:
IDB, June 1981.
- _____. Economic and Social Progress in Latin America. Washington,
D.C.: IDB, 1981.
- International Air Transport Association. Air Distances Manual. London:
IATA/International Aeradio Ltd., 1981.
- International Civil Aviation Organization. Air Navigation Plan.
Caribbean and South American Regions. 10th. edition.
Montreal: ICAO, June 1977.
- International Financial Statistics. Washington, D.C.: IMF,
March 1979.
- LICROSS/VOLAGS. Steering Committee for Disasters. Country Fact Sheets
December 1978.
- _____. When Disaster Strikes and Help is Needed: A Guide to Disaster
Preparedness in Disaster Prone Areas. Geneva: LICROSS, 1976.
- May, Jacques, M. and McLellan, Donna, L. The Ecology of Malnutrition in
the Caribbean. Studies in Medical Geography. Vol. 12.
New York: Hafner Press, 1973.
- _____. The Ecology of Malnutrition in Eastern South America.
Studies in Medical Geography. Vol 13. New York: Hafner Press,
1974.
- Molnar, Peter and Sykes, Lynn, R. Tectonics of the Caribbean and Middle
America Regions from Focal Mechanisms and Seismicity.
Geological Society of America Bulletin 80 No. 7-12, 1969.
- Pan American Health Organization. Annual Report. Washington, D.C.:
PAHO, 1980.
- Paxton, John, ed. The Statesman's Yearbook 1977-1978. London:
The MacMillan Press Ltd., 1977.
- Ports of the World. London: Lloyds of London Press, 1982.
- Quarterly Economic Review of the West Indies, Second Quarter 1982.
London: The Economist Intelligence Unit Ltd., 1982.

- Richards, Colin, ed. The Caribbean Yearbook 1977/78. 48th. edition.
Toronto: Caribook, 1977.
- Shepherd, J.B. et. al. The Eruption of Soufriere Volcano, St. Vincent.
1979.
- Smith, Lloyd, S., Jr., ed. The Caribbean: Who What Why. 4th. edition.
The Commonwealth Caribbean, 1969.
- Tomblin, John. Caribbean Seismicity. International Decade of Ocean
Exploration. Report of the IDOE Workshop on the Geology and
Marine Geophysics of the Caribbean Region and its Resources.
Kingston, Jamaica, 17-22, February 1975.
- _____. . Earthquake Damage and Lessons for Application in Building
Codes in the West Indies. Reprint for the CAS "Seminario
Latinoamericano de Ingenieria Sismo Resistente." Caracas,
January 9-12, 1979.
- _____. . Geological Hazards in the Caribbean. Paper Presented at the
Commonwealth Geological Liaison Office Seminar on Geological
Services in the Caribbean. Kingston, Jamaica, March 6-9, 1978.
- United Nations. Food and Agriculture Organization. Food Balance Sheets.
Rome: FAO 1971.
- _____. . Protein-Calorie Advisory Group of the United Nations System.
New York: United Nations, 1977.
- U.S. Agency for International Development. Annual Budget Submission
FY 1984: Guyana, June 1982.
- U.S. Central Intelligence Agency. National Basic Intelligence Factbook.
Washington, D.C.: CIA, July 1979.
- _____. . Chiefs of State and Cabinet Members of Foreign Governments.
National Foreign Assessment Center, November 1982.
- U.S. Commerce Department. Bureau of the Census. World Population 1977.
Recent Demographic Estimates of the Countries and Regions of
the World, October 1978.
- U.S. Health, Education and Welfare Department. Commonwealth Caribbean
Health Sector Study. Part 1: The Health Sector in Perspective.
The Caribbean Working Group, May 1977.
- _____. . Health Information for International Travel 1978. Public
Health Service. Atlanta: CDC, 1978.

- U.S. State Department. Background Notes: Belize. Washington, D.C.: GPO, June 1976.
- _____ . Background Notes: Dominica. Washington, D.C.: GPO, January 1980.
- _____ . Background Notes: Grenada. Washington, D.C.: GPO, 1982.
- _____ . Background Notes: Guyana. Washington, D.C.: GPO, November 1976.
- _____ . Background Notes: Trinidad and Tobago. Washington, D.C.: GPO, 1982.
- _____ . Diplomatic List. Washington, D.C.: GPO, August 1982.
- _____ . Key Officers of Foreign Service Posts. Washington, D.C.: GPO, September 1982.
- _____ . Treaties in Force. Washington, D.C.: GPO, 1981.
- U.S. Transportation Department. Federal Aviation Administration. International Flight Information Manual. Washington, D.C.: FAA, April 1982.
- U.S. Mission to Barbados. Eastern Caribbean Foreign Disaster Relief Plan. August 1982.
- Webster's New Geographical Dictionary. Springfield, Mass.: G. and C. Merriam Company, 1972.
- World Bank. The Commonwealth Caribbean: The Integration Experience. A World Bank Country Economic Report. Baltimore: The Johns Hopkins University Press, 1978.
- _____ . Caribbean Regional Transport Review. Report No. 2004 a-CRB. Washington, D.C.: IBRD, April 24, 1978.
- _____ . Economic Memorandum on Antigua and Barbuda. Washington, D.C.: IBRD, April 1982.
- _____ . Economic Memorandum on Belize. Washington, D.C.: IBRD, April 1982.
- _____ . Economic Memorandum on Dominica. Washington, D.C.: IBRD, May 1981.
- _____ . Economic Memorandum on Montserrat. Washington, D.C.: IBRD, April 1982.

- _____ . Economic Memorandum on St. Kitts-Nevis. Washington, D.C.: IBRD, March 1982.
- _____ . Economic Memorandum on St. Vincent and the Grenadines. Washington, D.C.: IBRD, April 1982.
- _____ . Guyana: Recent Developments and Short-Term Prospects. Washington, D.C.: May 1982.
- _____ . Proposed Loan to the Barbados Light and Power Company, Ltd. Washington, D.C.: IBRD, November 1980.
- _____ . 1980 World Bank Atlas. Population Per Capita Product and Growth Rates. Washington, D.C.: IBRD, 1980.

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