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VOLUME 2
MAIN REPORT

THE STUDY ON THE DEVELOPMENT PROJECT OF THE PORT OF SAN PEDRO DE MACORIS IN THE DOMINICAN REPUBLIC

VOLUME 2
MAIN REPORT

DECEMBER 1987

J.I.C.A.

No.

THE STUDY ON THE DEVELOPMENT PROJECT OF THE PORT OF SAN PEDRO DE MACORIS IN THE DOMINICAN REPUBLIC

FINAL REPORT

DECEMBER 1987

JAPAN INTERNATIONAL COOPERATION AGENCY

VOLUME 2

MAIN REPORT

THE STUDY ON THE DEVELOPMENT PROJECT OF THE PORT OF SAN PEDRO DE MACORIS IN THE DOMINICAN REPUBLIC

FINAL REPORT

DICEMBER 1987

PREFACE

In response to a request from the Government of the Dominican Republic, the Japanese Government decided to conduct a survey on the Development Project of the Port of San Pedro de Macoris, and entrusted the survey to the Japan International Cooperation Agency (JICA).

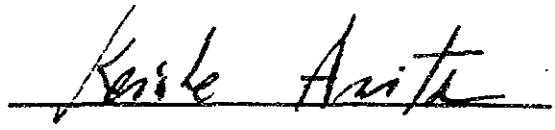
JICA sent to the Dominican Republic a survey team headed by Mr. Fujio Saigusa comprising experts from the Overseas Coastal Area Development Institute of Japan (OCDI) and Nippon Tetrapod Co., Ltd. three times from September 1986 to September 1987.

The team exchanged views on the Project with the officials concerned of the Dominican Government, conducted field surveys and collected reference materials. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will serve for the development of the Project and contribute to the promotion of friendly relations between our two countries.

I wish to express my deep appreciation to the officials concerned of the Government of the Dominican Republic for their close cooperation extended to the team.

December, 1987



Keisuke Arita
President
Japan International Cooperation Agency

LETTER OF TRANSMITTAL

December 1987

Mr. Keisuke Arita
President
Japan International Cooperation Agency

Dear. Mr. Arita:

It is my great pleasure to submit herewith the Report for the Study on the Development Project of the Port of San Pedro de Macoris in the Dominican Republic.

This report is the result of studies carried out by the Overseas Coastal Area Development Institute of Japan and Nippon Tetrapod Co., Ltd. at the request of the Japan International Cooperation Agency (JICA). Regarding this project, the study team conducted three series of field surveys, one of which took place for the 75 days from September 16, 1986 to collect a variety of information including data concerning natural conditions.

The findings of these surveys were discussed to prepare the Master Plan, the Short-term Development Plan and to study the feasibility of the Short-term Development Plan, and were then compiled into this report. The study shows that the Project is extremely important, so I hope the Project is executed promptly.

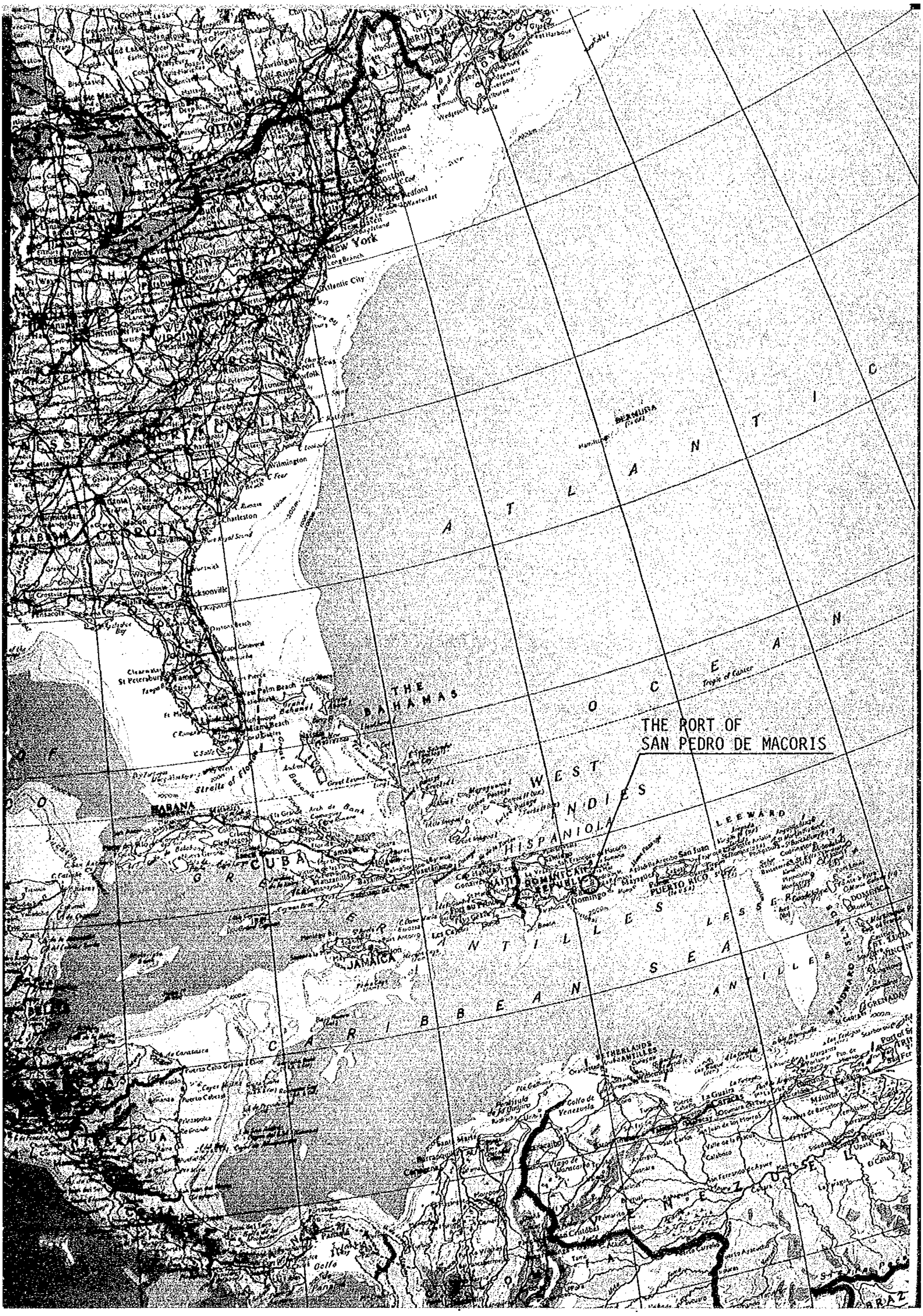
On behalf of the study team, let me express my heartfelt thanks to the Ministry of Public Works and Communications and to the other related agencies of the Dominican Republic Government for the generous cooperation, assistance and warm hospitality which were extended to the study team during their stay in the Dominican Republic.

Our thanks are also due to the Japan International Cooperation Agency, the Ministry of Transport, the Ministry of Foreign Affairs, the Japanese Embassy in Santo Domingo and the JICA office in Santo Domingo for their valuable advice and support during the field surveys and the preparation of this report.

Yours faithfully,

Fujio Saigusa

Fujio SAIGUSA
Head
Japanese Study Team for the Development
Project of the Port of San Pedro de Macoris
(Senior Advisor, the Overseas Coastal Area
Development Institute of Japan)


THE PORT OF
SAN PEDRO DE MACORIS
A T L A N T I C
O C E A N
BERMUDA
THE BAHAMAS
WEST INDIES
HISPANIOLA
CUBA
JAMAICA
PUERTO RICO
C A R I B B E A N   S E A
New York
Atlantic City
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Straits of Florida
Great Bahama Bank
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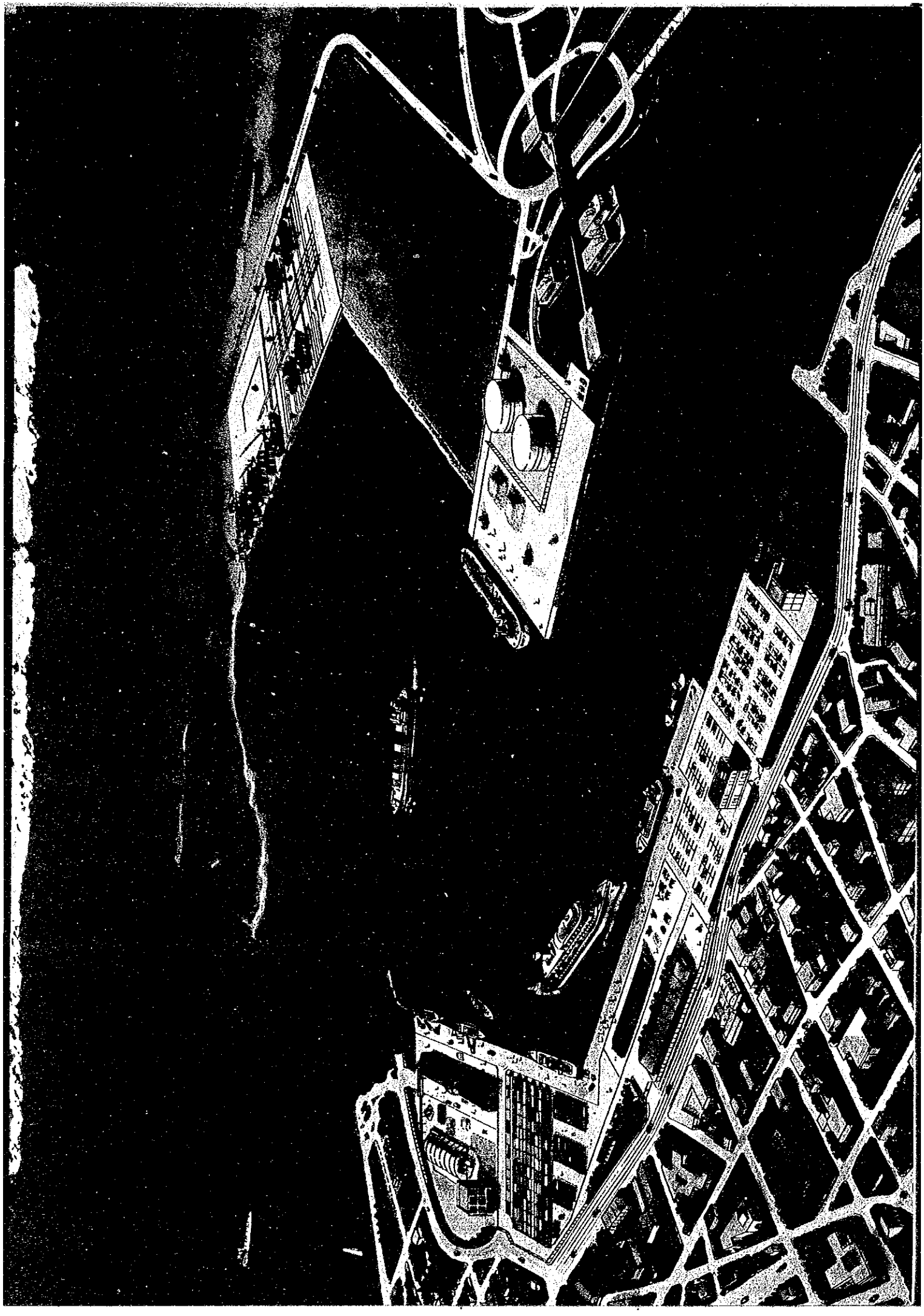
GEORGIA



EXCHANGE RATE

US$ 1 = RD$ 3.08

RD$ 1 = ¥ 52.42

ABBREVIATIONS

	Full Name (Spanish)	Full Name (English)
APD	Autoridad Porturaria Dominicana	Dominican Port Authority
CDE	Corporación Dominicana de Electricidad	Dominican Electric Power Corporation
CEA	Consejo Estatal del Azúcar	State Council of Sugar
CEDOPEX	Centro Dominicano de Promoción de Exportaciones	Dominican Center on Promotion of Export
CELADE	Centro Lationamericano de Demografía	Latin American Demographic Center
CFS		Container Freight Station
CIF	Coste, Seguro y Flete	Cost, Insurance and Freight
DWT	Tonelaje de Peso Muerto	Dead Weight Tonnage
FCL		Full Container Load
FERQUIDO	Fertilizantes Químicos Dominicanos, S.A.	Dominican Chemical Fertilizer Corporation
FOB	Franco a Bordo	Free on Board
FUNDESIRE	Fundación para el Desarrollo Integral de la Región Este	Foundation for the Integral Development of East Region
GDP	Producto Interno Bruto	Gross Domestic Production
GRT	Tonelaje Bruto de Registro	Gross Registered Tonnage
JICA	Agencia de Cooperación Internacional del Japón	Japan International Co-operation Agency
LCL	menos que contenedor carga	Less than Container Load
LOA		Overall Length
lo/lo		lift-on/lift-off system
LWL	Nivel de Bajamar	Low Water Level
MHWL	Nivel de Pleamar Media	Mean Springs High Water Level
MLWL	Nivel de Bajamar Media	Mean Springs Low Water Level
MSL	Nivel Medio del Mar	Mean Sea Level

ONAPLAN	Oficia Nacional de Planificación	National Planning Office
ONE	Oficina Nacional de Estadistica	National Statistics Office
ro/ro		roll-on/roll-off system
SEA	Secretaría de Estado de Agricultura	Ministry of Agriculture
SEOPC	Secretaría de Estado de Obras Públicas y Comunicaciones	Ministry of Public Works and Communications
TEU		Twenty-foot Equivalent Unit
RD $	Peso de la Repúblic Dominicana	Peso of the Dominican Republic
US $	Dólar de Estados Unidos	US Dollar
¥	Yen de Japón	Japanese Yen

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CONCLUSIONS

1. Necessity of the Development of the Port of San Pedro de Macoris

The port of San Pedro de Macoris is one of the most important ports in the Dominican Republic and plays an essential role in the development of the Nation.

However, the facilities at the Port have become superannuated and some of the facilities have reached a very dangerous condition. The cargo handling activities are mostly carried out by manual labor and are being hindered by the outdated facilities.

To promote the national and regional socioeconomic development, appropriate and timely action must be taken by the Government to develop the Port.

2. Master Plan

The port of San Pedro de Macoris is an estuary port, and it is blessed with good natural conditions including available land and a sufficiently large water area sheltered by a cape. A positive vision of the Port is set out as the Master Plan based on the locational advantages of the Port and the natural conditions of the Study Area.

The Master Plan is formulated with a target year of 2005. At Present, sugar is the main cargo item at the Port. In this study, after careful assessment of the national and regional economic conditions, it is projected that various commodities will be handled at the Port in the future. The estimated cargo volume at the Port in the target year is about 1.3 million tons considering the historical trend, the forecast growth of the socioeconomic activities and the economic transport of cargo in the hinterland.

The Master Plan is based on the required scale of the facilities as estimated from the projected traffic. Judging from the technical evaluation, 7 public berths are required: 5 berths for cargo handling and passenger ships, 1 berth for ferry boats and 1 berth for small craft. All of these wharfs are planned to be newly constructed because the existing wharfs cannot meet the requirements of the Master Plan such as increased

ship size and the premotion of efficient and safe cargo handling. Considering the maximum utilization of the existing port facilities other than the wharfs, six new berths are planned on the east side of the river. One aditional berth is planned on the west side thereafter as there will be no further room for the construction of additional berths on the east side at that time. The maximum average sizes of vessels which will call at the Port in the future will be 20,000 DWT for cargo ships and 20,000 GRT for passenger boats.

The project cost is roughly estimated at about 200 million pesos and the foreign portion of the cost is about 133 million pesos (in October 1986 prices).

3. Short-term Development Plan

The target year of the Short-term Development Plan is 1995. The Plan is formulated based on the Master Plan. The estimated cargo volume in 1995 is about 1.0 million tons.

The Short-term Development Plan includes 6 public berths on the east bank: 4 berths for cargo handling and passenger ships, 1 berth for ferry boats and 1 berth for small craft.

In order to achieve efficient cargo handling, new handling systems are proposed. It is also proposed to set up a port authority to administrate, manage and operate the Port.

The project cost is estimated at about 145 million pesos comprising 99 million pesos of foreign currency and 46 million pesos of local currency (in October 1986 prices). Half of the cost is for the construction of wharfs and the repair work of the breakwater, and it is assumed that this cost shall be borne by the national government. The construction period is around 3 years.

4. Economic and Financial Analysis of the Short-term Development Plan

1) Economic Analysis

The Short-term Development Plan is evaluated in terms of the Economic Internal Rate of Return (EIRR) which is calculated based on cost-benefit analysis using the Discount Cash Flow Method from the viewpoint of the

national economy. Considering the savings in ships' staying costs and land transport costs as tangible benefits, and using 30 years as the peroid of economic calculation, the internal rate of return is calculated as 20%.

This shows that the Short-term Development Plan is feasible from the viewpoint of the national economy.

2) Financial Analysis

The Short-term Development Plan is evaluated in terms of the Financial Internal Rate of Return (FIRR) from the viewpoint of the financial viability of the port management body.

The revenues which will be considered as arising from this project are the port tariffs, while expenditures are the project cost mentioned above excluding the cost borne by the national government, maintenance costs of all the port facilities and operating costs.

The FIRR is 7.0%, and it can be said that the projected financial condition is favorable.

This project is evaluated as profitable enough from the viewpoint of the national economy.

From the financial viewpoint, in order to execute this project successfully it is necessary for the Dominican Government to establish a practical system and organization which will enable the government to grant funds for the Project based on the projected financial situation at the port including the port management system and port tariff system proposed in this study.

RECOMMENDATIONS

The facilities of the port of San Pedro de Macoris are seriously superannuated and this project should be started as soon as possible. Determination of the development plan, fund raising, detail design and construction will be carried out based on this study.

Execution of this project should be well coordinated with the development plan for the Eastern Region and other development plans and projects.

Some works should be carried out previous to the commencement of the execution of the Project considering the time requirements.

The Study Team would like to make the following recommendations concerning various matters which were noticed while conducting the Study.

(1) At present, there is no one organization which comprehensively administrates, manages and operates the Port. In order to achieve teh goals of this project, a unified port management body, which will be responsible for the promotion of port utilization and development, should be established as soon as possible, and the duties of the body should be clearly defined as follows.

(i) The Port should be placed under the control of APD as soon as possible.

(ii) The limits of the port area of San Pedro de Macoris should be exactly defined, and the port authority should have administrative control of the entire port.

(iii) The port authority should regularly examine the conditions of the port facilities and should carry out the necessary maintenance works.

(iv) In order to maintain sound finances, the port authority should prepare financial plans for the administration and management of the Port including the determination of port tariffs, and should operate the Port in accordance with these plans.

(v) The port authority should keep accurate statistics concerning ships, cargoes and tariffs, and collect information concerning cargo demand. The basic data such as "entrance/clearance notices," "cargo handled," and "revenue/expenditure statements" should be compiled every year.

(vi) By carrying out tide observations, wave investigations, sounding

surveys and soil investigations periodically, the port authority should be well-informed concerning the natural conditions of the Port, and should utilize this information for the port administration and development.

(2) In order to maintain smooth port activity, it is necessary to carry out customs clearance, quarantine, medical inspection and immigration in a timely manner as well as to construct port facilities and to establish a port management body.

(3) The construction works of the Project should be executed based upon the proposed work schedule without interfering with regular port activities.

(4) It is recommended that the dredging work planned by SEOPC prior to the commencement of the Short-term Development Plan should be executed by incorporating the plan proposed in this study to avoid unnecessary duplication of efforts and delays.

(5) The following should be implemented before the commencement of the Project.

(i) The maintenance work presently being executed mainly on the concrete decks of the wharfs should be upgraded in quality and the engineers should adopt a larger cross section.
(ii) An adequate fendering system should be installed at the frontage of the existing wharfs in order to avoid damage to ships as well as to the wharfs.
(iii) The port authority should reserve all land within the port area, if possible. This will facilitate smooth port development.
(iv) The dock road and the trunk road should be improved and properly connected to ensure the smooth distribution of cargoes.

INTRODUCTION

INTRODUCTION

1. Background

The Dominican Republic occupies the eastern two-thirds of the island of Hispaniola, lying almost in the center of the Greater Antilles which separate the Caribbean Sea from the Atlantic Ocean.

Because of its geographical conditions, almost all of the country's foreign trade relies on marine transportation, making the role of ports in the Dominican Republic quite important. The Government of the Dominican Republic regards ports as centers of regional development. It encourages the development of each of its ports in an effort to promote suitable distribution of population and balanced regional development, particularly in light of the extremely heavy concentration of population in Santo Domingo, the national capital.

The port of San Pedro de Macoris is located 64 kilometers east of Santo Domingo and faces the Caribbean Sea. The peak volume of cargo handling at this port was about 400,000 tons in the past, ranking fifth in the country. The main export commodities are sugar and molasses.

Although the port of San Pedro de Macoris plays an important role in the marine transportation network of this country, its facilities are becoming superannuated because almost 40 years have passed since their construction. It is urgently necessary to develop the port facilities in order to cope with the increased size of calling vessels and to handle cargo efficiently. So, the Government of the Dominican Republic has requested the Government of Japan to provide technical cooperation in the creation of a plan for developing the port of San Pedro de Macoris which will become a base for promoting the economic development of the Dominican Republic.

2. Objectives of the Study

The objectives of the study are to prepare a Master Plan and a Short-term Development Plan of the port of San Pedro de Macoris and to conduct a feasibility study on the Short-term Development Plan.

The target years for the Master Plan and for the Short-term

Development Plan are 2005 and 1995, respectively.

3. Circumstances

The Government of the Dominican Republic requested the Government of Japan to carry out a feasibility study on the Development Project of the port of San Pedro de Macoris.

In response to the request, the Government of Japan decided to undertake the study and dispatched the Japanese Preliminary Study Team headed by Mr. Fujio Saigusa, to the Dominican Republic from February 10 to February 22, 1986. The team had a series of discussions about the project with the Ministry of Public Works and Communications. The Scope of Work for the Study was agreed upon on February 18, 1986 by Mr. Fujio Saigusa, leader of the Japanese Preliminary Study Team, and Mr. Pedro Delgano Malagon, Minister of Public Works and Communications.

Based on the Scope of Work, JICA organized a study team headed by Mr. Fujio Saigusa, Senior Adviser, OCDI. The study team executed the study including field surveys from September of 1986 to September of 1987.

4. Scope of the Study

In order to achieve the objectives, the Study tasks include the following items.

4.1 Natural conditions

(1) To review existing data on natural conditions
(2) To conduct supplementary field surveys
(3) To analyze the natural conditions

4.2 Present Situation

(1) To investigate the superannuation of port structures
(2) To evaluate the present condition of port facilities and port activities
(3) To examine the bottlenecks blocking efficiency in port activities
(4) To analyze the activities in the hinterland

4.3 Master Plan

The develoment plan of the Port in the target year 2005 is prepared as the Master Plan. The goals of the Master Plan include the following items.

(1) To study the proper role of the Port
(2) To formulate the basic concept of port development
(3) To forecast future demand for the Port
(4) To make a land-use plan of the port area and its vicinity.
(5) To make a basic layout plan of major port facilities
(6) To make a rough cost estimation for the Master Plan

4.4 Short-term Development Plan and Feasibility Study

A feasiblity study is conducted on the Short-term Development Plan which includes the rehabilitation program. The goals of the Short-term Development Plan include the following items.

(1) To forecast future demand for the Port
(2) To identify the facilities to be rehabilitated and/or developed
(3) To define the Short-term Development Plan
(4) To make basic designs of the major port facilities
(5) To make a cost estimation and prepare an implementation program
(6) To conduct economic analysis
(7) To conduct financial analysis
(8) To prepare recommendations on port managment and operation

5. Study Schedule

The study was conducted as follows.

(1)	Presentation of the Inception Report	: Sep.,	1986
(2)	Field Surveys	: Sep.- Nov.,	1986
(3)	Presentation of the Progress Report	: Nov.,	1986
(4)	Preparation of the Interim Report	: Nov.- Mar.,	1986-1987
(5)	Presentation of the Interim Report	: Mar.	1987
(6)	Preparation of the Draft Final Report	: Apr.- Aug.,	1987
(7)	Presentation of the Draft Final Report	: Sep.,	1987
(8)	Preparation of the Final Report	: Sep.- Dec.,	1987
(9)	Submission of the Final Report	: Dec.,	1987

6. Organization of the Study Team

The Study Team is comprised of seven experts and two JICA representatives. Their names, titles and responsibilities are as follows.

Title	Name	Responsibility
Team Leader	Fujio Saigusa	Overall Management
Co-leader	Taketo Fujii	Demand Forecast and Economic Analysis
Specialist	Toshiro Tsutsumi	Port Planning
Specialist	Iwao Toyoda	Financial Analysis, Port Administration and Operation
Specialist	Hisanori Kato	Design and Cost Estimation
Specialist	Ikunosuke Tsurushima	Natural Conditions (Soil Investigations)
Speicalist	Minoru Hanzawa	Natural Conditions (Sounding Survey)
Coordinator	Chisa Hara	JICA
Coordinator	Izumi Ohno	JICA

7. List of Counterparts

NAME	POSITION
Eng. Nelson M. Peña Medina	Chief of port and harbor department of SEOPC
Eng. Nelson Lopez D.	"
Eng. Felipe Medina	Vice-chief of port and harbor department of SEOPC
Eng. Antonio Vidal M.	Engineering adviser of the minister of SEOPC
Eng. José Susana A.	Engineer of port and harbor department of SEOPC
Eng. Alexander T. Holsteinson H.	"
Eng. Ana Logroño	"
Eng. Hamlet A. Jiménez	"
Eng. David Tavares Osses	"
Eng. Rhina Rosario	"
Eng. Adolfo Bienvenidoz	"

PART I OUTLINE OF THE DOMINICAN REPUBLIC AND DEVELOPMENT GOALS OF THE PORT

CHAPTER 1 DEVELOPMENT GOALS OF THE PORT OF SAN PEDRO DE MACORIS

1. Background of the Port Development

(1) The national economic plan and the regional development plans are expected to play a significant role in the economic development of the nation. Regional development plans were formulated for the Southeast, Cibao and Western regions in 1975, 1983 and 1986, respectively.

(2) The government is presently preparing the new national economic plan and a development plan for the Eastern Region.

(3) The comprehensive plan for the natural resources use, industrial development and population distribution will be set in the regional development plan.

(4) The fundamental development goals are comprehended based upon information obtained by the study team during their stay in the Dominican Republic as follows:

1) The national development goals

① The Dominican Republic is one of the largest nations in the Caribbean Sea, and is located in the center of the Caribbean, near the American Continent. Thus, the Dominican Republic is favorably located for marine transportation.

The fundamental national development goals are to realize economic growth developing the nation's resources actively and taking advantage of its good location.

② The major development strategies are identified as follows:

(i) To increase agricultural production and productivity.

(ii) To increase the production of export and import-substitute goods in the manufacturing sector.

(iii) To promote the development and enlargement of free zones.

(iv) To promote tourism through the development of tourist facilities

and the improvement of the relevant infrastructure.

(v) To improve the quantity and quality of housing, water supply and sewage.

(vi) To formulate an energy supply plan through short-term and long-term studies and to make appropriate investments.

(vii) To improve and develop the transportation infrastructure.

2) The regional development goals

① In the population projections of the Dominican Republic, the average rate of annual growth is expected to be 2.0% from 1985 to 2000. This feature is roughly equal to the average for developing countries.

According to the projections, the total population of the Dominican Republic will increase from 6.4 million in 1985 to 9.3 million in 2005. The population will be intensively concentrated in the Metropolitan Area.

The increase of the populationwithout planned economic development will result in urban sprawl atound the Metropolitan Area. On the other hand, local economic activities will stagnate and the land use will be imbalanced.

② Therefore, the fundamental regional development goals are set as follows.

(i) Productivity shall be improved and production shall be increased taking advantage of regional resources.

(ii) Forest resources shall be protected to secure water resources, and the enlargement of the arable land area shall be limited. Therefore, the share of the manufacturing sector in the industrial structure shall be increased and manufactuing shall be promoted to increase the national income.

(iii) Regional development projects shall make a major contribution toward the industrialization and decentralization of the Nation. The development of the transportation infrastructure shall stimulate the growth of industrial activities in local areas, indirectly generate growth in other sectors and help to eliminate the regional imbalances.

(iv) Regional development projects shall be planned making the best

use of the existing infrastructure and considering the integrated land use of the Nation.

2. Development Goals of the Port

The development project of the port of San Pedro de Macoris should be oriented towards the national and regional development goals. The development goals of the Port are defined as follows.

(1) As the Dominican Republic has historically flourished as a center of world trade, and as the nation has traditionally emphasized marine transport, the marine transport sector should be positively developed to continue to play a major role facilitating export of main products and promoting national economic development.

Ports should be improved and developed in accordance with the innovations of marine transport.

The Port of San Pedro de Macoris should be developed to achieve these requirements.

(2) The provision of adequate infrastructures should help to increase the locational advantages for the manufacturing sector and accelerate regional economic development.

In this regard, the development of ports, industrial estates and industrial free zones is in accordance with the national goals of increased manufacturing and economic development.

Specifically, the port of San Pedro de Macoris should help to increase the locational advantages for the manufacturing sector including firms located in the new free zones in the hinterland, and should be especially effective in promoting economic growth.

(3) The population and economic activities of the Dominican Republic are excessively concentrated in the Santo Domingo metropolitan area. It is necessary to promote the decentralization of population and economic activities through the development of local and regional economies.

Ports should be located in such a way as to support this local and regional economic development.

In the hinterland of the port of San Pedro de Macoris, there are trunk

roads which connect the Port to the eastern region and to the metropolitan area.

The development of the port of San Pedro de Macoris will help to promote the development of the eastern region of the Dominican Republic.

CHAPTER 2 OUTLINE OF THE DOMINICAN REPUBLIC

1. Natural Conditions

1.1 Geography

(1) Location

Among the islands which make up the Antilles Archipelago, Hispaniola Island is the second largest. The island is located in a sub-tropical area, between 17° 36'N and 19° 56'N latitude and 68° 19'W and 74° 31'W longitude.

The north side of this island faces the Atlantic Ocean, the east side faces Puerto Rico across the Mona Channel, the south side faces the Caribbean Sea, and the west side faces Cuba across the Vientos Channel to the Northwest and Jamaica across the Jamaica channel to the Southwest.

The Dominican Republic occupies the eastern two-thirds of the island. The nation has an area of 48,442 km^2, a perimeter of 1,963 km, a coastline of 1,575 km and a land border with Haiti of 388 km.

The national capital of the Dominican Republic is Santo Domingo (about 1.6 million population), located on the south coast facing the Caribbean Sea (Fig. I.2.1).

(2) Mountain Ranges

Hispaniola Island has the highest mountain ranges in the Antilles Arichipelago.

The variation and the elevation of the mountains are very remarkable.

The mountain ranges are very rich in minerals and have an obvious touristic potential. They are covered with varied vegetation.

There are five principal mountains groups as follows:

1) Cordillera Central (Central Cordillera)

The Cordillera Central is considered the backbone of the country, and is the principal mountain range on Hispaniola Island and in the Antilles Archipelago.

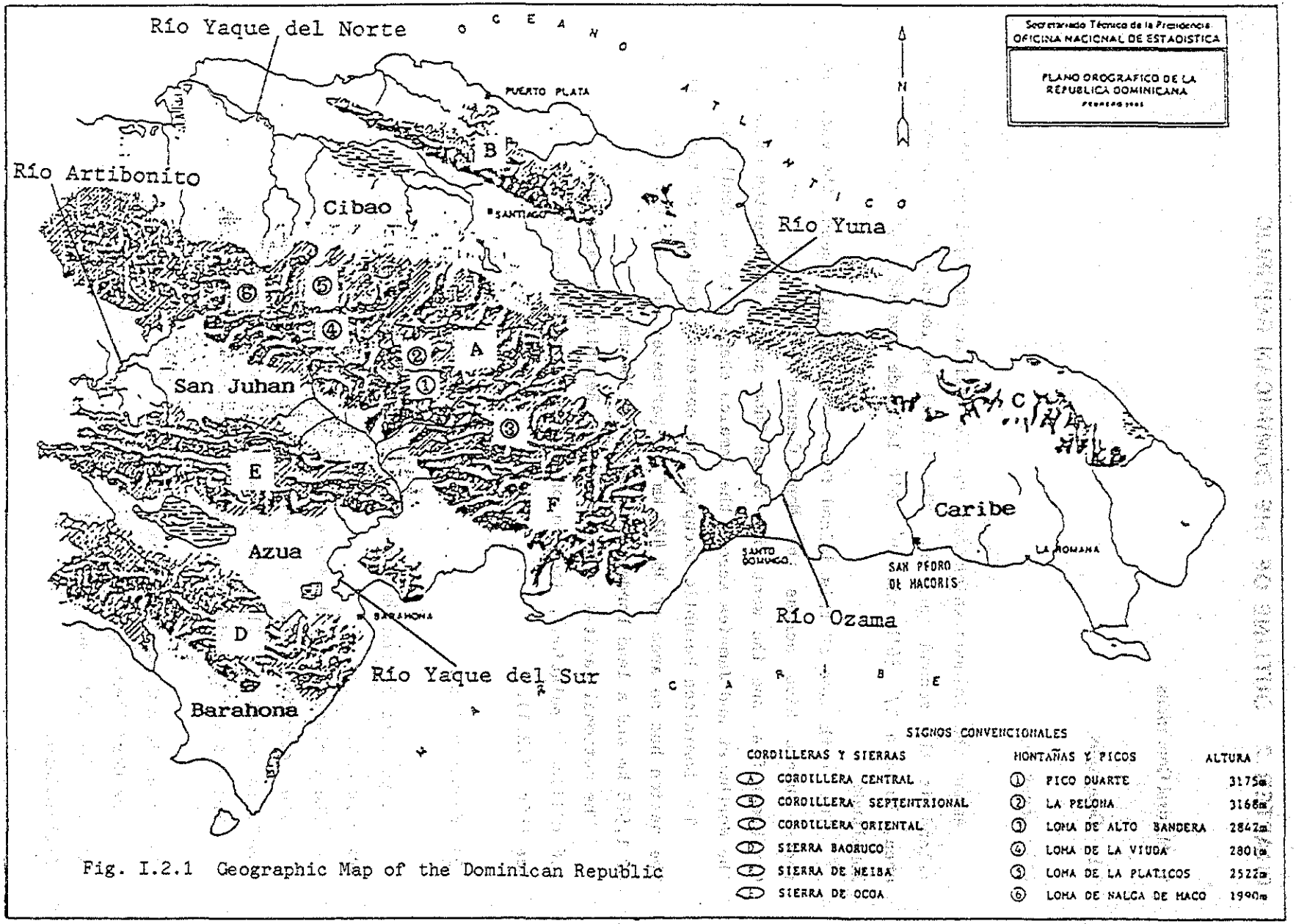


Fig. I.2.1 Geographic Map of the Dominican Republic

The Coordillera Central is 550 km long and 80 km wide. The chain begins in the San Nicolas Peninsula in Haiti and penetrates into the Dominican Republic through two frontier cities, Restauracion and Banica, where the height of the Cordillera comes to about 2,000m. The Cordillera then reaches Pico Duarte (3,175m), curving to the south and forming the Ocoa Cordillera. The height of the Cordillera is 1,500m near the Caribbean Sea coast.

The mountains in the Cordillera Central are abundant in minerals, such as iron, copper and nickel.

2) Cordillera Septentrional (Northern Cordillera)

The Cordillera Septentrional (200km x 40km), also called "Sierra de Monte Cristi," extends from Monte Cristi City (situated in the northwest of the country) to the east-southeast. This chain has three peaks over 1,000m in height. Deposits of marble, amber and lignite are found in the Cordillera. The possibility of cultivation is very limited.

3) Sierra de Neiba

The Sierra de Neiba ranges from the frontier with Haiti to the Yaque del Sur River, with an extension of 100km x 25km on the Dominican side, being the continuation of the Black Mountains (Montanas Negras) of Haiti. The principal peaks are "Neiba" (2,279m), "Aguita Prieta" (1,915m) and "Aguacate" (1,692m). New investigations show that the soil is not suitable for cultivation.

4) Sierra de Bahoruco

This area is characterized by a rugged geological formation and by three peaks with a height of more than 2,000m. The Sierra de Bahoruco extends from the frontier with Haiti to the Caribbean Sea with an extension of 70km x 40km on the Dominican side. The extension is located in the extreme south of the Dominican Republic. The Loma de Toro is the highest peak, with a height of 2,367m. The Sierra is famous for a deposit of bauxite.

5) Cordillera Oriental

This is a branch of the Cordillera Central, with a length of 80km, and is also called "Sierra del Cibao." The Cordillera extends towards Puerto

Rico and runs parallel to the coast of the Atlantic Ocean. The Cordillera Oriental is formed by low peaks with a height of no more than 200m for the most part. The soil is suitable for permanent cultivation. At present, cacao and coffee are cultivated in the northern region of this area.

(3) Basins

There are five main basins in the nation with very fertile soil for agricultural production. These basins are described below.

1) Valle del Cibao

This valley has an area of approximately 6,000km^2 and is located between the Cordillera Septentrional and the Cordillera Central. The soil of its eastern part is very fertile.

2) Valle de San Juan

The second largest valley of the country with an extension of 100km x 20km is situated between the Cordillera Central and the Sierra de Neiba. The quality of the soil is considered very fertile and suitable for cultivation by means of irrigation.

3) Llanura de Azua

This valley extends 70km x 32km, and is located between the Sierra de Neiba and the Sierra de Bahoruco. The valley is unsuitable for cultivation because of dryness, though one part of the area is cultivated by means of irrigation.

4) Llanura de Peninsula de Barahona

Situated on the south side of the Sierra de Bahoruco, where the precipitation is very small, it is considered unsuitable for agricultural production except for cotton cultivation.

5) Llanura Costera del Caribe

This is considered the most distinguished plain of the country, covering an area of 240km x 1,040km, with a high potential productivity and a substantial population. The plain spreads over the south of the country between the mouth of the Ocoa River and the eastern coast of the

island. Two provinces are situated in this plain: La Romana and San Pedro de Macoris, and these comprise the greater part of the nation's sugar producing regions.

(4) Rivers

The principal rivers of the country are: Yaque del Norte Yuna and Yaque del Sur which originate in the Cordillera Central, and Ozama which originates in the Llanura Costera del Caribe and flows into the port of Santo Domingo. The other important river is the Artibonito, the longest river (321km), which runs along the frontier with Haiti.

Irregular climate and precipitation during the year make the rivers varied and unsteady. During the rainy seasons, they often come to overflow, causing high erosion and scouring river-bed materials. On the contrary, in the dry seasons, the flows are reduced and sometimes dry up completely.

The discharge of the rivers in this country is not consistent, and the gradient of the riverbeds is very large. The currents run stormy and with a high velocity, which implies a high hydroelectric potential.

Most of the Dominican rivers are not suitable for navigation. Only canoes and plane bottom boats can navigate there. As an exception, the Ozama River allows large barges to navigate from the river mouth to the cement factories situated near the capital. The Higuamo River, in San Pedro de Macoris, permits the navigation of small boats from the river mouth to the Central Azucarero Angelina (Angelina Sugar Factory).

At the Yuna River, the sailing of plane bottom boats can be observed for a distance of 80km from the river mouth.

The Dominican rivers are generally inadequate for navigation, but many of the principal ports have been constructed at river mouths, including the ports of Santo Domingo, Haina, San Pedro de Macoris and La Romana.

(5) Geology

The central part of the country is composed of an old rock belt, while newer belts are found on both sides. Frequently long faults cut across anticlinal mountain ranges and synclinal valleys.

The origin of the geological structure of the Dominican Republic is

characterized by the fact that most of the sedimentary rocks came from the sea, so the superior stratums of valleys, plains and mountains consist of these "marine rocks." Through geological investigations, it is possible to obtain various information about the vegetation, climate and relief of the zone, including the period and the way of depositation.

From the geological point of view, the rocks in the Country can be divided into two types, i.e. volcanic and calcareous. During various periods of the geological formation, the rocks have been made through volcanic and sedimentary processes.

1.2 Climate

The Dominican Republic has a sub-tropical climate. The average temperature throughout the year is 25 degrees centigrade (77°F) (standard deviation: 1.8). The hottest month is August and January is the coolest.

There are two rainy seasons. The one falls from May to June and the other from September to November. Both dry and rainy seasons are more marked in the southwest than in the north. There are sometimes hurricanes and tropical depressions between June and October, and these cause property damage and loss of life.

The average precipitation throughout the year is 1,400mm, and the precipitation in the western area (around 1,000mmm) is less than in the eastern area.

The principal factors of the Dominican climate are:

(i) High and constant radiation throughout the year. In two seasons the territory receives the sun's rays almost vertically due to the latitude of the country.

(ii) The permanent flow of the Trade Winds that blow with high humidity from the Atlantic Ocean.

(iii) The high and constant temperature of the sea water along Dominican coasts.

(iv) As Hispaniola is surrounded by seas and is located at a considerable distance from neighbouring continents, the Dominican

climate is greatly influenced by the seas.

1.3 Oceanography

(1) Tides

In the Dominican Republic, tides are chiefly diurnal in character, recurring once a day except for some areas.

The tidal range on the northern coast is about three times larger than on the southern coast, although neither is very large (Table I.2.1).

(2) Currents

The offshore currents of the region, including the areas adjacent to the Dominican Republic, are shown in Fig. I.2.2.

These are based on data obtained from the Defense Mapping Agency of the Department of Defense and from the Department of Commerce. Fig. I.2.2 was prepared in May, 1986.

It can be seen that the relatively warm water of the Gulf Stream moves through the West Indies and into the Caribbean Sea at a rate of 1.0 knots or more. The stream then flows into the Gulf of Mexico. The average velocity in the vicinity of the Dominican Republic is 0.7 knots.

In general, the current tends to run slightly slower along the north coast (0.7 knots) than along the other coasts (0.8 knots).

Table I.2.1 Tidal Levels

(In Meters)

PLACE	Lat. N.	Long. W.	MHHW	MLHW	MHLW	MLLW	ML
Puerto Plata	19.48	70.41	+0.5	+0.4	0.0	0.0	0.24
Samana Bay Santa Barbara	19.12	69.20	+0.5	+0.3	0.0	0.0	0.21
Saona Island	18.19	68.40	+0.2	△	△	0.0	0.1X
La Romana	18.25	68.59	+0.2	△	△	0.0	0.09
Santo Domingo	18.28	69.53	+0.2	△	△	0.0	0.12

X : ML Inferred
△ : Tide is usually diurnal
Source : Admiralty Tide Tables, Volume 2, 1986

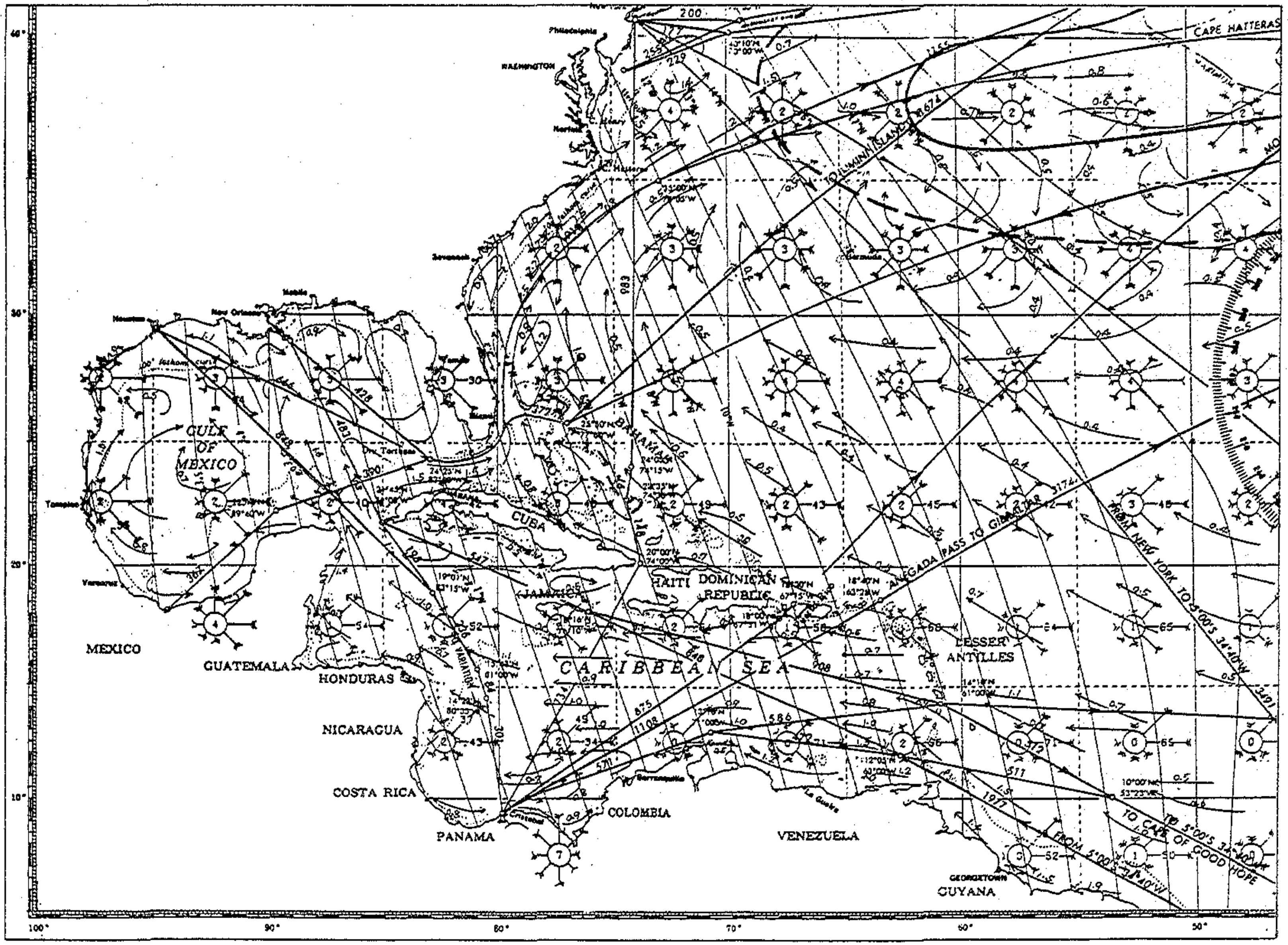


Fig. I.2.2 Oceanographic Map

2. Socioeconomic Conditions

2.1 Political and Administrative Division

Law 5220 was promulgated on 21 September 1959 in order to divide the Dominican territory for administrative purposes.

Article No. 28 classifies the inhabited areas as follows:

(i)	Ciudad (City)		The capitatal of the Dominican Republic, provincial cities and other areas with more than 10,000 inhabitants.
(ii)	Villa (Town)	:	Principal cities of the provinces, municipal districts and other areas with more than 1,000 and less than 10,000 inhabitants.
(iii)	Aldeas (Village)	:	Other areas which do no belong to categories (i) or (ii).

On May 27, 1981, Decree Law 2465 defined two categories, "region" and "sub-region" for the purpose of facilitating the formulation of plans and programs for regional development. The Decree Law divided the country into 3 regions and 7 sub-regions.

According to the sixth national census of population and houses in 1981, there were 41 cities, 269 towns and 432 villages in the country at that time.

A different administrative division was defined in Law 5220. In January of 1986, the country was divided into 1 National District and 29 provinces (Fig. I.2.3).

Secretariado Tecnico de la Presidencia
OFICINA NACIONAL DE ESTADISTICA

PLANO DIVISION POLITICA DE LA
REPUBLICA DOMINICANA
FEBRERO, 1985

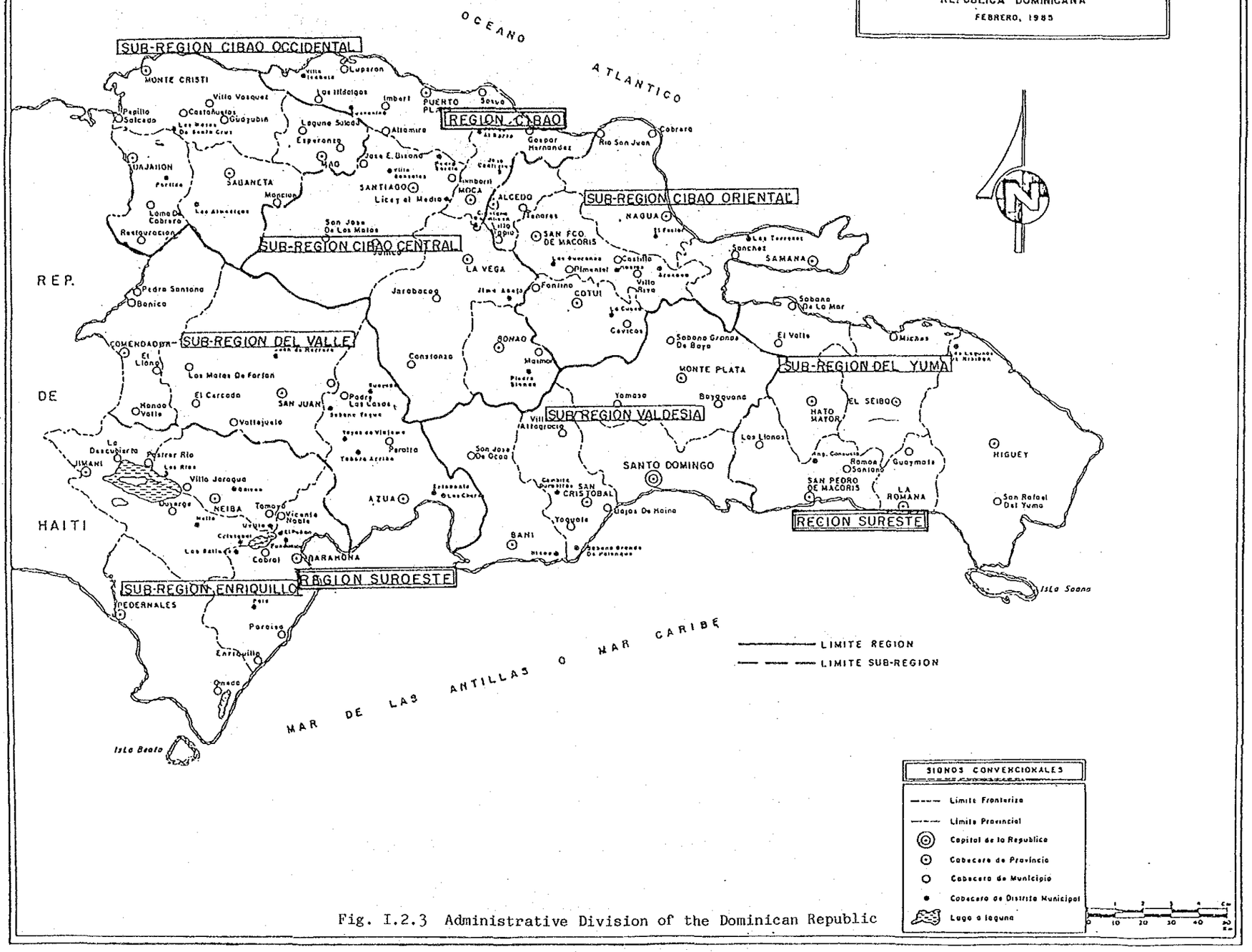


Fig. I.2.3 Administrative Division of the Dominican Republic

2.2 Demographic Profile

(1) Demographic Movement and Population at Present

National population censuses were taken in 1981, 1970, 1960, 1950, 1935 and 1920. The figures obtained from these censuses form the basis for future predictions.

Table I.2.2 shows the population by sex, area and density by zone based on the six censuses.

The census of 1920 counted 894,665 persons. In 1981, there were 5,642,977 persons. During the 60 year interval, the population of the country increased by almost 6.3 times. Also a progressive increase can be seen in the migration from the rural to the urban areas.

Table I.2.3 and Fig. I.2.4 compare the population and the annual increase rate in regions, sub-regions and provinces in 1970 and 1981. The regional distribution pattern has changed appreciably in the course of twelve years.

The region of Cibao, including the fertile valley of Cibao and the north coast, shows a decrease in population share from 45% to 40%. On the other hand, the population share of the southeast region shows a gradual increase from 41% to 48%. The sub-region of Yuma, including the area of the Port of San Pedro de Macoris, has more than 500,000 inhabitants.

Among the 27 provinces, most of the total population is concentrated in the National District (Santo Domingo), which had a population of over 1,500,000 people in 1981. Approximately 27.5% of the National population is concentrated in the National District and the annual growth rate of the district from 1970 to 1981 is 5.41%.

Table I.2.4 and Fig. I.2.5 show the average population density by province in 1981.

Table I.2.2 Population According to Sex, Area and Density of Urban and Rural Areas, Census 1920 - 1981

Date of Census and Zone	Population			Area (Km^2)	Density (Hab/Km^2)
	Total	Sex			
		Men	Women		
1920 (December 24)	894 665	446 384	448,281	50 070.00	17.9
Urban	148 894	...	...	...	...
Rural	745 711	...	...	...	...
1935 (May 13)	1 479 417	750 704	723 713	50 070.00	29.5
Urban	266 565	122 974	143 591	...	...
Rural	1 212 852	627 730	585 122	...	...
1950 (August 6)	2 135 872	1 070 742	1 065 130	48 442.23	44.1
Urban	508 408	233 487	274 921	...	...
Rural	1 627 464	837 255	790 209	...	...
1960 (August 9)	3 047 070	1 535 820	1 511 250	48 442 23	62.9
Urban	(R) 922 090	430 500	491 590	...	...
Rural	(R)2 124 980	1 105 320	1 019 660	...	...
1970 (January 9 and 10)	4 009 458	2 000 824	2 008 634	48 442.23	82.8
Urban	1 593 299	752 653	840 646	...	...
Rural	2 416 159	1 248 171	1 167 988	...	...
1981 (December 11 and 12)	5 647 977	2 830 295	2 817 682	48 442.23	116.6
Urban	2 935 860	1 405 808	1 530 052	...	...
Rural	2 712 117	1 424 487	1 287 630	...	...

Table 1.2.3 Population and Increase Rate in Regions, Subregions and Provinces, Census 1970 - 1981

Region, sub-region and province	Population		Increase Rate (%)
	Census 1970	Census 1981	
Total	4 009 458	5 647 977	2.87
Region of Cibao	1 798 644	2 242 665	1.85
Subregion of Cibao Central	1 005 818	1 306 189	2.19
Espaillat	140 508	164 017	1.30
La Vega	293 573	385 043	2.28
Puerto Plata	186 112	206 757	0.88
Santiago	385 625	550 372	2.98
Subregion of Oriental Cibao	546 500	639 630	1.32
Duarte	200 478	235 544	1.35
María Trinidad Sánchez	97 109	112 629	1.24
Salcedo	89 204	99 191	0.89
Samaná	53 420	65 699	1.74
Sánchez Ramírez	106 289	126 567	1.46
Subregion of Occidental Cibao	246 326	296 846	1.57
Dajabón	51 069	57 709	1.03
Monte Cristi	69 056	83 407	1.58
Santiago Rodrǵuez	49 376	55 411	0.97
Valverde	76 825	100 319	2.24
South-West Region	557 386	719 681	2.14
Subregion of Enriquillo	222 574	271 570	1.67
Bahoruco	66 398	78 636	1.42
Barahona	111 162	137 160	1.76
Independencia	32 632	38 768	1.45
Pedernales	12 382	17 006	2.66
Subregion of Valle	334 812	488 111	2.45
Azua	90 590	142 770	3.82
Elías Pina	53 598	65 384	1.67
San Juan	190 624	239 957	1.93
South-West Region	1 653 428	2 685 631	4.07
Subregion of Valdesia	1 266 237	2 164 994	4.50
National District	813 420	1 550 739	5.41
Peravia	128 144	168 123	2.28
San Cristóbal	324 673	446 132	2.67
Subregion of Yuma	387 191	520 637	2.48
El Seibo	135 156	157 866	1.30
La Altagracia	88 231	100 112	1.03
La Romana	58 341	109 769	5.30
San Pedro de Macorís	105 463	152 890	3.12

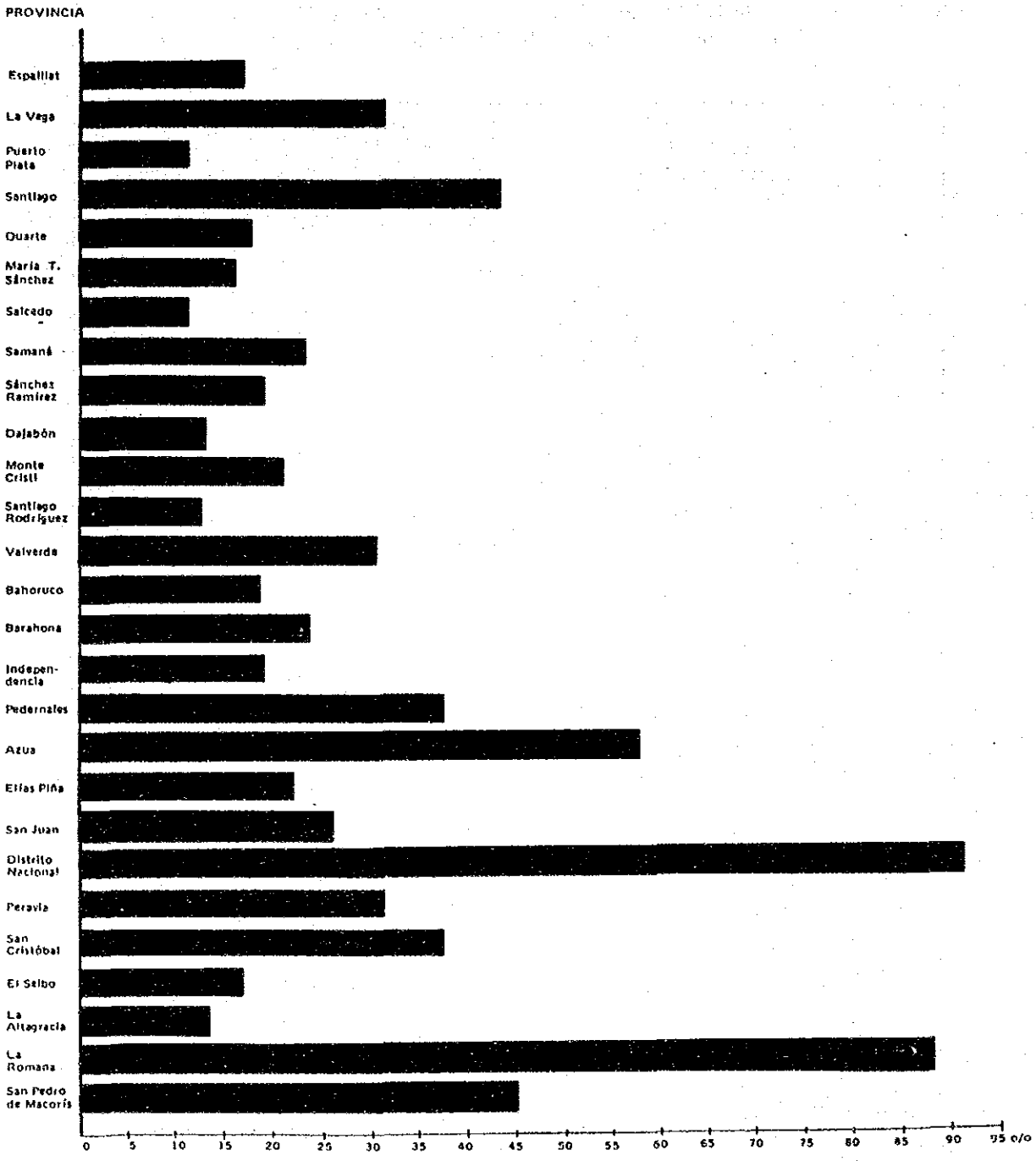


Fig. I.2.4 Increase Rate in Provinces, Census 1970-1981

Table I.2.4 Population, Area and Density, According to Regions, Subregions and Provinces, Census of 1981

Region, sub-region and province	Population	Area (Km^2)	Density (hab/km^2)
Total	5 647 977	a/48 442.23	117
Region of Cibao	2 242 665	19 146.14	117
Subregion of Cibao Central	1 306 189	9 379.54	139
Espaillat	164 017	999.58	165
La Vega	385 043	3 377.09	114
Puerto Plata	206 757	1 880.94	110
Santiago	550 372	3 121.93	176
Subregion of Oriental Cibao	639 630	5 298.64	121
Duarte	235 544	1 292.37	182
Mará Trinidad Sánchez	112 629	1 310.27	86
Salcedo	99 191	553.00	186
Samaná	65 699	988.67	66
Sánchez Ramírez	126 567	1 174.33	107
Subregion of Occidental Cibao	298 846	4 467.96	66
Dajabón	57 709	889.64	65
Monte Cristi	83 407	1 988.54	42
Santiago Rodríquez	55 411	1 020.22	54
Valverde	100 319	569.56	176
South-West Region	719 681	14 511.09	50
Subregion of Enriquillo	271 570	6 731.94	40
Bahoruco	78 636	1 376.48	58
Barahona	137 160	2 527.86	55
Independencia	38 768	1 861.08	21
Pedernales	17 006	966.52	18
Subregion of Valle	448 111	7 779.15	58
Azua	142 770	2 430.11	59
Elías Pina	65 384	1 787.97	37
San Juan	239 957	3 561.07	67
South-East Region	2 685 631	14 622.09	184
Subregion of Valdesia	2 164 994	6 841.94	316
National District	1 550 739	1 476.63	1 050
Peravia	168 123	1 621.88	104
San Cristóbal	446 132	3 743.43	120
Subregion of Yuma	520 637	7 780.15	67
El Seibo	157 866	2 989.47	53
La Altagracia	100 112	3 084.27	33
La Romana	109 769	540.63	203
San Pedro de Macorís	152 890	1 165.78	131

a/ It includes 162.91 km^2, area of islands situated nearby the Dominican Republic.

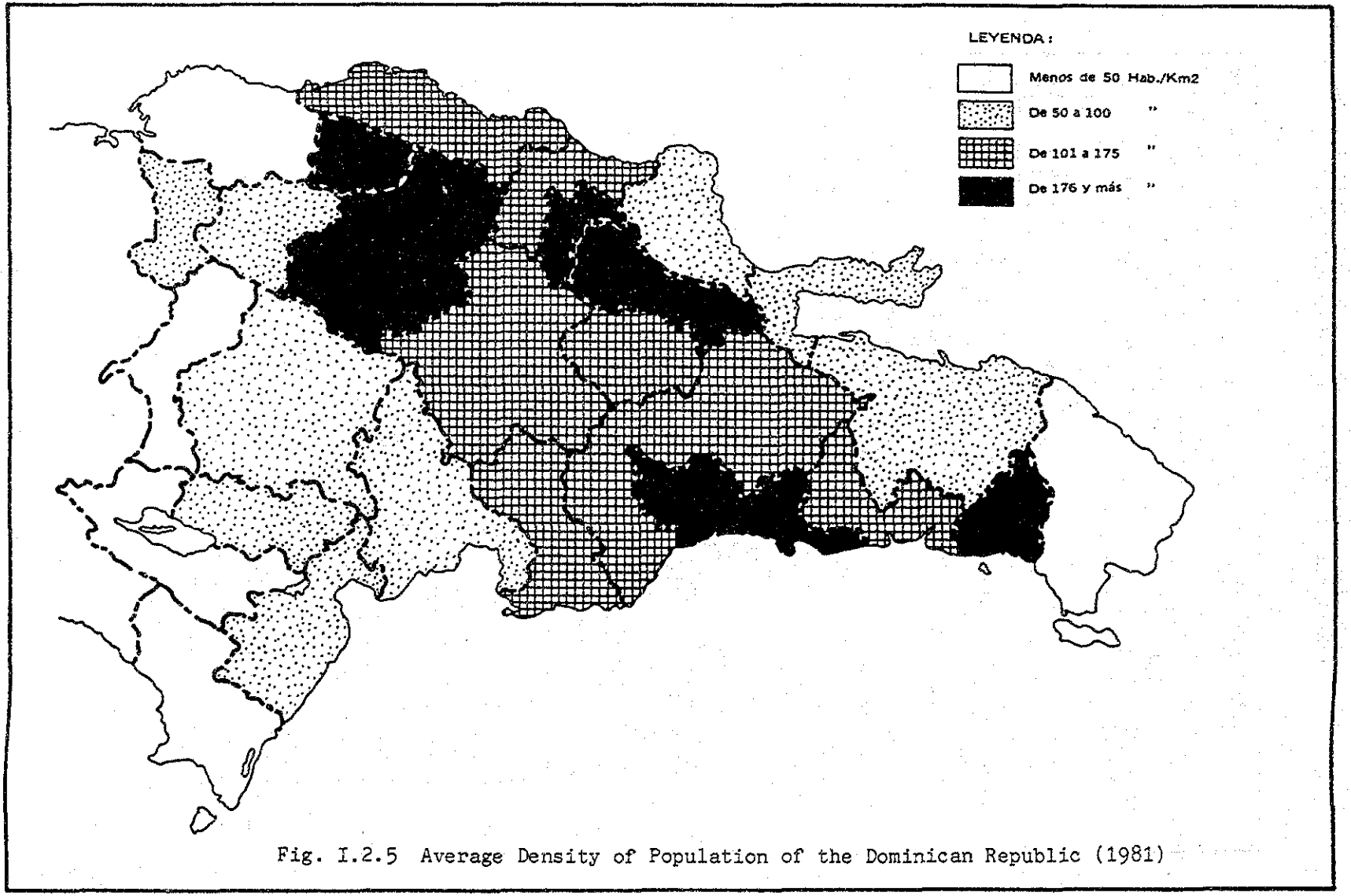


Fig. I.2.5 Average Density of Population of the Dominican Republic (1981)

(2) Population Projections

The population projections of the Dominican Republic in the period 1985-2025 were prepared on the basis of "Republica Dominicana en Cifras 1986." The estimated population is based on the reviewed projections of Oficina Nacional de Estadisticas (ONE).

According to the projections, the total population of the Dominican Republic will increase from 5.7 million in 1980 to 11.4 million in 2025.

The population will thereafter level off, neither increasing nor decreasing after 2025.

In Latin America, where urbanization is progressing rapidly, 70% of the population is concentrated in the cities.

In the Dominican Republic, the urban population outstripped the rural population in the 1980's and this trend will continue.

In the developing countries, the median age of the population is slowly rising.

In the Dominican Republic, the change of the population structure by age is such that the average age of the total population will change from 18.6 in 1980 to 31.6 in 2025 (Fig. I.2.6).

Table I.2.5 and Fig I.2.7 show the estimation of the population in the future, taking into consideration fertility, mortality and migration.

The average rate of annual growth is expected to be 2.2% from 1985 to 1990, 2.0% from 1990 to 1995 and 1.7% from 1995 to 2000.

Table I.2.6 indicates the estimated population by region, sub-region and province. The table shows that the total population will be more than 7,000,000 in 1990, along with increased migration from the rural to the urban areas.

Table I.2.5 Estimated Population of the Country According by Age
1985 - 2000

Age Group	Estimated Population on July 1st							
	1985	1986	1987	1988	1989	1990	1995	2000
	6 416 289	6 560 381	6 707 710	6 858 347	7 012 367	7 169 846	7 915 317	8 620 870
0 - 4	930 628	941 190	951 753	962 313	972 874	983 405	996 573	980 060
5 - 9	828 085	844 655	861 516	878 743	896 272	914 184	967 749	982 044
10 - 14	786 371	793 109	799 785	806 330	812 794	819 122	904 706	957 911
15 - 19	751 307	755 388	759 269	762 980	766 438	769 669	801 257	885 492
20 - 24	665 338	678 026	690 979	704 141	717 577	731 237	748 441	878 795
25 - 29	536 345	557 116	578 547	600 696	623 511	647 041	711 809	728 315
30 - 34	419 751	438 855	458 635	479 051	500 185	522 008	631 341	695 346
35 - 39	337 943	351 479	365 451	379 907	394 793	410 158	511 345	619 698
40 - 44	268 615	279 959	291 677	303 780	316 275	329 184	400 507	500 528
45 - 49	226 221	232 573	239 126	245 818	252 732	259 776	319 317	389 533
50 - 54	187 561	193 044	198 635	204 414	210 316	216 422	249 284	307 477
55 - 59	162 502	165 268	168 066	170 908	173 791	176 719	204 708	236 626
60 - 64	107 239	115 106	123 257	131 690	140 469	149 561	163 452	190 227
65 - 69	85 126	86 994	88 890	90 800	92 784	94 786	133 492	146 852
70 - 74	61 575	63 293	65 078	66 883	68 764	70 675	79 587	113 333
75 and over	61 682	64 326	67 046	69 893	72 792	75 899	91 745	108 633

1/ The figures for 1985, 1990, 1995 and 2000 are cited from the ONE-CELADE projections, revised in 1985.

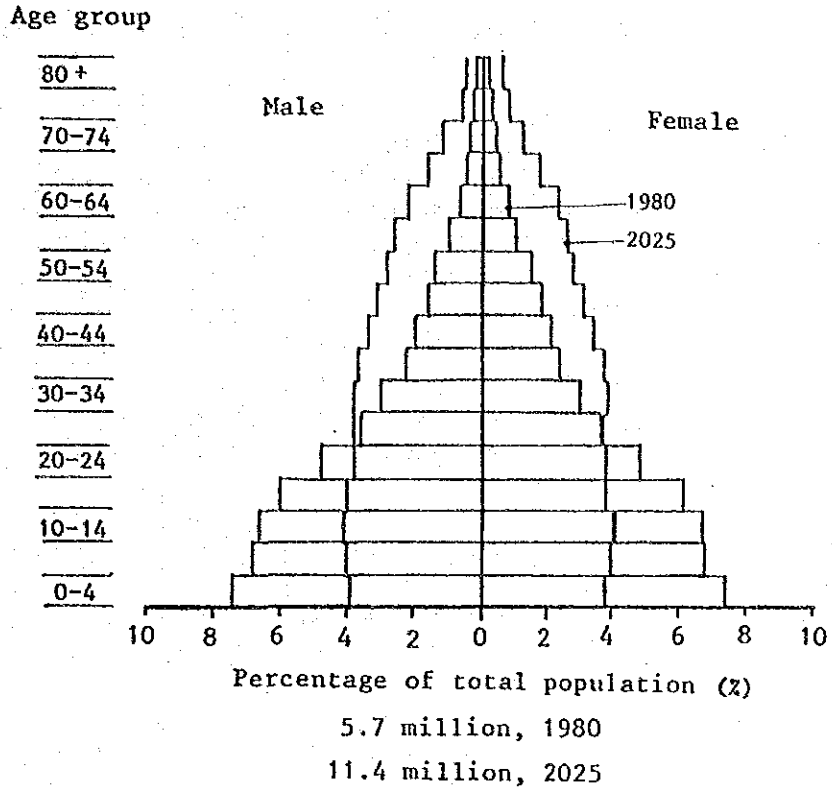


Fig. I.2.6 Distribution of Population by Sex and Age, 1980, 2025

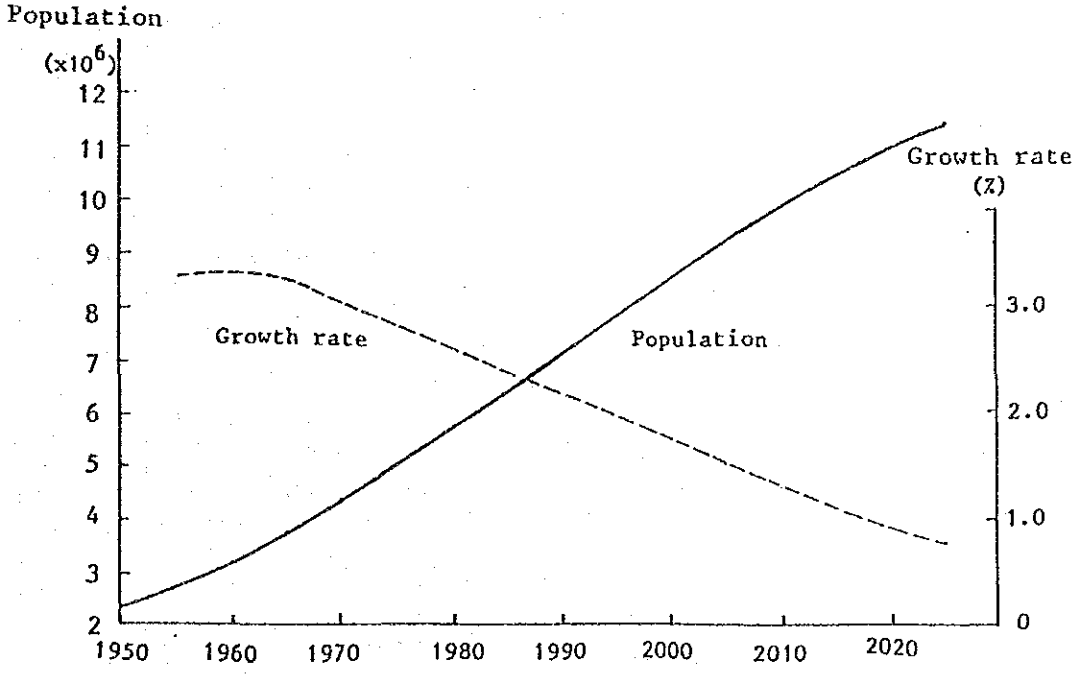


Fig. I.2.7 Estimated Population and Growth Rate

Table I.2.6 Estimated Population by Region, Subregion and Province, 1985 - 1990

Regions, Sub-Regions and Provinces	Estimated Population on July 1st 1/					
	1985	1986	1987	1988	1989	1990
Total	6 416 289	6 560 381	6 707 710	6 858 347	7 012 367	7 169 846
Region Cibao	2 432 453	2 463 687	2 494 630	2 525 238	2 555 454	2 585 229
Sub Region Cibao-Central	1 433 957	1 456 015	1 478 132	1 500 291	1 522 474	1 544 662
Espaillat	174 879	176 486	178 033	179 512	180 919	182 248
La Vega	290 794	293 468	296 039	298 498	300 838	303 047
Monsenor Nouel	119 748	120 848	121 906	122 921	123 884	124 794
Puerto Plata	220 449	222 476	224 425	226 290	228 063	229 738
Santiago	628 087	642 737	657 729	673 070	688 770	704 835
Sub Region						
Cibao Oriental	681 990	688 258	694 287	700 057	705 544	710 726
Duarte	251 143	253 451	255 672	257 796	259 817	261 725
Maria Trinidad Sánchez	120 088	121 192	122 253	123 269	124 235	125 148
Salcedo	105 700	106 732	107 667	108 562	109 413	110 216
Samaná	70 050	70 694	71 313	71 906	72 469	73 002
Sánchez Ramirez	134 949	136 189	137 382	138 524	139 610	140 635
Sub-Region						
Cibao Occidental	316 506	319 414	322 211	324 890	327 436	329 841
Dajabón	61 531	62 096	62 640	63 161	63 656	64 123
Monte Cristi	88 931	89 748	90 534	91 287	92 002	92 678
Santiago Rodríguez	59 081	59 624	60 146	60 646	61 121	61 570
Valverde	106 963	107 946	108 891	109 796	110 657	111 470
Region South East	783 750	794 451	805 087	815 642	826 103	836 453
Sub Region Enriquillo	289 654	292 216	294 777	297 226	299 554	301 754
Barahona	146 243	147 588	148 881	150 118	151 294	152 405
Independencia	41 335	41 715	42 081	42 430	42 763	43 077
Pedernales	18 232	18 299	18 459	18 613	18 758	18 896
Subregion del Valle	494 196	502 235	510 310	518 416	526 549	534 699
Azua	168 634	173 680	178 877	184 229	189 472	195 420
Elias Pina	69 714	70 355	70 971	71 561	72 122	72 651
San Juan	255 848	258 200	260 462	262 626	264 685	266 628
Region South-East	3 200 086	3 302 243	3 407 993	3 517 467	3 630 810	3 748 164
Sub Region de Valdesia	2 611 717	2 701 309	2 794 140	2 890 645	2 990 658	3 094 425
Monteplata	167 731	169 273	170 758	172 176	173 525	174 799
Peravia	179 257	180 905	182 489	184 006	185 448	186 810
San Cristobal	307 946	310 776	313 497	316 103	318 581	320 921
Distrito Nacional	1 956 783	2 040 355	2 127 496	2 218 360	2 313 104	2 411 895
Sub Region del Yuna	588 369	600 934	613 753	626 822	640 152	653 739
El Seibo	93 644	94 595	95 333	96 125	96 879	97 590
Hato Mayor	74 677	75 363	76 023	76 655	77 255	77 823
La Altagracia	106 742	107 721	108 667	109 569	110 431	111 241
La Romana	137 879	143 645	149 652	155 910	162 430	169 223
San Pedro de Macoris	175 427	179 700	184 078	188 563	193 157	197 862

1/ The population by province is used to obtain the total estimated population. In the National District and the Provinces of Santiago, San Pedro de Macoris, La Romana and Azua, the projection was obtained by applying to the corrected population in 1980 the projected increase rate for the period 1980 - 85 and 1985 - 1990, in reference to the rate of the intercensus period 1970 - 1981.

2.3 Economic Profile

(1) Economic Activities

The Dominican Republic is primarily an agricultural country. Until 1975, the export share of agricultural products was approximately 80%. The share of agricultural products reduced gradually from 1975 and in 1985 the share was 47.6% as shown in Table I.2.12. However, because of the share of mineral products increased at the same time the share of primary products was still 79.3% in 1985. In recent years, the Dominican economy has been adversely affected by the worldwide drop in commodity prices. Especially, the price fluctuation of sugar has greatly affected the economy as sugar has frequently accounted for as much as 40% of Dominican exports.

The economic growth rate of the Dominican Republic in the 1960's fluctuated greatly as shown in Table I.2.7, though the average annual growth rate was about 5.0%. In 1961 and 1965 minus growth was recorded because of political disputes.

More than 10.0% annual economic growth was maintained from 1969 to 1973. However, the oil shock in late 1973 greatly affected the Dominican economy. The annual growth rate was reduced by over 50%. Through the first and second oil shocks the country's economic growth rate gradually reduced, and the average growth rates in the late 1970's and early 1980's were respectively 4.7% and 3.2%.

Table I.2.7 Economic Growth in the Dominican Republic

Unit: Thousand Pesos

Year	Current Price	Constant Prices (1970 Basis)		
		Deflator	Constant Prices	Annual Growth Rate
1960	723,630	0.80804	895,538	4.8%
1961	704,197	0.80439	875,442	-2.2%
1962	887,174	0.86608	1,024,360	17.0
1963	1,012,709	0.92801	1,091,269	6.5
1964	1,104,190	0.94840	1,164,262	6.7
1965	956,841	0.93864	1,019,394	-12.4
1966	1,059,505	0.91653	1,155,997	13.4
1967	1,114,599	0.93264	1,195,098	3.4
1968	1,154,568	0.96113	1,201,259	0.5
1969	1,313,544	0.97475	1,347,572	12.2
1970	1,485,538	1.0000	1,485,538	10.2
1971	1,666,458	1.0118	1,647,035	10.9
1972	1,987,419	1.0931	1,818,230	10.4
1973	2,344,787	1.1423	2,052,705	12.9
1974	2,925,670	1.3445	2,175,949	6.0
1975	3,599.153	1.5724	2,288,934	5.2
1976	3,951,506	1.6175	2,442,943	6.7
1977	4,587,112	1.7887	2,564,463	5.0
1978	4,734,447	1.8074	2,619,516	2.1
1979	5,498,785	2.0082	2,738,150	4.5
1980	6,630,727	2.2834	2,903,923	6.1
1981	7,266,875	2.4047	3,021,891	4.1
1982	7,981,280	2.5977	3,072,500	1.7
1983	8,574,827	2.6850	3,193,654	3.9
1984			3,205,500	0.4
1985			3,134,600	-2.2

Note: (1) GDP (Gross Domestic Production) Basis
(2) Figures for 1983 are preliminary.
(3) Figures for 1984 and 1985 are estimated.
(4) Sources: Cuentas Nacionales, Banco Central, Republica Dominicana en Cifras 1986 Vol. XIII, ONE and Boletin Mensual Mayo de 1986, Banco Central

(2) Industrial Structure

As shown in Table I.2.8, the production share of agriculture in 1960 was 24.2%, the share of commercial services was 17.0%, manufacturing accounted for 14.9%, and the government accounted for 9.1% of the gross domestic production. In order to change the dependency on primary

products, the Government attempted to enlarge the manufacturing sector. However, the production share of the manufacturing sector has remained at the same level since the 1970's.

The production share of mining, 1.6% in 1960, reached 6.0% in 1976 due to the initiation of ferronickle production in 1971 and gold-silver alloy production for export in 1975, in addition to the traditional production of bauxite. Gold production was traditional in this country. However, a new mine, which is the second largest gold producer in the western hemisphere, started production and this limited the effects of the economic recession caused by the first oil shock.

In 1985 the production share of manufacturing was 16.9%, the share of commercial services was 15.8% and the government accounted for 10.7% of the gross domestic production. The production share of agriculture which was 24.2% in 1960 was reduced greatly to 10.0% in 1985. The share of mining was reduced from 6.0% in 1976 to 4.3% as bauxite production ceased in 1983.

Table 1.2.8 Gross Domestic Production by Sector

Unit: Thousand Pesos

Item \ Year	1960	1965	1970	1975	1980	1985
Agriculture	(24.2%)	(17.8%)	(15.7%)	(11.5%)	(10.2%)	(10.0%)
	187,923	157,481	232,766	262,793	297,475	314,700
Stock Raising	(7.6)	(7.9)	(6.9)	(5.5)	(5.8)	(6.2)
	59,104	69,877	103,118	125,495	168,186	193,900
Silviculture and Fishing	(1.0)	(1.1)	(0.6)	(0.5)	(0.6)	(0.7)
	7,477	9,415	9,255	11,624	18,537	22,100
Mining	(1.6)	(1.4)	(1.5)	(5.3)	(4.3)	(4.3)
	12,100	12,067	22,742	121,735	124,623	135,000
Manufacturing	(14.9)	(12.7)	(18.6)	(18.7)	(18.3)	(16.9)
	115,294	112,229	275,366	428,496	530,179	531,300
Construction	(2.8)	(3.3)	(4.9)	(6.7)	(6.8)	(6.1)
	21,407	29,259	72,655	152,575	197,548	190,100
Commercial Services	(17.0)	(15.3)	(16.1)	(16.9)	(16.3)	(15.8)
	131,733	135,560	237,612	385,900	473,624	495,900
Transportation	(4.2)	(5.3)	(7.0)	(7.1)	(6.9)	(6.7)
	32,323	46,764	104,500	161,452	199,595	209,300
Communications	(0.5)	(0.6)	(0.7)	(0.9)	(1.1)	(1.3)
	3,847	5,338	10,314	21,165	30,891	41,400
Electric Power Supply	(1.0)	(1.2)	(1.2)	(1.3)	(1.7)	(1.9)
	8,088	10,390	17,538	29,997	49,018	59,400
Finance	(1.7)	(1.8)	(1.8)	(2.1)	(2.4)	(2.8)
	12,948	15,488	27,049	48,689	70,442	88,300
Real Estate	(6.9)	(8.0)	(6.7)	(6.5)	(6.8)	(6.8)
	53,346	70,939	100,166	149,047	198,128	212,200
Government	(9.1)	(15.4)	(10.2)	(8.0)	(9.7)	(10.7)
	70,725	136,038	152,134	183,107	280,259	335,100
Other Services	(7.5)	(8.2)	(8.1)	(9.0)	(9.1)	(9.8)
	59,290	72,032	120,323	206,859	265,418	305,900
Total	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
	775,605	882,877	1,485,538	2,288,934	2,903,923	3,134,600

Note: (1) Figures for 1960 and 1965 are in constant 1962 prices and figures from 1970 are on a 1970 basis.
(2) Figures for 1985 are estimated.
(3) Sources: Cuentas Nacionales and Boletin Mensual Mayo de 1986, Banco Central

(3) Agricultural Production

The share of traditional export crops consisting of sugar cane, tobacco, coffee and cacao has remained very high at more than 40% of the total agricultural production except around the year 1965 when political disputes sharply reduced the export volume.

As shown in Table I.2.9 the production share of export crops in 1983 was 40.1%. The share of cereals was 22.5%, fruits accounted for 9.7%, and vegetables accounted for 9.5% of the agricultural production. Though this country has fertile land and sufficient rainfall, the import of cereals has been necessary. Along with the government policy of increasing cereal production, especially by increased irrigation, the 11.0% cereal share in 1960 has gradually increased. Table 1.2.10 shows the transition of the principal agricultural production on a thousand metric ton basis.

Table I.2.9 Agricultural Production in the Dominican Republic

Unit: Million Pesos

Item \ Year	1960	1965	1970	1975	1980	1983
Cereals	(11.0%)	(18.6%)	(14.1%)	(12.9%)	(19.9%)	(22.5%)
	22.1	30.3	36.6	38.1	66.3	83.3
Export Crops	(46.0)	(34.0)	(43.2)	(42.6)	(41.3)	(40.1)
	92.2	55.3	112.4	125.2	137.5	148.3
Oleaginous Crops	(5.5)	(5.0)	(5.3)	(3.3)	(2.6)	(1.7)
	11.0	8.1	13.9	9.6	8.7	6.3
Textiles	(2.1)	(1.8)	(0.4)	(0.2)	(0.5)	(0.5)
	4.3	3.0	1.1	0.7	1.5	1.8
Legumes	(4.2)	(5.1)	(4.9)		(5.9)	(6.4)
	8.5	8.3	12.8	(15.5)	19.6	23.6
Vegetables	0.9	1.7	5.6	45.5	(9.8)	(9.5)
	1.8	2.8	14.6		32.7	35.0
Tubers, Bulbs and Roots	(11.0)	(11.3)	(11.6)	(11.0)	(8.0)	(7.1)
	22.0	18.4	30.1	32.3	26.7	26.2
Fruits	(15.4)	(17.3)	(10.1)	(10.5)	(9.7)	(9.7)
	30.8	28.2	26.3	30.8	32.1	35.9
Others	(3.9)	(5.2)	(4.8)	(4.0)	(2.3)	(2.5)
	7.8	8.5	12.4	11.9	7.7	9.2
Total	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
	200.5	162.9	260.2	294.1	332.8	369.6

Note: (1) Figures for 1960 and 1965 are in constant 1962 prices and figures from 1970 are on a 1970 basis.

(2) Figures for 1983 are preliminary.

(3) Export crops consist of sugar cane, tobacco, coffee and cacao.

(4) Sources: Boletin Mensual and Memoria 1978, Banco Central

Table I.2.10 Principal Agricultural Production

Unit: Thousand Metric Tons

Item \ Year	1960	1965	1970	1975	1980	1984
Rice (in hull)	114.4	167.4	210.0	218.6	397.7	506.6
Maize	52.1	37.5	45.0	46.1	45.8	83.8
Total Cereals	166.5	204.9	255.0	264.7	443.5	590.4
Sugar Cane	11,747.3	5,197.3	8,654.8	9,337.0	9,055.7	10,271.4
Raw Tobacco	26.6	18.5	22.3	34.6	52.0	27.9
Coffee (in husk)	89.7	86.1	90.6	103.7	120.2	144.2
Cacao	40.9	25.0	37.9	30.9	28.5	34.5
Total Export Crops	11,904.5	5,326.9	8,805.6	9,506.2	9,256.4	10,478.0
Raw Cotton	6.2	5.1	4.1	2.7	5.8	6.2
Kidney Beans	25.5	22.7	25.0	35.7	49.3	67.3
Tomatoes	7.2	6.2	56.7	132.8	152.5	162.3

Note: (1) Figures for 1984 are preliminary.

(2) Sources: República Dominicana en Cifras, ONE

(4) Foreign Trade

1) Export

Export of primary products such as agricultural products, ferronickle and gold-silver alloy and import of energy sources such as crude petroleum and coal, industrial products and basic food items such as wheat and rice, comprise the traditional trade structure of the Country.

As shown in Table I.2.11, after having a positive trade balance in 1975 because of increased sugar prices in the international market, the country has suffered a continuous trade deficit.

The export share of sugar in 1985 was 25.0%, the share of ferronickle was 16.3%, gold-silver alloy accounted for 15.4% and coffee accounted for 12.3% of the total exports as shown in Table I.2.12.

Table I.2.13 shows the main destinations for exports. This country is mainly exporting to American countries and especially the share of the United States is very large. In 1985, the share of the United States was 68.9%, and the share of all American countries was 82.0%.

Table I.2.11 Foreign Trade in the Dominican Republic

Unit: Thousand Pesos

	Export (F.O.B.)		Import (F.O.B.)		
	Amount	Increase Rate	Amount	Increase Rate	Difference
1960	174,429	34.1%	87,023	-26.0%	87,406
1961	143,148	-17.9	69,489	-20.1	73,659
1962	172,434	20.5	129,083	85.8	43,351
1963	174,136	1.0	160,285	24.2	13,851
1964	179,383	3.0	192,373	20.0	-12,990
1965	125,503	-30.0	86,749	-55.0	38,754
1966	136,717	8.9	160,754	85.3	-24,037
1967	156,196	14.2	174.711	8.7	-18,515
1968	163,545	4.7	196,850	12.7	-33,305
1969	183,418	12.2	217,243	10.4	-33,825
1970	213,957	16.6	278,034	28.0	-64,077
1971	240,738	12.5	309,726	11.4	-68,988
1972	348,826	44.9	285,961	-7.7	62,865
1973	443,188	27.1	410,253	43.5	32,935
1974	651,357	47.0	658,168	60.4	-6,811
1975	890,006	36.6	771,814	17.3	118,192
1976	707,959	-20.5	763,586	-1.1	-55,627
1977	782,144	10.5	847,803	11.0	-65,659
1978	676,369	-13.5	860,861	1.5	-184,492
1979	876,797	29.6	1,079.751	25.4	-202,954
1980	963,309	9.9	1,498,397	38.8	-535,088
1981	1,198,738	24.4	1,450,169	-3.2	-251,431
1982	791,365	-34.0	1,255,817	-13.4	-464,452
1983	811,055	2.5	1,279,020	1.8	-467,965
1984	875,877	8.0	1,257,134	-1.7	-381,257
1985	738,500	-15.7	1,285,900	2.3	-547,400

Note: (1) Figures for 1985 are preliminary.

(2) Source: Republica Dominicana en Cifras 1986 Vol. XIII, ONE and figures for 1985 are from Boletin Mensual Mayo de 1986, Banco Central.

Table I.2.12 Composition of Exports (FOB)

(Unit: Thousand US Dollars)

	1960	1965	1970	1975	1980	1985
Raw Sugar, Molasses and others	(52.5%) 91,532	(51.7%) 64,856	(54.3%) 115,935	(66.3%) 592,737	(33.9%) 326,097	(25.0%) 184,675
Coffee	(12.9) 22,574	(16.8) 21,081	(12.1) 25,939	(4.8) 43,234	(8.0) 76,781	(12.3) 90,655
Cacao Beans and Cocoa	(11.3) 19,663	(5.2) 6,499	(9.1) 19,519	(2.8) 24,738	(5.3) 51,071	(7.9) 58,078
Unprocessed Tabacco	(3.9) 6,734	(7.4) 9,294	(6.5) 13,970	(3.9) 34,471	(3.6) 34,794	(2.4) 17,612
Banana	(6.5) 11,246	(2.7) 3,377	(0.2) 318	(0.2) 1,470	-	-
Banxite	(4.6) 8,017	(9.3) 11,678	(7.1) 15,132	(1.9) 16,725	(1.9) 18,513	-
Ferronickle	-	-	-	(11.4) 102,186	(10.5) 101,253	(16.3) 120,715
Gold-Silver Alloy	-	-	-	(3.0) 26,868	(27.0) 259,485	(15.4) 113,611
Other Products	(8.4) 14,663	(6.9) 8,718	(10.7) 22,718	(5.7) 51,366	(9.8) 93,863	(20.7) 153,202
Total	(100.0) 174,429	(100.0) 125,503	(100.0) 213,531	(100.0) 893,795	(100.0) 961,857	(100.0) 738,548

Note: (1) Figures for 1985 are preliminary.
(2) Sources: Boletin Mensual, Banco Central.

Table I.2.13 Main Destinations for Exports (FOB)

Unit: Million Pesos, Million US Dollars

	1960	1965	1970	1975	1980	1985
United States	(60.0%)	(78.9%)	(76.4%)	(63.3%)	(46.2%)	(68.9%)
	104,574	99,073	163,332	565,714	444,623	508,569
ALADI	(0.2)	(0.7)	(0.6)	(0.6)	(9.2)	(0.3)
	416	844	1,311	5,314	88,467	2,490
MCCA	-	(0.6)	-	-	(0.1)	(0.1)
	68	760	15	91	1,103	1,024
Puerto Rico	(2.8)	(1.6)	(5.0)	(3.3)	(6.0)	(7.0)
	4,859	2,043	10,721	29,873	57,958	52,129
Haiti	-		-	(0.2)	(1.0)	(0.8)
	34	-	54	1,632	9,223	5,623
Other American	(1.8)	(1.9)	(1.3)	(1.5)	(1.8)	(4.9)
Countries	3,098	2,366	2,862	13,333	17,251	36,074
American Countries	(64.8)	(83.7)	(83.3)	(68.9)	(64.3)	(82.0)
Total	113,049	105,086	178,295	615,957	618,625	605,909
CEE	(11.8)	(9.2)	(6.8)	(13.3)	(8.3)	(11.0)
	20,620	11,526	14,463	118,568	79,776	81,071
AELC	(13.8)	(1.4)	(1.1)	(6.6)	(21.8)	-
	24,133	1,757	2,312	59,253	209,441	292
Other European	(1.2)	(2.8)	(3.9)	(4.9)	(2.1)	(4.6)
Countries	2,056	3,511	8,447	43,349	19,887	33,864
Asia	(7.1)	(0.8)	(3.0)	(2.1)	(0.9)	(1.9)
	12,389	965	6,365	18,950	8,689	13,640
Other Countries	(1.3)	(2.1)	(1.9)	(4.2)	(2.6)	(0.5)
of the World	2,182	2,658	4,075	37,718	25,439	3,772
Total	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
	174,429	125,503	213,957	893,795	961,857	738,548

Note: (1) Figures for 1985 are preliminary.
(2) Figures except for 1980 and 1985 are million pesos basis.
(3) Sources: Boletin Mensual, Banco Central

2) Import

The peak year of total imports was 1980, as shown in Table 1.2.11. Because of a continuous trade imbalance and accumulated international debt, total imports didn't recover the 1980 level until 1985.

Table I.2.14 shows that the share of combustible minerals increased from 22.6% in 1978 to 34.1% in 1982 because of price increases, mainly the increase of oil prices.

The share of American countries in the total imports is at a high level, and in 1984 it was 84.6% as shown in Table I.2.15.

In 1984, 32.4% of the total imports were from the United States. Imports from Venezuela totaled 26.5% mainly consisting of oil and oil products. The share of Mexico increased enormously from 1981, from 0.6% in 1980 to 8.5% in 1981 and 13.6% in 1982 because of oil imports from Mexico.

Table I.2.14 Composition of Imports (FOB)

(Unit: Thousand Pesos)

	1978		1979		1980		1981		1982	
Grand Total	859,669	100.0%	1,080,433	100.0%	1,498,397	100.0%	1,450,169	100.0%	1,255,817	100.0%
Total of Main Products	709,731	82.6%	892,176	82.6%	1,279,633	85.4%	1,270,249	87.6%	1,105,531	88.0%
Fertilizer	17,477	2.0%	21,111	2.0%	37,402	2.5%	26,978	1.9%	18,783	1.5%
Machinery and Equipment	93,837	10.9%	86,206	8.0%	139,060	9.3%	115,143	7.9%	112,939	9.0%
Rubber	15,297	1.8%	16,891	1.5%	20,642	1.4%	18,763	1.3%	14,962	1.2%
Cereals	39,957	4.6%	33,061	3.1%	64,927	4.3%	93,197	6.4%	42,170	3.3%
Combustible Minerals	194,235	22.6%	305,055	28.2%	434,537	29.0%	476,722	32.9%	427,795	34.1%
Iron and Steel	52,056	6.1%	55,006	5.1%	80,093	5.3%	55,196	3.8%	70,925	5.6%
Animal and Vegetable Oils	30,756	3.6%	54,368	5.0%	45,787	3.1%	42,589	2.9%	61,616	4.9%
Miscellaneous Instruments and Equipment	8,780	1.0%	8,630	0.8%	18,028	1.2%	14,021	1.0%	10,050	0.8%
Milk, Eggs, Honey etc.	7,714	0.9%	10,435	0.9%	15,510	1.0%	13,739	0.9%	8,621	0.7%
Wood	16,424	1.9%	22,301	2.1%	29,779	2.0%	22,749	1.6%	24,323	1.9%
Electrical Equipment	32,351	3.8%	46,766	4.3%	63,373	4.2%	83,702	5.8%	59,867	4.8%
Plastic Materials	25,786	3.0%	34,456	3.2%	43,076	2.9%	37,718	2.6%	35,045	2.8%
Paper	27,289	3.2%	33,158	3.1%	43,276	2.9%	40,139	2.8%	42,102	3.4%
Fish	10,687	1.2%	14.632	1.4%	15,029	1.0%	14,779	1.0%	11,638	0.9%
Medicines	28,843	3.4%	31,983	3.0%	38,925	2.6%	38,929	2.7%	37,910	3.0%
Chemical Products	27,892	3.3%	41,413	3.8%	62,979	4.2%	63,750	4.4%	52,580	4.2%
Oil, Seeds, and Fruits	13,740	1.6%	8,718	0.8%	20,264	1.4%	23,248	1.6%	18,903	1.5%
Cars	66,610	7.7%	67,986	6.3%	106,946	7.1%	88,887	6.1%	55,292	4.4%
Others	149,938	17.4%	188,257	17.4%	218,764	14.6%	179,920	12.4%	150,286	12.0%

Source: Memoria 1982, Banco Central.

Table I.2.15 Main Origins of Imports (FOB)

Unit: Thousand US Dollars

	1980	1981	1982	1983	1984
United States	(42.6%)	(40.3%)	(37.4%)	(34.3%)	(32.4%)
	606,786	583,713	469,867	438,353	407,646
Canada	(2.4%)	(2.5%)	(2.5%)	(2.3%)	(1.6%)
	34,918	37,107	32,466	29,694	19,222
North America	45.0%	42.8%	40.0%	36.6%	34.0%
Total	641,704	620,820	502,333	468,037	426,868
Mexico	(0.6%)	(8.5%)	(13.6%)	(11.9%)	(11.7%)
	9,102	123,969	570,659	151,816	147,660
Venezuela	(21.1%)	(17.7%)	(17.6%)	(21.0%)	(26.5%)
	301,517	256,450	221,045	268,844	332,726
Others	(2.2%)	(2.2%)	(1.9%)	(2.9%)	(4.0%)
	29,576	31,403	24,616	36,834	50,100
ALADI Total	23.9%	28.4%	33.1%	35.8%	42.2%
	340,195	411,822	416,320	455,494	530,486
MCC Total	0.8%	1.0%	1.1%	0.9%	0.6%
	11,588	14,050	13,301	11,665	7,294
Haiti	(0.2%)	(-)	(0.2%)	(0.9%)	(0.8%)
	3,246	537	2,433	11,028	10,585
Puerto Rico	(2.3%)	(1.9%)	(1.7%)	(1.9%)	(1.7%)
	32,336	27,758	21,363	24,640	21,869
Others	(5.0%)	(8.2%)	(5.1%)	(5.1%)	(3.3%)
	71,989	19,356	63,782	65,701	40,564
Other American	7.5%	10.2%	7.0%	7.9%	5.8%
Countries Total	107,571	147,651	87,578	101,369	73,018
American Countries	77.2%	82.4%	81.3%	81.2%	82.5%
Total	1,101,058	1,194,343	1,019,532	1,038,565	1,037,666
Others	22.8%	17.6%	18.8%	18.8%	17.5%
	324,636	255,826	236,285	240,455	219,468
Grand Total	100.0%	100.0%	100.0%	100.0%	100.0%
	1,425,694	1,450,169	1,255,817	1,279,020	1,257,134

Note: (1) The figures for 1984 are preliminary.

(2) Source: Boletin Mensual, Banco Central

3. Transportation

3.1 Maritime Transportation

Maritime transportation had a 99% share of the international trade cargo volume in 1983. The maritime transportation in 1984 was about 5.7 million tons consisting of 2.0 million tons of export and 3.7 million tons of import as shown in Table I.2.16. The peak year of the total cargo volume was 1979 and the total cargo volume never really recovered until 1984 in spite of an increase of the import volume.

There are ten international ports, four domestic ports and one tourist port in the country. As shown in Table I.2.17, about 30% of the export cargo and 80% of the import cargo in 1984 were handled at the Port of Haina.

3.2 Land Transportation

(1) Railway Transportation

Railways are owned by the Government, public companies and private companies, and were used for transportation of agricultural products such as sugar cane and bananas and also for the transportation of ferronickle, rock salt, and other minerals. The one national railway between Sánchez and La Vega was constructed for transportation of agricultural products and carries very little cargo.

Railways operated by public and private companies are almost all exclusive use lines for the transportation of sugar and sugar cane from sugar cane fields to sugar factories and loading ports.

(2) Road Transportation

The total road length in 1982 is 6,783 kms., consisting of 1,054 km of highway, 2,367 km of local highway and 3,361 km of local road. Over 50% of the road is paved.

Concerning land transportation between the Dominican Republic and the Republic of Haiti, the trade cargo is transported through Dajabon and Jimani. However, the trade cargo volume is very small as shown in Table

I.2.16.

3.3 Air Transportation

There are four international airports and sixteen domestic airports in this country. These four international airports are located in Las Americas in the suburbs of Santo Domingo, Puerto Plata, La Romana and Santiago. Over 90% of the air trade cargo is handled at Las Americas Airport.

Table I.2.16 International Trade Cargo Volume by Transportation Mode

(Unit: Metric Tons)

	1975	1977	1978	1979	1980	1981	1982	1983	1984
(1) Export	2,773,477	2,766,325	2,720,380	2,744,623	2,448,103	2,263,932	2,024,656	1,755,260	2,038,716
(2) Import	2,236,405	2,995,853	2,966,366	3,320,542	3,546,426	3,321,000	3,198,214	3,637,016	3,714,927
Maritime Total	5,009,882	5,762,178	5,686,746	6,065,165	5,994,529	5,584,932	5,222,870	5,392,276	5,753,643
(1) Export	6,734	12,171	9,000	13,460	13,972	124,376	11,619	12,713	1,383
(2) Import	204	1	6	1	2	10,270	5	88	11
Land Total	6,968	12,172	9,006	13,461	13,974	134,646	11,624	12,801	1,394
(1) Export	13,366	23,793	22,555	21,010	20,204	19,882	20,561	23,441	
(2) Import	16,077	14,852	15,966	17,863	17,788	15,360	14,687	14,117	
Air Total	29,443	38,645	38,521	38,873	37,992	35,242	35,248	37,558	
(1) Export	2,793,577	2,802,289	2,751,935	2,779,093	2,482,279	2,408,190	2,056,836	1,791,414	
(2) Import	2,252,686	3,010,706	2,991,338	3,338,406	3,564,216	3,346,630	3,212,906	3,651,221	
Grand Total	5,046,263	5,812,995	5,734,273	6,117,499	6,046,495	5,754,820	5,269,742	5,442,635	

Source: Output Data from Computer, ONE

Table I.2.17 International Trade Cargo Volume by Main Port in 1984

(Unit: Metric Tons)

	Export	Import	Total
Santo Domingo	(6.3%) 128,257	(12.9%) 478,865	(10.6%) 607,122
Andrés, Boca Chica	0	(1.1%) 40,453	(0.7%) 40,453
Barahona	(3.7%) 75,368	- 66	(1.3%) 75,434
Cabo Rojo (Pedernales)	(21.7%) 442,498	- 10	(7.7%) 442,508
Haina	(30.2%) 615,004	(79.5%) 2,953,124	(62.0%) 3,568,128
La Romana	(20.7%) 422,877	(0.1%) 3,463	(7.4%) 426,340
Puerto Plata	(4.3%) 88,286	(3.2%) 119,096	(3.6%) 207,382
San Pedro de Macoris	(13.0%) 264,744	(3.2%) 119,383	(6.7%) 384,127
Other Ports	(0.1%) 1,682	- 467	- 2,149
Total	(100.0%) 2,038,716	(100.0%) 3,714,927	(100.0%) 5,753,643

Source: Output Data from Computer, ONE

CHAPTER 3 PORT ACTIVITY IN THE DOMINICAN REPUBLIC

1. General Outlook

There are 15 ports in the Dominican Republic: 7 ports are on the north coast facing the Atlantic Ocean, and 8 are on the south coast facing the Caribbean Sea. 4 of the 7 north coast ports are located along Samana Bay and thus experience relatively calm sea conditions.

Starting from the northwest and moving clockwise around the coast, the Dominican ports are:

Manzanillo, Luperon, Puerto Plata, Samana, Duarte, Sanchez, Sabana de la Mar, La Roman, San Pedro de Macoris, Boca Chica, Domingo, Haina, Azua, Barahona and Cabo Rojo.

The port locations are shown in Fig. I.3.1. The 15 ports are classified as international, domestic and tourist ports.

There are 10 international ports. They are Haina, Santo Domingo, San Pedro de Macoris, Puerto Plata, Boca Chica-Andres, La Romana, Azua, Brahona, Cabo Rojo and Manzanillo.

There are 4 domestic ports: Samaná, Luperón, Sabana de la Mar, and Sánchez, and only one tourist port, Duarte.

Among the international ports, Santo Domingo, Puerto Plata and San Pedro de Macoris ports are also used as tourist ports. Perto Plata regularly accomodates Caribbean cruise ships, and San Pedro de Macoris has regular ferry services transporting many passengers and vehicles.

Samana and Sabana de la Mar are domestic ports connected by boat ferries. Since there is no overland communication between the Province of Samana and Hato Mayor, maritime transportation is the only communication means.

Luperon is a small, new, local port.

The other domestic port, Sanchez, is less used because the port facilities are in bad condition.

Sans Souci at the port of Santo Domingo is a srather new tourist port area specially planned to receive Caribbean Cruisers.

The tourist port of Duarte has not been used frequently lately despite the excellent condition of its port facilities.

The port of Cabo Rojo is a private port owned by Ideal Dominicana,

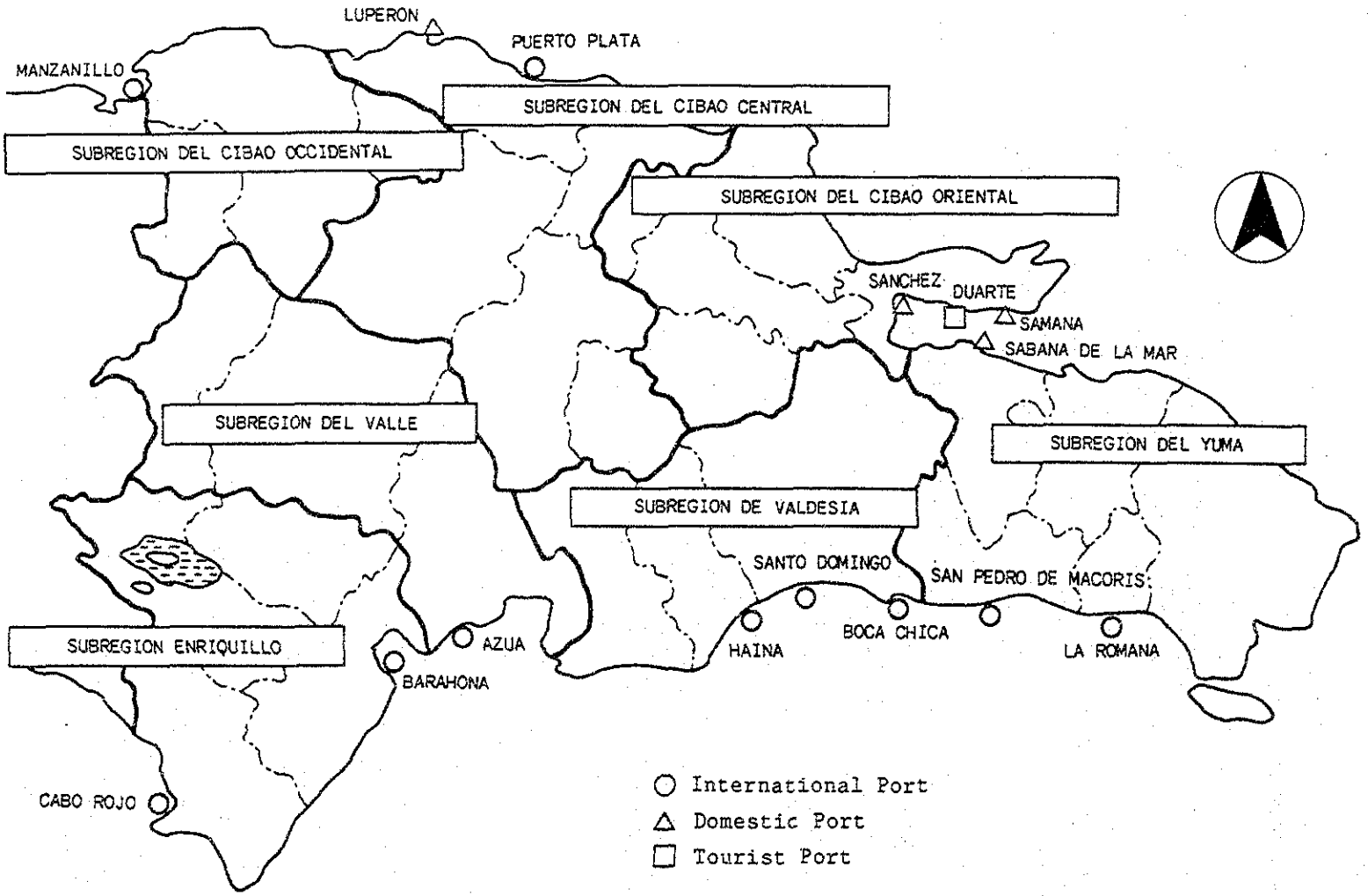


Fig. I.3.1 Location Map of Ports

S.A. and the port of La Romana has a private port area owned by Central Romana Corportation.

Cabo Rojo is specially equipped for exporting gypsum rock and bauxite.

The port of La Romana is specialized for sugar export and properly equipped for bulk sugar loading.

2. Port Cargo Traffic and Facilities

Port traffic statistics are published by ONE, CEDOPEX and Direccion General de Aduana.

ONE has computerized import and export data which are published annually in "Foreign Trade" and "Maritime and Air Cargo Movenment." "Foreign Trade" presents the volume and the value of cargo by commodity at each port, and "Maritime and Air Cargo Movement" presents ship records, including number of ships, gross tonnages and flag.

CEDOPEX annually publishes "Statistics Bulletin" which presents the export volume and value by commodity at each port.

Direccion General de Aduana prepared an "Annual Report" which includes the amount of port tax income, the number of ship calls and the cargo volume and value.

The cargo traffic at the major ports from 1970 to 1983 according to "Maritime and Air Cargo Movement" is shown in Table I.3.1 and Figs. I.3.2 - I.3.4.

The 1983 data is the most recent.

In recent years, the national total volume varies from five to six million tons, and since 1981 the total cargo volume has been decreasing slightly. The ratio of foreign trade to domestic trade is about 35 to 1. Foreign trade is predominant. In foreign trade, the volume of import cargo is gradually increasing while exports are decreasing.

The ports of Haina, Santo Domingo and Boca Chica which are in the metropolitan area handle ove 70% of the total cargo volume. General cargo in both containerized and break forms is mainly handled at these ports.

Other ports handle export cargo which is produced nearby.

The main export cargoes are as follows:

Barahona : Sugar, molasses and gypsum

Cabo Rojo : Gypsum rock

Table I.3.1 Cargo Traffic at the Major Ports

CARGO THROUGHPUT AT MAJOR PORTS IN DOMINICAN REPUBLIC

NAME OF PORT	CARGO	YEAR 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
BARAHONA	IMPORT	4.658	765	1.149	652	52	0	102	237	100	2.082	82	4.280	450	0
	EXPORT	165.464	302.182	241.650	341.663	377.496	252.347	217.556	221.923	289.827	276.184	265.014	183.511	133.604	122.657
	DOM. INB	0	0	0	0	0	0	0	0	0	0	0	0	0	238
	DOM. OUTB	7.600	35.905	14.863	5.365	1.995	23.381	18.624	26.290	13.234	23.644	26.848	23.200	12.000	15.500
	TOTAL	178.722	338.852	257.662	347.680	379.543	275.728	236.282	248.450	303.161	301.910	291.944	210.991	146.054	138.395
CABO ROJO	IMPORT	3.817	22.405	1.912	3.450	3.458	116	71	152	212	170	725	71	54	97.901
	EXPORT	1.317.313	1.354.879	1.410.595	1.454.410	1.595.247	1.044.073	830.283	819.750	1.014.294	878.927	913.446	682.749	405.436	171.065
	DOM. INB	0	0	1.729	21	57	61	83	56	0	0	0	0	0	0
	DOM. OUTB	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1.321.130	1.377.284	1.414.236	1.457.881	1.598.762	1.044.250	830.437	819.958	1.014.506	879.097	914.171	682.820	405.490	268.967
HAINA	IMPORT	0	0	450.295	1.322.079	1.816.272	1.960.025	1.847.870	2.116.059	2.109.386	2.333.740	2.467.929	2.246.578	2.481.986	2.541.988
	EXPORT	0	0	266.976	545.759	611.336	567.520	599.494	660.093	555.061	555.912	459.344	764.582	541.399	571.504
	DOM. INB	0	0	58.014	57.748	23.386	3.093	49.387	37.414	58.935	55.114	30.736	14.554	13.227	19.274
	DOM. OUTB	0	0	5.889	98.447	4.471	34.795	62.153	35.204	0	0	18	3.571	0	0
	TOTAL	0	0	781.174	2.024.033	2.455.467	2.571.433	2.558.904	2.849.370	2.721.382	2.944.766	2.958.027	3.029.285	3.036.622	3.132.766
LA ROMANA	IMPORT	35.262	48.254	98.474	49.048	82.780	51.348	56.413	48.622	96.288	85.430	47.151	29.192	10.363	8.410
	EXPORT	377.742	420.985	517.766	393.348	324.334	385.989	425.102	364.039	407.689	472.424	361.518	443.629	439.497	448.956
	DOM. INB	221	0	674	8.458	2.071	0	0	347	463	191	1.220	356	3.103	1.285
	DOM. OUTB	17.440	0	0	2.649	0	0	268	0	0	0	0	22	7.049	0
	TOTAL	430.665	469.239	617.114	453.501	389.185	417.337	481.781	413.008	504.640	558.045	409.889	473.199	460.012	458.651
MANZANILLO	IMPORT	0	0	1	1.617	3.174	2.696	834	3	0	228	244.894	61.792	1.843	964
	EXPORT	3.189	696	15.382	21.036	28.094	22.557	23.502	16.181	0	4.712	23.387	22.265	7.171	1.250
	DOM. INB	0	1.931	3.872	0	0	0	0	0	0	0	2.298	0	0	0
	DOM. OUTB	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	3.189	2.627	19.255	22.653	31.268	25.253	24.336	16.184	0	4.938	270.579	84.077	9.014	2.214
PUERTO PLATA	IMPORT	32.359	23.832	64.013	65.215	57.291	51.881	144.530	221.071	97.530	83.334	91.595	67.279	19.541	117.841
	EXPORT	41.163	93.409	86.267	81.076	83.648	60.832	73.967	62.201	44.604	68.699	39.993	68.994	64.777	91.182
	DOM. INB	2	12.315	4.000	0	0	0	0	1.790	0	0	0	0	0	0
	DOM. OUTB	0	21.529	1.077	3.153	0	0	0	0	0	10	5.639	7.914	0	0
	TOTAL	73.524	151.085	155.357	149.444	140.939	112.493	218.497	285.062	142.134	152.043	137.227	144.187	84.318	209.023
SAN PEDRO	IMPORT	696.217	60.793	97.442	96.494	77.500	79.263	55.202	93.284	48.937	76.317	117.453	78.421	72.816	96.297
DE	EXPORT	226.416	264.715	282.794	341.084	132.651	251.441	168.216	232.857	258.529	290.808	264.591	260.489	291.421	239.076
MACORIS	DOM. INB	59	181	7.360	2.704	14.499	3.579	33.905	9.716	0	2.363	12.555	11.500	6.500	16.381
	DOM. OUTB	31.741	111.509	59.432	44.673	199.904	53.085	14.539	0	0	0	0	0	0	0
	TOTAL	954.433	437.198	447.028	484.955	424.554	378.368	271.862	335.857	307.466	369.488	394.599	350.410	370.737	351.754
SANTO	IMPORT	1.421.815	1.828.643	1.483.671	1.033.800	864.954	922.830	890.927	814.769	719.177	685.026	738.119	570.749	597.767	562.695
DOMINGO	EXPORT	507.780	571.732	313.658	86.563	69.454	31.368	57.098	66.010	73.869	90.308	81.114	127.264	113.972	88.075
	DOM. INB	23.183	37.444	19.345	2.380	7.616	14.535	17.792	26.290	11.734	90.809	68.337	109.271	103.745	81.793
	DOM. OUTB	4.463	1.416	12.230	1.307	2.670	1.301	1.273	17.058	0	536	295	951	1.674	0
	TOTAL	1.957.241	2.439.235	1.828.904	1.103.850	944.394	970.130	967.090	925.027	804.780	866.739	887.865	808.235	817.158	732.563
YEAR TOTAL	IMPORT	2.219.200	1.985.881	2.198.957	2.572.154	2.885.181	3.004.944	2.995.996	3.294.197	3.071.630	3.268.651	3.713.915	3.063.257	3.184.820	3.426.096
(NATIONAL	EXPORT	2.642.856	3.009.098	3.135.088	3.244.930	3.222.260	2.596.125	2.395.218	2.444.553	2.704.073	2.642.810	2.411.071	2.554.652	1.999.999	1.733.766
TOTAL)	DOM. INB	24.147	51.872	95.195	71.311	47.630	21.209	101.107	75.614	69.132	148.537	115.145	135.680	126.585	118.972
	DOM. OUTB	61.868	170.359	93.491	155.594	209.040	112.651	96.855	78.552	13.234	24.190	32.799	35.659	20.723	15.500
	TOTAL	4.948.069	5.217.210	5.520.731	6.043.998	6.364.111	5.734.989	5.589.236	5.892.916	5.858.069	6.084.194	6.272.931	5.789.248	5.332.127	5.294.334

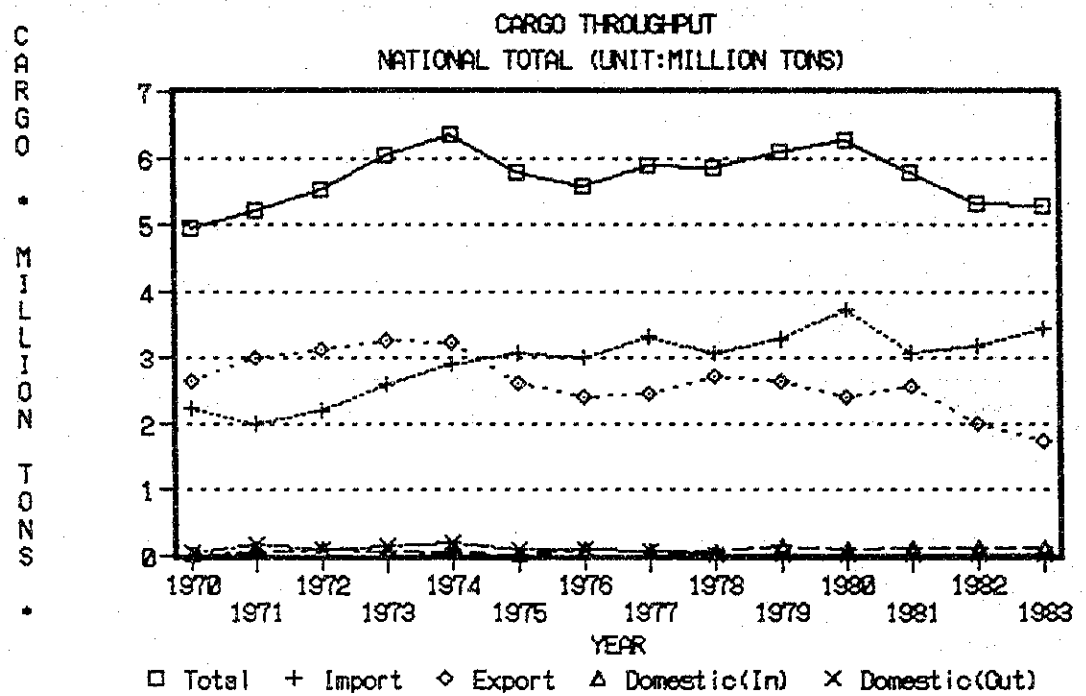
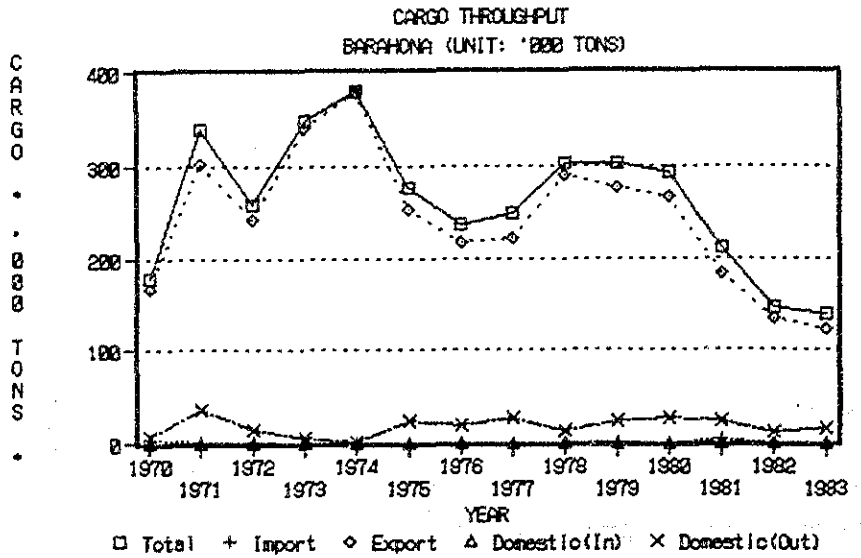
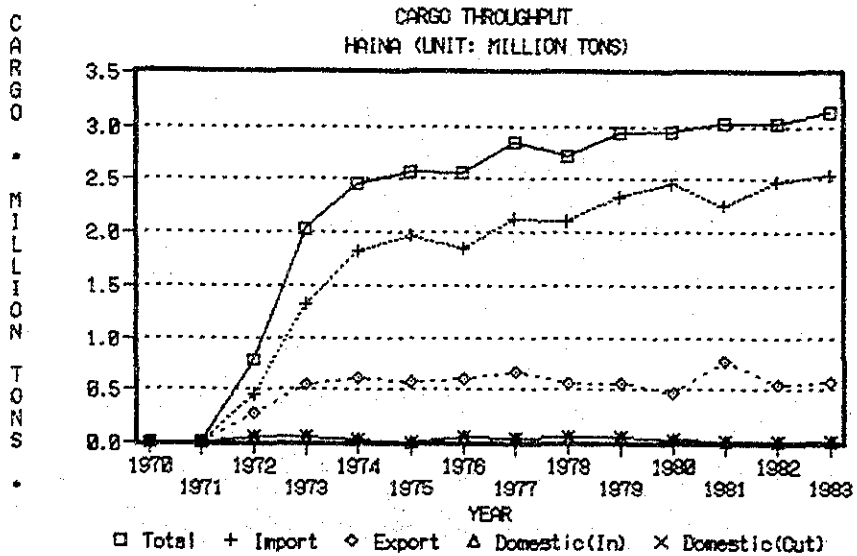
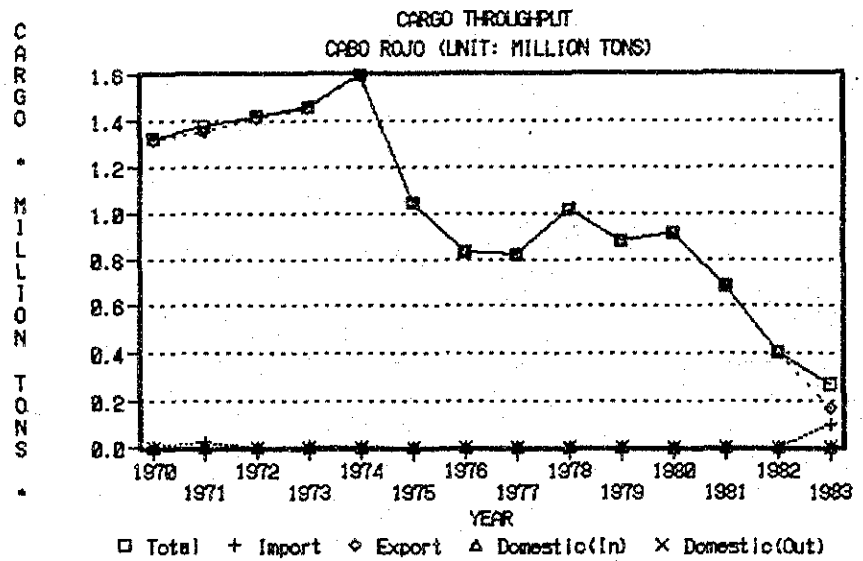


Fig. I.3.2 Cargo Throughput (National Total)







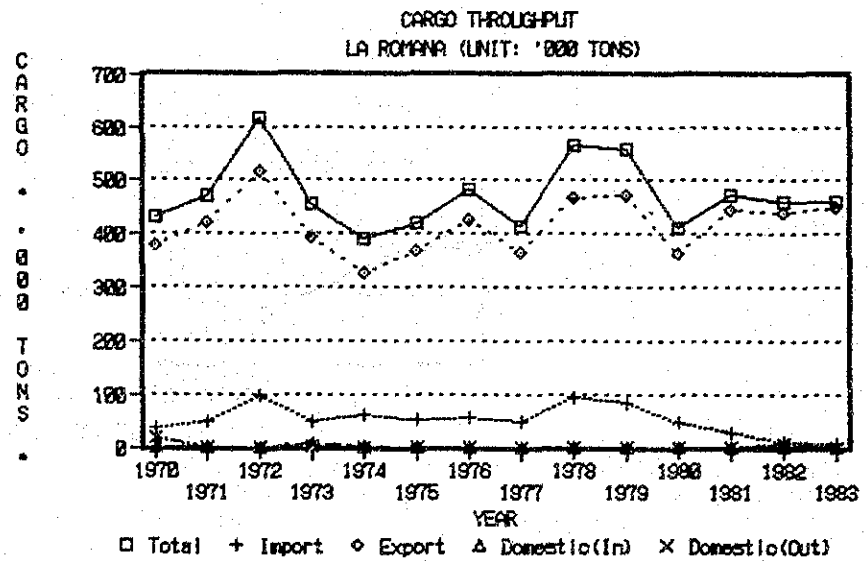
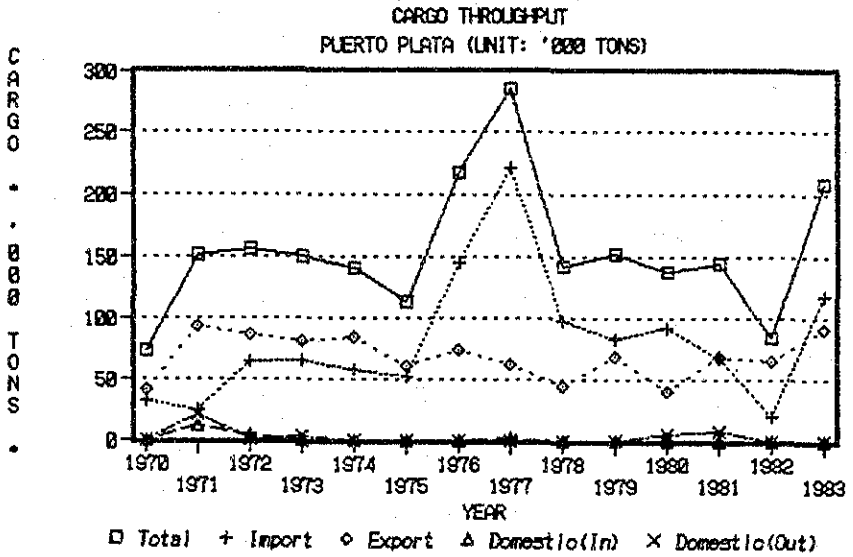
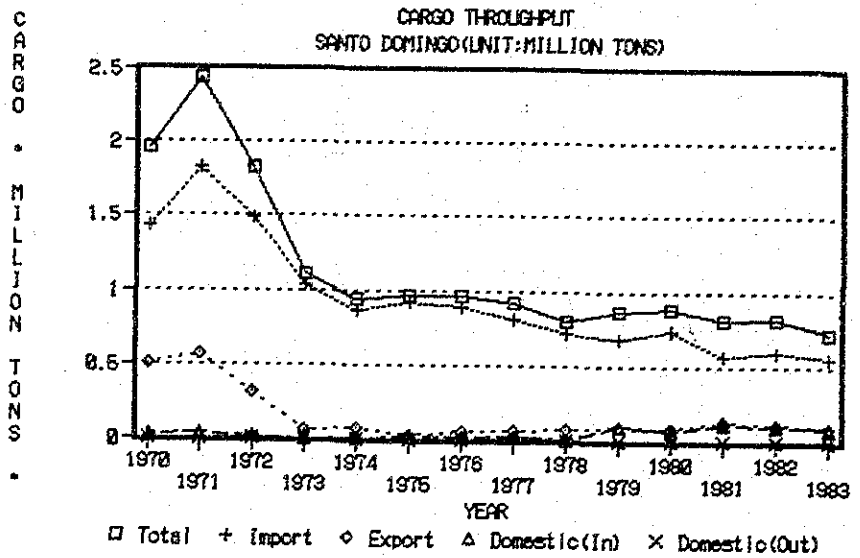


Fig. I.3.3 Cargo Throughput (1)





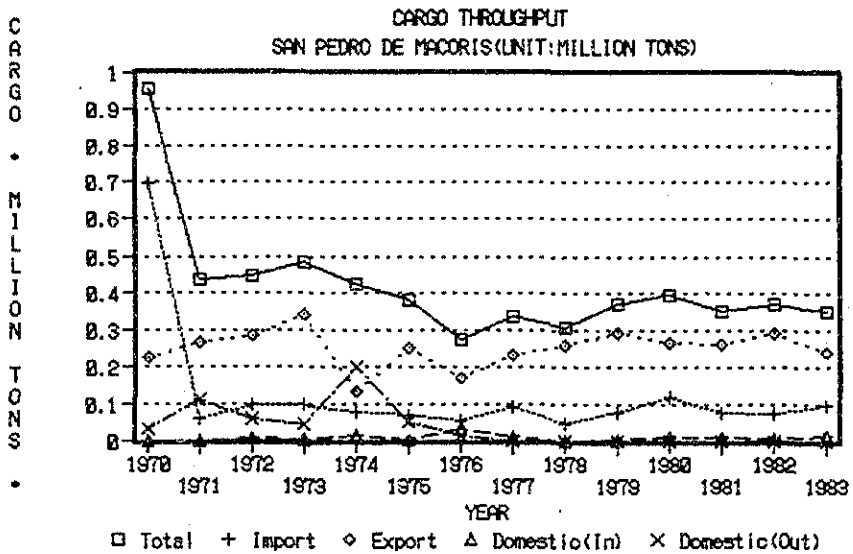


Fig. I.3.4 Cargo Throughput (2)

La Romana : Sugar and molasses

Manzanillo : Previously bananas, but now miscellaneous goods

Puerto Plata: Sugar, tobacco, other agricultural products and cement.

San Pedro de Macoris : Sugar, molasses and cement

The main port facilities and dimensions are shown in Table I.3.2.

The maximum wharf depth is 36 feet at the port of Manizanillo and 35 feet at Haina, but these values must be considered to be nominal and the actual depths may be different because of damages from hurricanes and insufficient maintenance dredging.

The sturctures constructed by the Dominican Republic are open type steel reinforced concrete quaywalls. The structures constructed by U.S. companies are steel structures, i.e. piles or steel sheet piles.

Table I.3.2 Main Port Facilities and Dimensions

Port	Structure: Length m	Wharf Length m	Wharf Width m	Wharf Depth feet	Ware-house m^2	Yard m^2	Entrance Depth feet	Width of Channel m	Dia. of Turning basin(m)	Depth of Port feet	Type of the Structures
Santo Domingo	2,310	2,310	17.00	20~21~30	21,700	23,800	35	455.0	320.0	35	SRC Open Type Quay
Boca Chica	615	615	12.00	22~25	2,232	15,750	28	120.00	200.0	30	"
San Pedro de Macoris	810	810	40.00	20~23	2,280	10,950	28	90.0	330.0	35	"
La Romana	220 70	220 70	20.00 10.00	29 29			42 42	60.0		34	"
Sabana de la Mar	36	72	9.00	3~5			8	270.0	270.0	8	SRC Open Type Quay w/steel sub.
Samana	69.7	69.7	6.10	15			16	83.0	83.0	15	"
Duarte	229.5	459.1	25.5	29~31	2,100		36	300.0	500.0	29~31	"
Sanchez	130	130	8.00	4			6	104.0	104.0	5	" W/wood deck
Puerto Plata	292 155 45	584 310 80	45.00 43.00 40.00	31 23	3,125 5,000	58,580	31	156.0 156.0	300.0 300.0	36 23	SRC Open Type Quay Wharf, Ro-Ro
Manzanillo	227.7	455.4	22.0	36~30~25			40	600.0	600.0	48	Steel Open Type Quay
Cabo Rojo											
Barahona	200 550	330 550	13 4.2	24~30		22,000	36	110.0	200.0	32	SRC Open Type Quay
Azua	200	400	36	27	1,000		36	140.0	330.0	34	"
Haina	2,306	2,306	8.5 12	35	4,410	54,587.5	35	90.0	300.0	35	"

Source: Dpt. Muelles y Puertos, SEOPC

3. Administration, Management and Operations

3.1 Administration and Management as Provided by Law

Administration and Management of the public ports in the Dominican Republic is undertaken by the following institutions:

(1) Ministry of Public Works and Communications (SEOPC)

1) Functions of SEOPC

The functions of SEOPC can be divided into three basic areas: transportation, building and communications.

(i) Transportation

Its current legal basis authorizes SEOPC to carry out the following main activities within the area of transportation:

- Planning, construction, repairs and maintenance of infrastructures for transportation.
- Organization, control, coordination and planning of the land transit throughout the country.
- Study, design, construction and improvement of port facilities.
- Control and regulation of national and international air traffic.

(ii) Buildings

SEOPC's main functions within this area are:

- Design, construction, maintenance and repair of public buildings.
- Quality control of the construction materials of both local and foreign manufacture.
- Coordination of the preparation and implementation of technical regulations governing engineering, architecture and related areas and of measures aimed at their enforcement.

(iii) Communications

SEOPC's main functions within this area are:

- Maintenance of postal services with foreign countries.
- Administration of telecommunications services.

In carrying out its functions, plans and projects as decided by Executive Power, SEOPC is assigned financial resources through annual allocations included in the Public Expenditures Law.

The organization of SEOPC is shown in Fig. I.3.5.

2) Functions of the Ports and Harbors Department

Among the functions of SEOPC mentioned above, works for port facilities are undertaken by the Ports and Harbors Department. The purpose of this department is to see to the maintenance and improvement of port areas for the benefit of users.

The essential functions of the Ports and Harbors Department are:

- To draw up projects and estimates for the construction, improvement and maintenance of ports and harbors.
- To review and prepare plans for the dredging and maintenance of ports and navigational routes.
- To plan protective facilities and mooring facilities and to improve their essential functions.
- To study and plan sea and river ports.
- To perform hydrographical and tidal studies to benefit navigation and port construction.
- To inspect and measure all ocean and river works erected by SEOPC.

The organization of the Ports and Harbors Department is shown in Fig. I.3.6 and Fig. I.3.7.

Related Laws:

Law No. 1474	February 22, 1938
Reg. No. 2415	January 30, 1945
Law No. 3435	November 21, 1952
Decree No. 3888	June 29, 1958
Decree No. 5406	December 28, 1959

(2) Port Commanders

In Law No. 3003, the law on the coast guard and harbor police, port commanders and their duties are regulated as follows:

Article 1. The general policing of the Republic's harbors, ports of anchorage and coasts is entrusted to the Naval Chief Staff Headquarters, Port Commanders, and other authorities provided in the present law.

Article 2. Port Commanders shall act under the Naval Chief of Staff.

Article 3. Many Port Command Headquarters shall be established at foreign trade ports.

Article 4. Port Commanders are members of the Judicial Police. In such capacity, and in case of crimes or felonies committed on board national or foreign merchant ships anchored in Dominican harbors or found in territorial waters, they will proceed to submit facts to the Ordinary Courts without prejudice from acts of other members of the Judicial Police. One copy of the complete file will be sent to the Naval Chief of Staff Headquarters for their information.

a) If the crime or felony is committed on board a warship nobody can enter the ship and a report will be prepared regarding whatever facts may be available, and submitted as a matter of information to the Naval Chief of Staff.

Article 5. If the Republic is in a state of war or a state of emergency and siege, the port zones may be declared under military administration by means of a Presidential Decree. In such cases the duties of the Port Commander shall be allocated to members of the Armed Forces.

Article 6. In each port there shall be a rescue body in case of shipwreck, fire on board, collision, and in general, maritime disasters or accidents. Said body shall be under the immediate control of the Port Commander who shall be in charge of measures for the defense of life and of property in danger.

a) The Naval Chief of Staff Headquarters shall prescribe such regulations and instructions as are considered convenient for the

efficient operation of that service.

Article 7. The territorial jurisdiction of the Command Headquarters and the extension of the port zones shall be determined by the Naval Chief of Staff with authorization from the President of the Republic.

Article 8. Private buildings and constructions established in port zones are subject to the guarding and patrol of the Port Commanders.

Article 9. Port Commanders shall care for the safety and clearance of harbors. It is forbidden to leave boats, canoes or ships' objects on docks without the authorization of the Port Commander.

Article 10. Port Pilots, Coast Guards and Inspectors, as well as Engineers and Sailors of port launches shall act under the immediate command of the Port Commanders.

Article 11. Boats for piloting service are forbidden to accept any cargo or passengers on board. In the case of force majeure, the Port commander shall authorize any operation of this nature as necessary.

Article 12. The Captain of a vessel shall not sound the bar or port without authorization from the Port Commander. He shall not moor vessel, weigh anchor, nor fire the bottom of his vessel without authorization from the Port Commander.

Article 13. The Port Commanders shall directly inform the Naval Chief of Staff regarding vessel arrivals and departures in their jurisdiction indicating name, nationality, tonnage, cargo of each, name of Captain and number of passengers being transported. Likewise, they shall inform the Naval Chief of Staff regarding all wreckages or maritime accidents occurring in their jurisdiction.

Article 14. Port Commanders shall keep the following book:

a) *Registration Book for Seamen* where the first, last, and nick-names of the same will be noted, as well as residence, nationality, civil

state, and Personal Identification Card Number of persons in their respective jurisdictions who have obtained Seamen's Cards, as well as the ability certificates of each person.

b) A Registration Book where the names and characteristics of national vessel, registered inside their respective jurisdictions will be noted. All vessels of national flag must be provided with a matriculation certificate which will be valid for one year, upon payment of the duties established in the following tariff:

Vessels under one ton	RD$ 1.00
Vessels from 1 to 49 tons	2.00
Vessels exceeding 49 and up to 100 tons	3.00
Vessels exceeding 100 tons	4.00
Vessels dedicated to hauling service	10.00

c) Book for Arrivals and Departures of Vessels.

Related Laws:
Law No. 3003, June 12, 1951 as amended.
Law 305, May 29, 1968

(3) Customs Offices

Customs Offices accept entrance and clearance notices and manifests from the shipping agents or shipping companies, and follow procedures to charge taxes on imported and exported cargo through the ports. They also watch cargo handling and cargo movement in order to carry out their duties.

Related Laws:
Law No. 3849, February 14, 1953 as amended.

(4) Dominican Port Authority (APD)

The APD is a corporate institution having its own property and is autonomous. It was created in 1970. According to its regulations, APD is a port authority, and owns and manages the port facilities of all the public trading ports in the Dominican Republic.

The competence and the functions of APD are as follows:

(i) Direct, administrate, exploit, operate, watch, maintain and improve the commercial maritime ports under its control and administration, as well as the ports that in the future may become part of APD by executive disposition, with absolute exclusion of the military ports and the port sections which have military characteristics.

(ii) Control and supervise the exploitation, operation and maintenance of the private maritime ports, constructed or utilized by individuals by means of leases granted by the state.

(iii) Study, program and carry out the expansion of the existing ports or the construction of ports as required in the future.

(iv) Carry out the port policy indicated by the Executive Power for which objective APD is the technical consultant.

(v) Direct and carry out in the commercial port areas all items related to the entrance and exit of the port areas, the docking and stay of merchant ships and the loading, unloading, and deposit of cargo and cargo warehousing.

(vi) Assign docking areas for ships, limit the stay period of ships and demand unmooring when the loading and unloading operations are over or when a ship refuses to obey the port working regulations.

(vii) Receiving, moving within its area and positioning in warehouses, deposits and yards and other sites assigned to that effect merchandise and other goods that are loaded or unloaded.

(viii) Delivery of merchandise to ships, in the case of loading, or to consignees or representatives, in the case of unloading, with strict submission to the customs authorities.

(ix) The handling of import and export cargo and the receiving, moving, warehousing, preservation and delivery of export and domestic

use items subject to the legal mandate of Customs.

There is a standing administrative committee at the top of APD. The port tariffs of APD are established by the Committee.

The Committee consists of the following members:

Minister of SEOPC

Minister of Finance

Director General of Customs Office

President of Maritime Agents Association

President of the Chamber of Commerce and Industry

Executive Director of APD

However, only three ports, Haina, Boca Chica and Santo Domingo, are under the jurisdiction of APD at present. Furthermore, the competence and the functions of APD are not carried out perfectly in these three ports.

The organization of APD is shown in Fig. I.3.8. The organization of the port offices of APD is shown in Fig. I.3.9. Fig. I.3.10 shows an APD office at the port of Sans Souci but, at present, this office does not exist and the port is administrated by APD's Office at the port of Santo Domingo.

Related Laws:

Law No. 70 December 17, 1970 as amended.

ORGANIZATION OF MINISTRY OF PUBLIC WORKS AND COMMUNICATIONS

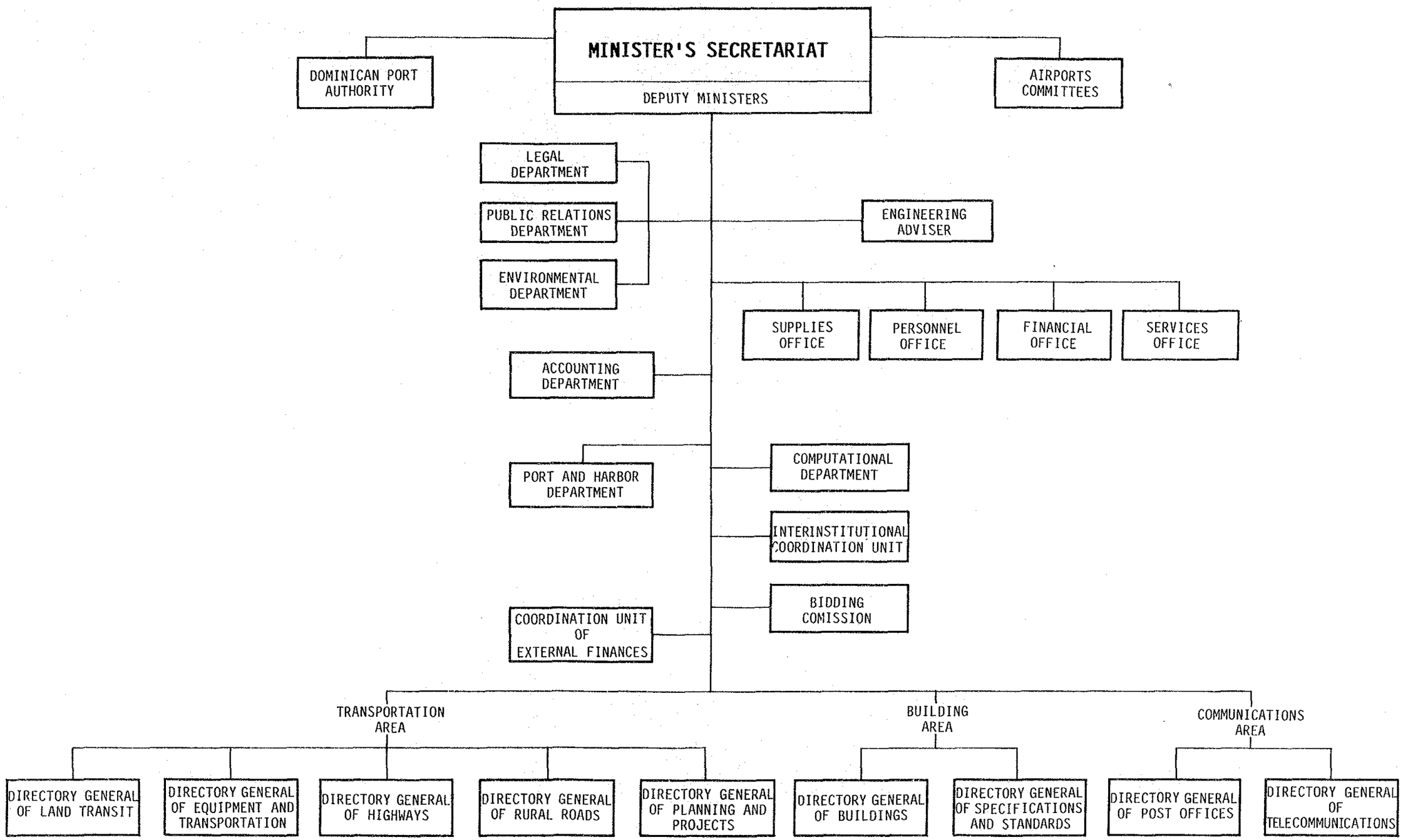


Fig. I.3.5 Organization of SEOPC

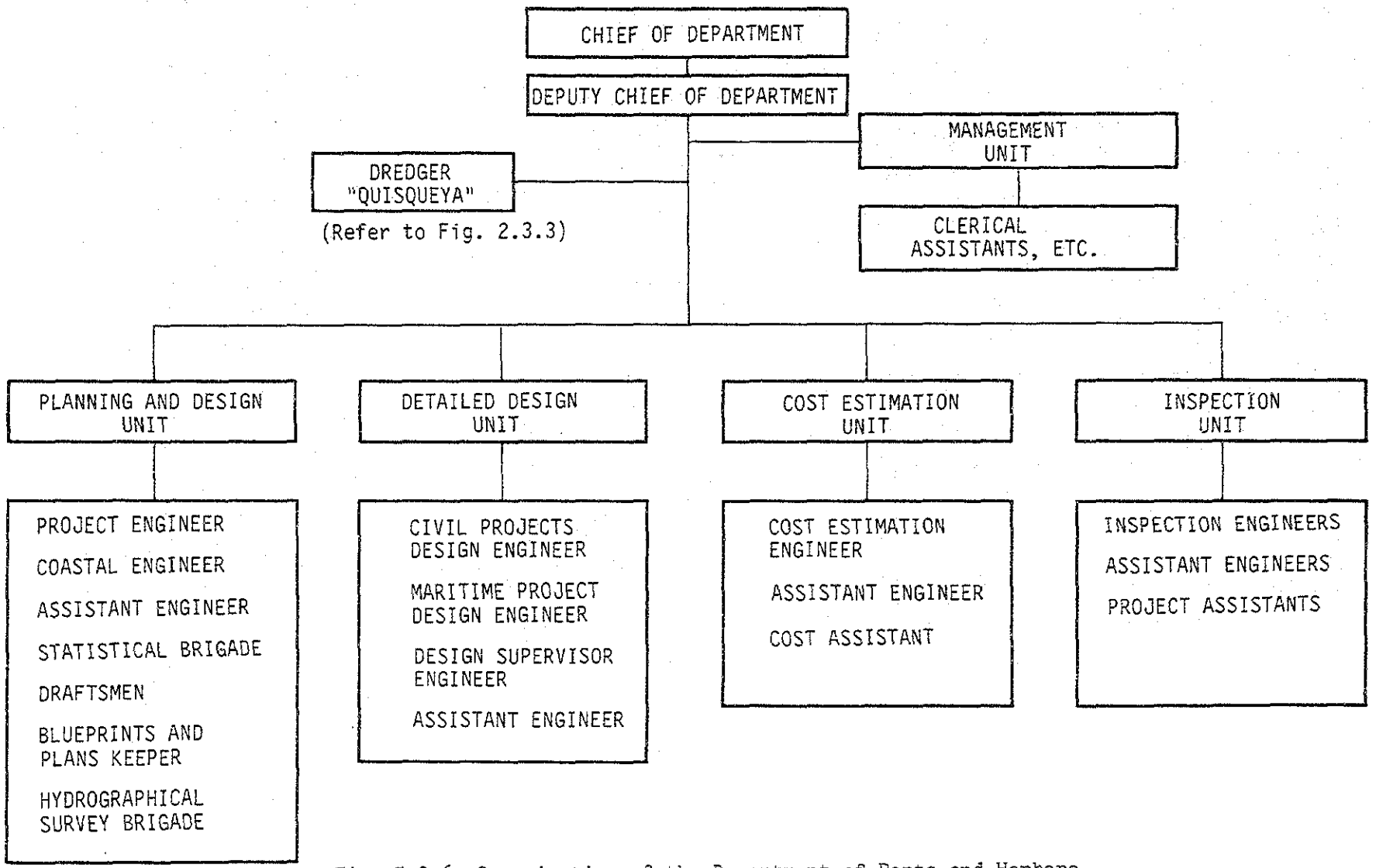


Fig. I.3.6 Organization of the Department of Ports and Harbors

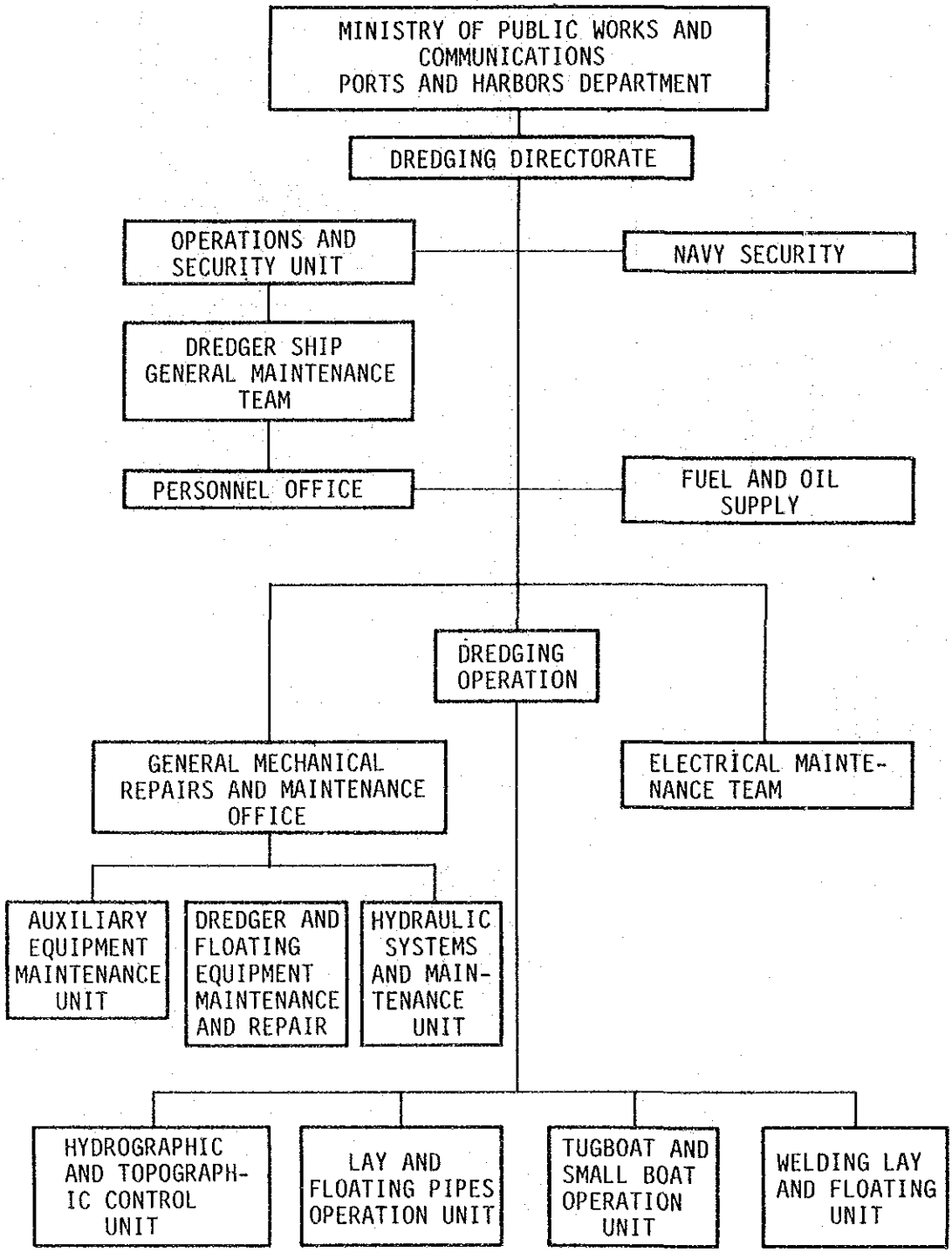


Fig. I.3.7 Organization of the Dredging Brigade of Quisqueya

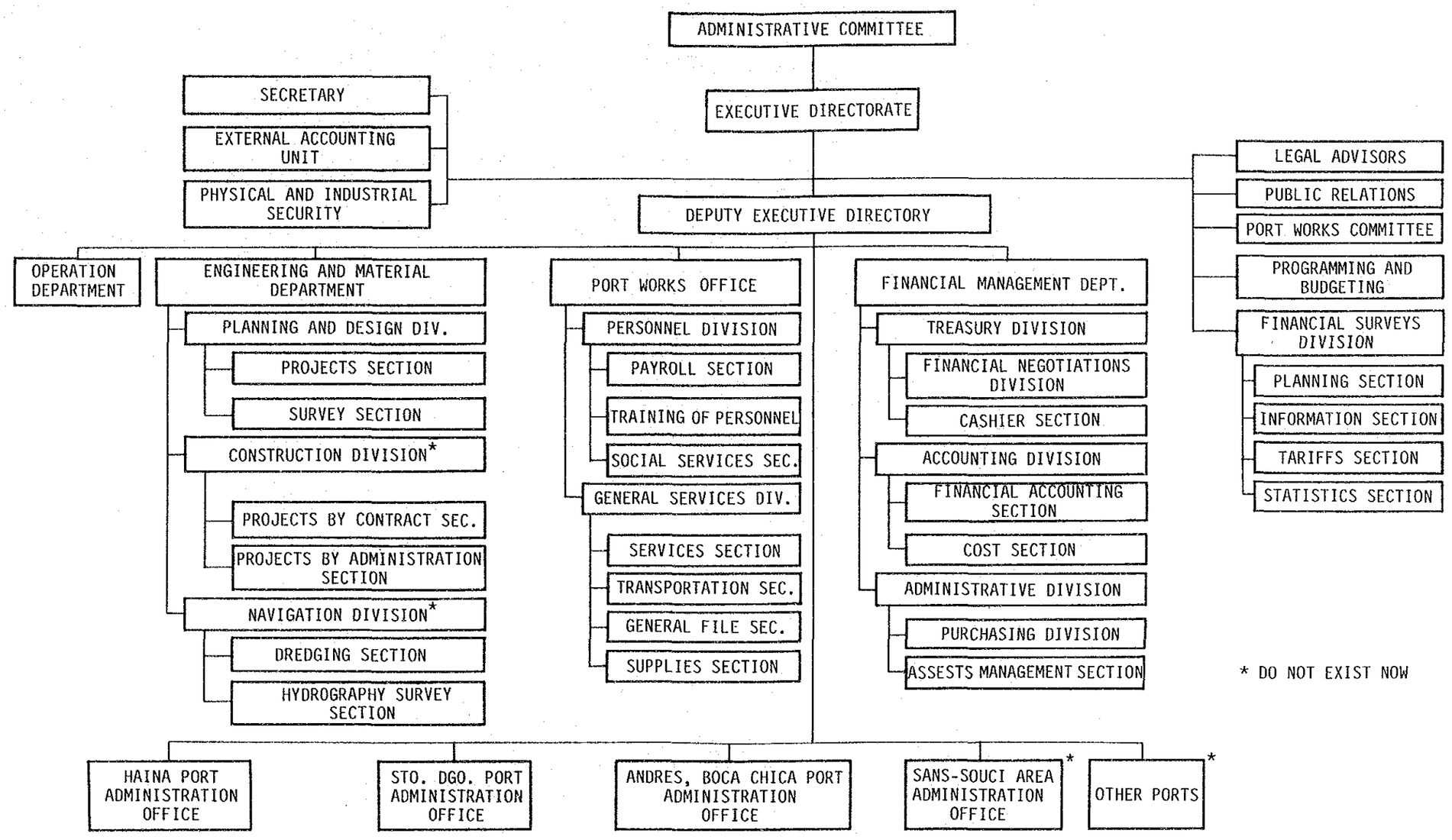


Fig. I.3.8 Organization of APD

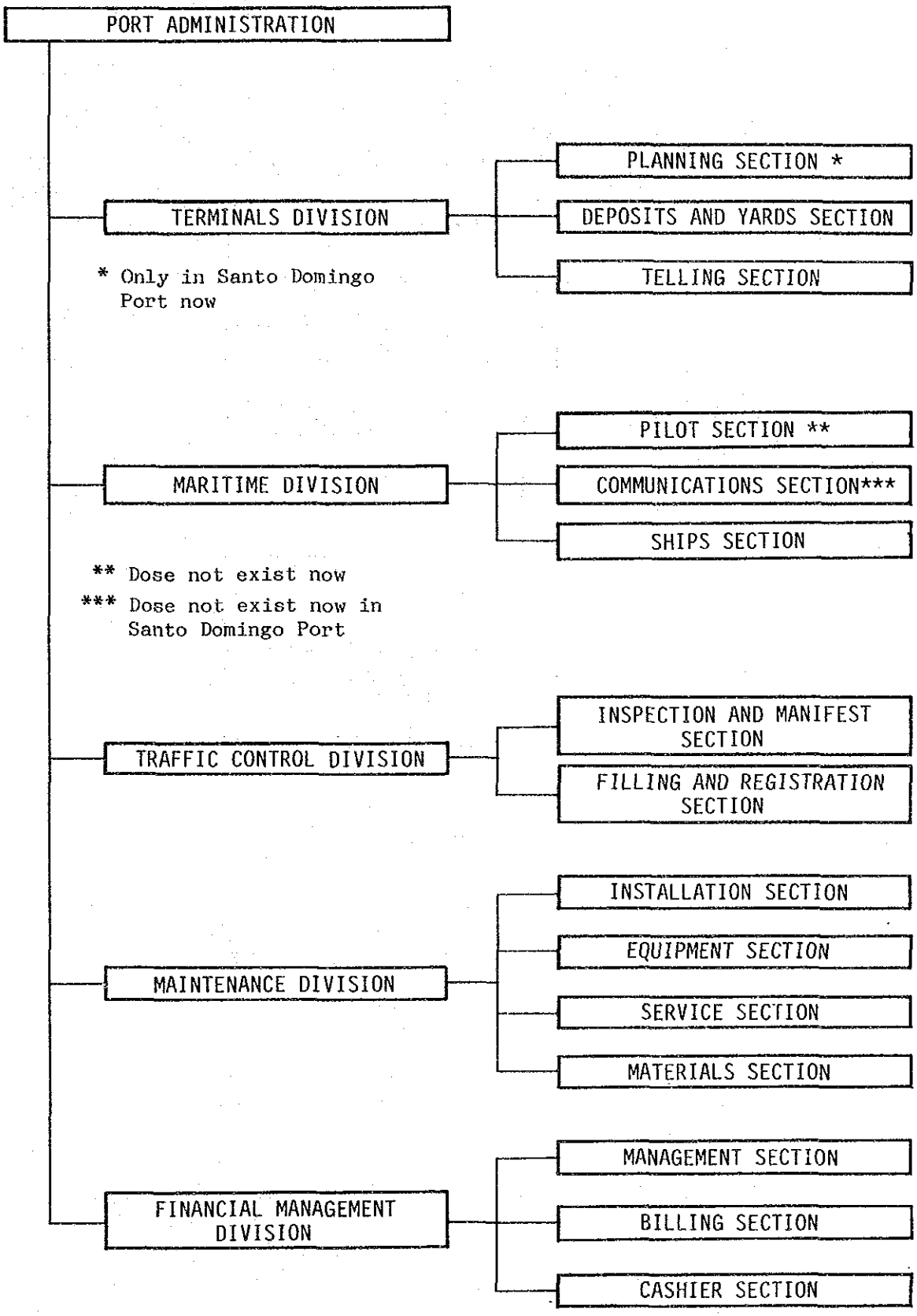


Fig. I.3.9 Organization of the Port Office of APD

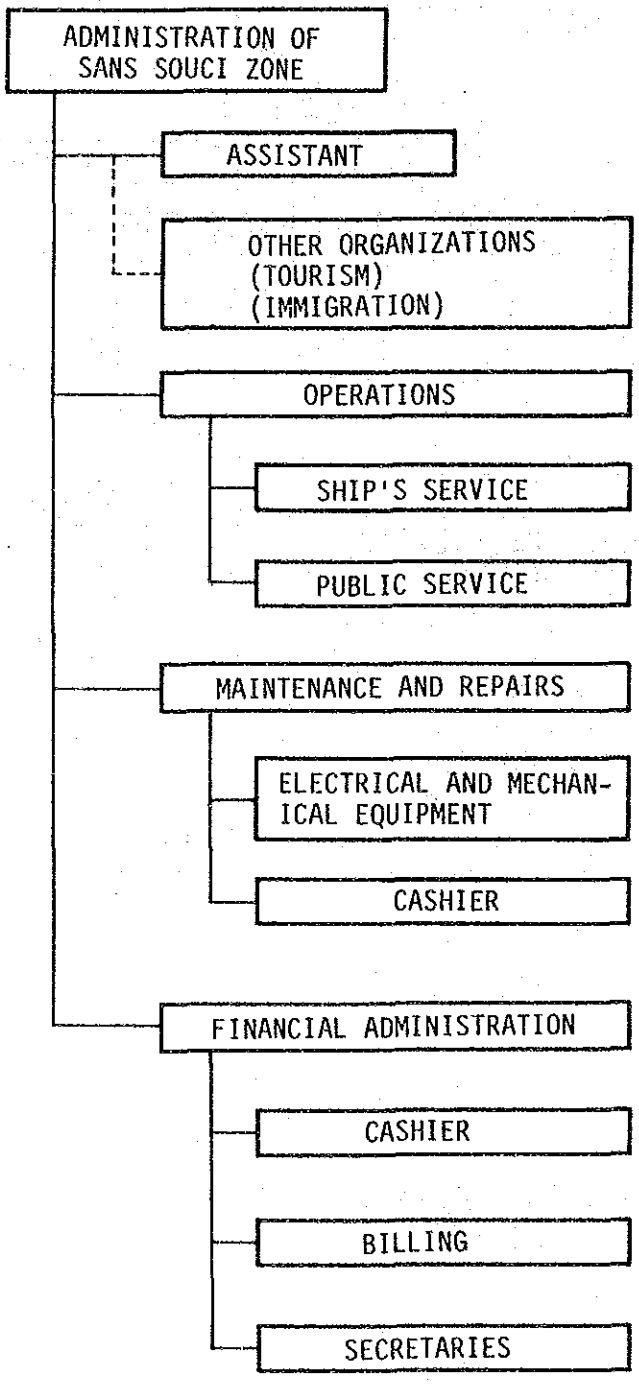


Fig. I.3.10 Organization of APD's Office at Sans Souci

3.2 Actual Management and Operations

A study was conduted on the acutal management and operations at the Port of San Pedro de Macoris and the three ports under the jurisdiction of APD, (hereinafter referred to as the Three Ports). Actual management and operations of the other ports are considered to be almost the same as those at SPM Port. The results of the study are as follows:

(1) Study on Ports and Harbors

Studies have not been carried out sufficiently. In the case of engineering studies, SEOPC executes the studies by itself or entrusts them to engineering consultants. Recently, APD entrusted a study about port tariffs to a foreign consultant.

(2) Collection and Analysis of Information and Data

SEOPC has been carrying out these works, especially concerning engineering, but data and information on port operations and management have not been collected sufficiently.

(3) Ports and Harbors Statistics

1) The port offices of APD accept entrance and clearance notices and manifests from shipping agents, and reports data of vessels and cargo to the APD Office Statistics Section in Santo Domingo on a monthly basis. The Statistics Section of the Head Office arranges these data. In the port office of APD in Santo Domingo, these data are analyzed by the members of the Terminal Division for port management.

2) At SPM Port as well as at the other ports in the Dominican Republic, manifests are accepted by the Customs Office, but they are not arranged properly.

(4) Construction of Port Facilities

Construction works of public port facilities are carried out by SEOPC.

(5) Control and Technical Investigations of Construction Works

These works are also carried out by SEOPC.

(6) Administration and Maintenance of Port Facilities

1) The port offices of APD carry out these works, but if the maintenance works require high technology or expense, they are carried out by SEOPC.

2) In SPM Port, the Port Commander administers the port facilities, and the maintenance works of port facilities are carried out by SEOPC.

(7) Permission for Use of Port Facilities

APD carries out this work at the Three Ports, but the Port Commander carries out the works at SPM Port.

(8) Monitoring the Pollution and Cleaning of Port Areas

APD carries out this work at the Three Ports, but no such work is executed at SPM Port.

(9) Procedures for the Entrance and Clearance of Vessels

1) In the case of the Three Ports, APD accepts entrance and clearance notices from shipping agents, and informs the Port Commanders. At the time of entrance, the Port Commander, the Customs Office and the Quarantine Office inspect the vessels on board. At the time of clearance, the Port Commander inspects the vessels on board and gives the corresponding permission.

2) At SPM Port, the Port Commander accepts entrance and clearance notices directly.

(10) Assignment of Berths

APD assigns berths at the Three Ports, and the Port Commander assigns

berths at SPM Port.

(11) Pilotage

1) At the ports of Haina and Boca China, APD carries out the pilotage, and collects the charges. At the port of Santo Domingo the Port Commander performes these functions.

2) At SPM Port, the Port Commander carries out the pilotage and collects the charges.

(12) Harbor Tug and Berthing Aid

1) At the Port of Santo Domingo there are three tug boats: one of them is owned by the Navy and the other two by a private company. The Navy and the private company carry out the work and collect charges respectively. This private company also carries out this work using the same two tug boats and collects charges at the port of Haina. There is no tug boat in the port of Boca China.

APD does not own any tug boats and at present is not concerned with this work.

2) At SPM Port, a private company has its own tug boat with two 240 HP engines, and carries out this work and collects the charges. There is no tug boat at the other public ports.

3) The charges collected for this work are paid to the government througn the Port Commanders.

(13) Mooring Aid

This varies by port. At the port of Hanina, shipping agents' workers carry out the work. At the port of Santo Domingo, employees of the Port Commanding Office do the work and the Port Commander collects the charges. At SPM Port the Port Commander carries out the work and collects the charges.

(14) Control of Ship Traffic in the Port

At the Three Ports, APD carries out this work. The Port Commander carries out this work at SPM Port.

(15) Port Police and Security Guards

The general policing of all ports is entrusted to the Port Commanders. In the Three Ports, APD's security guards look after the port facilities. At SPM Port, the Port Commander maintains the security of port facilities.

(16) Firefighting

At the Three Ports, members of the guard section contact local fire brigade stations. None of the ports maintains its own fire brigade.

(17) Animal Quarantine, Plant Protection and Fumigation

These works are executed by persons in charge sent by the Ministry of Agriculture. At the ports of Santo Domingo and Haina there are offices where the workers are stationed.

(18) Immigration

The persons in charge are sent by the Directory General of Immigration to carry out this work. They have rooms in the Port Commanding Offices. They are stationed at the ports of Santo Domingo, Haina and San Pedro de Macoris; however, at the port of Boca Chica they are sent when needed.

(19) Quarantine/Medical Inspection

The persons in charge are sent from the Ministry of Public Health to carry out this work when it is necessary. However, at SPM Port the person in charge of this work is stationed there.

(20) Water Supply

In the Three Ports, APD carries out this work and collects the charges. In SPM Port, a government institution supplies water and collects the charges.

(21) Oil Bunkering

Private companies supply fuel oil to vessels using tank trucks or small boats carrying drums.

(22) Stevedoring

1) APD is not concerned with stevedoring on board or on shore. It only grants permission and collects the charges for the use of wharfs from shipping agents.

2) The Customs Office collects the charges for the use of wharfs from shipping agents.

3) Generally speaking, stevedoring works on board and on shore in the ports of the Dominican Republic are carried out by the gangs of the syndicates of each port. These syndicates consist of numerous labourers.

In the port of Santo Domingo, there are three syndicates. Two of them carry out works on shore, and between them they have about 2,000 labourers. The other syndicate carries out works on board and has about 350 labourers. In the port of Haina, there are three syndicates with a total of about 800 labourers.

In SPM Port there is only one syndicate with about 380 labourers. Mechanizing or improving the efficiency of cargo handling at the port can not be promoted without considering these syndicates.

4) There are two types of contracts for stevedoring. For stevedoring of general cargo, shipping agents usually give contracts to syndicates. For stevedoring of bulk cargo, shippers usually give contracts to syndicates directly.

Thus stevedoring contracts for container cargo at the port of Santo Domingo are arranged by shipping agents and stevedoring contracts for sugar, fertilizer and coal at SPM Port are arranged by shippers or consignees directly.

5) Syndicates do not possess any cargo handling equipment.

6) In the port of Santo Domingo, stevedoring works on shore and warehousing are carried out continuously by the same syndicate. APD mediates between the shipping agents and the syndicates and collects charges for the fuel oil used to power handling equipment.

(23) Warehousing

1) APD is responsible for cargo unloaded from vessels until delivery to consignees and for cargo accepted from shippers until loading.

2) At the ports of Haina and Boca Chica, APD carries out warehousing itself following the directives of the Customs Office, and collects charges for warehousing from shipping agents and charges for storage from shippers.

3) At the port of Haina, APD leases some areas of open storage yards and of warehouses to shippers. At the ports of Santo Domingo, Boca Chica and San Pedro de Macoris, there is no leased space.

4) At the port of Santo Domingo, APD collects the charges for storage from shippers, but it does not carry out warehousing itself. APD only supervises warehousing carried out by the syndicates (Refer to (22)-6).

5) At SPM Port, there is a transit shed.

(24) Transportation of Goods in Bond

Some of the container cargoes unloaded at the Three Ports are transported to free zones. In this case, the Customs Office grants permission for transportation of goods in bond and two persons in charge from the

Customs Office and the Commanding Office accompany the cargo to the place of customs clearance.

(25) Tallying and Weighing

1) At the Three Ports, persons in charge from the Customs Office, APD and shipping agents execute these works together.

2) At SPM Port, shippers or shipping agents execute these works themselves.

3.3 Port Tariffs

Port tariffs presently applied for the ports of Santo Domingo, Haina and Boca Chica by APD are as follows:

(1) Charges for Vessel Service

1) Pilotage

a. Basic charge

For each foot draft, in and out, $ 4.00.

b. Pilot service

Presently, APD does not carry out pilot service itself but receives 25% of the service fee from those who do. The service is provided to vessels entering or leaving the port, shifting within the port and anchoring. The service fee is charged based on the GRT of vessels and working hours.

2) Towing service

a. The following tariffs are applied for tugboats that assist the docking and undocking operations of ships over 400 GRT which dock at national ports.

from 400 up to 600 GRT	$ 100.00	per vessel
from 601 up to 800 GRT	150.00	" "
from 801 up to 1,000 GRT	200.00	" "
from 1,001 up to 2,000 GRT	250.00	" "
from 2,001 up to 4,000 GRT	300.00	" "
from 4,001 up to 8,000 GRT	400.00	" "
from 8,001 up to 10,000 GRT	500.00	" "
from 10,001 up to 14,000 GRT	600.00	" "
from 14,001 up to 18,000 GRT	650.00	" "
from 18,001 up to 20,000 GRT	700.00	" "
from 20,001 up to 24,000 GRT	800.00	" "
from 24,001 up to 28,000 GRT	850.00	" "
from 28,001 up to 30,000 GRT	900.00	" "
from 30,001 up to 35,000 GRT	1,000.00	" "
over 35,001 GRT	1,250.00	" "

b. When the services are provided during non-working hours, Sundays and holidays, the following fees are additionally charged for each service.

from 400 up to 1,000 GRT	$ 75.00
from 1,001 up to 4,000 GRT	100.00
from 4,001 up to 10,000 GRT	150.00
from 10,001 up to 20,000 GRT	200.00
from 20,001 up to 35,000 GRT	225.00
over 35,001 GRT	250.00

c. In the case of shifting vessels, including berthing and unberthing, the tariff is 150% of the normal rate.

d. The use of tugboats is mandatory for all docking, undocking and shifting of vessels of whatever classification or type which are larger than 400 GRT. National vessels of whatever classification or type only pay 70% of the present tariff.

3) Mooring and unmooring

a. Line handling

$ 1.50 per vessel, mooring and unmooring

b. Watching

$ 1.50 per vessel

4) Additional service

a. Water supply

(i) Water supply	$ 1.10 per m^3
(ii) Hose connecting	$ 4.40
(iii) Hose hire	$ 5.50

b. Garbage removal

from 400 up to 800 GRT	$ 8.80
from 801 up to 2,000 GRT	$ 11.00
from 2,001 up to 4,000 GRT	$ 13.20
from 4,001 up to 9,999 GRT	$ 15.40
from 10,000 up to 14,999 GRT	$ 17.60
from 15,000 up to 19,999 GRT	$ 19.80
from 20,000 up to 24,999 GRT	$ 22.00
over 25,000 GRT	$ 24.20

(2) Port Dues

1) Loading and unloading

$ 0.3 per ton of loaded or unloaded cargo (except liquid bulk cargo).

In case of vacant vessels, $ 14 per vessel, in and out

2) Watching $ 6.25 per vessel

3) Sanitation $ 6.25 per vessel

4) Wharfage

first 200 GRT	$ 0.07/ton.day
over 200 GRT	$ 0.025/ton.day

5) Documents $ 5.0 per vessel

6) Additional charge

12% of total amount of (1), 1) - 3) and (2), 1) - 5)

(3) Charges for Cargo Service

1) "Arrimo"

Handling of general cargo between shipside and storage area.

a.	Import	
	general cargo	$ 7.00/ton
	containerized general cargo	$ 4.50/ton
b.	Export	
	general cargo	$ 2.10/ton
	fruit	$ 1.20/ton
c.	Transit	$ 6.40/ton
d.	Midnight extra	$ 2.65/hr
e.	Handling of dangerous or harmful cargo	
	140% of handling charge for normal cargo	
f.	Pension, social security etc.	$ 2.40/ton
	(In case of import or transit)	

2) Storage

a. Import

for 1 week or fraction thereof	$	0.20/100kg
" 2 weeks	"	0.50
" 3	"	1.00
" 4	"	2.50
" 5	"	5.00
" 6	"	6.00
" 7	"	7.00
⋮	⋮	⋮
" 26	"	26.00

b. Import of wood, wire, industrial machines and equipment and industrial raw material (when exceeding 20 tons)

for 1 week or fraction thereof	$	0.05/100kg
" 2 weeks	"	0.075
" 3	"	0.10
" 4	"	0.25
" 5	"	0.50
" 6	"	1.00
" 7	"	1.50
" 8	"	2.00
" 9	"	2.50
" 10	"	3.00
" 11	"	5.00
" 12	"	6.00
" 13	"	7.00
⋮	⋮	⋮
" 26	"	20.00

c. International transit cargo $ 0.25/100kg

d. Open container (7 days free)

less than or equal to 20 foot	$ 1.00/day
more than 20 foot	$ 2.00/day

e. Export

40% of the storage charge for import

(4) Charge for Use of Facilities

1) Bulk cargo

a.	Import of solid bulk cargo	$ 0.25/ton
b.	Import of liquid bulk cargo	$ 1.0/ton

2) Others

a.	Import of general cargo	$ 2.0/ton
b.	Wood	$ 1.0/ton

3) "Arrimo"

a.	Import	
	general cargo	$ 2.0/ton
	wood	$ 0.5/ton
b.	Export	
	general cargo	$ 0.5/ton
	fruit	$ 0.3/ton
c.	Transit	
	in	$ 0.5/ton
	out	$ 0.5/ton

4) Use of cargo handling equipment of the users themselves (crane, forklift etc.)

10% of received charge

(5) Use of Cargo Handling Equipment

1) Forklift

5,000 lbs - 8,000 lbs	$ 12
8,001 lbs - 12,000 lbs	$ 15

2) Container crane

a.	Standard time	$ 50/unit
b.	Overtime	
	16:00 - 24:00	16% additional charge
	0:00 - 8:00	20% "
c.	Handling on board	$ 25/unit

d.	Renting out at least 4 hours ($ 4,000)	$ 1,000/hr

3) Pallet (provided by ADP)

a.	Warehouse public area	$ 0.3/ton day
	surrounding area	$ 0.6/ton day
b.	Open storage yard	$ 0.15/ton day

(6) Tourist Terminal

1) Charge for using facilities	$ 2/person

2) Commercial activity

at least 5% of total revenue

3) Vehicle entering

light vehicles	$ 0.25/vehicle
heavy vehicles	$ 1.00/vehicle

4) Vehicle staying

over 6 hours	$ 3.00/vehicle

5) Rental space of buildings in port area

Used for counters and offices of shipping agents or for other commercial activities.

a.	Sans Souci	$ 12/sq.ft.
b.	Puerto Plata	$ 8/sq.ft.
c.	The other ports	$ 5/sq.ft.

(7) Rental space of buildings in port area

Use as cargo handling terminal, offices of shipping or travel agents and other business concerning port activities.

a.	Santo Domingo, Sans Souci	$ 8/sq.ft.
b.	Boca Chica	$ 5/sq.ft.
c.	The other ports	$ 3/sq.ft.

(8)	Rental Space of Land in Port Area for all the ports	$ 1.00/m^2.year
(9)	Fuel Supply for Foreign Flag Ships	$ 0.01/galon