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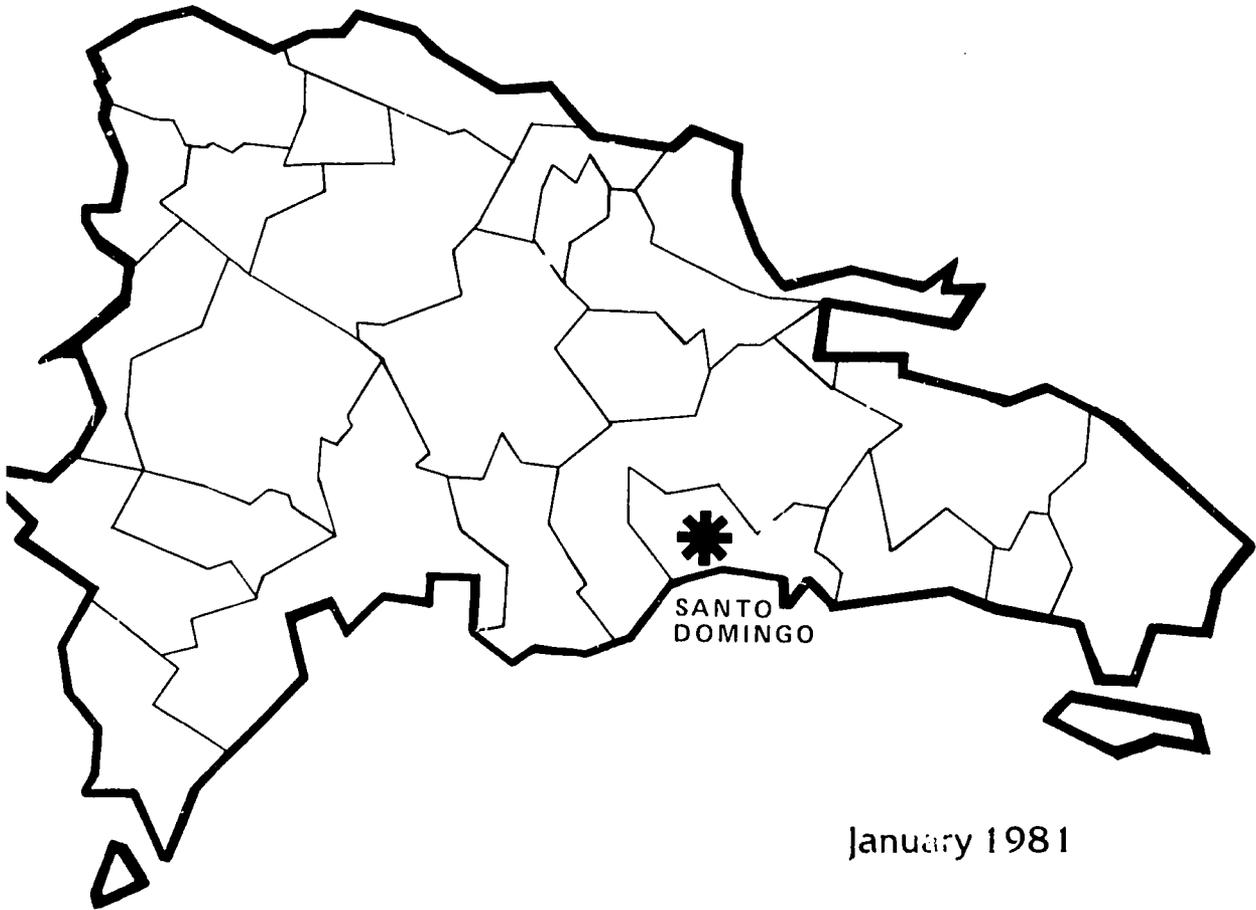
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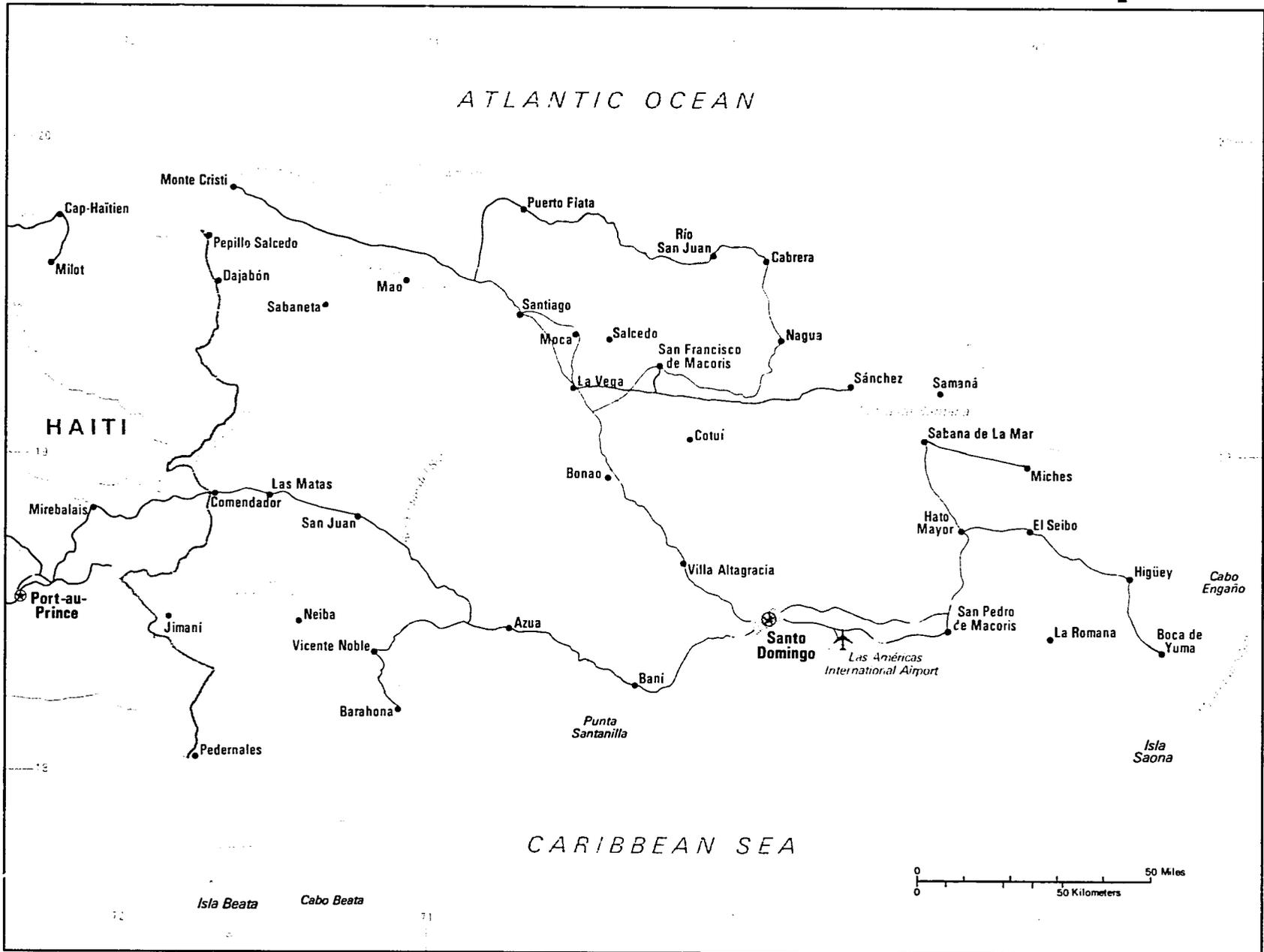
A Country Profile



January 1981

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

Dominican Republic



502467 1:76 (541389)
 Lambert Conformal Projection
 Standard parallels 17°20' and 22°40'
 Scale 1:2,000,000

- Railroad
- Road
- ✈ Airport

DOMINICAN REPUBLIC: A COUNTRY PROFILE

prepared for

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

by

Evaluation Technologies, Inc.
Arlington, Virginia
under contract AID/SOD/PDC-C-0283

The profile on the Dominican Republic is one in a 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 three 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.

August 1981

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TO:

COUNTRY PROFILE USER Dear _____

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

NAME/OFFICE: _____ PHONE: _____ Date: _____

TOPIC

COMMENTS

1. General Information1.1 Geographic Codes

AID Standard	517
State Regional	ARA
FIPS	DR

1.2 Country Names

Official	Dominican Republic
Local	Republica Dominicana
Short	Dominican Republic

1.3 Ethnic and Soclocultural Groups

Dominican Republic has been described as "the only predominantly mulatto nation in the world."* Hispaniola's Indian population did not survive slavery and old-world diseases: by 1550, aborigines had died out. African slaves, imported to replace them, interbred with Spanish colonists; Haitian occupation (1822-44) forced out upper classes, decimated the white population and left society (and economy) in chaos. Occupation probably accelerated racial mixing, but reinforced Spanish, "white", value system, while equating Haitian, "black", and African with barbarism generated by war. Present mulatto population constitutes 60-70% of total, with white population estimated at 5-25%, blacks at 10-20%. Upper class "elite" is largely white, middle classes and especially military are mulatto, poorest social strata tend to be darkest-skinned, and, to the extent that rural poor are augmented by migration of still despised Haitians, somewhat isolated from rest of society. (Urban populations tend to have relatively larger white component.)

Small pockets of minority groups are not numerically significant, except for Haitian colony, estimated at 50,000 in 1975; however, American, Spanish, Lebanese, and Cuban minorities have had disproportionate political influence.

* Wiarda, Dictatorship, Development and Disintegration, pp. 115.

1.4 Languages

Spanish, the official language, is spoken by 98% of the population. Three regional dialects exist, but only Cibaena, the speech of the rural lower classes in northern Cibao valley, is distinctive. Haitian Creole, English, Chinese and Japanese are among primary languages of remaining 2%. English is becoming first foreign language for both the professional and working classes because of increasing business contact with English speaking countries, notably the US.

1.5 Education

Adult literacy rate of 67% is considerably below that of Central American countries (77%). Enrollment and retention of students is low in primary schools, especially in rural areas. Schools tend to be overcrowded and staffed by unqualified teachers. The educational system fails to meet realistic manpower needs by its emphasis on academic programs at the secondary level and nearly complete neglect of vocational training.

1.6 Religions

Religious freedom is guaranteed by law. Roman Catholicism is the state religion and 98% of population is nominally Catholic, but popular participation* is limited and the secular power of church is not significant at present. Most of the remaining 2% of population are Protestant; Haitian voodoo has had some influence in Haitian colonies, but little impact on society as a whole.

Both Catholic and Protestant churches are active in social work and education. In many rural communities the priest is the most educated member of community, thus the secular as well as religious leader. Relations between Catholic and Protestant churches have been cordial since end of Trujillo era.

* Ratio of priests to inhabitants is among lowest in Latin America: 1/8,945 in 1969.

1.7 Official Holidays

New Year's Day.....	January 1
Attagracia.....	January 21
Duarte Day.....	January 26
Independence Day.....	February 27
Good Friday*	
Labor Day.....	May 1
Corpus Christi*	
Restoration Day.....	August 16
Our Lady of Mercy (Mercedes) Day.....	September 24
Christmas Day.....	December 25

* Moveable holy days of Catholic Church

1.8 Currency Exchange Rate

RD \$1 (Peso) = US \$1

Dominican peso (100 centavos) is a non-convertible currency with one exchange rate. There are coins of 1, 5, 10, 25 and 50 centavos and notes of 1, 5, 10 and 100 pesos.

1.9 Host Mission in US (May 1981)

Embassy in the United States
1715 22nd. St. NW
Washington, D.C. 20008
Phone: 332-6280

Appointed Ambassador.....	Rafael Molina Morillo
Minister-Counselor (Economic Affairs).....	Pedro Ramon Espallat
Military, Naval and Air Attache.....	Col. Cesar A. Pomares Cruz Liuberes

1.10 U.S. Mission to Dominican Republic (May 1981)

Embassy of the Dominican Republic
Corner of Calle Cesar Nicolas Penson and
Calle Leopoldo Navarro, APO Miami 34041
Phone: 682-2171. Telex: 3660013

Ambassador.....Robert L. Yost
Deputy Chief of Mission.....James L. Tull
Economic/Commercial Section.....Carl B. Cunningham
Commercial Section.....(Vacancy)
Political Section.....John D. Whiting
Consul, Consular Section.....Larry E. Lane
Administrative Section.....Carlos M. Yordan
Regional Security Section.....(Vacancy)
Agricultural Section.....Robert Aniauf
Agency for International Development....Philip R. Schwab
Public Affairs Officer.....Holley Mack Bell

1.11 Treaties and Agreements

Agricultural Commodities
Agricultural Development
Air Transport
 Military aircraft transit; technical services for equipment
 Installation at Dominican airports
Duty free entry and importations for embassy employees
Economic, technical and related assistance
Extradition
Investment Guarantees
Labor, Workmen's Compensation
Mapping
Military Assistance
Peace Corps
Radio Communications
 Reciprocal granting of authorizations to permit licensed
 amateurs to operate stations in other countries
Visas, period of validity, fees for non-immigrants
Weather stations, cooperative program for meteorological
 observations

1.12 International Organization Membership

FAO, G-77, GATT, Interamerican Development Bank, IAEA, IBA, IBRD, ICAO, ICO, IADB, International Finance Corporation, IHO, ILO, IMCO, IMF, IOOC, ISO, ITU, OAS, SELA, UN, UNESCO, UPU, WHO, WMO, WTO.

1.13 Travel and Visa Information

Passport or tourist card required. Tourist card, valid 15 days, can be extended 45 days, \$2; proof of citizenship required. Visa, no charge. Check Embassy/Consulate for specific requirement.

Consulates

Consulates in Alabama, California, Connecticut, D.C., Florida, Georgia, Hawaii, Illinois, Indiana, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, New Mexico, New York, North Carolina, Ohio, Oregon, Pennsylvania, Puerto Rico, Rhode Island, Tennessee, Texas, Virgin Islands, Virginia, Washington, and Wisconsin. Consult State Dept. publication, Foreign Consular Offices in the United States for location and staff. See also Host Mission, section 1.9.

1.14 Time Zones

EST + 1 hour; GMT - 4

2. Government

2.1 National Government

Present constitution (enacted in 1966) established Dominican Republic as representative democracy with power divided among executive, legislative and judicial branches. In practice, government is characterized by extraordinary concentration of power in the presidency and general weakness and lack of legitimacy of institutions; historically, institutions often changed but conditions remained the same. Tradition of authoritarian rule, punctuated by brief ineffectual idealist regimes, was embodied in series of "strong man" leaders, Rafael Leonidas Trujillo its culmination. (As in many Latin American countries ideal leader is dominant, dramatic male, patron or caudillo, who rules through personal power rather than consensus.)

Elected Offices

President and his chosen Vice-President are directly elected to 4-year renewable terms; President appoints his cabinet* and many local officials, promulgates laws and acts as Commander of Armed Forces.

Legislative power is assigned to bicameral Congress. 27 senators represent 26 provinces and National District; 91 members of Chamber of Deputies are elected according to provincial population: 1 member for each 50,000 inhabitants (or fraction over 25,000).

Nine members of Supreme Court, elected by Senate, constitute check on executive and legislative powers; also hear appeals from lower courts.

* 12 Secretaries of States and Attorney General. 14 autonomous agencies are supervised by executive branch.

2.2 Regional Organization

25 provinces and National District surrounding capital are administered by governors appointed by president. Provinces are subdivided into either municipalities (77) or municipal districts (20), governed by mayors and commissioners respectively. In both cases, elected municipal councils of at least 5 members assist administrators. Municipalities, which consist of central towns and their outlying villages, are subdivided into sectors

and wards, governed by first and second magistrates appointed by mayors from list nominated by residents of sector/ward.

2.3 Provinces

<u>Provinces</u>	<u>Provincial Capitals</u>
Montecristi.....	Monte Cristi
Dajabon.....	Dajabon
Santiago Rodriguez.....	Sabaneta
La Estrelleta.....	Elias Pina
Independencia.....	Jimani
Pedernales.....	Pedernales
Barahona.....	Barahona
Bahoruco.....	Neiba
San Juan.....	San Juan
Santiago.....	Santiago de Los Caballeros
Valverde.....	Mao
Puerto Plata.....	Puerto Plata
Españillat.....	Moca
Salcedo.....	Salcedo
La Vega.....	La Vega
Azua.....	Azua
Peravia.....	Bani
San Cristobal.....	San Cristobal
Sanchez Ramirez.....	Cotui
Duarte.....	San Francisco de Macoris
Maria Trinidad Sanchez.....	Nagua
Samana.....	Samana
San Pedro de Macoris.....	San Pedro de Macoris
El Seibo.....	El Seibo
La Romana.....	La Romana
La Altagracia.....	Higüey
Distrito Nacional.....	Santo Domingo (also National Capital)

2.4 Key Leaders (As of July 1981)

President.....	Guzman Fernandez (Silvestre) Antonio
Vice President.....	Majluta Azar, Jacobo
Sec. of State of Agriculture.....	Mejia, Hipolito

Sec. of State of Armed Forces.....	Imbert McGregor, Mario Alfredo, Lt. Gen.
Sec. of State of Education, Fine Arts & Public Worship.....	Reyes Rodriguez, Andres Rafael
Sec. of State of Finance.....	Baez Ortiz, Bolivar
* Sec. of State of Foreign Relations.....	Tavares Espallat, Manuel Enrique
Sec. of State of Industry & Commerce...	Fernandez Rojas, Emilio Ludovino
Sec. of State of Interior & Police.....	de la Cruz, Rosa Julia, Dr.
Sec. of State of Labor.....	Estrella Sadhala, Cesar
Sec. of State of Public Health & Social Welfare.....	Rodriguez Soldevilla, Jose, Dr.
Sec. of State of Public Works & Communications.....	Periche Vidal, Fernando
Sec. of State of Sports, Physical Education & Recreation.....	Sanchez Baret, Vicente
Sec. of State for Tourism.....	Cabral Amiana, Victor
Sec. of State of the Presidency.....	Hernandez, Jose M.
Sec. of State Without Portfolio.....	Caceres Rodriguez, Rafael
Technical Min. of the Presidency.....	
Attorney General.....	Mejia y Mejia, Bienvenido

2.5 1978 Election and Current Issues

After repeated interruptions of the vote counting by the military, Antonio Guzman Fernandez was finally sworn in as president on August 16, 1978; first peaceful transfer of power in Dominican Republic between constitutionally elected governments in 100 years. To date, Guzman generally given credit for efforts to depoliticize the military, respect for human rights, and successful repayment of most of preceding government's debts. Though the new government enjoyed initial popular support, rifts within ruling Dominican Revolutionary Party (PRD) over the issue of a constitutional amendment to limit the executive to one term have opened up in recent months. Opposition from the Reformist Party of former President Balaguer which still controls the lower house has also become more vocal. The arrest of over 100 military and civilian supporters of the former chief executive in September 1979, for their alleged complicity in a coup plot, was denounced by Balaguer as an excuse for "unjustified political persecution" of his party.

3. Disaster Preparedness

3.1 Host Disaster Plan

Civil Defense Organization under supreme authority of president was mandated (by law of June 17, 1966) to prepare disaster plan and to coordinate disaster assistance. 7 member directive council under executive director supervises activities of committee members and acts as liaison between committee, volags and government agencies. Law provides for national and provincial representation.

Civil defense issues public warnings, provides transportation, shelter, aids communication, supplies foodstuffs and medical assistance through local and provincial committees.

3.2 U.S. Plan

No Mission Plan requested by OFDA.

3.3 Contact List

Following groups work closely with committee in disaster relief activities:

The Red Cross: Dominican Red Cross, Apartado Postal 1293, Calle Juar Enrique Dunant, Ensanche Miraflores, Santo Domingo. Cable: CRUZROJA DOMINICANA, Santo Domingo. Tel: 23793.

Caritas: Apartado 254, Santo Domingo. Cable: CARITAS DOMINICANA. Tel: 565-7746.

CRS: Calle 51 esq. Calle 10 Apartado 1457, Santo Domingo. Cable: CARICOM. Telex: 346-0034 (Baez & Ranick, Agents). Tel: 566-7776.

WCC: Ecumenical Action and Project Planning, Apartado Postal 252-2, Santo Domingo.

UNDP: Avenida Anacaona No. 1, Santo Domingo. Cable: UNDEVPRO. Santo Domingo. Telex: 346-0015. Tel: 533-6111.

3.4 Radio Operators

Ham Radio Operators: Santo Domingo: Howard L. Shoemaker H18XHS
 Kenneth H. Stephens H12KEN
 Ronald Wilson H12RON

3.5 Preparedness Seminar

In May 1980, a Disaster Preparedness Projects Conference, organized by an international team including OFDA, PAHO, LORCS, and UNDR0, was held in Santo Domingo. The conference was aimed at changing from the informational focus of 1979 disaster preparedness seminar in St. Lucia to development of projects for country and regional preparedness.

3.6 Food Supplies

Following foods are classed as acceptable by CARE for use in disaster situations:

<u>Component of Diet</u>	<u>Preferred Item</u>	<u>Acceptable Alternatives (more than one)</u>
Basic	Rice	Wheat flour, maize, cassava
Secondary	Beans	Dried fish, milkpowder, oil

3.7 US Volags

<u>Agency</u>	<u>Personnel No. Intl/Local</u>	<u>Programs</u>
AFL-CIO American Institute for Free Labor Development (AIFLD)	1/-	Med & PH; CD; CHP; Coops; Ed
Baptist World Relief Relief	NA	Med & PH
Brother's Brother Foundation	17/35	Equip & Mat Aid; Med & PH

<u>Agency</u>	<u>Personnel No. Intl/Local</u>	<u>Programs</u>
CARE	4/40	Nutr; CD; CHP; Ed; Food Prod & Agr; Med & PH
Catholic Mission Board	NA	Equip & Mat Aid; Med & PH
Catholic Relief Services, U.S.C.C. La Vega	2/5	Equip & Mat Aid; Food Prod & Ag; Med & PH; SW; Comm; CD; CHP; Coops, Nutr
Christian Medical Society Medical Group Missions	6/-	Med & PH
Church World Service	1/32	CD; Nutr, Pub & Bus Admin
Compassion	1/-	SW
Credit Union National Association	NA	Coops
Direct Relief Foundation	NA	Equip & Mat Aid, Med & PH
The Episcopal Church of the U.S.	NA	Ed, Med & PH
Ford Foundation	NA	Food Prod & Ag
Free Methodist Church of North America, General Missionary Board	7/47	Ed, Med & PH
Goodwill Industries	3/12	SW
Helper Project International	6/-	Food Prod & Ag
Intermedia	NA	Comm
International Executive Service Corps	1/-	Pub & Bus Admin
Medical Assistance Programs	NA	Equip & Mat Aid; Med & PH

<u>Agency</u>	<u>Personnel No. Intl/Local</u>	<u>Programs</u>
Missionary Church Dajabon	1/-	Ed, Med & PH
National Association of the Partners of the Alliance	NA	Comm; CJ; Ed, Food Prod & Ag, Med & PH
New Eyes for the Needy	NA	Equip & Mat Aid
Pan American Development Foundation	NA	Coops, Ed, Equip & Mat Aid
Planned Parenthood Federation of America	NA	Pop & Fam Serv
The Population Council	NA	Pop & Fam Serv
Redemptorists, Baltimore Province San Juan, Las Matas	8/6	CD, Ed, Food Prod & Ag
Salesians of St. John Bosco	58/58	Ed, Food Prod & Ag, Med & PH, SW
Save the Children Federation Loma de Cabrera	0/4	Med & PH, Nutr, Pop & Fam Serv, SW, Women, Youth, Comm, CD, Coops, Ec & Dev Pl, Ed, Food Prod & Ag
Southern Baptist Convention	5/39	Ed, Med & PH
Unevangelized Fields Mission	12/5	Ed
Vita Volunteers in Technical Assistance Villa Mella, Bani	2/190	Ed, Food & Ag

Key

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

3.8 Disaster Types and History

Storm, hurricane, drought, civil strife, earthquake, tsunami, and fire are major disaster types.

In this century, particularly destructive hurricanes have struck the country in 1930 (causing 2,000 fatalities and heavy property damage in Santo Domingo), 1963, and, most recently, in 1979. Hurricane David hit on August 31, 1979, causing damage nationwide, though particularly to areas west, southwest and northwest of Santo Domingo. Victims included: 1,380 dead; over 4,000 injured; 105,000 displaced persons; 200,000 homeless; 1,158,218 people on relief. Agricultural losses were estimated at \$125 million; total damage over \$1 billion. GODR played an active role in mobilizing relief efforts and coordinating disaster assistance from international sources.

The Island of Hispaniola lies within the Caribbean earthquake zone. Damaging earthquakes have affected Santiago (1842; 3,000 fatalities), Azua, Santo Domingo and San Jose de Ocoa. (See also section 8.9 Seismicity.)

4. Population

4.1 National Population

Population doubled between 1950 and 1970. 1970 census arrived at an enumerated population of 4,006,405; the estimated population in 1980 is 5,430,879 with density about 112 persons/sq. km. Annual rate of natural increase in late sixties and early seventies was 3-3.6%, among world's highest, but emigration kept average growth rate slightly below 3% per year. Due to steady rural to urban migration, urban areas are growing at an average rate of 5-6%. From 60% of total in 1970, rural population has dropped to a little less than half of total in 1980. Birth, death and infant mortality rates are higher in the countryside. 46% of population is under 15 years of age, resulting in a dependency ratio about twice that typical of developed countries.

Even if a moderate lowering of the birth rate is assumed, population projections for year 2000 point to at least double the present total (with drop in birth rate to 73% of 1970 value by 1980 and 47% of 1970 value by 2000) or, with no change in birth rate, to 12.3 million. In mid-1970's, only 6.5 percent of DR's fertile women practiced contraception. Population control projects aim at effectiveness of present program through development of community-centered health care system. IBRD is cooperating with Dominican health care and family planning agencies in this effort, namely:

- CONAPOFA - National Council for Family Planning
- IDSS - Dominican Social Security Institute
- CEA - State Sugar Council
- National Police and Armed Forces
- ADPBF - Dominican Association for Family Welfare

4.2 Regional Distribution

Population distribution is extremely irregular. In 1970, over half of the total population (55% in 1980) lived in four provinces: Duarte, San Cristobal, Santiago and La Vega and in the National District (20.4% in 1970, about 27% in 1980); 26.9% of land area contained 50.5% of the population. In contrast, the provinces with the lowest population densities, along the Haitian border, in the south central Sierra de Bahoruco and in the far southeast, had the lowest socio-economic conditions. Densities are the highest in the Caribbean coastal plain from Santo Domingo eastward, and in the fertile Cibao Valley in the north. (Regional distribution: Cibao 44.9%; national district 20.4%; south 25.2%;

and east 9.5%.) Availability of employment, improved sanitation and health facilities, and education are closely correlated with population density.

Estimated Population by Provinces - 1980

<u>Province</u>	<u>Total</u>	<u>Urban</u>		<u>Area in Sq. Km.</u>
Country Total	5,430,879	2,751,923	2,678,956	48,442.23
National District	1,458,241	1,241,131	217,110	1,478.63
Azua	100,943	22,558	78,385	2,430.11
Bahoruco	85,515	30,337	55,178	1,376.48
Barahona	156,596	95,243	61,353	2,527.86
Dajabon	66,533	20,691	45,842	889.64
Duarte	251,340	89,329	162,011	1,292.37
El Seibo	142,482	49,464	93,018	2,989.47
Españat	150,361	44,965	105,396	999.58
Independencia	37,849	15,592	22,257	1,861.08
La Altagracia	106,372	33,076	73,296	3,084.27
La Estrella (Elias Pina)	68,335	13,285	55,050	1,787.97
La Romana	88,767	60,529	28,238	540.63
La Vega	369,760	109,751	260,009	3,377.09
María Trinidad Sanchez	100,743	33,271	67,472	1,310.27
Monte Cristi	80,288	29,566	50,722	1,988.54
Pedernales	18,308	12,945	5,363	966.52
Peravia	154,664	53,708	100,956	1,621.88
Puerto Plata	217,794	76,906	140,888	1,880.94
Salcedo	98,044	19,352	78,692	533.00
Samana	65,402	15,996	49,406	988.67
San Cristobal	417,475	127,620	289,855	3,743.43
San Juan	240,163	75,262	164,901	3,561.07
San Pedro de Macoris	163,709	89,442	74,267	1,165.78
Sanchez Ramirez	123,365	20,379	102,986	1,174.33
Santiago	518,339	296,303	222,036	3,121.93
Santiago Rodriguez	55,120	16,996	38,124	1,020.22
Valverde	94,371	58,226	36,145	569.56

Source: Population data from AID, Dominican Republic Shelter Sector Assessment. Vol. II, Draft, April 1980.

Urban Areas as of June 30, 1979

Santo Domingo, D. N.	1,170,463
Santiago de los Caballeros	253,375
San Francisco de Macoris	69,136
San Pedro de Macoris	79,347
Barahona	62,900
La Romana	56,236
San Felipe de Puerto Plata	50,096
San Juan	48,883
Concepcion de la Vega	47,304

Source: The Europa Yearbook 1980. A World Survey. Vol. 2.

5. Health, Nutrition, and Housing

5.1 Health Sector Overview

Enteritis and other diarrheal diseases account for 48% of all infant deaths and are among the two highest causes of death in older children and adults. Over 80% of the rural population have intestinal parasites: helminthiasis, which affects over one million Dominicans, exacerbates effects of chronic malnutrition. Polluted water supplies, poor food handling, and inadequate to non-existent sewage facilities are sources of this spectrum of gastrointestinal disease; because large-scale changes in these areas are not expected, high prevalences of these illnesses will probably persist. The massive outbreak of typhoid fever in 1972 (1,186 reported cases) is illustrative. Tetanus has been a major cause of death in infants but the incidence is reportedly declining.

Childhood diseases (measles, whooping cough, diphtheria), tuberculosis and venereal diseases are major communicable disease problems: increasing migration to urban areas, in conjunction with ineffective vaccination programs, overcrowded urban housing, and high levels of urban (and rural) unemployment, are major factors in their perpetuation.

Dengue, filariasis and malaria are endemic to Hispaniola; within Dominican Republic, dengue is frequently encountered in children; filariasis is most common in black coastal populations, while malaria, now largely under control, is most common in humid northeast. High incidence of malaria in Haiti and migration of Haitian seasonal workers across border are constant threats to control of this disease. Schistosomiasis, first identified in the Dominican Republic some twenty years ago, appears to be on the increase with greatest prevalence in eastern regions. Evidence of existence of the intermediate host throughout the country, the expansion of irrigation systems, and common use of untreated water favor its spread. A USAID project will focus on helping establish control capability.

Ten Leading Causes of Death, 1970 and 1977 a/ (Rate per 100,000)

<u>Disease</u>	<u>1970</u>	<u>1977</u>
Senility and ill-defined causes	243.2	197.0
Infectious and parasitic diseases	95.7	71.6
Causes related to prenatal mortality	58.4	38.0
Diseases of the circulatory system	43.0	42.9
Diseases of the respiratory system	37.8	35.8
Accidents, poisoning, and violence	35.6	35.6

	<u>1970</u>	<u>1977</u>
Other diseases	26.3	28.3
Tumors (neoplasms)	22.2	23.3
Diseases of the endocrine glands, metabolism, and nutrition	16.4	16.7
Diseases of the digestive tract	12.8	13.2

a/ The analysis of mortality is limited by the fact that approximately three-fourths of all deaths registered in the Dominican Republic do not have medical certification. Thus, over 50% of deaths recorded in the 1970 census were listed in Category 1 above ("Senility and ill-defined causes").

Source: Secretariat of State for Public Health and Social Assistance, Statistical Division as cited in AID, "Dominican Republic Shelter Sector Assessment. Vol. II (Draft), April 1980.

5.2 Vital Statistics

Data tend to be unreliable due to inadequate registration of vital events in the Dominican Republic.

* Births/1000 population, 1976	35.0	
* Deaths/1000 population, 1976	5.2	
* Infant mortality/1000 live births, 1976	39.4	1/
Life expectancy at birth, 1974	52-55	2/

Average number of living children per family

urban - 5

rural - 8

1/ 104 per 1,000 live births in 1974, according to USAID/DR-GODR health sector assessment

2/ 52 for males, 55 for females

Source: * AID, Dominican Republic Shelter Assessment, Vol. II (Draft), April 1980.

5.3 Health Services and Facilities

Effective operation of health services is restricted by their uneven distribution and utilization and by administrative inefficiencies. The majority of public hospitals are located in urban areas: over 60% of total bed capacity in Santiago and Santo Domingo (1971). Availability of manpower and equipment is also greater in cities: 200 peripheral clinics, which now function mainly as immunization and first aid centers, were intended to provide all health services in rural areas. Shortage of personnel and equipment responsible for restricted function. Underutilization of available health services has been noted; difficulty of access for rural poor, cost and mistrust of "hospitals" are possible explanations. USAID programs aimed at improving health status of rural population are helping develop low-cost health delivery systems and expanding potable water and sanitary services.

Secretariat of State of Public Health and Social Assistance (SESPAS) ideally should provide health care to two-thirds of population (low-income families, persons not in armed services or eligible for social security) but in actuality serves about 37% of population. Dominican Social Security Institute (IDSS), State Sugar Council (CEA) and armed forces provide care for another 15% of population, while private sector cares for about 17%. Remaining 30%, mostly low-income rural families, receives no regular medical care.

Health services provided by SESPAS are hospital-oriented: over 80% of 1972-73 expenditures were for curative services. Plans to shift emphasis to preventive care provided on community basis were under discussion in mid-1970s. Meanwhile, hospital conditions are probably above average for Latin America, though in-patient care levels are still less than adequate. Lack of building maintenance, water shutdowns and electricity shortages are common. Patients with communicable diseases are inadequately isolated, sanitation is poor, medical, nursing and technical staff have limited hours, information systems are poorly maintained and supplies are often insufficient or in poor condition.

5.4 GODR Operated Facilities

<u>Region</u>	<u>Province</u>	<u>SESPAS *</u>					<u>Sub-total</u>
		<u>HE</u>	<u>HG</u>	<u>SC</u>	<u>CR</u>	<u>CS</u>	
Nucleo Central	Federal District	7	5	4	3	1	20
	San Cristobal	1	1	4	7	-	13
	Sub-total	8	6	8	10	1	33

<u>Region</u>	<u>Province</u>	<u>HE</u>	<u>HG</u>	<u>SC</u>	<u>CR</u>	<u>CS</u>	<u>Sub-total</u>
I	Peravia	-	2	-	4	-	6
	San Juan	-	2	-	4	-	6
	La Estrella	-	1	2	3	-	6
	Azua	-	1	2	1	-	4
	Sub-total	-	6	5	11	-	22
II	Santiago	1	1	4	7	1	14
	Española	-	2	-	4	-	6
	Monte Cristi	-	1	3	4	-	8
	Dajabón	-	2	1	2	-	5
	Puerto Plata	-	1	4	9	1	15
	Valverde	-	1	-	4	-	5
	Santiago Rodríguez	-	1	1	2	-	4
Sub-total	1	9	13	32	2	57	
III	La Vega	-	3	1	6	-	10
	Sanchez Ramírez	-	1	2	1	-	4
	Duarte	-	1	3	6	-	10
	María Trinidad Sánchez	-	2	1	2	-	5
	Samana	-	2	-	1	-	3
	Salcedo	-	1	2	1	-	4
Sub-total	-	10	9	17	-	36	
IV	Barahona	-	1	2	5	-	8
	Independencia	-	1	2	2	-	5
	Pedernales	-	1	-	4	-	5
	Bahoruco	-	2	-	2	-	4
	Sub-total	-	5	4	13	-	22
V	San Pedro de Macorís	-	2	2	2	1	7
	La Altagracia	-	1	1	1	-	3
	La Romana	-	1	1	1	1	4
	El Seibo	-	2	2	2	-	6
	Sub-total	-	6	6	6	2	20
Grand Total		9	42	45	89	5	190

* Data from survey completed January 1975, by SESPAS. In addition to the facilities shown here, there are 54 medical dispensaries as follows: 5 in Nucleo Central, 6 in Region I, 9 in Region II, 15 in Region III, 12 in Region IV, and 7 in Region V.

<u>Region</u>	<u>Province</u>	<u>IDSS *</u>				<u>Sub-total</u>
		<u>HA</u>	<u>HB</u>	<u>HC</u>	<u>PC</u>	
Nucleo Central	Federal District	1	-	-	7	8
	San Cristobal	-	1	2	-	3
	Sub-total	1	1	2	7	11
I	Peravia	-	-	-	1	1
	San Juan	-	-	-	1	1
	La Estrella	-	-	-	-	-
	Azua	-	-	-	1	1
	Sub-total	-	-	-	3	3
II	Santiago	-	1	-	1	2
	Españat	-	1	-	1	1
	Monte Cristi	-	-	-	1	1
	Dajabon	-	-	-	-	-
	Puerto Plata	-	-	1	1	2
	Valverde	-	-	1	-	-
	Santiago Rodriguez	-	-	-	-	-
	Sub-total	-	1	2	4	7
III	La Vega	-	-	1	1	2
	Sanchez Ramirez	-	-	1	-	1
	Duarte	-	-	1	1	1
	María Trinidad Sanchez	-	-	-	-	-
	Samana	-	-	-	-	-
	Salcedo	-	-	-	-	-
	Sub-total	-	-	3	2	5
IV	Barahona	-	-	1	1	2
	Independencia	-	-	-	-	-
	Pedernales	-	-	-	-	-
	Bahoruco	-	-	-	-	-
	Sub-total	-	-	1	1	2

* Dates from Plan Desarrollo de la Seguridad Social, 1974-1978 and Diagnostico (De Los Servicios Asistenciales Actuales del IDSS y su Posible Reorganizacion), by Arq. Julio Alfredo Nadal. In cases of inconsistent data, the latter source was used. In addition to the facilities shown here, there are 122 consultorios as follows: 40 in Nucleo Central, 5 in Region I, 23 in Region II, 18 in Region III, 10 in Region IV, and 26 in Region V.

San Pedro de Macoris	-	-	1	1	2
La Altagracia	-	-	-	-	-
La Romana	-	1	-	-	1
El Seibo	-	-	-	-	-
Sub-total	-	1	1	1	3
Grand total	1	3	9	18	31

Key: SESPAS

- HE: Hospital Especializado/Specialized Hospital
 HG: Hospital General and Hospital Integrado/General and Integrated Hospitals
 SC: Sub-Centro Sanitario/Health Sub-Center
 CR: Clinica Rural/Rural Clinic
 CS: Centro Sanitario/Health Center

IDSS

- HA: Hospital Class "A" facilities for specialized medicine, research and general medicine
 HB: Hospital Class "B" facilities for general medicine, with no less than 100 beds
 HC: Hospital Class "C" facilities for general medicine, with no more than 100 beds
 PC: Polyclinic outpatient facilities (those in Santo Domingo have a few beds)

5.5 Health Personnel

Overproduction of physicians relative to needs of present health care system*; shortage of nursing auxiliaries, registered nurses and nursing tutors; poor geographic distribution of health personnel, with heavy concentration in urban hospitals; and low government pay scales for health workers are major difficulties confronting Dominican health care.

High prestige and relatively high salary levels for physicians ensure large ratio of MD's to other health professionals, though physician/population ratio is lower than Latin American average. Over two-thirds of all physicians are general practitioners; the remainder are classified as specialists, but specialty internships and board certification programs do not exist in country and most "specialists" are self-proclaimed.

Trained nursing personnel are in extremely short supply: one graduate nurse for every 6 physicians. Most nurses are located in Santo Domingo area and hold administrative positions, direct care being delegated to practical and auxiliary nurses, who are more commonly available.

Overall ratio of technicians to physicians is 0.8 to 1.

* Large scale migration of physicians due to lack of opportunity in country constitutes considerable resource drain, estimated at over 50% of all medical school graduates in 1960-70 period.

Distribution of Health Personnel (as of 1973)

<u>Manpower Type</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>Unknown</u>	<u>Total</u>
Physicians	1,151	312	197	92	116		1,868
Dentists	234	86	48	23	27	98	516
Pharmacists	402	146	98	59	68	302	1,065
Med Techs 1/	173	22	16	14	11		236
Graduate Nurses	182	57	36	23	19		317
Auxiliary and practical nurses	1,359	851	377	245	180		3,012
Lab Techs 2/	269	71	52	27	21		440
Veterinarians							150
Sanitation Engineers							21
Health Officers							78
Health Educators							25
Social Workers							77
Auxiliary nutritionists							18

1/ Medical technologists have university degree

2/ Laboratory technicians do not have university degree

5.6 Diet Summary

Among low income groups where variety in the diet is especially lacking, four foodcrops, rice, plantains, cassava and beans (all of which were seriously affected by the 1979 hurricanes) account for 69% of calories and 54% of protein. Meat is infrequently eaten by the poor. Dried codfish (bacalao) is second major source of animal protein in the Dominican diet after milk, the consumption of which, however, is not high. Fruit in season makes a significant contribution; leafy vegetables are rarely eaten,

especially among poorer classes. Two or three meals are consumed daily (typical family eats only two). The mid-day or afternoon meal is largest, often consisting of rice and beans prepared with oil, onions and garlic in a traditional dish called "moro".

Variations in the diet by region, income level and rural-urban populations are related to more quantity than to kinds of foods eaten. Culturally established food preferences, limited purchasing power, and lack of knowledge of good dietary practices are major factors in generally low nutritional levels. Food taboos also affect diet, particularly that of pregnant and lactating women.

5.7 Food and Drink

Starches: rice, plantains, corn, yucca (cassava), sweet and white potatoes, yautia (taro) in rural and working class urban homes; wheat bread and pasta more important in large cities

Vegetables: onions, tomatoes, peas, garlic, red peppers, okra

Fruits: bananas, avocados, mangoes, guavas, pineapple, sapodilla; citrus rarely eaten by majority

Meat: beef preferred; goat and pork also used, cured meats (ham, sausage) are luxury foods

Poultry: chicken; occasionally pigeon, duck, turkey

Fat: coconut, peanut, soybean oil

Milk: cow's, goat's; homemade white cheese

Legumes: kidney beans, pigeon peas

Other: sugarcane

Fish: salt cod, red herring; fresh fish rarely eaten except on coast or by upper classes

Beverages: coffee, beer, rum, fruit juices, coconut water, chocolate, made with water, and a mixture of sweet potato or plantain and milk

Children's diet: plantain is principal weaning food

Meals

Morning: yucca or plantains boiled or fried; cheese, bread, eggs if available

Mid-day: rice, beans; fresh vegetables and meat or poultry if available

Evening: yucca, plantains, possibly salt cod, pasta and soup

Note - standard dish is sancocho, soup/stew made of whatever is at hand: tubers, greens, meat if available

5.8 Nutritional Deficiencies

Protein-calorie deficiency is the most serious nutritional problem. The fairly significant difference in data from 1969 and 1976 surveys showing average daily per capita calorie intake of 1634 and 1906, respectively, may be due in part to different survey methodologies. The earlier study from which more detailed statistics are available, indicated that caloric consumption was 79% of normal standard needs, protein 82%; calcium, 63%; iron, 79%; vitamin A, 5%; thiamine, 86%; riboflavin, 55%; niacin, 94%; pyridoxine, 54% and folic acid, 37%. Only 15% of sample had reasonably satisfactory diet and even these did not consume recommended amounts of several vitamins and minerals. 70% of sample had inadequate levels of one or more essential nutrients; diets of lowest 15% were barely adequate to sustain minimum activity levels. Malnutrition is most severe in young children with 60% affected and 2% showing severe forms. It is also greatest among rural populations and urban poor and, regionally, in the Southwest.

Shortfalls in foodcrop production due to 1979 hurricanes are expected to result in dietary deficits, exacerbating already serious nutritional problems. Reported bumper vegetable crops and expected large crop of tubers, plantains and bananas in 1980 may have lessened severity of situation to some extent.

5.9 Utensils

In urban areas, food is cooked inside the house on stoves (kerosene, propane gas or charcoal-fueled); in rural areas, cooking is done outdoors on clay or stone hearth. Wood and charcoal are usual rural fuels. Earthenware, cast iron and aluminum pots (2-5 gal capacity) and pans (6-12" di-

ameter) are used for cooking.

Plastic or pottery plates and cups and steel spoons are standard eating utensils.

5.10 Housing Deficit

Damage caused by Hurricane David and Tropical Storm Frederick dramatically increased rural to urban migration and exacerbated an existing housing shortage. An estimated 150,000 dwellings, mostly rural, were destroyed. Urban deficits are now estimated at 13-23%, while rural are as high as 64%. In order to satisfy the housing demand incurred by population growth alone, an annual average of 32,900 new units (29,300 urban, 3,600 rural) must be constructed.

5.11 Housing Policy and Institutions

Housing policy is characterized by a lack of any comprehensive policy or plan, and by neglect of the needs of low income households, which constitute the majority of the population. However, the government has established priority areas for urban/rural integration and development in an attempt to correct socio-economic imbalance, and to prevent any further polarization of growth (which might result from Hurricane David and Tropical Storm Frederick).

Despite the absence of any guiding national housing policy, several institutions function in the formal housing sector. A summary of several of these institutions and their resources and functions is contained in the following table:

Legal Nature, Scope, Objectives and Sources of Finance of
Principal Housing Institutions and Groups in the Formal Sector
(1976-1980)

Entity	Legal Base Nature	Geographic Scope	Stated Objectives	Sources of Finance
Instituto Nacional de Ingeniería (INVI)	Autonomous 1962	National urban/rural	Planning, imple- mentation and management of housing for low income households	subsidies loans payments by house- holds issuing of cedulas

Entity	Legal Base Nature	Geographic Scope	Stated Objectives	Sources of Finance
Ica (IAV)	(1961)	National	Serve public employees; serve autonomous institutions	own resources loans from private international bank loans from D.R. Reserve Bank
Residencia		National (+/- 60% of actual programs in Santo Domingo)		own resources general fund authorized funds of other entities
Banco Nacional de la vivienda (BNV)	(1962) An official credit institution -- autonomous and decentralized	National	To facilitate through savings and loan associations the acquisition and maintenance of houses for the maximum number of middle income and low income households. Among its other functions, the BNV is able to provide financial assistance to the SAAP's and supervise and control them and guarantee mortgages.	loans payments by borrowers issuing of cedula

Entity	Legal Base Nature	Geographic Scope	Stated Objectives	Sources of Finance
Savings and Loan Associations (SAAP's)	(1962 Private credit entities	National (84% of actual loans concentrated in Santo Domingo and Santiago)	To provide loans for the construction, acquisition, conservation, repair or improvement of housing. The SAAP's are also able to finance the urbanization of land for the construction of housing. They are regulated by norms established by the BNV.	savings deposits loans payments by borrowers
Banco Hipotecario	An official credit institution -- autonomous and decentralized (1971)	National (80% of loans concentrated in Santo Domingo and 18% in Santiago)	To undertake loans with real property mortgage guarantees, including loans for the construction and acquisition of housing. For middle income and high income households, particularly for the latter.	loans payments by borrowers issuing of cedulas

Source: AID, Dominican Republic Shelter Sector Assessment, [Draft, April 1980.]

In addition, shortly after Hurricane David, the INVI (Instituto de la Vivienda - National Housing Institute) initiated a permanent consultative commission representing the principal public and private low income housing institutions. The Comision Inter-institucional para la Coordinacion de Programas de Viviendas (CICV), will have a permanent status and seek

to plan and implement programs with both national and international financing. Members include: INVI, ODC, FDD, Caritas, SEOPC, CODIA, the Fundacion San Jose, the Asociacion para el Desarrollo de San Jose Ocoa, Catholic Relief Services, Servicios social de los Iglesias Dominicanos, IAD, INADA. The overall purpose will be to organize housing programs oriented toward low income households, and to coordinate financing.

Basic urban services are provided by the following institutions.

Corporacion del Acueducto y Alcantarillado de Santo Domingo
(Santo Domingo Aqueduct and Sewage Company) CAASD

Instituto Nacional de Aguas Potables y Alcantarillado (National
Institute of Potable Water and Sanitation) INAPA

Corporacion Dominicana de Electricidad (Dominican Electric
Corporation) CDE

Secretario del Estado de Obras Publicas y Comunicaciones (Secre-
tary of State for Public Works and Communications) SEOPC

Liga Municipal Dominicana (Dominican Municipal League) DML

28% of all arable lands are the property of the government agency Bienes Nacionales as a result of the transfer of the vast Trujillo holdings to the government. The two major holders of public lands are the Instituto de Agrario Dominicano (Dominican Agrarian Institute) IAD, and the Consejo Estabal del Azucar (state sugar board) CEA.

Many of the lands occupied by low income squatter settlements are part of government holdings. Thus, the relatively monolithic nature of the landholding pattern would expedite any contemplated land use policy change (such as transfer of title to the residents of squatter settlements located on public land).

5.12 Shelter Disaster History

The most widespread effect of Hurricane David and Tropical Storm Frederick was the destruction of an estimated 105,000 houses, located primarily in rural areas. Post hurricane efforts in 1979 by both government and private sector were largely fully subsidized "emergency" schemes.

The reconstruction effort is expected to cost RD \$30 million. Housing programs include:

1. \$6 million for rural housing consisting of: temporary tent shelters with sanitary and cooking facilities, 3,000 prefabricated houses and repair of 56,000 houses.
2. \$1 million for urban areas to repair 7,000 units, provide multi-family structures to accommodate about 2,000 families, and to provide low cost lots on publicly-owned lands with suitable financing to permit people to rebuild on land not subject to flooding.

5.14 Housing Types and Materials

Seven major housing types have been identified in the Dominican Republic. The standard single family house is the most common type of dwelling, housing 51% of the households. 65% of urban units and 40% of rural units are single family. Rustic houses, 42% of all households predominate in rural areas, and represent 56% of the rural housing stock. Provisional housing, which accounts for 1% of the households, is generally located on the outskirts of cities. Apartments and occupied buildings constructed for purposes other than housing contain about 4% of the households. Generally these types are located in urban areas. Bateys, located on sugar plantations represent .07% of the housing stock. A residual category, other collective housing consists of mainly urban dwellings such as barracks, jails, etc.

Formal residential construction, utilized for standard single family and apartments, is typified by concrete block walls and reinforced concrete slab or concrete block roofs. Informal residential construction, characteristic of rustic and provisional housing, is sided with either wooden boards or indigenous materials (especially palm and tejamil). Zinc panels or native materials are the most common roofing materials. Bateys are barrack-like structures constructed of wood with zinc or asbestos roofs and floors of "caliche" (a type of stone). A shift in materials used in informal construction is occurring as the depletion of native resources force increased dependence on concrete. The majority of building materials used for residential construction are produced domestically using a high labor component.

5.15 Housing Patterns and Construction Methods

Settlements with access are large areas of land spontaneously developed, either illegally or legally occupied land, located in the urban periphery between the city and settlements without access. Zinc roofs, wood walls and cement floors are most common, although some walls are of concrete block. Water is bought or obtained from a public faucet and there is no sanitary waste disposal or trash collection. About 50% have electrical connections.

Settlements without access, located on the outskirts of Santo Domingo between the river and the marginal settlements with access, are difficult to reach by vehicle. The houses are constructed of wood or less durable materials, and water is transported from distant sources. Sanitary waste disposal systems are non-existent.

Isolated settlements, located in an urban area and used for some other purpose than housing, are generally occupied illegally. Provisional-type houses are constructed from waste materials, often on steeply sloping land. These settlements have access to water from surrounding serviced areas. Electrical connections are informal (through neighbors) and sanitary waste disposal is not provided.

Settlements with minimum services are government-instituted sites and services schemes where tenure has been formalized. The most common building materials are wood, zinc roofing and floors of mosaic tiles or blocks.

The following table estimates the cost of various materials likely to be used to improve or repair housing.

<u>Materials to Improve Physical Structure</u>	<u>Estimated Cost RD\$ * (Aug. 1979)</u>
Concrete floor (cement, gravel, sand)	75
Cement blocks for exterior walls (blocks, cement, sand)	225
Roof trusses (lumber, nails, wood screws)	300
Zinc roofing panels (including nails)	175
Doors and windows (5 windows & 2 doors, w/hinges, nails and frames)	110
15m ² kitchen/dining room addition (including cement blocks, door, window, concrete floor)	400
Pit latrine	50

<u>Materials to Improve Physical Structure</u>	Estimated Cost <u>RD\$ *</u>
Utility connections:	
water connection with meter sewerage connection	90
(including excavation, installation and backfill)	80
electrical connection with meter	n.a.
A hypothetical home improvement including the following:	
Materials to cement an earthen floor	75
Replace an existing roof of native materials (cane, yagua, etc. w/one of zinc panels)	175
Connect plot into existing municipal water distribution system	<u>90</u>
TOTAL	\$340

* Dominican Republic Dollars

Source: AID, Dominican Republic Shelter Sector Assessment, April 1980.

A further classification of housing has been formulated for low-income marginal housing in Santo Domingo, since nearly three-fourths of its families live in such housing. Of these, 34% live in cuarterias and traspacios. Cuarterias are rows of attached units consisting of one or two rooms. Traspacios are small dwelling units constructed in the back of other houses. Block walls and zinc roofs are standard. Both these housing types are generally located near the center of the city. Water is obtained from public faucets or bought from neighbors or water vendors; sanitary waste disposal and trash collection systems are lacking in the majority of cases. Electricity is generally available, although blackouts are common.

6. Economy

6.1 Overview of Economy

Productive land (fertile soils and mineral wealth) with scenic and recreational tourism potential, mild climate and sufficient rainfall, good physical infrastructure, large labor supply, and location near U.S. and on major trade routes enhance country's economic potential; small size and population, lack of skilled workers, managers and technicians, and limited natural resources (e.g., as yet no domestic fuel sources other than wood/charcoal) limit economic development. Though 1977 GNP per capita income of U.S. \$840 places the Dominican Republic within middle-income countries, there is great disparity in income. Most wealth is controlled by a small elite while over 40% of the population live below absolute poverty levels.

Agriculture, in particular sugar, has traditionally dominated the economy (over half of labor force and 18-20% of GDP). Fluctuations in the world sugar market and importers' quotas have had an enormous impact on Dominican affairs. Industry, much of it state controlled, with sugar refining a major activity, has expanded considerably in recent years though little heavy industry exists and many manufactured goods must be imported. (Nickel refining, oil refining, agricultural commodity processing, brewing, flour milling, cement production are important industries). Incentive policies in recent years have created bias toward capital and import-intensive technologies. Industrial sector accounts for about 30% of GDP but employs only about 10% of work force. Mining of nickel, bauxite, gold and silver, providing second most important class of exports, is also capital intensive with little employment-generating capacity. Similarly, tourism, now undergoing rapid development, lacks comprehensive development planning which could help reduce present high levels of capital expenditure and imported operating supplies.

Unemployment and, particularly in agriculture, underemployment are common in both urban and rural areas. Open urban unemployment in Santo Domingo was about 24% in 1977-78; about one-quarter of those employed worked fewer than 40 hours per week. Migration of rural poor to cities feeds urban unemployment and creates potential for explosive social situation. Santo Domingo labor force has been growing at about 6% per annum, the rural labor force at 2%. Emphasis in public spending was on capital expenditures, at least through 1975, and expanding infrastructure systems were inadequately maintained. Insufficient agricultural incentives and emphasis on ineffective social welfare programs detracted from extensive government investments.

6.2 Recent Economic Trends

The Dominican economy has gone through three relatively well-defined periods in the recent past. From 1969 to 1973, the economy expanded rapidly (average annual growth rate 11%) due to large inflow of private capital into mining, manufacturing and agriculture, to rapid export growth, and to a dynamic public investment program. Real economic growth declined sharply, though still within 5-6% range, during the 1974-76 period, reflecting world-wide recession. The international petroleum crisis, price increases for most manufactured imports, a fall in volume of ferronickel and bauxite exports, and a severe drought in 1975 which lowered agricultural output were only partly offset by high sugar prices (1974-75) and continued growth of mineral exports with the beginning of gold and silver production. Poor weather conditions necessitating increased food imports at higher prices and declining demand for DR's major exports caused rapid deterioration in the external payments position during the 1977-mid-1979 period (record current account deficit in balance of payments of about US \$375 million in 1978). Real growth declined further to 4.4% in 1977 and 2.3% in 1978.

Recovery in agricultural output and productivity was predicted in 1979, based on improved weather conditions, when devastating hurricanes struck. The immediate impact was greatest in agriculture (especially food-crops) and rural housing; longer-term effects are expected from extensive damage to the power system and roads. Despite the interruption in production, adjusted preliminary estimates show real GDP growth between 3 and 4% in 1979, the improvement attributed to mining (increased production of ferronickel and silver), resurgence of manufacturing (well underway before hurricanes), and increases in construction due largely to reconstruction activities. Agriculture and service sectors reflected adverse effect of hurricanes.

The balance of payments situation improved in 1979 (deficit reduced to US \$310 million); however, net reserves were negative by US \$106 million and current savings of central government fell to 1.4% of GDP (2.8% in 1978). Further deterioration in the fiscal and balance of payments situation was expected in 1980 though GDP growth could reach 5-6%. Long range outlook is not optimistic in view of DR's severe social and economic problems; however, a three year public sector plan (1980-82) is attempting to establish project priorities and growth goals with a key objective the social and economic integration of the country through a reduction in regional imbalances.

6.3 GDP

	<u>Estimated</u> 1979	<u>Projected</u> 1980
A. <u>National Accounts</u> (millions US\$ at 1977 prices)		
GDP	4,826.0	5,106.0
Gains from TT	-152.7	-88.5
Gross domestic income	4,673.3	5,017.5
Imports (goods + NF services)	1,077.8	1,262.2
Exports (goods + NF services)	966.9	1,041.0
Exports--TT adj.	1,125.1	1,129.5
Resource gap--TT adj.	-263.6	-132.7
Total consumption	4,095.3	4,332.9
Investment	688.9	905.8
Domestic savings	578.0	684.6
 GDP at current prices	 5,464.6	 6,311.0
B. <u>Sector Output</u> <u>Share of GDP at 1977 prices %</u>		
Agriculture (incl. livestock, forestry and fishing)	17.3	17.4
Industry	31.0	30.9
Services	51.7	51.7
C. <u>Prices</u> (1977=100)		
Export price index	108.0	130.1
Import price index	128.1	142.2
Terms of trade index	84.3	91.5
GDP deflator	113.2	123.6
 Average exchange rate	 US\$1.00 = RD\$1.00	
D. <u>Public Finance</u> (% GDP at current prices)		
Current revenue (public sector)	13.6	14.0
Current expenditures (public sector)	11.3	11.2
Public sector savings (" ")	2.3	2.8
Capital expenditures (" ")	8.8	8.5

Source: World Bank, Economic Memorandum on the Dominican Republic, May 1980.

6.4 Imports

The rise in total value of merchandise imports was kept at just over 16% in 1979, apparently by contraction of non-petroleum imports (value of petroleum imports was up 29% and index of import prices rose 15%). Keeping imports' increase at targeted ceiling of 30% in 1980 was expected to depend on price of petroleum (now accounting for at least 25% of merchandise imports) and the cost of intermediate goods (30% of total). Stepped-up crop production since the hurricanes is not likely to reduce food imports (15% of total) since cereals, edible oils and fats, which are not now locally substitutable, are main items.

Major trade partners in 1978: USA, Venezuela, Netherlands Antilles, Mexico, Federal Republic of Germany.

Imports, 1975 - 1980, Selected Years

	<u>1975</u>	<u>1977</u>	<u>1979 (Projected)</u>		<u>1980 (Projected)</u>
			<u>Pre-Hurricane</u>	<u>Post-Hurricane</u>	
Imports at current prices (millions of US\$)					
Food	50.8	151.1	146.0	161.0	198.4
Other consumer goods	27.6	108.2	117.5	113.0	127.7
Petroleum and derivatives	162.1	177.0	286.8	290.0	387.9
Intermediate goods	429.8	270.5	322.5	326.0	402.5
Capital goods	200.9	196.0	223.0	225.0	317.7
Imports of goods	<u>871.2</u>	<u>902.8</u>	<u>1,095.8</u>	<u>1,115.0</u>	<u>1,434.2</u>
Non-factor services	<u>251.8</u>	<u>269.6</u>	<u>328.1</u>	<u>330.0</u>	<u>378.8</u>
Total imports	<u>1,123.0</u>	<u>1,172.4</u>	<u>1,423.9</u>	<u>1,445.0</u>	<u>1,813.0</u>

Source: World Bank, Economic Memorandum on the Dominican Republic, May 1980.

6.5 Exports

The continued decline in sugar prices after peak years, 1974-75, a drop in coffee and cocoa prices, and a reduction in the volume of coffee and ferronickel exports contributed to the widening resource gap in recent years. The reduction in the current account deficit in 1979's is largely attributable to a 30% increase in the value of merchandise exports due

to quantity increases in sugar (14.7%), coffee (65%)* ferronickel (25.5%), and silver (17%), and to price increases in sugar, molasses, coffee, tobacco, ferronickel, gold and silver.

Major trade partners in 1978: USA, Venezuela, Switzerland, Puerto Rico, Netherlands, Belgium and Luxembourg.

Exports, 1975 - 1980, Selected Years
Exports at current prices (millions of US\$)

	<u>1975</u>	<u>1977</u>	<u>1979 (Projected)</u>		<u>1980</u> <u>(Pro-</u> <u>jected)</u>
			<u>Pre-Hurri-</u> <u>cane</u>	<u>Post-Hurri-</u> <u>cane</u>	
Sugar and by-products	529.7	247.8	264.3	260.0	371.0
Raw and processed coffee	43.2	184.7	75.9	66.0	95.0
Cocoa	24.7	93.1	83.9	72.0	83.0
Tobacco	34.5	29.0	40.4	40.4	45.5
Bauxite	16.7	22.0	26.0	26.0	29.3
Ferronickel	102.2	91.1	84.5	84.5	116.0
Dore	26.9	55.3	117.9	117.9	136.6
Manufactures	42.4	40.9	57.5	50.5	57.2
Other goods	10.5	16.6	20.4	20.4	22.8
Exports of goods	<u>893.8</u>	<u>780.5</u>	<u>770.8</u>	<u>737.7</u>	<u>956.4</u>
Tourism	58.8	84.2	105.9	103.0	121.0
Other non-factor services	56.5	53.2	69.3	69.3	78.6
Total non-factor services	<u>115.3</u>	<u>137.4</u>	<u>175.2</u>	<u>172.3</u>	<u>199.6</u>
Total exports	<u>1,009.1</u>	<u>917.9</u>	<u>946.0</u>	<u>910.0</u>	<u>1,156.0</u>

Source: World Bank, Economic Memorandum on the Dominican Republic, May 1980.

* Release of accumulated coffee stocks accounts for the large increase.

7. Agriculture

7.1 Overview of Agriculture

Agriculture contributes one-fifth of GDP (17% in 1978) and over two-thirds (70% in 1978) of total value of commodity exports. Over half of the economically active population is engaged in the sector though underemployment is high. Agricultural production has grown at an average rate of 2.7% per year since 1960 (foodcrops 4.6% and livestock 4.9%); more recently, 1.4% during 1973-74, due to unfavorable weather, and 7.2% in 1978 (crops 6.6% and livestock 8.4%). Growth during the 1960's was linked to rapid expansion of farming area; continued growth must come mainly from improved yields. Increased production of food, export and industrial crops is a prerequisite for economic growth.

Much arable land is presently underutilized. Of 2.74 million hectares of farmland, 1.5 million are in pasture (agrarian reform law permits larger holdings when land is in pasture rather than in crops). About 250,000 ha. of undistributed government lands are unproductive. 190,000 ha. are owned by three sugar companies. The remaining 800,000 ha. of usable land are divided into about 300,000 farms: small holdings (under 5 ha.) account for 10-15% of farmland; about 1,300 farms over 200 ha. occupy 38%. Fertilizers, pesticides and herbicides are used mainly by commercial farms and those few small farms organized into cooperatives, though a new government extension program aims to reach small farmers in depressed areas throughout the country. Institutional credit is generally not available to small farmers who must depend on informal sources.

Year round growing season, generally sufficient rainfall and/or irrigation sources, and fertile soils permit cultivation of a wide range of crops. Even on subsistence level, best soils have been reserved for commercial crops: sugar, coffee, cacao and tobacco. Main food crops are rice, beans, cassava, plantains, white and sweet potatoes, yautia (taro) and pigeon peas.

7.2 Crops and Production

Sugar, by far the most important cash crop, occupied about 12% of cultivated area and contributed 32% of total exports in 1978. Caribbean coastal plain is major center of cultivation. Large estates, most state owned, produce bulk of crop. Production reached 1.4 million metric tons in 1978, though factory yields from total amounts of cane milled have dropped somewhat in recent years due to inefficient milling operations

and deteriorating transportation systems. Adding to the problem is an uncertain labor supply (local workers shun cane cutting which is done largely by migrant Haitian laborers). Sugar losses from the 1979 hurricanes were relatively small since the summer crop had already been harvested and processed.

Coffee, second import crop, is grown on small farms using traditional techniques. Yields are low. 60,000 MT was the pre-hurricane expected output for 1979-80, grown on about 120,000 ha. Slopes (1,000-3,000') of Cibao Valley, SE Cordillera Central and NE Sierra de Bahoruco are centers of cultivation.

Annual production of cacao averages 35,000 MT from 95,000 ha., planted mainly in Cibao Valley. Tobacco production ranges from 30,000 to 45,000 MT, grown on 26,000-40,000 ha. in Santiago area.

Rice, a major foodcrop nearing self-sufficiency, is grown on irrigated land in western Cibao Valley and Yuna River Basin. 1979 production remained at about 1978 level: 205,000 tons on a milled basis. The expected annual production levels and area planted in other important subsistence crops grown throughout the country are as follows: beans (about 21,000 MT, 57,000 ha. in 1979); yucca (cassava) (about 198,000 MT, 19,000 ha.); sweet potatoes (60,000 MT); yautia (37,046 MT, 5,600 ha. in 1979); white potatoes (23,000 MT anticipated 1979 crop); pigeon peas (25,000 MT pre-hurricane estimate from 13,000 ha.). Northern regions are main areas of cultivation for bananas (17 million stems annually) and plantains (average 550,000 MT during 1974-76 period), while corn (40,000 - 50,000 MT in recent years) is grown in SW and north Cibao Valley. Coconuts and peanuts are major domestic sources of edible oils, but imported soybean oil is most frequently used type.

Plantain, banana, bean, pigeon pea, coffee, cassava and yautia crops were especially hard hit by the 1979 hurricanes. The index of agricultural production fell about 8% overall, with the following commodities showing largest drop: beans (13%), potatoes (13%), yucca (11%), coffee (33%) and plantains (10%). Rice production was about normal; coarse grains (corn and sorghum) rose from 65,000 tons (1978) to 70,000 tons in 1979. Despite significant gains in foodcrop levels in recent years, production has not kept pace with requirements of a rapidly growing population, and per capita food consumption has not risen appreciably. Food imports increased 16% from 1972 to 1977 (in 1978 prices); continued food aid will be needed in 1980/81.

Traditional practices predominate in livestock sector, though large cattle and swine farms do exist. 1978 production ('000 head): cattle (2,651), pigs (400), goats (289), sheep (22), horses (197), asses (111).

Production grew slightly in 1979 in spite of African swine fever, which drastically cut pig production in 1978, and hurricane damage to poultry, which, nevertheless, had production increase of 4.5%. Forestry and fishing grew at over 50%, reflecting efforts to salvage timber from hurricane-damaged trees.

7.3 Planting and Harvesting Dates

<u>Commodity</u>	<u>Planting Season</u>	<u>Harvesting Season</u>
Beverages:		
Cacao:		
Main spring crop.....	---	March-June
Intermediate winter crop.....	---	October-February
Coffee:		
Lowlands.....	October-March (seedlings transplanted to field)	August-October
985-3,00 feet.....	"	October-December
over 3,000 feet.....	"	November-March
Cereals and Grains:		
Corn:		
First Crop.....	March-April.....	June-July
Second Crop.....	August-September.....	December
Rice*.....	April-August.....	September-March
Feedstuffs:		
Grain sorghum.....	November.....	March
Fibers:		
Cotton.....	August-September.....	begins December
Fruits:		
Bananas (transplanting)	---	May-February
Citrus.....	---	throughout year
Pineapples.....	---	April-October
Plantains.....	---	throughout year
Oilseeds:		
Peanuts.....	April-May.....	October-January
Sesame:		
Lowlands.....	April-May.....	August
Uplands.....	August-September.....	December

<u>Commodity</u>	<u>Planting Season</u>	<u>Harvesting Season</u>
Sugarcane:		
Principal crop (southern section)	March-October.....	January-June
Secondary crop (northern section)	"	June-September
Tobacco:		
Seed.....	September.....	---
Plants set out.....	November-January.....	May-August
Vegetables:		
Beans:		
Lowland.....	October-December.....	January-March
Mountains.....	May-September.....	July-November
Potatoes:		
Lowland.....	November-January.....	February-April
Mountains.....	April-July.....	July-September
Yucca:		
Lowland.....	January-May, August-October	August-June
Mountains.....	June-July.....	August-June
Chickpeas.....	throughout year.....	throughout year
Sweet potatoes.....	September-January**.....	February-March**

* Small quantities of rice are both planted and harvested during every month of the year.

** Heaviest planting and harvest takes place during these months.

7.4 Agricultural Imports

Although substantial quantities of red and pinto beans are imported, grains and vegetable oils make up bulk of agricultural imports, total value of which was estimated at US \$230 million in 1979. Average annual imports of rice are about 50,000 MT. The U.S. is chief supplier (78% of total in 1978).

7.5 Agricultural Exports

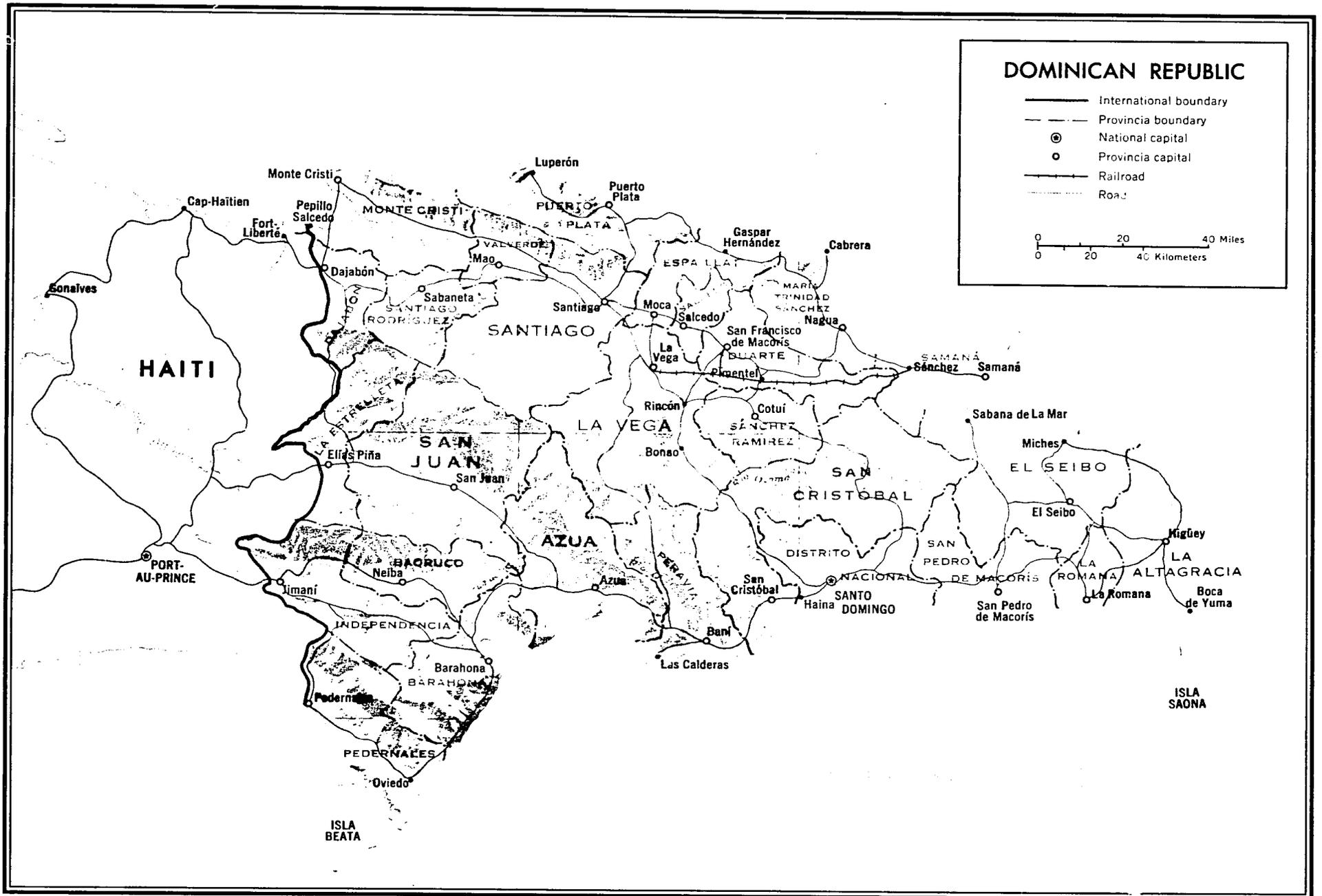
An increase in the export sugar quota (assigned by International Sugar Agreement) was granted for 1979 from 935,000 to 990,000 MT, which the Dominican Republic was expected to fill. U.S. takes 70 to 80% of total sugar exports; Venezuela is second largest buyer. Coffee, cacao and tobacco are other traditional exports. Non-traditional exports of vegetables, fruits and meat are growing in importance. Vegetable and fruit exports (fresh and processed) grew in total value from U.S. \$2.1 million in 1966 to U.S. \$17.0 million in 1977. Puerto Rico, Miami, New York and the Virgin Islands are principal markets.

1979 agricultural exports had an estimated value of US \$530 million (17% over previous year); traditional exports accounted for 96%.

DOMINICAN REPUBLIC

- International boundary
- - - Provincia boundary
- ⊙ National capital
- Provincia capital
- Railroad
- ⋯ Road

0 20 40 Miles
0 20 40 Kilometers



8. Physical Geography

8.1 Climate

Despite its location, 3 to 5 degrees south of Tropic of Cancer, the Dominican Republic has pleasantly warm maritime climate due to influence of surrounding ocean, trade winds and Hispaniola's mountainous nature. Latter characteristic is responsible for the variety of microclimates encountered within its 19,000 sq. mi. area. Average annual temperatures differ primarily with elevation: lowlands average 78 degrees Fahrenheit, foothills (1-2,000') 75 degrees F, while frosts are common in cool season above 3,600'. The capital city on Caribbean coastal plain has summer maxima around 90 degrees F, but trade winds bring cooler nights; winter maxima average 71 degrees F, seasonal variation is about 5-8 degrees F. Rainfall is heaviest in north and east, diminishing to south and west as moisture-laden trades pass over series of mountain ranges. The Samana peninsula at the island's NE extremity averages 100" annually at its eastern tip and 75" where it meets main land mass. On north coast, Puerto Plata receives 70", but Monte Cristi only 30". In Cibao Valley, the range is from 66" at La Vega to 40" at Santiago de los Caballeros. Heaviest precipitation, 110", occurs on NE slope of Cordillera Oriental. On the south side of the same range, precipitation at El Seibo averages 61" per year. Lowest rainfall averages, 24" annually, are found in parts of Neiba Valley. Effects of moderate rainfall along Haitian border are negated by extreme porosity of soils and high rates of evaporation. Most parts of the country experience two fairly well-defined rainy seasons in late spring and fall. Exceptions include north coast between Puerto Plata and Luperon, where rainfall is lowest in summer and highest in November and December, and the vicinity of Lake Enriquillo, where 3 peaks occur in January, May and October. Santo Domingo receives 2/3 rds of its precipitation between May and November, but humidity is high year-round.

Tropical weather disturbances are common June through November; frequent squalls with wind velocities of 30-45 mph. Hurricanes seldom occur before August. Tracks of maximum intensity pass to east and west of island, but Caribbean coast has suffered considerable damage in past years.

8.2 Temperatures (Centigrade)

<u>Location</u>	<u>Altitude In Meters</u>	<u>Aug</u>	<u>Jan</u>	<u>Variation</u>
Azua	81	28.5	25.0	3.5
Bayaguana	52	28.2	24.6	3.6
Bonao	172	27.3	22.7	4.6
Constanza	1,234	19.2	15.5	3.7
La Romana	5	27.7	24.0	3.7
Monte Cristi	15	28.3	23.8	4.5
Monte Plata	49	26.1	21.8	4.3
Polo	1,200	23.0	19.5	3.5
Santo Domingo	14	27.1	24.0	3.1
San Juan	409	26.4	21.5	4.9
Santiago	222	28.3	23.5	4.8
Villa Riva	27	27.6	24.3	3.3
Puerto Plata	6	26.7	22.4	4.3

Note: August is warmest month; January, coolest

8.3 Rainfall

<u>Zone</u>	<u>Annual Rainfall (millimeters)</u>
Sierra de Bahoruco	750-2,000
Azua, Bani, San Cristobal	750-2,250

<u>Zone</u>	<u>Annual Rainfall (millimeters)</u>
Ozama River Basin	1,400-2,250
San Pedro de Macoris and La Romana	1,000-2,250
Higuey	1,000-1,750
Miches and Sabana del Mar	2,000-2,700
Samana Peninsula	
Northern Coastal Zone	1,000-2,300
Yuna River Basin	1,170-2,250
Yaque del Norte River Basin	500-2,000
Dajabon River Basin	750-2,000
Yaque del Sur River Basin	700-1,500
Lake Enriquillo Basin	600-1,200
Artibonito River Basin	1,200-2,000

8.4 Topography

The Dominican Republic occupies the eastern two-thirds (19,000 s.q. mi.) of the Caribbean island of Hispaniola, which it shares with Haiti, and includes the smaller offshore islands of Beata, Catalina, Saona, Alto Velo and Catalinita. Bounded on the north by the Atlantic Ocean and on the south by the Caribbean, it is separated on the east from Puerto Rico by the Mona Passage. The 193-mile long western border with Haiti is its only shared land frontier. Major geological features are common to entire island: alternating east-west faulted mountain blocks and troughs. DR's discontinuous Atlantic coastline is flanked by low (seldom over 2,000') northern cordillera, which descends into Cibao-Yunga trough (Vega Real in east, Plaine du Nord in west). South of this fertile valley rises the central cordillera, the island's wide mountainous spine (Sierra de Oca in DR, Massif du Nord in Haiti) and one-third of its area; south of it, a series of ridges and basins: the Plaine Central, Azua Lowland, Artibonite Valley, Enriquillo Basin and Plaine du Cul-de-Sac, are bounded

by the Massifs de la Hotte and de La Selle in Haiti and the Sierra de Bahoruco in DR. DR's Seibo coastal plain in southeast is recent alluvial deposit.

Lowlands

Major lowlands constitute approximately 25% of DR's land area, but are primary foci of agricultural production and settlement.

Cibao Valley, 2,000 sq. mi. in area, 140 mi. long and 9-28 mi. wide, and its eastward extension, the Vega Real, constitute agricultural heartland because of fertile soils and abundant water. Major city, Santiago de Los Caballeros, is center of landed elite.

Caribbean Coastal Plain, 1,100 sq. mi. in area, is center of sugar and cattle industries.

San Juan Valley, which continues into Haiti as Central Plateau, is 700 sq. mi. in area, 70 mi. long and 30 mi. wide at Haitian border, but only 5 mi. wide at Caribbean end.

Neiba Valley, Enriquillo Basin, continuing in Haiti as Cul-de-Sac, was once a strait of the Caribbean separating Sierra de Bahoruco from rest of island. Now an arid, below-sea-level valley with poor soils, enclosing salt lake at deepest point.

Other smaller discontinuous lowlands, some of considerable agricultural potential, exist on north coast and in valleys of Central Cordillera.

8.5 Land Use

<u>Class</u>	<u>Sq. Km.</u>	<u>Percent</u>	<u>Production Capacity</u>
I	537	1.1	Excellent for cultivation
II	2,350	4.9	Very good for cultivation
III	3,122	6.6	Good for cultivation
IV	3,639	7.7	Limited or marginal for cultivation
V	6,071	12.7	Pasture - no erosion hazard
VI	5,611	11.8	Pasture - erosion hazard

<u>Class</u>	<u>Sq. Km.</u>	<u>Percent</u>	<u>Production Capacity</u>
VII	25,161	52.7	Forest
VIII	1,202	2.5	Wildlife
Total	47,693	100.0	

Source: National Planning Office

Accuracy of land use data now available is suspect, because it is based in part on 1960 survey conducted during Trujillo era. (During that time, records were manipulated by Trujillo family to conceal its land seizures; at one point, family owned 60% of all farm land.) At present, state is largest landowner and land distribution programs are some years behind schedule. According to 1970 census, total land area of 12 million acres comprised 1.6 million acres planted in crops, 2 million acres of pastureland, 1.9 million fallow farmland, the rest wooded, underdeveloped or wasteland. Despite high ratio of population to arable land, substantial increases in production would be possible with improved land use. Some land now used for grazing is better suited to cultivation, and irrigated land now under sugarcane might better be planted in crops with higher employment effects. Marginal lands have been increasingly brought into cultivation, resulting in deforestation and erosion. (See also Section 7.1 Overview of Agriculture).

8.6 Waterways

Of 108 independent river systems in country, only five are classified as large: the Artibonito, Yuna, Azua, Yaque del Norte and Yaque del Sur. Only two rivers of the Caribbean coastal plain, the Ozama, on which Santo Domingo is located, and the Macoris, are important for transportation; both are navigable for several miles and are used for sugar transportation.

In general, rivers are shallow, with flow varying considerably according to season. Major rivers flow along the floors of larger valleys: the Cibao Plain is drained by Yaque del Norte in the west and the Yuna in the east; the San Juan Valley is drained by the Yaque del Sur in the east and by the Macasin river, a tributary of the Artibonito, in the west. Irrigation, particularly of the arid western portions of both plains, is the primary use of rivers. Hydroelectric power is growing in importance: Tavera dam on the Yaque del Norte, capacity 60,000 kW, and Valdesia dam

on the Nizao, capacity 50,000 kW, will be followed by 7.5 mi. Sabaneta complex, begun in 1974; 4 other dam projects are under way. (See Section 10.1, Electric Power.)

Shoreline

Hispaniola is encircled by a shallow coastal platform surfacing in places as numerous rocky islets and serving as a base for extensive coral reefs. Thus, navigation, especially in Atlantic waters east of Monte Cristi, can be hazardous. Extent of platform varies from a few hundred yards to 30 miles; maximum depth 200'. None of Dominican Republic's islands is of economic significance.

Caribbean coast is better suited to port development: submarine shelf is lower than on north coast and reefs and islets fewer. The majority of ports are located there; best on estuaries of major rivers.

8.7 Mountains

Hispaniola's mountain systems should be visualized as a section of the greater Antillean chain, including southeast Cuba, Jamaica, Puerto Rico and the Virgin Islands, an east-west complex of deeply dissected block mountains linked tectonically with eastern flanks of Yucatan Peninsula and the E-W trending mountains of Honduras and Nicaragua. Ranges are paralleled by great submarine trenches; highest point in West Indies, DR's Pico Duarte, is 10,400' above sea level, but over 6 miles above sea floor in nearby Puerto Rico trench.

DR's four principal ranges run SE-NW across Hispaniola. In the south, the Sierra de Bahoruco, crests averaging 3-4,000', with peaks up to 6,000', is an extension of Haiti's Massif de la Selle. Parallel to the Sierra de Bahoruco and somewhat north of it, the Sierra de Neiba reaches similar heights. Highest range and principal watershed of the island, the Cordillera Central, known as Massif du Nord in Haiti, divides Hispaniola E-W and constitutes 1/3 of its total land mass. Crests average between 5,000' and 8,000', with individual peaks over 10,000'. High rainfall has eroded the range creating a maze of canyons which in many areas make transit difficult to impossible. The Cordillera Central breaks up into several smaller ranges which extend eastward; one, Cordillera Oriental, to Caribbean. Western slopes of Cordillera Central are largely deforested and much eroded. Cordillera Septentrional parallels Atlantic coast. Crests average 4,000'. Similar but lower hills of Samana Peninsula are separated from it by swamps at mouth of Yuna river.

All ranges are rugged and precipitous, with slopes up to 40°; they constitute formidable barriers to communication. Valleys and isolated coastal plains, especially on Atlantic, are largely cut off from major population centers, trade and social services.

8.8 Seismicity

The entire island of Hispaniola lies within the Caribbean earthquake zone. Between 1900 and 1960 shallow earthquakes occurred in the Cibao Valley and the Caribbean coastal plain and, frequently, in the Windward Passage and along the NE coast of DR. Windward Passage was also site of deep earthquakes during this period. Scattered areas in Cordillera Central and along extreme eastern coastal plain are also vulnerable. Santiago, Azua, San Jose de Ocoa and Santo Domingo have all suffered considerable earthquake damage in the past; most recently, in 1971, a cement plant near Santo Domingo was seriously damaged, necessitating heavy imports.

Coast between Bani and Barahona, as well as in vicinity of Santo Domingo and of Nagua, is particularly vulnerable to tsunamis generated by quakes with epicenters in eastern Atlantic. Lisbon earthquake of 1755 generated 35' waves that reached West Indies 12 hours after initial shock.

9. Transportation and Logistics

9.1 Road Network

The road network is densest in country's center along axis joining Santo Domingo and Santiago and in eastern sugar producing area. Short distances average haul is 125 km favor road transport over other modes; about half of main products and virtually all passengers are carried by road. Traffic density is relatively high: on national network, 10% of length carries over 3,000 vehicles daily; 30% carries over 1,000.

The network comprises approximately 11,900 km: 5,100 km of national roads, of which about 4,600 km are paved, and 5,800 km classified as feeder roads. Major highways include: the Duarte Highway (263 km), which runs from capital through the Cibao Valley to Monte Cristi on the northwest coast; the Sanchez Highway (193 km), from Santo Domingo to Barahona on the southwest coast, via Azua; the Mella Highway (75 km), from Santo Domingo to San Pedro de Macoris on the southeast coast; and Las Americas Highway (75 km), parallel to Mella, extending to La Romana and giving access to the airport. Other primary roads extend Sanchez Highway to Haitian border via San Juan and Elias Pina and ultimately to Port-au-Prince; and connect San Pedro de Macoris with Hato Major, Higüey and Boca de Yuna. Another paved road from San Francisco de Macoris follows north coast from Nagua to Puerto Plata, then loops back to Duarte Highway. Connections between urban centers are adequate, but rural communities are not well served by the road system. Cordillera Central and Sierra de Bahoruco, particularly, are isolated. The need to extend and improve the feeder road system to facilitate access to agriculturally productive areas is recognized by the present administration. External agencies -- IDB, USAID and IBRD -- are assisting government efforts to construct rural roads, improve maintenance capability and develop planning and construction methods.

Maintenance of the road system is generally inadequate. Some 2,000 km (45%) of paved roads have reached the degree of deterioration or obsolescence where reconstruction/rehabilitation on the basis of engineering studies is the only viable alternative; ad hoc maintenance is needed in the meantime. The road infrastructure was particularly hard hit by the 1979 hurricanes. Erosion, landslides and rockfalls damaged some 2,100 km of local roads. Numerous bridges and accesses were destroyed. Portions of Duarte Highway were closed by landslides, cutting off communications between Santo Domingo and farms of the Cibao Valley. Emergency action was taken by the Department of Public Works and Communications (SEOPC) to clear debris and make repairs.

The Highway Network
(km)

Development of Highway Network

<u>System</u>	<u>1970</u>	<u>1972</u>	<u>1974</u>	<u>1976</u>	<u>1978</u>
National	4,187	4,439	4,621	4,742	5,122
Feeder roads	1,814	2,543	3,092	4,416	5,745
Total	6,001	6,982	7,713	9,158	10,867

Inventory of Highway Network (1978)

<u>System</u>	<u>Asphalt</u>	<u>Concrete</u>	<u>Surface Treatment</u>	<u>Gravel and Earth</u>	<u>Total</u>
National					
Primary	767	295	489	-	1,551
Secondary	406	-	889	-	1,295
Tertiary	60	-	1,704	512	2,276
Feeder roads					
Improved	-	-	-	3,795	3,795
Unimproved	-	-	-	1,950	1,950
Total	1,233	295	3,082	6,257	10,867

Annual Average Daily Traffic in the Highway Network
by Type of Road Surface and Type of Vehicle
(1978)

	<u>Light Vehicles</u>	<u>Buses</u>	<u>Pickups</u>	<u>Trucks</u>	<u>Total</u>
Paved (asphalt and concrete)	1,478	117	595	296	2,486
Surface treatment	733	45	468	205	1,451
Gravel	229	17	279	65	590
Earth	126	9	130	31	296

Source: SEOPC, Oficina Nacional de Presupuesto and Mission Estimates, July 1979, as cited in World Bank, Second Road Maintenance and Reconstruction Project, Dominican Republic November 1979.

9.2 Vehicles

Vehicle fleet growth, 13.7% p.a. between 1967 and 1974, has slowed to 8.5% since 1975. 136,389 vehicles were registered in 1978: 87,767 passenger cars, 46,160 trucks, 2,462 buses. About 30% of the fleet is used for public services. Most inter-city passenger transport is moved by private or public automobiles. Pickups make up 63% of the truck fleet, medium-sized trucks 34%, heavy vehicles 3%. The bus fleet is 65% minibus. 60% of all registered vehicles are in Santo Domingo and Santiago.

9.3 Surface Miles

<u>From</u>	<u>To</u>	<u>Km</u>
Santo Domingo	Barahona	193
	San Pedro de Macoris	75
	La Vega	125
La Vega	Jose E. Bisoño	55
	Jose E. Bisoño	Monte Cristi

9.4 Railroads

The railway network consists of the semi-autonomous sugarcane railways (owned and operated by Sugar State Council (CEA) and plantations), private sugarcane railways (600 km of track), other natural resources railways (60 km), and the State Railway, for a total of about 1,600 km. The semi-autonomous lines, of which the 300 km Haina line is most extensive, and private sugarcane railways carry about 60% of total freight tonnages (mostly sugarcane and sugar products). The private sugarcane railways and other natural resources railways are specialized industrial carriers with generally well-maintained lines. The only passenger service is provided by the state railway, the La Vega-Sanchez line (about 100 km), which is in deteriorating condition, and, in fact, operates only between Sanchez and Ricon Molinillos (30 km).

Rail Carriers:

Ferrocarril Unidos Dominicanos: Santo Domingo, D.N.; government-owned
 Ferrocarril de Central Romana: 375 km open
 Ferrocarril Central Rio Haina: 113 km open

9.5 Ports

There are 9 international ports, 4 cabotage ports and 2 tourist ports. The 3 main ports of Santo Domingo and Haina in the south and Puerto Plata in the north handle almost 60% of all imports and exports combined, excluding petroleum products. Haina handles most petroleum imports; Santo Domingo a large part of imported goods. Pedernales is a specialized port for mineral exports in the southwest and Puerto Plata is the terminal for agricultural exports from the Cibao Valley. La Romana, Boca Chica, San Pedro de Macoris and Barahona are the more important of the country's other ports.

Generally, ports are handicapped by obsolete equipment and reliance on unskilled and semi-skilled labor. Port congestion is a serious problem. Improvements to the port of Haina, scheduled for completion in 1981, including a 3-berth container facility, river channeling, navalds, dredging to 35 feet and dry dock, will enable it to handle most import/export cargo now moving through Santo Domingo, thus relieving that port and giving it acceptable capacity until the 1990's.

Barahona

Coordinates: Lat. 18°12'N; long. 71°05'W

Accommodation: Channel dredged to 35 ft. (10.67 m). Warehouses and water available.

Shiprepairs: Minor repairs only.

Towage: Tugs available.

Boca Chica

Coordinates: Lat. 18°27'N; long. 69°36'W

Accommodation: Canal dredged to 35 ft. (10.67 m), dock to 24 ft. (7.31 m). One warehouse, electricity, water (brackish).

Shiprepairs: Minor repairs only.

Haïna

- Coordinates: Lat. 18°25'N; long. 70°01'W
- Accommodation: Entrance channel dredged to 35 ft. (10.67 m). Harbor protected by breakwaters. Bulk sugar loading installations on W bank wharves. Four dockside warehouses, each 420 ft. (128 m) long, with fully mechanized handling. Ship of 8,500 tons can be loaded and put to sea within 24 hours of arrival. Draft limited to 29 ft. (9.1 m).
- Shiprepairs: Minor repairs in Santo Domingo.

Puerto Plata

- Coordinates: Lat. 19°48'N; long. 70°41'W
- Accommodation: Depth at entrance, 42 ft. (12.8 m). Depth on bar, 37 ft. (11.28 m) high water, 34 ft. (10.36 m) low water. Depth in harbor, 30 ft. (9.14 m) to 35 ft. (10.67 m). One wharf, 30 ft. (9.14 m) alongside. Old pier with one shed 151.2 m long, 48.4 m wide. New pier with transit shed 284.6 m long, 43.89 m wide. Warehouses and water available.
- Shiprepairs: Minor repairs only.
- Towage: Small tugs available.
- Pilotage: Compulsory.

San Pedro (San Pedro de Macoris)

- Coordinates: Lat. 18°26'N; long. 69°19'W on the river Higuamo
- Accommodation: Channel 500 ft. (152.4 m) wide, 35-40 ft. (10.67-12.19 m) deep; rise and fall of tide about one foot; maximum permitted draft, 26 ft. (7.92 m). Total length of wharf is 2,500 ft. (7.62 m.), accommodates 5 or 6 large vessels of from 8,000 to 10,000 tons dead weight. Two warehouses; crane operations usually by ships' gear. Small

tug to assist in docking and undocking. Other lighters and tugs available by arrangement. Water provisions obtainable.

Shiprepairs: Minor repairs only.

Santo Domingo

Coordinates: Lat. 18°28'N; long. 69°53'W. Located at mouth of Ozama river.

Accommodation: Harbor may be entered by day or night without difficulty except during swell or periods when river current is exceptionally heavy. Vessels anchoring on roads must wait for harbor pilot to assign anchorage. Channel dredged to 35 ft. (10.67 m). Vessels drawing up to 30 ft. 9 in. (9.37 m) can anchor on roads. Seven berths for vessels up to 600 ft. (182.9 m) length in depths varying between 18 ft. and 28 ft. (5.49 m and 8.53 m).

The new Sans Souci passenger vessel wharf is located on east bank of Ozama River in the harbor of Santo Domingo. Wharf of pre-stressed concrete, 250 m long, 31.40 m wide. Depth of water alongside 9.14 m. Designed to accommodate one 50,000 ton vessel or two smaller vessels. No heavy-lift facilities; some shore cranes but ship's gear normally used for loading/discharging. Bunker fuels available by lighter in all grades; deliveries 24 hours a day, weather permitting, while vessels are working cargo at any berth. Warehouses, provisions and water available.

Development: A 1,860 sq. m. passenger terminal is contemplated.

Shiprepairs: Minor repairs only.

Towage and Pilotage: Compulsory.

9.6 Shipping

Most goods are carried by foreign-owned vessels. There are presently only 8 nationally registered ships of 2,550 DWT, each engaged mainly in coastal trade. A large part of the 80,000-100,000 tons carried by coastal shipping is gypsum, transported by barge from Barahona to Santo Domingo.

Foreign lines serving Dominican ports include Alcoa, Continental, French Line, Lykes, Seatrain, Sealand, Balpacific, Hapac-Lloyd, Saguenay, KNSM, Prudential Grace, Victoria, Japan Line, Lauro, Horn, Surinam Navigation Line, Spanish Transatlantic.

9.7 Airports

Of the Dominican Republic's 3 operating international airports, La Romana, Punta Cana (under construction) and Las Americas, the last, 24 km east of Santo Domingo, is most important, handling 99% of passenger traffic and 95% of cargo traffic. A new international airport on the north coast at the tourist area of Puerto Plata, scheduled for completion in late 1979, is expected to handle about 20% of total international passenger traffic.

With a strong boost from tourism, international passenger traffic increased rapidly from about 400,000 in 1970 to one million in 1978. Domestic traffic, in contrast, is limited (40,000 passengers in 1978), but air transport is necessary because some regions are poorly served by the road system. There are 8 domestic airports* in the country, 15 minor airports and 20 landing strips.

* Puerto Plata, Arroyo Barril, Sabana de la Mar, Higüey, Herrera, Barahona, Cabo Rojo and San Juan.

Aerodromes

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.

SANTO DOMINGO/Las Americas 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>
18°25'57"N 69°40'14"W	17 28.6	17/35 PA-1	--	DC8-63 3353	A	DC8-63 AUW 130	100JX

Remarks: Alternate aerodromes: Kingston/Norman Manley Int'l., Montego Bay/Sangster Int'l., Port-au-Prince/President Duvalier Int'l., St. Croix/Alexander Hamilton, San Juan/Puerto Rico Int'l.

Aids: LSA 35, LR, LTX, LB, LO, MD, MC, MT, MTX, MO. Radio facilities with voice availability, rotating or code light, field lighting (runway). Longest runway 11,000' hard surfaced.

KeyAids

- B - Rotating or code light
- D - Runway designation marking
- L - Field lighting
- LD - Obstruction lighting
- LR - Runway edge, threshold and runway and lighting
- LTX - Taxiway lighting
- MC - Runway center line marking
- MO - Obstruction marking
- MTX - Taxiway center line and holding position markings
- LSA - Simple approach lighting

Abbreviations

- PA-1 - Precision Approach Runway Category I

9.8 Personal Entry Requirements

Passport: Passport with currently valid visa recommended. However, US citizens may enter with tourist cards obtainable from immigration authorities at airport of entry. To obtain tourist card, US passport, birth certificate or other document which indicates that the person is a US citizen is required, as well as a round-trip ticket.

Visa: Not required if entry to be made with tourist card. Tourist cards valid for 60 days max. Occasionally, at discretion of airport inspector de migracion, cards are issued for 15 or 30 days but are extendable to 60 days at Direccion General de Migracion.

Health: No vaccinations required.

9.9 Aircraft Entry Requirements

Private aircraft overflying territory or landing at De Las Americas International Airport are required to file a flight plan only. All commercial aircraft, except scheduled, must request permission to land or overfly at least 72 working hours prior to departure. Permission must be requested by mail: Director General de Aeronautica Civil, Aeronautica Civil, Tercera Planta, Edificio de Telecomunicaciones, Cable Isabel La Catolica, Santo Domingo, Dominican Republic; Cable: Diraciv, Santo Domingo, Telex: ITT 3400 100 Diraciv, and should provide for a prepaid reply.

The application for approval to land or overfly the Dominican Republic must include: type of aircraft, registration number of aircraft, color of aircraft, departure point and destination, pilot's name.

Special Notices:

Flights on the route Santo Domingo-Port-au-Prince may cross the Dominican-Haitian border flying at 10,000 ft. Flights below this altitude should avoid the border and fly by route G-2.

Prohibited Areas:

1. National palace grounds zone--limited by a circle of 200 meters radius centered at 18°28'13"N, 69°53'37"W.

2. San Isidro AFB--limited by a circle of 5 statute mile radius centered at 18°31'13"N, 69°45'28"W. Aircraft on approach will be permitted to fly in accordance with IFR into the area maintaining min. height of 2,500', and overfly the zone at a minimum height of 7,000'.

3. Las Calderas Naval Base Zone--limited by a rectangle within 18°08'00"N, 70°27'00"W; 18°15'00"N, 70°37'00"W. Aircraft are permitted to overfly the zone at a minimum height of 7,000'.

4. Chemical Factory Zone--limited by a circle of 1 statute mile radius centered at 18°30'48"N, 69°54'34"W.

5. Ammunition depot--limited by a circle 0.6 nautical miles in radius centered at 18°29'40"N, 69°57'17"W.

6. Presidential heliport--18°29'29"N, 69°58'03"W; 18°29'35"N, 69°59'07"W; 18°27'29"N, 69°58'20"W, 18°27'36"N, 69°59'28"W.

Fees: A fee of 15 pesos is charged for each overflight through the Santo Domingo air and 3.50 pesos is charged for each landing at de Las Americas Int'l Airport. (The following aircraft are exempt from these charges: State and military aircraft, aircraft on test, training or search and rescue flights authorized by appropriate authority, aircraft returning because of mechanical difficulties or adverse weather conditions, and tourist, air club or school aircraft recognized by the Directorate General of Civil Aviation.)

9.10 Airlines

Several foreign carriers provide regular service to Las Americas. Two Dominican carriers, Dominicana de Aviacion and Alas del Caribe, account for 30% and 10% of international traffic, respectively. Alas del Caribe is the only carrier with scheduled domestic flights.

Domestic

Compania Dominicana de Aviacion (Dominicana): Leopoldo Navarro esq. San Francisco de Macoris, Edif. San Rafael, Santo Domingo, D.N. operates on international routes connecting Santo Domingo with the Netherlands Antilles, Puerto Rico, the U.S.A. and Venezuela; fleet: 2 Boeing 727-100, one 727-100C, 2 DC-6B.

Foreign

Aerocondor (Colombia), ALM (Netherlands Antilles), American Airlines (U.S.A.), Eastern Airlines (U.S.A.), Iberia (Spain), Lufthansa (Fed. Repub. of Germany), Pan Am (U.S.A.), Prinair (Puerto Rico), SATA (Portugal) and Viasa (Venezuela).

9.11 Air Distances

<u>From</u>	<u>To</u>	<u>Statute Miles</u>
Santo Domingo	Barranquilla	622
	Caracas	570
	Kingston	469
	Madrid	4,155
	Miami Int'l	847
	Nassau	677
	New Orleans Int'l	1,518
	New York (JFK)	1,552
	Panama (Tocumen)	916
	Paramaribo (Zandery)	1,324
	San Juan (Isla Grande)	234
	Sao Paulo	3,292
	Washington Int'l	1,477
Willemstadt	433	

10. Power and Communications

10.1 Electric Power

All production, distribution and marketing of electricity, except for sugar mills and the Falconbridge nickel plant is handled by the government's Dominican Electricity Corporation (CDE). Installed public generating capacity at the end of 1978 was approximately 656 MW of which 445 MW was of effective use. Despite abundant hydropower potential, thermal plants accounted for 88% of energy generation and hydroelectric plants for only 12% in 1978. Power sources and generating capacities: steam plants, nominal 356 MW/effective 260 MW; gas plants, nominal 120 MW/effective 85 MW; diesel plants, 23 MW/13 MW; hydroelectric plants, 157 MW/81 MW. An additional 8 MW of energy is supplied to CDE by sugar mills during the harvest season (January to May) and about 30 MW by Falconbridge mines, which have a total capacity of 66 MW. CDE's transmission system consists of about 1,200 km of 96-kV line and 750 km of 34.5 kV line plus connected transfer and distribution substations. 2,200 km of 7.2/12.5 kV three-phase lines and 2,060 km of 7.2 kV single-phase lines make up primary distribution network. Public supply is AC 60 cycles, single phase at 110 V for domestic and 220 V for power.

A total of 343,518 subscribers used 1,673 GWh of energy in 1978. A rural electrification system covering 160 population centers added 20,000 customers in 1977. Net electricity generation grew at an average annual rate of 10.8% during 1970-75 and 8.5% 1975-78. To meet projected demand of 2,720 GWh by 1980, 4,468 GWh by 1985 and 9,973 GWh by 1992, growth must average 10.4%. Several CDE projects due to enter service in early 1980's: Puerto Plata Group No. 2 (36 MW), 1980's; Haina No. 5 (85 MW), 1982; Itabo No. 1 (128 MW), 1982; Bao Hydroelectric Project (will increase Tavera generation by 115 GWh/year), 1981; double circuit 138 kV transmission line, 253 km long.

The 1979 hurricanes caused a loss of about 77 MW of effective generating capacity (22.8% of total). The damaged plants (mainly the Tavera, Valdesia and Jimenoa hydroelectric complexes) were expected to be out of service 6-18 months. The transmission and distribution systems also suffered considerable damage. CDE was not expected to have effective capacity to meet peak demand in 1979 (465 MW) or in 1980 (505 MW).

Capacity (MW) as of 12/13/75

<u>Year of Installation</u>	<u>Plant and Unit</u>	<u>Normal Capability</u>	<u>Present Capability</u>
1948	La Marina #4	7.5	4.0
1954	La Marina #5	12.6	6.0
1956	La Marina #6	12.6	6.0
1959	La Marina #7	12.6	0
1964	La Marina #8	26.5	10.0
1968	Haina #1	54.0	30.0
1970	Haina #2	54.0	40.0
1966	Puerto Plata #1	26.5	24.0
	Total Steam	206.3	120.0 A/
1959	Jimenoa	8.0	8.0
1966	Las Damas	7.5	7.5
1973	Tavera 1 & 2	80.0	20.0 B/ (effective capacity 35 MW in 1979)
1975	Valdesia 1 & 2	54.0	38.4 C/ (effective capacity 35 MW in 1979)
	Total Hydro	149.5	73.9
	San Pedro de Macoris GT	28.3	28.3
1974	Barahona GT	28.3	26.0
1974	Timbeque 1 GT	21.0	20.0
1974	Timbeque 2 GT	21.0	20.0
	Total Gas Turbines	98.6	94.3
Various (Less than 20 years of age)	Total diesel units	17.4	11.8 A/
	Total	471.8 MW	300.0 MW

A/ Derated because of lack of maintenance

B/ Lack of water to meet irrigation and power requirement

C/ Capability at low reservoir level

Source: CORDE as cited in Main Problems in the Economic Development of the Dominican Republic. Vol. II: Statistical Appendix, November 1977.

10.2 Radio Network

Dirreccion General de Telecomunicaciones: Santo Domingo: Government supervisory body.

Extensive radio and television systems are potentially an excellent means of communicating with rural populations. By 1976 there were 600,000 radio receivers and 110 AM and 31 FM stations in the country*. Cheap and readily available Japanese transistor radios were widely distributed by late 1960's; in the countryside these often served as nuclei for gatherings of 40-50 people on occasion of major political broadcast. Among most important stations broadcasting from capital in 1970's were Radio Universal, Radio Mil, Radio Quisqueya International (at 50 kW, its transmitter was country's most powerful) and Broadcasting Nacional. Transmitters of 10, 5, and 1 kW capacities are usual.

* In 1975, 130 stations were broadcasting on medium-wave band, approximately 12 were equipped for shortwave transmission.

10.3 Telephone System

Relatively efficient domestic system is based on islandwide radio relay network; larger cities have automatic exchanges and about 90% of telephones are on automatic dial system. Most urban areas are connected by telephone and telegraph lines, though majority of telephones, which total 139,000, are in capital. International cable service is provided by All American Cables and RCA; government has radiotelegraph connections with Cuba, Mexico, Nicaragua and New York City; radiotelephone connections are available to Miami.

10.4 Television

Because of initial cost of set, utility of television as means of communication is limited to upper class audience. 11 television stations originate in Santo Domingo and several have relay stations in other large urban areas. In 1972, 75% of population lived within primary reception area of Dominican channels, but only 25% watched television. There were an estimated 385,500 television sets in the country in 1978.

Television Dominicana: Santo Domingo; government station; 2 channels, 2 relay stations.

Rahintel Television: Santo Domingo; commercial station.

Color-vision: Santo Domingo; commercial station; 2 channels.

Tele-INDE: Santo Domingo; commercial station.

Telesistema Canal 11: El Vergel 88.

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