POPULATION GROWTH AND ECONOMIC DEVELOPMENT IN QUINTANA ROO TERRITORY, MEXICO

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ABSTRACT

POPULATION GROWTH AND ECONOMIC DEVELOPMENT
IN QUINTANA ROO TERRITORY, MEXICO

By

Charles Marc Croner

The Republic of Mexico is composed of twenty-nine states, the Federal District, and two territories. While all of these political divisions have experienced a substantial increase of population, the growth rate of Quintana Roo Territory has been especially notable. During the decade 1950-1960, the population of Quintana Roo grew from 26,967 to 50,169, or an increase of 86 percent. This figure represents the second highest growth rate in the Republic, being exceeded only by that of Baja California (Norte) with 129.2 percent.

Field research for this study was conducted from December, 1967, to March, 1968, to determine the causes of the increase in population during the decade 1950-1960, and the relationship of this increase to the economic development of the Territory. The topic has particular relevance

to Quintana Roo in that a minimum of 80,000 inhabitants, and a self-sufficient economy, would qualify the Territory for statehood.

The following conclusions have been reached on the basis of the study: (1) The henequen industry of Yucatán state, following a brief revival from 1941 to 1948, experienced once again a collapse in international sales. This was especially true relative to the large United States market and resulted in economic crisis for more than three-fourths of Yucatán's labor force. (2) Hurricane Janet, in September, 1955, all but destroyed Ciudad Chetumal, the capital of Quintana Roo Territory and triggered national concern for this frontier area. A large-scale program of internal improvements, and the rebuilding of the city, subsequently created numerous job opportunities. (3) To the under-employed peasant of Yucatán, the large tracts of unoccupied forest land in the Territory were especially attractive. This land was available at no cost, having previously been public domain. (4) The migration of people during the decade 1950-1960 actually did not begin on a significant scale until about 1957 or 1958, when it was greatly facilitated by the completion of the Chetumal-Mérida highway. Three-fourths of the migrants then came from the nearby state of Yucatán. (5) Although forest reserves still form the basis of the Territory's economy, the influx of population during the past decade has

provided a stimulus for new programs of economic development. Chief among these is the expansion of the livestock industry and tourism.

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PREFACE

Latin America as a region, incorporating all of the countries and colonies south of continental United States, is experiencing the highest rate of population growth in the world. From about 63 million in 1900, the population increased to 238 million in 1965. The estimated number for mid-1968, reflecting a world-high 3 percent annual rate of growth, was 268 million.

As a result of increased population pressure in the core areas of settlement, many Latin-American governments are formulating plans by which to fully integrate the sparsely-occupied areas within their respective national domains. It is hoped that when this is accomplished, these lands will provide permanent sustenance for a substantial segment of the rapidly growing populations. The construction of Brasilia in the interior of Brazil and the Colombian government efforts to settle the lowland llanos are but two examples among many that could be cited.

A large area once pertaining to the great Mayan Empire is similarly being subjected to both integration and settlement. Included in this design will be the relocation of a capital city to the interior of British Honduras, the development of Guatemala's northern lowlands (Petén), and

the settlement of eastern Chiapas, southern Campeche and all of Quintana Roo Territory in Mexico. Ironically, these efforts represent an attempt to resettle and repopulate what was historically a densely inhabited area. The reintegration and repopulation of Quintana Roo Territory constitutes the theme of this thesis.

The author is indebted to many people for their generous assistance and advice. Particular thanks are extended to Mr. A. B. Guemmer, Assistant Vice-President of Wm. Wrigley Jr. Company, who helped prepare me for the research with a thorough briefing about Quintana Roo and a historical resumé of Wrigley's business involvement in the Territory.

During the field work, persons who were particularly helpful included Sr. Umberto Rodríguez, Mexican Consul in Belize City, British Honduras; Sr. Bautista Pérez and Raúl Negrete García of the Public Works Office in Ciudad Chetumal; Sr. Francisco Breach Velderrain of the Banco Agropecuario; Sr. Juan Gabriel Gamboa Gamboa of the Department of Agrarian and Colonization Affairs; Ing. Mario Avila Hernández, Director of the MIQRO; Sr. Apolonio Valencia G., Chief of Fish Administration; Sr. José Antonio Ascencio Navarrette of the Chamber of Industry and Commerce; Sr. Alfonso Rosado, a resident of Chetumal; Doña Fidelia Willoughby of Posada Carmen; Peter Loague, a student at the technical school in Chetumal; and two very dedicated aides and friends, Sr.

Oscar Martínez Marrufo of the Office of the Secretary of Agriculture and Livestock and Sr. Carlos Mário Ramos Guzmán of the Banco Agropecuario.

One of the most difficult and tedious of jobs is the supervision and editing of a thesis. For this, I am grateful to Dr. Clarence W. Minkel, of Michigan State University, both academic advisor and friend. Special gratitude is also acknowledged to the late Dr. Paul C. Morrison who provided the valuable service of second-reader.

Finally, I wish to thank my parents, Milton and Hazel Croner, and my parents-in-law, Dr. and Mrs. Donald Kramer, of Baltimore, whose continued encouragement was most valuable. I am especially indebted to my wife, Lois, who was the source of inspiration.

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CHAPTER I

INTRODUCTION

The Republic of Mexico is composed of twenty-nine states, the Federal District, and two territories. While all of these political divisions have experienced a substantial increase of population, the growth rates of Baja California state and Quintana Roo Territory have been especially notable. During the decade 1950-1960, the population of Quintana Roo grew from 26,967 to 50,169, or an increase of 86 percent.[1] This figure represents the second highest growth rate in the Republic, being exceeded only by that of Baja California (Norte) with 129.2 percent. The state of Yucatán, bordering Quintana Roo to the northwest, experienced an increase well below the national average of 35.4 percent during the same period.

While the booming growth of Baja California Norte can easily be explained by a lucrative tourist trade, new irrigation projects, developing industries, and urban expansion, the reasons underlying the increase in Quintana

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[1]Mexico, Secretaría de Industria y Comercio, VIII censo general de población-1960, resumen general (México, D.F.: Dirección General de Estadística, 1962).

Roo are not as readily discernable. The tourist trade of the Territory is largely restricted to two small islands, Cozumel and Isla Mujeres; irrigation projects are almost non-existent; industry is still dependent upon forest reserves; and, the only urban center (Ciudad Chetumal), which contained 7,247 inhabitants in 1950 and 12,855 in 1960, grew at a slightly lesser rate than did the Territory as a whole.

Objective

The objective of this study is to explain the growth of Quintana Roo's population, 1950-1960, and to relate this increase to economic development. Both population and development have particular relevance to Quintana Roo in that a minimum of 80,000 inhabitants, and a self-sufficient economy, would qualify the Territory for statehood.[2]

The Study Area

The area of this study encompasses all of Quintana Roo Territory. This political division occupies the northeastern part of the Yucatan peninsula, as shown in Map 1. Its northern and eastern limits are the Gulf of Mexico and

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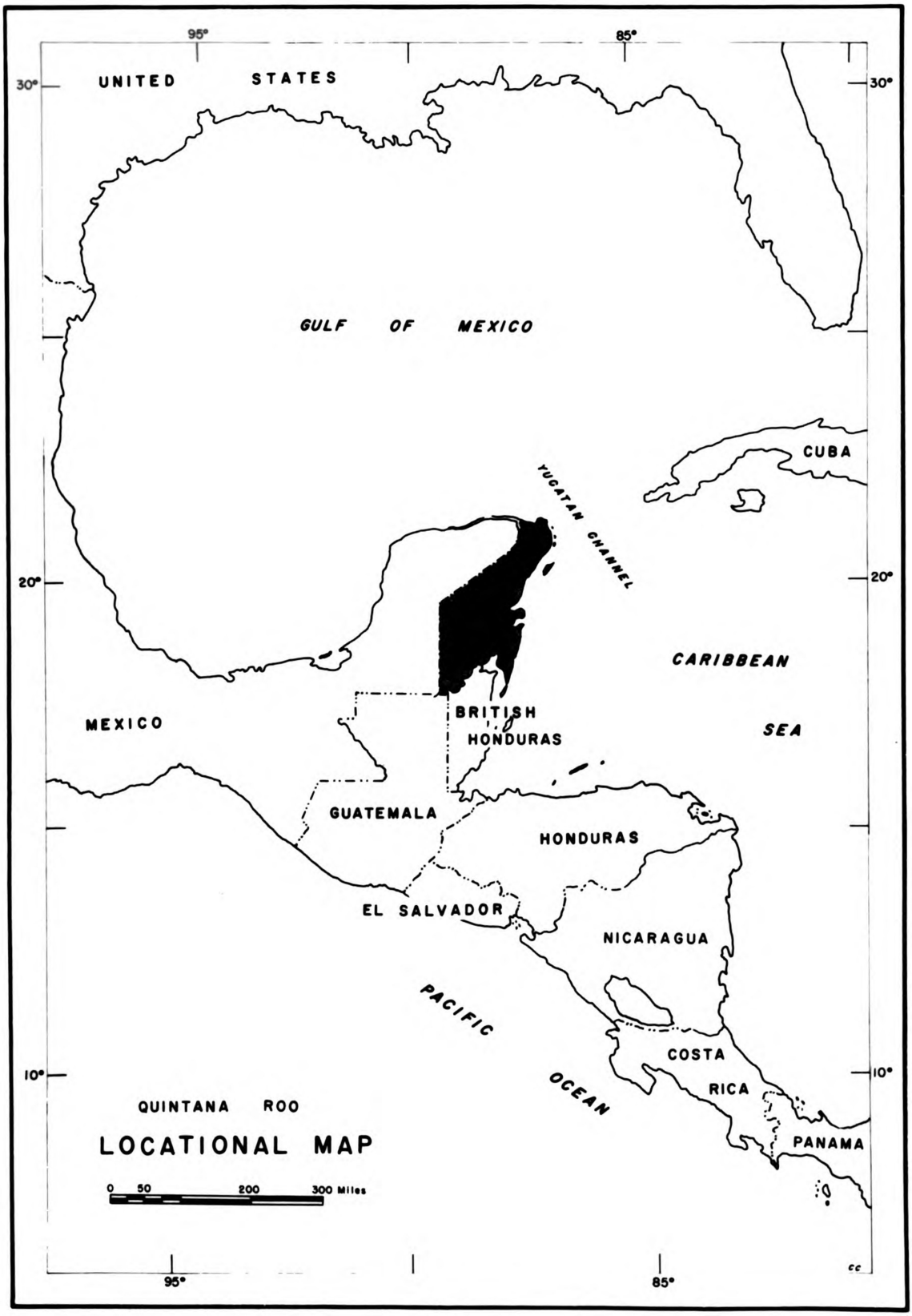
[2]As emphasized in Governor Javier Rojo Gómez's speech appearing in La voz del Quintanarroense (Ciudad Chetumal), December 31, 1967.


95°
85°
30°
UNITED STATES
GULF OF MEXICO
CUBA
YUCATAN CHANNEL
20°
CARIBBEAN SEA
MEXICO
BRITISH HONDURAS
GUATEMALA
HONDURAS
EL SALVADOR
NICARAGUA
PACIFIC OCEAN
COSTA RICA
PANAMA
10°
QUINTANA ROO
LOCATIONAL MAP
0 50 200 300 Miles
cc

Map 1

the Caribbean Sea, respectively. The state of Yucatán to the northwest, Campeche to the west, Guatemala to the southwest, and the colony of British Honduras to the south form the remaining boundaries. The size of the Territory is 19,600 square miles, or roughly equal to that of Costa Rica.

Like the remainder of the peninsula, Quintana Roo is comprised of a broad, slightly elevated plain, the base of which is limestone. Because of porosity, there is a conspicuous absence of surface drainage throughout the area. Extensive forests cover much of Quintana Roo and Campeche, whereas the landscape to the north, in Yucatán state, appears barren and reflects centuries of Indian and Spanish cultivation. Not until 1950, with the completion of the Southeastern Railroad, was there an overland connection between the peninsula and central Mexico, and until 1958 there were no roads linking Quintana Roo with other parts of the Republic.[3]

Procedure

During October and November, 1967, a survey of literature on Quintana Roo was conducted at Michigan State University, and an interview was held in Chicago with Mr. A. B. Guemmer. Mr. Guemmer is Assistant Vice-President of

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[3]Robert E. Scott, Mexican Government in Transition (Chicago: University of Illinois Press, 1964), p. 42.

the Wm. Wrigley Jr. Company and supervises the purchase of chicle from the Territory. The Wrigley Company has consistently been the largest buyer of Quintana Roo chicle, although purchases have decreased in volume since World War II.

Field research was conducted in the Territory from December 20, 1967, to March 10, 1968, to determine (1) the causes of the large increase in population during the decade 1950-1960, and (2) the relationship of this increase to the economic development of the Territory. During the field work, numerous government agencies in Chetumal were visited. These included the Departments of Agriculture and Livestock, Agrarian Affairs and Colonization, Education, Hydraulic Resources, and the Office of Public Works. Field trips were conducted throughout much of the area and included brief stays at Calderitas, Bacalar, Isla Mujeres and the ejidos Valle Hermoso, Tihosuco, and Nuevo Xcan. A two-day traverse of the Río Hondo was arranged through the Naval Office in Ciudad Chetumal. In addition, three days were spent in Belize City, British Honduras, at the beginning of the field research and three days in Mérida, Yucatán, at its termination.

A few problems were encountered early in the field research. Among these were a lack of public transportation to some remote areas and the need to establish meaningful contacts with persons knowledgeable about the topics under

study. The first problem was resolved largely through friendships established with personnel at the Banco Agropecuario.[4] As these and other people in the city became acquainted with the purposes of the research, the collection of data was likewise greatly facilitated.

Findings of the Study

The following conclusions have been reached on the basis of this study:

(1) The henequen industry, long the economic foundation of Yucatán state, declined after a period of relative prosperity from 1850 to 1920. Following a brief revival, 1941-1948, international sales once again collapsed, especially to the large American market, and this resulted in economic crisis for more than three-fourths of Yucatán's labor force.[5]

(2) Hurricane Janet, in September, 1955, all but destroyed Ciudad Chetumal, the capital of Quintana Roo, an event that triggered national concern for a territory which since its creation in 1902 had never been truly integrated with the rest of the Republic. A large-scale program of

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[4]Visits to remote ejidos were arranged both by the president, Sr. Francisco Breach Velderrain, and Ing. Carlos Mario Ramos.

[5]Luis Echeagarey Bablot, Irrigacíon crisis henequenera agrícolas y económicas de Yucatán (Mexico, D.F.: Instituto de Investigaciones Económicas, 1959), p. 80.

internal improvements, and the rebuilding of the city, created numerous job opportunities.

(3) To the peasant of Yucatán, the large tracts of uninhabited forest land in the Territory were especially inviting. This land was available at no cost and became a prime attraction to the migrants.

(4) The migration of people to Quintana Roo during the decade 1950-1960 actually became significant about 1957 or 1958, greatly facilitated by the completion of the Chetumal-Mérida highway, and three out of four migrants came from the state of Yucatán.

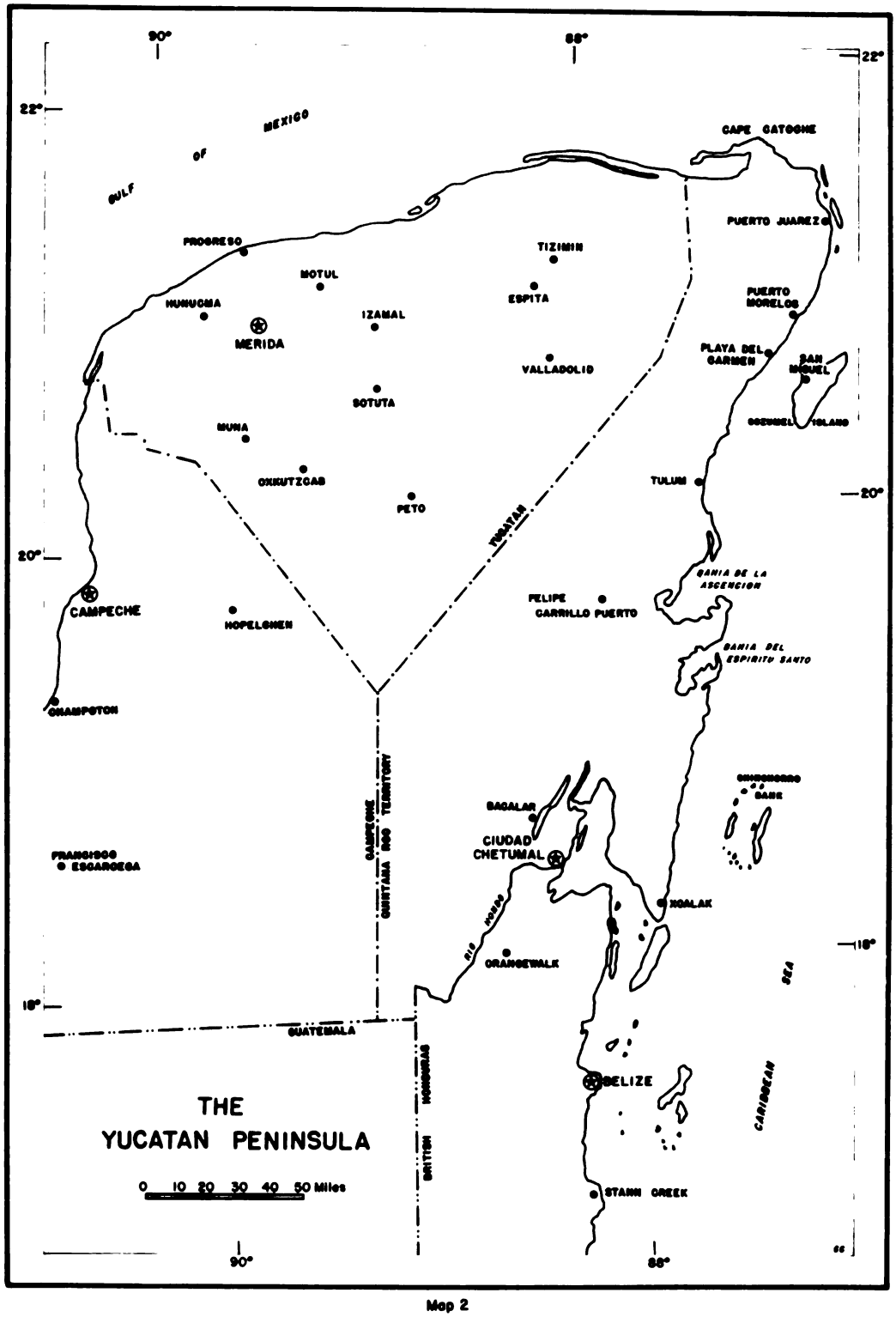
(5) The influx of population during the decade 1950-1960 has not transformed the traditional economy of the Territory of Quintana Roo, but it has provided a stimulus for new programs of economic development. Forest reserves still form the basis of the economy. However, large areas of selva are being converted into fields and pasture, the fishing fleet is being renovated, the mainland tourist trade is expanding, small industries are being developed, and several major roads are being constructed as a means to integrate the Territory by 1970.

CHAPTER II

THE GEOGRAPHIC SETTING

The Yucatan peninsula, with its broad slightly elevated limestone base, presents a striking contrast to the rugged terrain throughout most of the Republic. Quintana Roo includes only a small area of low lying hills, which are shared with neighboring Yucatán and Campeche. Regarded as the only hill formation on the peninsula, this Serranía Yucateca extends in a generally northwest-southeast direction and has an average elevation of about 400 feet. To the north, much of the peninsula is barely raised above sea level. Southward, more prominent undulations continue to the border with British Honduras. The recently completed east-west highway from Chetumal to Francisco Escárcega, Campeche, provides the traveller an excellent view of the peninsula's southern topography.

A number of islands belong to Quintana Roo, most of which extend in a line off the northeastern coast of the peninsula (Map 2). The largest of these, Cozumel, is approximately twenty-five miles long, ten miles wide, and barely rises above the sea. Isla Mujeres and Isla Cancun, near Puerto Juárez, are much smaller islands, as are Holbox,


90°
88°
22°
20°
18°
MEXICO
GULF
OF
CAPE CATOCHE
PUERTO JUAREZ
PROGRESO
TIZIMIN
MOTUL
ESPITA
HUNUCMA
IZAMAL
PUERTO MORELOS
MERIDA
PLAYA DEL CARMEN
SAN MIGUEL
VALLADOLID
SOTUTA
COZUMEL ISLAND
MUNA
OXKUTZCAB
TULUM
PETO
YUCATAN
BAHIA DE LA ASCENCION
CAMPECHE
FELIPE CARRILLO PUERTO
HOPELCHEN
BAHIA DEL ESPIRITU SANTO
CHAMPOTON
CHINCHOROCO
CAYE
BACALAR
CAMPECHE
QUINTANA ROO TERRITORY
CIUDAD CHETUMAL
FRANCISCO ESCARCEGA
XCALAK
RIO HONDO
ORANGEWALK
GUATEMALA
HONDURAS
BELIZE
THE
YUCATAN PENINSULA
CARIBBEAN SEA
BRITISH
0 10 20 30 40 50 Miles
STANN CREEK

Map 2

Contoy, and Blanca. Another island, Tamalcab, is located in the southern part of the Territory, in the Bahía de Chetumal, northeast of Ciudad Chetumal. Cozumel and Isla Mujeres form the major tourist attractions of the Territory.

Lying about twenty miles off the coast of southern Quintana Roo is a circular pattern of coral formations known as the Chinchorro Bank. These reefs were once sites of frequent shipwrecks, but lighthouses now stand at the extreme northern and southern limits. The calm water within the enclosure provides a well-protected fishing site for boats of shallow draft.

One of the chief assets of the peninsula is its natural endowment of construction materials. Piedra caliza (limestone), cal (white lime), polvo de piedra (rock powder), and sascab (Mayan for "white earth") are distributed throughout. Quintana Roo also benefits from its own supply of gravel. The two most expensive building materials, however, must be imported. Steel, used mainly for building supports, is acquired from Mexico City and distant Monterrey. High-grade cement is obtained from Mérida, Mexico City, and Veracruz, although polvo de piedra and sascab can be substituted on a limited basis.

Soils and Hydrographic Features

The soil groups of the peninsula correspond to those soils found in large parts of Tabasco, Veracruz, and

along the west coast of Middle America from southern Sinaloa to Panama. They are generally referred to as the latosolic soils of the wet-dry tropics. The soils of Quintana Roo are termed terrarosa (red earth), although much of the soil mantle has retained characteristics of its parent material and ranges in color from light to dark brown. Soils tend to be thinner and lighter in the northern part of the peninsula, and the average depth of soils in the entire area is less than two feet.

According to Mayan classification, the terrarosa is composed of the principal Kankab and Yaxhon, the intrazonals Ekclun and Alcalchis, and azonals Tsekel.[1] Because of the year-round warmth and rain, and the repeated use of the soils, many areas are characterized by a red soil condition that reflects the loss of nutrients and organic materials. These conditions of overworked and chemically leached soils may provide some explanation for the mass exodus of Mayans during their early empire.

Drainage in the Territory is generally subterranean, although some extensive areas of surface water exist. The thin soils and porous limestone base permit rapid percolation of rainwater. Irrigated areas are served by wells sunk to great depths, and the city of Chetumal also depends

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[1] Informativo No. 1 (Chetumal: Oficina de Información y Relaciones Públicas del Gobierno del Territorio de Quintana Roo, Tomo II, 1965), p. 11.

upon wells for its water supply.[2] Large ephemeral bodies of water appear during the summer months as a result of heavy rains, and there are twenty-four permanent lagoons. Of the latter the largest is Bacalar, near Ciudad Chetumal.

The Río Hondo, Quintana Roo's largest river, forms the southern boundary of the Territory. It is about eighty miles in length and reaches depths of from nineteen to thirty-six feet. The river provides an important means of transportation both for the inhabitants and for the forest products of the area.

Three large bays, all in the southern half of the Territory, include the Bahía de la Ascención, Bahía del Espíritu Santo, and Bahía de Chetumal. Espíritu Santo is the deepest and can be entered at Punta Herrero by boats with 14 to 18-foot draft. The Bahía de Chetumal is extremely shallow, allowing boats of no more than 9 to 10-foot draft to navigate its channel. Any use of the Río Hondo by larger craft would require dredging and deepening of the bay. Because of the expense required to deepen the channel, other sites along the coast are currently under study for port facilities.[3]

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[2]Five wells were in operation during the study period. Two were in temporary disuse because of saline conditions.

[3]Interview with Governor Javier Rojo Gómez, January 22, 1968 in Ciudad Chetumal.

Cenotes, or sinkholes, are scattered throughout the peninsula. Most villages still depend upon these cenotes for their supply of drinking water. Cozumel Island, supporting a population of about 5,000, pumps its water from twenty-three local cenotes. One historically used by the Mayans for human sacrifices is in use today by the town of Valladolid, Yucatán. Floodlights, circular staircase, and restaurant adorn the natural waterhole, making it one of Yucatán's prime tourist attractions (Figure 1).

Climate

The warm, moist, equatorial and maritime tropical air masses of summer, and the continental tropical air masses of winter, are the chief factors in the peninsula's tropical wet-dry climate. There is a rather pronounced seasonal rhythm of wet summers, with the most intense rains coming in late summer or early fall, and dry winters. From early Mayan times until the present, the rhythm of the rains has been the paramount element in determining the success or failure of the milpero, or subsistence farmer.

The least rainfall occurs in the northwestern corner of the peninsula. Here, the average annual precipitation ranges between 19.5 and 23.4 inches, is seasonal, and is characterized by torrential downpours.[4] The mean temperature of the coldest month exceeds 64.4°F.

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[4]Bablot, op. cit., p. 36.

Figure 1. Cenote at Valladolid.

Figure 2. A recent clearing in the selva at Ejido Tihosuco.

The southcentral part of the peninsula corresponds to the east coast tropical climate of Central America, which extends from the southern half of Veracruz to the west coast of Colombia. Similar climatic conditions appear in portions of the Amazon Basin and southeastern Brazil.[5] Although rainfall is abundant throughout the year, the heaviest rains occur in summer.[6] The average annual rainfall in this part of the peninsula is between 58.5 and 62.4 inches, and mean monthly temperatures exceed 64.4°F.

The climate varies only slightly in the remaining parts of the peninsula. There appears to be a higher average annual rainfall in the east, comprising most of Quintana Roo, than in Yucatán state. Paucity of data prohibits a more sophisticated analysis of the area's climate. A comparison of rainfall between stations in Quintana Roo and Yucatán is presented in Table 1.

It is not surprising that Tizimin and Valladolid record high rainfall, since these are the easternmost stations in Yucatán. Oxkutzcab is farther westward, but ". . . is at the southern edge of the northern plain, next to the slopes of the serranilla, and thus an orographic

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[5]For a discussion of precipitation and temperature-range differences in this climatic regime, see Arthur N. Strahler, Introduction to Physical Geography, John Wiley & Sons, New York, 1966, p. 137.

[6]Bablot, op. cit., p. 39.

situation may explain the slightly higher rainfall."[7] The records from Cozumel and Chetumal further support the idea that a more abundant rainfall regime exists in the east.

TABLE 1

MEAN ANNUAL RAINFALL AT SELECTED STATIONS IN QUINTANA ROO AND YUCATAN

Stations	Rainfall (inches)	Stations	Rainfall (inches)
Quintana Roo		Yucatán	
Cozumel	66.6	Peto	42.4
Chetumal	49.5	Izamal	40.7
		Espita	39.2
Yucatán		Sotuta	38.9
Oxkutzcab	50.9	Motul	36.5
Valladolid	44.6	Mérida	35.2
Tizimin	44.2	Hunucmá	32.4

Source: Clinton R. Edwards, Quintana Roo: Mexico's Empty Quarter (unpublished Master's thesis, Berkeley: Dept. of Geography, University of California, 1957), p. 55.

The recent rainfall data for Quintana Roo has been recorded by the Department of Water Resources and published by the Banco Agropecuario in Chetumal (Table 2). The readings were taken at four ejido sites, over a minimum

[7] [Same as source above (p. 56)]

period of eight years, and are somewhat representative of the area by virtue of the north-south orientation of the stations (Map 5, p.105). The large amount of rainfall received at the northernmost station, Nuevo Xcan, apparently reflects a location that benefits from an extended wet season and the humidity of the Caribbean.

TABLE 2

MEAN ANNUAL RAINFALL AT SELECTED EJIDO SITES IN QUINTANA ROO

Site	Rainfall (inches)	Months of Heaviest Rainfall	Data Period
Ejido Nuevo Xcan	64.8	June-October	1958-1965
Ejido Tihosuco	49.7	August-October	1950-1965
Ejido Valle Hermoso	46.3-52.6	July-September	1950-1965
Ejido Caobas	53.7	September-October	1958-1965

Source: Ejido studies by Banco Agropecuario, February, 1968, Chetumal, Quintana Roo

Vegetation

The vegetation pattern of the peninsula is generally one of transition from a monte bajo, or low forest, in the north to the luxuriant monte alto in the south. This pattern corresponds to the increase in rainfall, and the greater capacity of the soil to retain its moisture, from north to south. Trees tend to be shorter, more widely

spaced, smaller in girth, and less leafy in the north. Lower vegetative growth consists of matted thickets, some areas of savanna, and a wide variety of plants and flowers. From the center of the peninsula southward, tall trees with broad leafy crowns appear to blanket the landscape. Passage through the undergrowth is greatly facilitated with the aid of a machete.

Prior to Mayan settlement probably the entire peninsula, with the exception of coastal marshes, extensive mangrove swamps, and sandy beaches, was covered with forest. Since then deforestation has taken place in many areas as a result of both man and nature. The foremost example is in the striking disparity of the vegetation pattern between Yucatán and Quintana Roo. The former, almost completely devoid of trees, reflects the intensive use of the land since the time of Spanish settlement. While the Indian institution of milpa periodically destroyed some forest cover, its Spanish counterpart, the hacienda, systematically reduced the vegetation for the cultivation of crops.

In the southern part of Quintana Roo, forest products were long a prized goal of English industry. A prosperous trade developed in the seventeenth century between the Indians of this area and the British inhabitants of Belize. Dyewood, mahogany, and red cedar constituted the bulk of

trade, which continued to flourish long after the Mexican-Belize boundary ratification of 1897.[8]

The forces of nature have periodically played a paramount role in the depletion of forest reserves. The eastern part of the peninsula, including almost all of coastal British Honduras to the south, the entire seaward littoral of Quintana Roo, and the northern portion of Yucatán, lies in one of the two main hurricane tracks of the Caribbean. The tropical cyclones affecting this area usually originate off the west coast of Africa, sweep westward across the Atlantic and Caribbean, cross the Yucatan Channel and dissipate somewhere in the Gulf of Mexico or adjacent mainland.

The two most recent hurricanes causing extensive damage to forests in the Territory were "Hurricane Janet," in September, 1955, and "Hurricane Beaulah," in September, 1967. The former, in addition to leveling Chetumal and Xcalak, killed at least ninety-seven persons and destroyed forests containing approximately 300,000 cubic meters of potential lumber in southern Quintana Roo.[9] Even today, it is possible to identify the areas of regrowth, characterized by trees with shorter crowns and immature girths.

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[8]William J. Bianchi, Belize (New York: Las Américas Publishing Co., 1959).

[9]Mapas de México, Quintana Roo (Mexico, D.F.: Colección Geografía Pátria [1961]).

"Beaulah," the most recent hurricane, destroyed Popolnáh and the colony "Juárex," leveled Xcan in Yucatán, ruined the maize crop and damaged part of the henequen zone in the same state, and devastated about 31,000 cubic meters of potential lumber in northern Quintana Roo.[10] Further destruction would be especially critical to the Territory, since a large part of the economy remains dependent upon forest products.

A wide variety of plant life is found in Quintana Roo. In the north, the monte bajo includes species of tajonal, tzakiab, paradise, kup, flower of San Diego, xtabentun, and a wide variety of honey-smelling plants. In some parts, selva mediana or medium luxuriant forest, is distinguished by the species ha'bin, chechén, salam, kitamché, and dze dzilche. A small zone contains selva alta subperenifolia, with observed species of cedar, sapota, bohom, and chakah. All of the preceding are characteristic of the area around Nuevo Xcan.[11] Farther south, in the area of Tihosuco, the primary type of vegetation is selva mediana, with some species of selva alta subperenifolia (Figure 2, p. 14). Progressing still southward, to the area around Valle Hermoso, a combination of selva mediana

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[10] Diario de Yucatán (Mérida, Yucatán), February 1, 1968.

[11] The various species of vegetation in the Territory have been compiled through recent studies by the Banco Agropecuario in Chetumal.

and selva alta predominate. Forest cover is thick, containing the following species of trees: sapota, mahogany, ramón, cedar and parota or guanacaste. Selva baja subperenifolia includes forms of palo tinto, pucté, and jícaro. Some grasses are also observed of the species arrocillo, zacatón, carricillo, and lamedora.

Much of the southern part of the Territory is an extension of Guatemala's northern lowlands, with wooded covering generally referred to as the "sapodilla forest." The chiclezapote tree, from which crude chicle is abstracted, is prevalent throughout this area. Other species in the extreme southern part of the Territory include the jubo, copal, tzalam, ya'axnik, amapola, pimientillo, and various forms of palms.

Historical Background

The Yucatan peninsula and adjacent areas have produced a fascinating story of human settlement. Fifteen to twenty thousand years ago, Mongolian tribes migrated across the high plains of eastern Asia and entered North America by way of the Bering Straits. As they moved southward, crossing the Great Plains, some groups deviated to the east and west. Others continued on to what is now Mexico and Central America, or into the South American continent. These early nomads subsisted mainly by hunting and by gathering fruit.

About 4,000 B.C., the plant teosinte was found growing wild on the Mexican plateau and in Central America. Like their counterparts who were developing the use of wheat and barley in another part of the world, the inhabitants of this area learned to domesticate teosinte, which became the cultivated maize. Perhaps in no other area of the world is man's diet still so dependent upon the maize crop as in Mexico and Central America.

The Maya Empire

The transition from a nomadic to a sedentary way of life eventually resulted in a highly developed, unprecedented civilization in the Yucatan peninsula. The Maya Empire left its vestiges in Chiapas, Tabasco, Campeche, Quintana Roo, Yucatán, British Honduras, Guatemala, and parts of northern and western Honduras.[12] Its settlements spread over an area of five hundred miles in each direction.

Most historians recognize the Maya Empire as having reached its zenith of culture in the first of two epochs. From about the third or fourth century A.D. to the ninth century A.D., the Maya culture exhibited a high degree of consolidation. The accomplishments of the Mayas attest to their organization and ingenuity. Briefly, they developed a rather precise calendar, an accurate knowledge of

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[12]Frans Blom, The Conquest of Yucatan (Boston, New York: Houghton Mifflin Co., 1936).

astronomy, a hieroglyphic written language, and a mathematical system incorporating the concept of zero.[13] Mayan artwork, carvings and temple construction, in terms of design and technical skill, were comparable to those of other early civilizations. The spoken language contained a vocabulary of over 30,000 words.[14]

From a peak of development in the ninth century A.D., the Mayan civilization entered a period of decline. The events responsible for the rather sudden decay are to this day not fully known. A change in climate may have imposed drier conditions on a culture long dependent upon the seasonal rhythm of the rains. The soil mantle of the peninsula, both thin and low in humus content, may have become acutely overworked and depleted of the nutrients required to support an increasing population. The possibility of epidemics, such as yellow fever, cannot be ruled out, for they have been a major cause of illness and death as recently as 1945. The advent of internal conflict is still another possible explanation marking Mayan doom.

There was an attempt to revitalize the empire at the end of the tenth century A.D. Unfortunately, many of the former settlements in areas other than the Yucatan had

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[13]The Mayan symbol for zero appears as  .

[14]Henry Bamford Parkes, A History of Mexico (Boston: Houghton Mifflin Co., 1960).

been reclaimed by jungle. The "New Empire" centered around the cities of Chichén-Itzá, Mayapán, and Uxmal in the northern part of the Yucatan peninsula. The renaissance was marked by the assimilation of invading Toltec tribes from the central plateau and culminated prior to the Spanish conquest. The walled city of Tulum, erected in 1516 and described by Juan de Grijalva as "a bourg or village so large that Seville itself would not have appeared larger or better," was the last pillar of Mayan eminence.[15]

Colonial Period

Unlike the facility with which Hernán Cortéz and party overwhelmed and subjugated the Anahuac tribes of the central plateau, the conquistadores of the Yucatan peninsula were successfully resisted for centuries. Following the independence of Mexico in 1821, there were renewed hostilities between the Maya and the national government, culminating in the Caste War. It was not until the early twentieth century that a complete termination of belligerence occurred and the eastern part of the peninsula came under Mexican administration.

The first Spaniards to become acquainted with the peninsula were two shipwrecked sailors, Gerónimo de Aguilar and Gonzalo Guerrero. They apparently drifted from near

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[15]Henry F. Godfrey, Your Yucatan Guide (New York: Funk & Wagnalls, 1967), p. 134.

Jamaica to the northeastern tip of the peninsula in 1511.[16] The first expeditions to reach the peninsula in the name of the Spanish Crown arrived in 1517 and 1518. The former was led by Hernández de Córdoba. The latter, headed by Juan de Grijalva, touched at the island of Cozumel and continued its explorations along the coasts of Yucatán, Tabasco, and Veracruz. At Pontonchan (now Champotón, Campeche), Grijalva received his first lesson in Mayan military organization:

> Each regiment (8,000 Mayans per regiment) followed its own banner, and in many cases each had a sort of uniform. Their weapons were bows of wood with wooden arrows tipped with obsidian, flint, or bone, throwing-sticks, with which they hurled darts, broadswords of wood, edged with volcanic glass, slings and lances. In some places they also used blow-guns, but we have no reports that poisoned arrows were employed. For protection they carried shields of wattle, covered with hides of deer or jaguar, and Bernal Diaz describes their coats of armor made of cotton quilting.[17]

Since its establishment in 1542, Mérida has been the most important economic and political center on the peninsula. After a series of hostile encounters between the Maya and Spaniards, Don Francisco, son of the governor Montejo, established Spanish rule at this city. A short time later, the land was divided among Spanish representatives of the Crown (encomenderos) who exacted tribute from the heads of households living on the land. The encomienda system became an arrangement much resented by the Maya and

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[16] Blom, op. cit., p. 11.

[17] Ibid., pp. 17-18.

was a chief cause for continuing hostilities with the Spaniards. The system was not officially abolished, however, until the early eighteenth century.

For many years, the east coast and southeastern part of the peninsula were areas in which Spanish efforts at subjugation remained unsuccessful. French and British pirates, representing the strongest opposition during the late sixteenth and entire seventeenth centuries, engaged in smuggling and raiding along the east coast and as far north as Cape Catoche. Spanish settlements along the coast, and as far inland as Bacalar, were abandoned for a more interior location. In the meantime, the Maya were struggling for their own existence. Positioned between the encomenderos from the west and the coastal raiding parties from the east, many of the northern Maya fled and resettled in the southern half of present-day Quintana Roo.

During the first sixty years of the eighteenth century, English buccaneers remained in virtual control of the east coast. Numerous stories concerning their raids abound in the literature. One unsuccessful group of buccaneers disembarked in the Bahía de la Ascención in 1732, passed by Chunhuhub, and before arriving at Tihosuco were captured by a Spanish expedition sent by governor Antonio de Figueroa.[18] Although bands of pirates continued to

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[18] Datos sobre el territorio de Quintana Roo: introduction (Chetumal: Departamento de Turismo, circa 1968).

infest the Laguna de Yalahau and parts of the northeast until the early part of the nineteenth century, relations between Spain and the British Belize settlement improved steadily. Eventually, the conflict ceased.

By the Treaty of 1783, Spain granted England the privilege of cutting, loading, and carrying away logwood in the territory between the Río Hondo and Belize River. The Convention of London, three years later, extended Belize's cutting area south to the Sibún River and permitted the cutting of all types of trees. By the Treaty of Madrid, 1814, Britain's right of usufruct was acknowledged, although Spanish sovereignty was still conceded over the territory in which Britain exercised its license.[19] Britain also withdrew its scattered settlements along the east coast of the peninsula and consolidated at Belize.

In 1821, the Mexican Republic was established. The spirit of independence spread swiftly through Spanish-controlled Central America, and in 1836 the Decree of Cortes provided Spanish recognition of the newly emancipated provinces of the Captaincy General of Guatemala.[20]

War of the Castes

Commencing in 1847, the War of the Castes was basically a Mayan rebellion against more than three

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[19] Bianchi, op. cit., p. 72.

[20] Ibid.

centuries of oppressive treatment by the Spaniards and Mexicans. Specific grievances include the Indian's loss of control over his land, the unequal distribution of wealth, the taxes assessed Maya towns by the Church and State, the racial disparity between whites and Mayans, and the dishonesty of local politicians.[21] It was also the last major attempt by the Maya to insure their independence in the peninsula.

The Mayan forces were divided into three sectors: Chan Santa Cruz, Ixkanha, and Icaiche or Chichenha. The former originated the cult of the Cruz de Chan Santa Cruz, or "Talking Cross," in 1850 and became the most fierce and feared Indian group.[22] At one point in the war, the Maya penetrated as far north as Mérida. Had their arrival not corresponded with the rainy season, causing the departure of many Indians to their milpas, a siege of the city might have been successful and the contemporary history of the peninsula quite different.

The War of the Castes officially ended in 1853. Many of the Chan Santa Cruz, however, refused to accept the authority of the Mexican government and continued their

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[21]From the Museo at Bacalar, February, 1968. Recently converted into a museum, the fortress at Bacalar contains artifacts, photos, and historical records of the Caste War.

[22]Nelson Reed, The Caste War of Yucatan (Stanford: Stanford University Press, 1964).

resistance until the early part of the twentieth century. During this time, the British in the Belize Colony supplied the Chan Santa Cruz with rifles and needed equipment in exchange for the right to exploit the forests under Indian control.

In 1887, the cacicazgo (territorial and political unit) of Chan Santa Cruz requested annexation to the Belize Colony. The request only further pointed to the need to establish some formal demarcation between Mexico and Belize. By the Mariscal-Saint John Treaty of 1893 (ratified 1897), the Chan Santa Cruz officially became a part of Mexico.

Around the turn of the twentieth century, the Mexican government began to tighten its control in the southeastern part of the peninsula. Orthon P. Blanco is an historical celebrity to present-day residents of Chetumal. As a young naval officer, he was the first real administrative contact between the Mexican government and its property north of the Río Hondo. In 1899, he anchored a pontoon at Payo Obispo (Chetumal), thus insuring Mexico's interest in this region. Three years later, the government sent General Ignacio Bravo to complete the subjugation of the Indians.

Modern Period

The Territory was named after the illustrious yucateco, Don Andrés Quintana Roo, and was separated from Yucatán state by Porfírio Diaz in 1902. Quintana Roo

incorporated 50,843 square miles and Campeche state 50,952, leaving Yucatán state the smallest at 38,508 square miles. Relatively remote and unpopulated, the Territory's sole function during its formative years was as a penal colony. The first census, taken in 1910, recorded a population of only 9,109.[23] Undoubtedly, both the warfare and smallpox epidemics had had severe consequences on the indigenous population. During the next two census periods the population of the Territory fluctuated slightly, with a net decrease of 346 persons, from 10,966 in 1921 to 10,620 in 1930.

In 1931, for economic reasons, the Territory was divided by presidential decree between the states of Yucatán and Campeche. This arrangement, however, lasted for only four years. Reinstated as a Territorio Federal in 1935, Quintana Roo began to prosper as a result of the chicle boom which had begun in the late 1920's. The census of 1940 reflects this initial period of prosperity by a population figure of 18,752, an increase of more than 8,000 people in ten years.

By 1950, the Territory had 26,967 inhabitants. Although chicle and wood sales continued to be the basis of the economy, the demand for chicle had subsided

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[23]Mexico, Secretaría de Agricultura y Fomento, México: tercero censo de población (México, D.F. Dirección de Estadística, 1918).

substantially. Due to its isolation and the lack of harbor facilities at Chetumal, the Territory was, and in some respects still remains, closely alligned with British Honduras as an outlet for trade.

The plan to bring the Gulf Coast states into closer contact with the rest of the nation was inaugurated by President Ruíz Cortines (1952-1958). His "march to the sea" included plans to improve harbors, transportation, and marketing facilities for maritime industries.[24] These plans, however, had only slight consequence for the Territory.

For the people of Quintana Roo, the true benefactor was President Adolfo López Mateos (1958-1964). During his term of office, an extensive public works program which included a hospital, potable water plant, school construction projects, and drainage works was initiated in Ciudad Chetumal. Also, a power plant was erected on Cozumel, and the systematic eradication of malaria was undertaken throughout the Territory.[25] In 1958, the first road across the interior of the peninsula was completed, linking Mérida with Chetumal.

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[24]Robert E. Scott, Mexican Government in Transition (Chicago: University of Illinois Press, 1959), p. 41. Cortines also gave 14,000 square miles of Quintana Roo's forest and farmland to Yucatán and Campeche.

[25]"Report on Mexico: Part 2," Latin American Report, Vol. V, No. 2 (December, 1962), p. 12.

In 1960, the population of the Territory, though still relatively small, had grown to an astonishing 50,169. The causes underlying this rapid growth and other recent demographic changes are discussed in Chapter III.

CHAPTER III

POPULATION

The area corresponding to present-day Quintana Roo has historically been one of dramatic demographic change. In the three to four centuries following the Spanish conquest, the Indian was witness to a near-complete and systematic extermination of his people and, in general, his way of life.

Although plagued by tribal wars, overworked soils, and crop failures due to drought and pestilence, the Maya of eastern Yucatan were collectively a large body of people prior to Spanish arrival. Since the Maya did not keep any formal census data, most estimates of population have been based on vestiges of their empire and early Spanish records.

Numerous ruins have been found throughout the Territory, including the islands of Holbox, Cancun, Mujures, and Cozumel. Early trade routes appear to have been well established between the islands and the southeastern part of the peninsula. Just as pilgrimages were made to Chichén Itzá to solicit good harvests and weather forecasts from the rain gods, and to Izamal for the cure of bodily ills

by the sun god, Mayans attended the shrine of Ix Chel, goddess of procreativity, pregnancy, and divination, at Cozumel.[1]

Records of tribute, Spanish letters, accounts by priests, and crude census reports provide some information about early inhabitation. In 1544, the northern town of Kantunilkin had a population of 542. However, the 1549 tax list shows that only one-half of this number remained following the uprising of 1546.[2] Ecab, prior to its subjugation, was the principal cabecera (political center) in the northern province of the same name, while Cozumel's pre-conquest population was probably close to 9,000.[3] The 1549 tax list records these communities as having only 945 and 990 residents, respectively, reflecting the destructive impact of smallpox and other European diseases on the indigenous populations. Estimates vary as to the total number of inhabitants at the time of Spanish contact. For the area generally corresponding to the Territory, it would seem reasonable to accept a figure somewhere between Edward's "absolute minimum" of 212,000 and Jakeman's 300,000.[4]

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[1] Datos sobre el territorio de Quintana Roo (Chetumal: Departamento de Turismo, January, 1968).

[2] Ralph L. Roys, The Political Geography of the Yucatan Maya (Washington, D.C.: Carnegie Institute of Washington, Publication 613, 1957), p. 152.

[3] Edwards, op. cit., p. 132.

[4] Ibid., p. 144.

In the three to four hundred years following the first Spanish arrivals, the Indian population dwindled steadily. Disease, the binding encomienda system, the raids and pillage wrought by pirates and buccaneers, and frequent hostile encounters between the Indian and European, together formed an overwhelming force in the conquest and decimation of the Yucatan Maya. By the beginning of the twentieth century, it is estimated that only a small percentage of the original eastern Maya had survived:

> Thus the Territory continued in isolation from the rest of Mexican Yucatan, with a now painfully small but defiant population, further decimated by another disastrous smallpox epidemic. Sapper had estimated the population of the Ixkanhá group (in the southwest) of independent Maya in 1904 at about 8,000, and that of the Santa Cruz at 8,000 to 10,000. A further decrease from this estimate occurred during the following six years.[5]

Census data showing population changes in the Territory, for the periods 1910-1960, are presented in Table 3. A meager population of 9,109 was recorded in the first official census of the Territory in 1910, and little increase occurred during the next twenty years. The first decade of substantial growth, 1930-1940, was a result of two factors: (1) the Territory entered a period of relative economic prosperity, through the sale of raw chicle, and (2) the goals of the Mexican Revolution (1910) and Constitution (1917) began to materialize. During the

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[5] Ibid., p. 167.

administration of Lázaro Cárdenas, 1934-1940, the redistribution of land was undertaken ardently and in all of Mexico included the resettlement of 814,519 previously landless farmers. In Quintana Roo, the arrival of many new ejidatarios contributed to the population increase of 1930-1940.

TABLE 3

POPULATION OF QUINTANA ROO, 1910-1960

Year	Total Population	Percent Increase
1910	9,109	---
1921	10,966	19.8
1930	10,620	-2.7
1940	18,752	76.4
1950	26,967	43.8
1960	50,169	86.0

Source: Censo Nacional.

Recent Demographic Change

During the years 1940-1960, the population of Mexico increased by 15.2 million people, or 77 percent, bringing the total to 35 million. This rapid growth reflects a high rate of natural increase, the result of a sharp decline in the death rate attributable to improvements in medicine, hygiene, and sanitation. Table 4 illustrates

the decrease in the death rate from 16.2 per thousand in 1950 to a record low of 11.4 in 1960.

TABLE 4

CRUDE BIRTH, DEATH, AND NATURAL INCREASE RATES PER THOUSAND POPULATION: MEXICO, 1950-1960

Year	Births	Deaths	Increase
1950	45.5	16.2	29.3
1951	44.6	17.3	27.3
1952	43.6	14.9	28.7
1953	44.7	15.8	28.9
1954	46.0	13.0	33.0
1955	45.9	13.6	32.3
1956	46.1	11.9	34.2
1957	46.6	13.0	33.6
1958	44.0	12.3	31.7
1959	46.9	11.7	35.2
1960	45.0	11.4	33.6

Source: United Nations, Demographic Yearbook, 1961.

Quintana Roo Territory provides an extreme illustration of the nation's population growth. In 1940, there were 18,752 inhabitants, whereas by 1960 the number had nearly tripled, reaching 50,169. Obviously, even with a high rate of natural increase, the largest part of this growth was due to in-migration.

During the decade 1940-1950, the population of Quintana Roo increased by 8,215. The rate of growth, 43.8 percent, was well above the national average of 31.2 percent. Other political entities greatly exceeding the national growth rate included Baja California Norte (187.6%), the Federal District (73.6%), Tamaulipas (56.5%), Morelos (49.3%), Colima (42.6%), and Sonora (40.2%). The state of Hidalgo (10.2%) had the lowest growth rate in the Republic. Though small in terms of actual numbers, the addition of 8,215 persons in the Territory does reflect a carry-over of interest generated by settlers of the preceding decade. Migration to the Territory accounted for more than 80 percent of the total increase or, in absolute terms, 6,672 new arrivals.

During the period 1950-1960, Quintana Roo experienced an even more remarkable growth in population. The number of inhabitants nearly doubled in one decade, from 26,967 in 1950 to 50,169 in 1960 (See Table 3, p. 36). The Territory's 86 percent growth far surpassed the national average of 35.4 percent and was exceeded only by Baja California Norte's continued high rate of 129.2 percent. Other entities well above the national average included the Federal District (59.7%), Sonora (53.4%), Colima (46.4%), Nuevo León (45.8%), and Chihuahua (44.9%). Once again, the state of Hidalgo had the lowest growth rate in the Republic at 17.0 percent. Yucatán state, Quintana Roo's

northwestern neighbor, also ranked among the lowest, with a growth of only 18.8 percent.[6]

The large increase of population in Quintana Roo, 1950-1960, was again largely the result of in-migration. The number of migrants increased from 6,672 in the decade ending in 1950 to 19,656 in the next ten year period, or an increase of 194.6 percent. Migration to the Territory is compared for the last two census periods in Table 5. From 1940 to 1950, twenty-four states contributed between 0-99 migrants each, as compared to nineteen states in 1950-1960. The five states to change from a Class I (0-99) to Class II (100-199) status were Jalisco, México, Michoacán, Puebla, and San Luis Potosí. Chiapas was the only state to drop from Class II to Class I in 1960. Tabasco maintained its Class III (200-299) status, while the Federal District and Guanajuato both changed to Class IV (300-399) from a Class II and Class I status, respectively. The remaining Gulf Coastal states of Campeche, Veracruz, and Yucatán, represented in Class V (400-499), VI (500-599) and VII (exceeds 600), were the sources of heaviest migration (Map 3).

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[6]For a graphical comparison of the percentage increases of population by political entity see: Paul Cross Morrison, "Population Changes in Mexico, 1950-1960," Revista Geográfica, Tomo XXXIII, Núm. 59 (Julho/Dezembro, 1963), p. 85.

TABLE 5

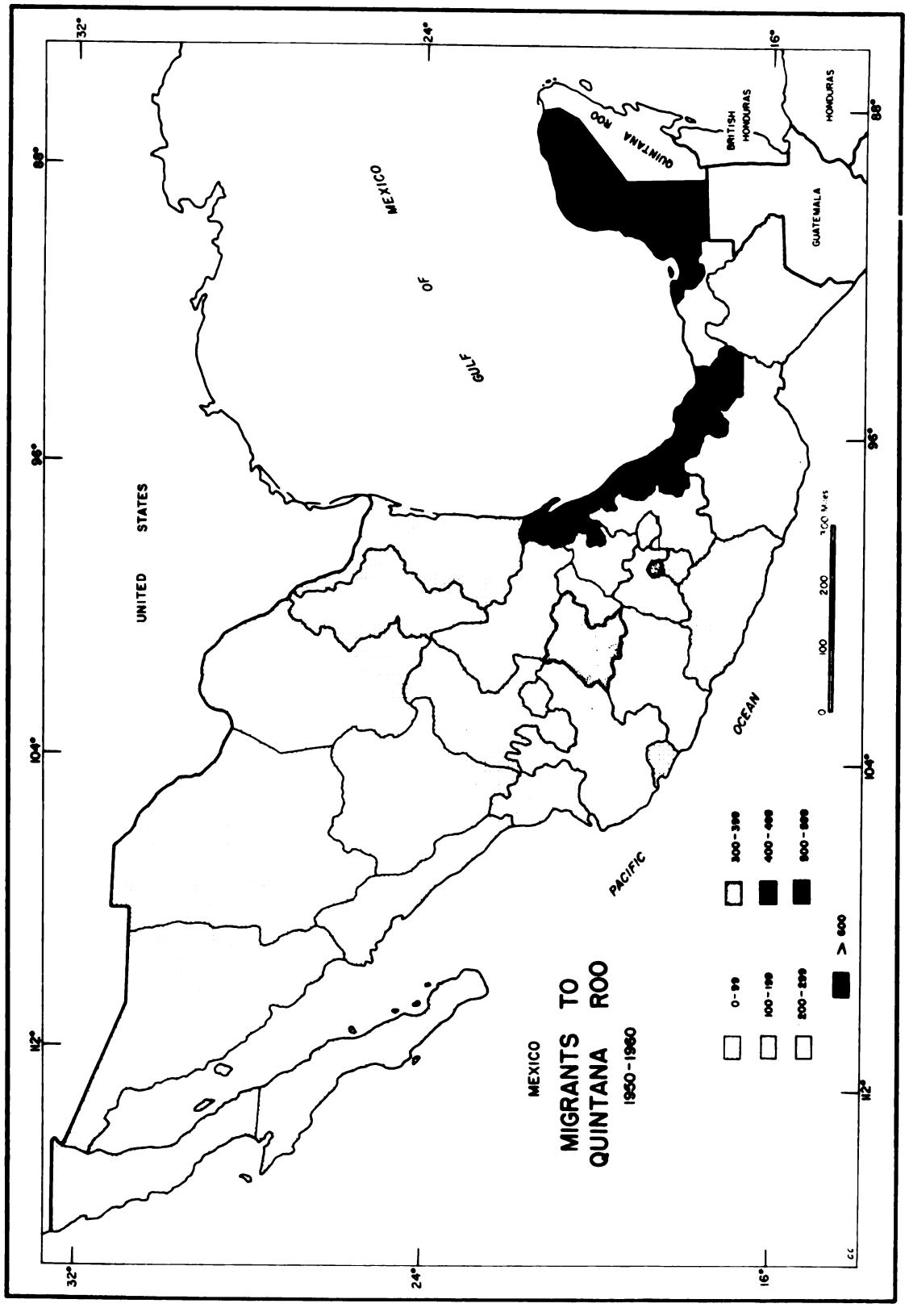
GROUPED FREQUENCY DISTRIBUTION OF MIGRANTS TO QUINTANA ROO FROM THIRTY-ONE STATES OF MEXICO 1940-1950 and 1950-1960

Interval (number of migrants)		Frequency, f 1940-1950	1950-1960
Class I	0- 99	24	19
Class II	100-199	3	6
Class III	200-299	1	1
Class IV	300-399	1	2
Class V	400-499	1	1
Class VI	500-599	0	1
Class VII	Exceeds 600	1	1
		31	31

Source: Censo General-1960.

The most significant factor concerning recent migration to the Territory is the large influx of people from Yucatán state. In the decade 1940-1950, Yucatán accounted for 4,734, or 71 percent, of the total 6,672 migrants to Quintana Roo. During the following ten years, Yucatán's contribution nearly quadrupled to 15,873, or 81 percent, of the total 19,656 immigrants.

To fully understand the exodus from Yucatán, it is necessary to examine the underlying cause of this departure. As indicated in Chapter II, the state is characterized by


MEXICO
MIGRANTS TO QUINTANA ROO
1950-1960
0-99
100-199
200-299
300-399
400-499
500-599
> 600
UNITED STATES
MEXICO
GULF OF
PACIFIC OCEAN
QUINTANA ROO
BRITISH HONDURAS
GUATEMALA
HONDURAS
0
100
200
32°
24°
16°
96°
104°
112°
88°

Map 3

extremely thin soil, a marked absence of surface water, and a low annual rainfall compared with that received in the southern half of the peninsula. The thin, stony, and arid limestone soils of Yucatán, however, provide ideal conditions for the cultivation of henequen.

First used by the early Maya and later commercially produced by Spanish landholders, henequen fiber became the world's leading source of cordage and twine in the late nineteenth and early twentieth century. The period of relative prosperity for the Mexican henequen industry lasted from about 1850 to 1920, the zenith of production being reached in 1916 with a record output of 217,300 long tons from more than 1,000 farm units and 850 mills.[7] Early in the twentieth century, however, Mexican hegemony was rivaled by similar fibers cultivated in British East Africa, Cuba, and the Philippines. Increased competition from synthetic fibers, from high quality abaca and from African sisal, contributed to the rapid decline in Mexico's henequen sales during the following decades. As a result of this decline, Yucatán's economy was in crisis in the early 1950's. Table 6, which presents an occupational breakdown of Yucatán's working force, indicates the state's dependence upon agriculture.

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[7]Roland Chardon, Geographic Aspects of Plantation Agriculture in Yucatan (Washington, D.C.: National Academy of Sciences, Publication 876, 1961), p. 38.

TABLE 6

YUCATAN: OCCUPATIONAL DISTRIBUTION OF WORKING FORCE, 1952

Occupation	Number of Workers	Percent of Working Population
Agriculture	100,168	60
Industry	25,976	15
Commerce	15,958	10
Transportation	4,922	3
Other	20,356	12
Total	167,380	100

Source: Bablot, p. 80.

The extreme dependence upon the henequen plant in Yucatán is reflected by its rank in the value of agricultural production for 1952: henequen 69.3 percent, maize 23.2 percent, and 7.5 percent classified as "other." Considering that a large part of the labor force was engaged not only in henequen production but also in the commercial, industrial, and transportational aspects of the fiber, it becomes apparent that the henequen crop in some way provided employment for at least 80 percent of the total population. The decline of Yucatán's henequen empire consequently resulted in the emigration of many thousands of inhabitants. The target of their exodus became the frontier area, Quintana Roo, once access was provided.

As illustrated in Table 7, the striking feature of the migration to Quintana Roo, 1950-1960, is that it commenced about 1958. In just three years, 1958 through 1960, the population of the Territory increased by 15,530, as compared with 7,672 during the preceding seven years. A combination of factors is largely responsible for this sudden movement of people to the Territory in the latter part of the decade. The Chetumal-Mérida highway was completed in 1958 and provided the inhabitants of Yucatán with direct access, for the first time, to vast tracts of unsettled land in neighboring Quintana Roo. The opening of the highway itself resulted from the earlier emphasis upon reconstruction and development which was precipitated in the aftermath of Hurricane Janet in 1955. While a large number of people were attracted to Chetumal during the period of reconstruction, the subsequent migration to rural areas was even greater.

Thus, it was Hurricane Janet that initiated the chronology of events leading to the influx of migrants to Quintana Roo. On September 28, 1955, the capital of the Territory, Ciudad Chetumal, was almost completely destroyed by this tropical storm. Although eighty-seven persons were officially listed as dead, many estimate the loss at four to five hundred.[8] Numerous wooden structures in the city

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[8]Santiago Pacheco Cruz, "Geografía del Territorio de Quintana Roo," Boletín de la sociedad Mexicana de geografía y estadística, Tomo 85, Núm. 1-3 (Enero-Junio, 1958), p. 102.

were destroyed, as were large areas of forest in southern Quintana Roo.

TABLE 7

POPULATION OF QUINTANA ROO TERRITORY
1950-1960

Year	Population	Year	Population
1950	26,967	1956	n.a.
1951	28,004	1957	34,639
1952	29,014	1958	n.a.
1953	30,060	1959	n.a.
1954	31,144	1960	50,169
1955	32,267		

Source: Quintana Roo, esquema social y ecónomico (México, D.F.: Almacenes Nacionales de Depósito, S.A., 1957), p. 34.

In the weeks following Hurricane Janet, many persons moved from Chetumal to Mérida. Aéreos Mexicanos S.A., flying three to six flights daily, transported 1,370 persons to Mérida from September 30 to October 20, 1955.[9] This figure probably represents between 15 and 20 percent of Chetumal's total population. Ironically, because of the tragedy, the Territory ultimately benefitted. Large sums of capital were donated for reconstruction by Yucatán's

[9] Ibid., p. 188.

Cámara de la Industria de Henequén, Unión de Producción de Henequéneros, and the Liga de Trabajadores de Artefactos de Henequen. Additional funds were sent from Campeche and from the United States. National concern for Quintana Roo reached its zenith during the administration of President Adolfo López Mateos. As a result of federally sponsored construction programs, numerous jobs were made available and the population of Ciudad Chetumal was substantially increased. Perhaps the most significant project, however, was the completion of the Chetumal-Mérida highway in mid-1958 which opened the rural areas of the Territory to settlement.

Prior to 1958, the Territory was virtually inaccessible. During periods of unfavorable weather, overland travel from Mérida to Chetumal might require a week or more. For many years construction of the Chetumal-Mérida highway had progressed, but at a very slow pace. A report of the situation follows:

> In 1954 the road from Peto had been put in 'all-weather' condition as far as 'Kilometro Cinquenta' (50 kilometers from Peto), and work northward from Chetumal had proceeded to within a short distance of Santa Cruz Chico. A truck or jeep could be driven from Peto to Carillo Puerto after a period of dry weather, but travel in the rainy season is restricted to shanks-mare or mule train.[10]

During the summer of 1958, the long-awaited Chetumal-Mérida highway was completed. It provided the

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[10]Edwards, op. cit., p. 107.

Territory with its first uninterrupted, "all-weather" connection with Yucatán state and marked the unification of Quintana Roo with the Mexican nation.

To migrants from Yucatán, the available land in Quintana Roo was a major attraction. Due to a burdensome population pressure on the arable lands of central Mexico, settlers from that area also looked favorably upon the government-owned land in the Territory. In absolute numbers, as illustrated in Table 8, the rural areas of the Territory showed a gain of 14,679 persons from 1950-1960, whereas the increase in urban population was 8,523.

TABLE 8

QUINTANA ROO: URBAN AND RURAL POPULATION
1950 and 1960

Year	Total	Urban	Rural
1950	26,967	7,247	19,720
Men	14,200	3,638	10,562
Women	12,767	3,609	9,158
1960	50,169	15,770	34,399
Men	26,594	8,164	18,430
Women	23,575	7,606	15,969
Total increase	23,202	8,523	14,679
Percent increase	86.04	117.6	74.4

Source: Censo General-1960.

The Territory is divided politically into four municipalities or delegations. From north to south, they are Isla Mujeres, Cozumel, Carillo Puerto, and Payo Obispo. Administrative centers for these delegations are located at Isla Mujeres, San Miguel, Felipe Carillo Puerto and Ciudad Chetumal, respectively. The major city of the Territory is Chetumal, which grew from 7,247 persons in 1950 to 12,855 in 1960. Of the remaining 590 localities recorded in the 1960 census, there were 78 towns and 482 farms of varying size.

Population growth by delegation, for the period 1950-1960, is presented in Table 9. It is interesting to note that the Carillo Puerto delegation, occupying the central part of the Territory, and traversed by the Chetumal-Mérida highway, experienced the largest increase. Although Payo Obispo showed substantial gain, approximately two-thirds of the population is accounted for by Ciudad Chetumal. The remainder of this southernmost delegation is sparsely inhabited, although it may play a key role in future colonization schemes. Of the remaining two delegations, Cozumel and Isla Mujeres, Cozumel's population was substantially the greater and increased more rapidly.

The distribution of population, by sex and four-year age groups, is illustrated in Figure 3. As is true of the Republic as a whole, and of many other Latin American countries, Quintana Roo's population is markedly youthful.

Fifty percent of all females and 45.5 percent of all males were less than fifteen years of age in 1960.[11] The youthfulness of population is largely a result of the striking reduction in pre-natal and child mortality since the early 1940's. This parallels the national death rate in Mexico, which dropped from more than 22 deaths per 1,000 population prior to World War II, to 16.2 per 1,000 in 1950, and to a record low of 11.4 in 1960. Meanwhile, fertility rates have remained consistently high at about 45 births per 1,000 population.

TABLE 9

QUINTANA ROO POPULATION GROWTH BY DELEGATION
1950-1960

Delegation	1950	1960	Percent Increase
Isla Mujeres	2,307	3,949	71.0
Cozumel	4,282	7,562	76.5
Carillo Puerto	8,310	19,900	139.0
Payo Obispo	12,068	18,758	55.5
Territory	26,967	50,169	86.0

Source: Censo General-1960.

[11] A comparison between the Republic and the Territory indicates that 44.2 percent and 44.5 percent of their populations, respectively, were less than fifteen years of age. In the United States the figure is about 27 percent, while that of England is 22.

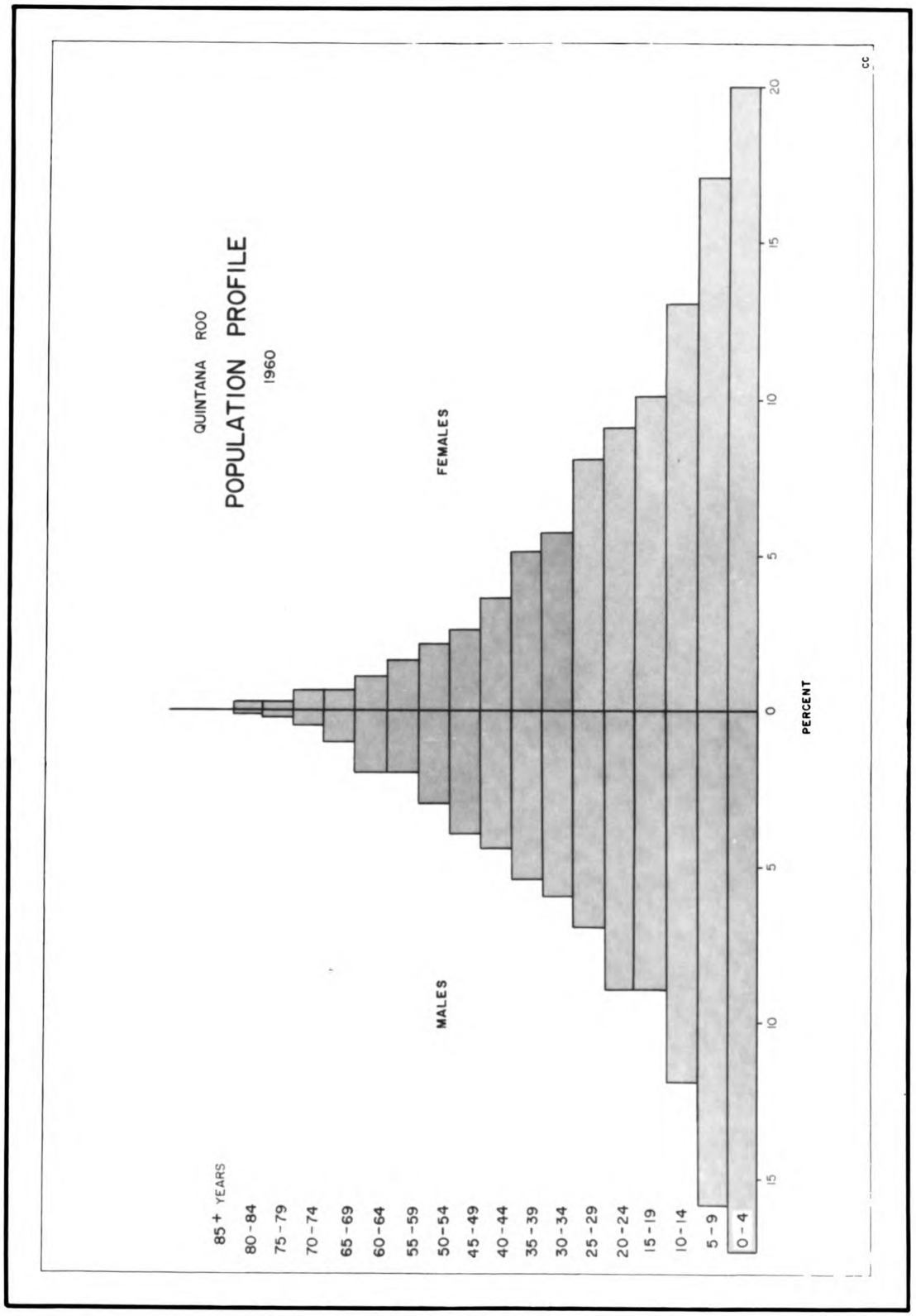
QUINTANA ROO
POPULATION PROFILE
1960
FEMALES
MALES
PERCENT
85+ YEARS
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
15
10
5
0
5
10
15
20
cc

Figure 3

The numerical excess of men over women in all of the age groups beyond thirty in Quintana Roo may be explained by the probability that many of the men who came to this area during the early part of the century were unmarried, a common phenomenon in areas of pioneer settlement. Moreover, when they did marry it was with younger women. However, the gap between the sexes appears to be diminishing rapidly. In absolute terms, males in the 0-4 age group held a very narrow majority over 0-4 year-old females.

Current and Projected Population

By all indications, the population of Mexico should continue to grow at a record pace during the present and next several decades. Having grown from 19.6 million in 1940, to 26 million in 1950, to 34.9 million in 1960, and to 42.8 million in 1965, the Republic is expected to have 51.1 million inhabitants by 1970 and possibly 60.9 million by 1975.[12] In just twenty years, 1950-1970, the population will have nearly doubled. This growth is even more impressive when compared with countries such as East Germany, Hungary, or Gabon, where between 225 and 350 years have elapsed before a doubling of the population occurred.[13]

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[12] Diario de Yucatán, February 5, 1968.

[13] The Baltimore Sun, March 10, 1968.

Two significant patterns have emerged in the contemporary demography of Quintana Roo. First, the population of the Territory is now growing at a notably slower pace than during the latter part of the previous decade. During the period 1960-1966 the population of the Territory increased by less than 9,000, as shown in Table 10. This figure represents a total growth of 19.5 percent or an annual increase of about 3.2 percent. Second, there has been a much larger growth in the urban population than in the rural population, as contrasted with the previous decade. Employment opportunities in Ciudad Chetumal and San Miguel have attracted migrants from both outside and within the Territory. Notwithstanding these two urban concentrations, the population of Quintana Roo remains overwhelmingly rural as shown in Table 11.

TABLE 10

POPULATION GROWTH IN QUINTANA ROO
1960-1966

Population Unit	1960	1966	Percent Increase
Delegation			
Isla Mujeres	3,949	5,000	26.5
Cozumel	7,562	9,500	26.0
Carillo Puerto	19,900	22,500	13.0
Payo Obispo	18,758	23,000	22.0
Urban	15,770	23,000	46.9
Rural	34,399	37,000	7.5
Ciudad Chetumal	12,855	17,500	36.0
Territory	50,169	60,000	19.5

Source: Secretaría de Agricultura y Ganadería, Ciudad Chetumal, December, 1967.

TABLE 11

URBAN-RURAL POPULATION OF QUINTANA ROO
1966

Delegation	Urban		Rural	
	Number	Percent	Number	Percent
Isla Mujeres	500	2	4,500	12
Cozumel	4,000	18	5,500	15
Carillo Puerto	1,000	4	21,500	58
Payo Obispo	17,500	76	5,500	15
Total	23,000	100	37,000	100

Source: Secretaría de Agricultura y Ganadería, Ciudad Chetumal, December, 1967.

There is some uncertainty as to the future of population growth in the Territory. Projections obtained from two separate government agencies are presented in Table 12. Projection I, calculated by use of a "components" technique, is quite high, being based upon the large influx of the previous decade. Projection II is probably more realistic although it may, by 1970, prove to have been slightly conservative.

The reasons for the current decrease of population growth in Quintana Roo can be traced to a combination of factors. Most significant, the past emigration of people to the Territory from Yucatán state has virtually ceased. Although difficult to assess completely at this time, the

economy of Yucatán state appears to have at least temporarily recovered from the brink of economic chaos. During the past ten to fifteen years it has become more diverse, with somewhat less dependence upon henequen. The second factor is that, owing to the rapid increase of population in Ciudad Chetumal, unemployment has become a problem. The capital is not growing physically at a pace equal to the population increase, nor is it providing critically needed small industries to absorb the excess manpower. Finally, the rural way of life in Quintana Roo is possibly the most difficult in the entire Republic. Without the support of continued government subsidies, a farmer stands little chance of escaping a life-long struggle for subsistence.

TABLE 12

POPULATION PROJECTIONS FOR QUINTANA ROO
1966-1970

Projection	1966	1967	1968	1969	1970	Percent Increase
I[a]	69,000	72,000	76,000	80,000	84,000	68.0
II[b]	60,000	62,000	64,000	66,500	69,000	37.5

[a]Dirección General de Estadística, Secretaría de Industria y Commercio, Projecciones demográficas de la republica Mexicana población, México, D.F., 1966.

[b]Secretaría de Agricultura y Ganadería and Secretaría de Educación Pública, Ciudad Chetumal, 1967/1968.

CHAPTER IV

THE RURAL ECONOMY

A significant aspect of the population growth of Quintana Roo Territory is that human settlement is overwhelmingly rural. More than twice as many people live in the campo as in urban centers. The availability of land, the construction of roadways, and the increased support from government programs, together, have provided a vital stimulus for the development of an integrated rural economy.

The basis for the rural economy has for decades been the forests. Chicle, red cedar, mahogany, and various hardwoods, even today, constitute the leading source of revenue in the Territory. However, the forest economy is slowly becoming secondary in importance to another development in the countryside. Government planning and assistance is being directed to the ejidatario with the ultimate aim of converting more than five million acres of selva into grasslands for livestock production.

Whether or not the Territory can realistically hope to achieve economic stability, and possibly statehood, within the not-too-distant future is an important question. To best evaluate the rural economic structure of the

Territory, it is useful to begin with an examination of the traditional basis of the economy, the forests.

Forestry

The Territory's 7.4 million acres of forest make it the fifth-largest wooded entity in the Republic, exceeded only by the states of Durango (9.3 million), Chihuahua (11.8 million), Chiapas (7.7 million), and Tamaulipas (7.5 million), as shown in Table 13. Quintana Roo has, however, the most extensive tropical and subtropical forests in the country. Approximately 60 percent of the total land surface is forested.

For centuries, forest products have constituted the basis of the economy in the eastern and southeastern part of the Yucatan peninsula. The greatest demand by the English and other Europeans was for the cedar, mahogany, dyewood, and various other hardwoods.

Chicle

During the early part of the twentieth century, the Territory played an extremely important role in the expanding chewing gum industry of the United States. The latex extracted from the chiclezapote tree was purchased in large quantities and used as a gum base for chiclets and gum. Mexico's chicle production attained its peak in the 1920's, with annual sales of from 15 to 16 million pounds. Of this

TABLE 13

FORESTED AREA IN THE REPUBLIC OF MEXICO
1966

Political Unit	Temperate and Cold Zones (acres)	Tropical and Subtropical Zones (acres)
Aguascalientes	123,500	---
Baja California (state)	395,200	---
Baja California (territory)	---	494,000
Campeche	---	5,804,500
Coahuila	390,260	---
Colima	88,920	523,640
Chiapas	2,176,070	5,626,660
Chihuahua	11,856,000	---
Distrito Federal	86,450	---
Durango	9,519,380	---
Guanajuato	464,360	---
Guerrero	2,754,050	2,223,000
Hidalgo	918,840	345,800
Jalisco	1,778,400	1,185,600
México	1,501,760	---
Michoacán	2,052,570	531,050
Morelos	113,620	54,340
Nayarit	1,679,600	1,136,200
Nuevo León	1,076,920	---
Oaxaca	2,959,060	286,520
Puebla	1,047,280	674,310
Querétaro	318,630	91,390
Quintana Roo	---	7,464,340
San Luis Potosí	787,930	1,286,870
Sonora	1,803,100	---
Sinaloa	963,300	2,902,250
Tabasco	---	1,062,100
Tamaulipas	864,500	6,649,240
Tlaxcala	103,740	---
Veracruz	1,358,500	3,952,000
Yucatán	---	2,015,520
Zacatecas	869,440	---
	48,051,380	44,309,330

Total forest acreage: 92,360,710

Source: Bosques, Tomo III, No. 7 (México, D.F.: Marzo, 1967), p. 12.

amount, Quintana Roo supplied half, with the remainder being gathered in the states of Campeche, Chiapas, Tabasco, Veracruz, and Yucatán.[1]

The history of the acquisition and transportation of chicle is fascinating. Until the time of ultimate governmental control, the industry was characterized by graft, cunningness on the part of the chiclero, and intrigue. Sales between chicle owners and Wm. Wrigley Jr. Company representatives were negotiated directly. During the late 1930's and early 1940's, small dirt airstrips were cut out of the brush in Quintana Roo, from which the chicle was transported by twin-engined Cessnas, various one-motored craft, and large three-motored Fords. From 1940 to 1958, Cozumel Island functioned primarily as a chicle emporium. With the completion of the Chetumal-Mérida highway in 1958, the transportation of chicle was significantly altered. Today, the latex is trucked to Progreso, in Yucatán state, where it is loaded on ships for distribution to international markets.

Until a few years ago, the Wm. Wrigley Jr. Company maintained a virtual monopoly over the natural gum industry. The company had been most instrumental in organizing and perpetuating a beneficial legacy of commercial interaction, particularly with Mexico and Guatemala. Although the

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[1]Interview with Mr. A. B. Guemmer, November, 1967.

industry has witnessed a growing competition from recently-developed artificial gum bases, chicle purchases by the Wm. Wrigley Co. have remained surprisingly stable (Table 14).

During the two years 1966-1967, Japanese chicle purchases in both Mexico and Guatemala were notable. Data for 1966/67 exports from Quintana Roo are presented in Table 15. Some 570,900 pounds, or about 45 percent of the total chicle harvest, was purchased by Mitsui and Company Ltd. of Japan; 371,444 pounds, or 28 percent by S. Jackson and Son of New Orleans; and the remaining 345,556 pounds, or 27 percent, by the Wrigley Company. In Guatemala, the entire 1967/1968 chicle crop was contracted to the Japanese.[2] Wrigley chicle purchases from Quintana Roo were consequently quite large during the latter months of 1967 (first half of 1967 season). By December 31, 1967, Wrigley had bought 820,466 pounds of chicle from the Territory, compared with Mitsui's purchase of 67,454 pounds.[3]

Timber

While chicle remains the Territory's major international "cash crop," wood products in the form of cut timber are sold only to national markets. Since the establishment

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[2]From Dr. Clarence W. Minkel, by interview with Federico Gonzales H., Wrigley Import Co. representative, Guatemala City, February, 1968.

[3]Secretaría de Agricultura y Ganadería, Ciudad Chetumal, December, 1967.

TABLE 14

CHICLE PURCHASED BY WM. WRIGLEY JR. CO. FROM BANCO NACIONAL DE COMERCIO EXTERIOR, S.A. 1949/50-1965/66

Season	Pounds Delivered	
	Campeche	Quintana Roo
1949/50	1,431,107	1,102,310
1950/51	2,174,075	2,163,140
1951/52	1,921,181	1,126,485
1952/53	1,284,670	1,212,541
1953/54	2,072,466	1,583,415
1954/55	1,818,812	2,259,735
1955/56	1,527,801	1,527,802
1956/57	1,632,293	913,259
1957/58	1,801,205	1,279,095
1958/59	2,616,593	2,627,889
1959/60	1,622,162	2,082,542
1960/61	1,550,321	1,358,792
1961/62	1,609,023	1,929,042
1962/63	n.a.	1,887,324
1963/64	n.a.	1,017,742
1964/65	n.a.	881,876
1965/66	n.a.	1,261,727

Source: The Wm. Wrigley Jr. Company, Chicago, November, 1967.

TABLE 15

CHICLE PURCHASES IN QUINTANA ROO
1966/1967

Buyer	Summary Percentage	Pounds
Mitsui and Co.	45	570,900
S. Jackson and Son	28	371,443.6
Wrigley Co.	27	354,556.4
Total	100	1,296,900.0

Buyer	Date	Pounds
S. Jackson and Son	October 13	143,329.6
Mitsui and Co.	October 26	110,000
Wrigley Co.	November 3	165,059.6
"	November 9	79,160.4
"	November 18	110,336.4
S. Jackson and Son	November 29	80,320.9
Mitsui and Co.	November 29	11,000
"	December 14	110,000
"	December 29	110,000
S. Jackson and Son	January 12	147,793.1
Mitsui and Co.	February 21	125,400
"	March 3	82,500
"	March 20	22,000
Total		1,296,900.0

Source: Secretaría de Agricultura y Ganadería, Ciudad Chetumal, December, 1967.

of the MIQRO (Maderas Industrializadas de Quintana Roo), in 1957, all felled timber is pre-cut into boards and beams before being distributed to other parts of the Republic.

The rapid depletion of forest reserves in the Republic has been of increasing concern to the national government. In March, 1964, the national Asamblea de Programación declared a program by which the forests of Quintana Roo would be exploited rationally.[4] Among the regulations established is that a tree may only be cut if its diameter is at least 13-1/4 inches. Also, both the national domain and ejidos supplying the timber are to be parcelled so as to permit a normal cycle of regrowth (about 25 years) and thus insure a continued income for the Territory.

Government-owned land comprises the most extensive forest areas exploited for timber. Lote Norte, covering more than 1.1 million acres, spreads west of Chacchoben and is the Territory's largest source of cedar. Lote Sur, providing the Territory's largest quantities of mahogany, covers 33,523 acres and extends southwest of the Chetumal-Escárcega highway to the Río Hondo. Together, these two areas supply 50 percent of the total timber cut in the Territory.

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[4]Subsecretaría Forestal y de la Fauna, Conceptos del Lic. Gustavo Diaz Ordáz, Mexico, 1965, p. 20.

Lumber production in 1965 is presented in Table 16. Since the implementation of the 1964 exploitation program, annual production has averaged about 31,000 cubic meters of wood. Ejido Petcacab, northwest of Lake Bacalar, is the largest ejido contracted for timber, while Ejido San Francisco de Botes, bordering the Río Hondo, is the smallest. The combined ejido surface of 492,060 acres represents nearly 30 percent of the total area allocated for forestry and supplies 50 percent of the Territory's timber production. Of the 31,032 cubic meters of timber cut in 1966, mahogany accounted for approximately 53 percent, other tropical hardwoods 30 percent, and cedar the remaining 17 percent.[5]

The future of forestry in Quintana Roo is uncertain. The rising cost of natural chicle, the discovery of other natural gums, the increasing availability of artificial gum bases, and the building of roads and extension of farm land may spell eventual doom to the Territory's chicle industry. Similarly, the areas set aside for the exploitation of cedar, mahogany, and various other hardwood may one day have to be reduced to accommodate an increasing population pressure on the land. Whatever the changes, it appears unlikely that the "traditional" forest products will play a dominant role in the future of Quintana Roo.

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[5]From the Secretaría de Agricultura y Ganadería in Chetumal, January, 1968.

TABLE 16

TIMBER PRODUCTION IN QUINTANA ROO
1965

Location	Area (acres)	Precious woods (mahogany & cedar) (M^3)	Other woods (ramon, guanacastle, chaca, etc.) (M^3)
Terrenos Nacionales	1,142,553	8,803	8,150
Ejido Petcacab	135,435	2,644	1,900
Ejido Nohbec	57,750	1,349	800
Ejido Chacchoben	46,325	1,231	1,000
Ejido Caoba	95,000	830	1,350
Ejido Tres Garantias	111,300	932	800
Ejido San Francisco de Botes	46,250	458	1,000
Total	1,634,613	16,247	15,000

Source: Secretaría de Agricultura y Ganadería, Ciudad Chetumal, January, 1968.

Agriculture

The development of an effective agricultural base is one of the most difficult tasks confronting the rural population of Quintana Roo. Thin and generally poor soils are only a part of the peasants' dilemma. Today, for a young farmer to subsist a fairly sizeable outlay of capital is essential. Tools, shelter, clothing, and food are basic to his and his family's survival. Seed, a source of potable

water, and domestic animals are expensive, but also essential. The complexity of the situation is further aggravated by a widespread lack of knowledge concerning soil and livestock management. The recent concerted effort to bring the schoolhouse to the rural communities in the Territory is certainly a prerequisite for future development.

The ejido life of the Territory is possibly the most arduous one in all the Republic. Forests are literally felled by hand, and the dense selva is removed by burning during brief dry spells. This is a time-consuming and physically strenuous task. Paucity of transportation and supplies are additional problems. While the spacious and mechanized ejidos of Jalisco, Guanajuato, Querétaro, and Hidalgo may exemplify the far-reaching benefits of the Revolution, the agrarian situation in Quintana Roo remains acute.

Despite existing hardships the number of ejidos, and corresponding ejiditarios, is increasing in the Territory. The ejiditarios and small landowners receive government loans from the Banco Agrícola, Banco Nacional Ejidal, and the Banco Agropecuario del Sureste.[6] In most cases, credit is extended to the farmer for a period of six to ten years. Some of the recent ejiditarios are men from distant

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[6]Interview with Sr. Juan Gabriel Gamboa, Departamento de Asuntos Agrarios y Colonización, Ciudad Chetumal, February, 1968.

and more densely populated areas of the country, and these are assisted by government subsidies until their families are assigned to an ejido. The colonists of Ejido Valle Hermoso, for example, were once residents of Jalisco, Michoacán, Nayarit, and México state.

As of March, 1966, ejido-organized land in the Territory comprised some 3,750,000 acres, representing nearly one-third of the total area.[7] The remainder, with the exception of 625,000 acres of private property, was national domain (8,335,750 acres). By August, 1967, ejido land had increased to 4,543,107 acres, benefiting 8,959 ejidatarios and their families, while the terrenos nacionales decreased to nearly 7.5 million acres.[8] Excluding the areas designated for forest exploitation, approximately five million acres of land remain to be utilized for settlement.

Crops

Agricultural production in Quintana Roo is confined mainly to maíz (corn), frijol (bean), cacahuate (peanut), camote (sweet potato), and various fruits (watermelon, pineapple, etc.). Corn is the principal crop, occupying

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[7] Informativo No. 4 (Chetumal: Oficina de Información y Relaciones Públicas del Gobierno de Territorio de Quintana Roo, Tomo II, 1966), p. 12.

[8] Survey taken by the Departamento de Asuntos Agrarios y Colonización, Ciudad Chetumal, August 17, 1967.

about 98 percent of the total acreage under cultivation (Table 17). All of the excess production is delivered to local markets for ultimate consumption within the Territory.

TABLE 17

REPORT OF CULTIVATED CROPS IN QUINTANA ROO
WINTER 1965-1966 AND SPRING-SUMMER 1966

Crop	Acres	Yield per Acre
Winter 1965-1966		Average
Beans	1,250	14.8 bushels
Spring-summer 1966		
Corn	60,000	20.3 bushels (ear)
Beans	2,500*	7.6 "
Peanuts	115	n.a.
Sweet potatoes	113	623 pounds
Pineapples	110	3,117 "
Watermelons	73	8,016 "
Melons	25	6,235 "
Tomatoes	25	74.2 crates (60 lb.)
Sesame	20	38.7 bushels
Total	61,731	

*Intertilled with corn.

Source: Delegado Estadístico-Agrícola, Secretaría de Agricultura y Ganadería, Ciudad Chetumal, January, 1968.

Irrigated agriculture is a recent development, beginning in 1965 with a plan to bring 30,750 acres of arable land under irrigation. Sponsored by a loan from the Inter-American Development Bank (BID), the program was begun at ejidos Alvaro Obregón and Chunhuhub. Table 18 indicates the extent and status of irrigation in 1965.

TABLE 18

IRRIGATION PROJECTS IN QUINTANA ROO
1965

Site	Status	Irrigated Acreage
Ejido Alvaro Obregón	in operation	8,750
Ejido Chunhuhub	in operation	4,500
Ejido Chacchoben	under construction	12,500
Ejido Pucté	planned	5,000
Ejido Dziuche	proposed	---
Total		30,750

Source: Informativo, No. 1, 1965, pp. 25-26.

Although it is too early to fully evaluate the irrigation program, most of the people involved appear enthusiastic about its progress. The extension of the growing season and the increased yields per acre have given cause for optimism. Yields of maize, beans, peanuts, and sesame have been particularly encouraging on the irrigated soils of the ejido Alvaro Obregón.

Livestock

The emerging basis of the Territory's agrarian economy appears to be its livestock. It is estimated that five million acres or nearly 40 percent of the land surface can be converted to pasture.[9] The program is being financed largely through loans obtained from the Agency for International Development, the Inter-American Development Bank, and the Bank of Mexico.[10] Initially, the plan calls for the conversion of the selva to grasslands. Various grasses are being tested to determine which are best suited to the Territory's tropical/sub tropical climate, thin soil mantle, and rocky, porous limestone sub-surface. These include the guinea (panicum maximum), pangola (digitaria decumbens), bermuda (cynoden dactilon), jaragua (hyparrhenia rufa), pará (panicum purpurascens), gordura (melinis minutiflora), buffalo (pennisetum ciliare), and merquerón. The latter, merquerón, has been found to be one of the superior tropical grasses, capable of supporting up to ten head of cattle per acre.[11]

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[9] Interview with Governor of the Territory, Sr. Javier Rojo Gómez, in Chetumal, February, 1968. In his opinion, livestock development in Quintana Roo has a "fantastic future."

[10] The World Bank also finances development projects in Mexico. On January 25, 1968, the Republic received a World Bank loan exceeding 52 million dollars to facilitate livestock development and federal highway programs. Diario de Yucatán, January 26, 1968.

[11] Informativo No. 3 (Chetumal: Oficina de Información y Relaciones Públicas del Gobierno de Territorio de Quintana Roo, Tomo II, 1966), p. 12.

The second stage of the plan calls for increasing the livestock population. Various breeds of cattle have been studied to determine levels of adaptability. The Zebu was found to be the most desirable for this environment, and recommendations were made that any purchased cow or steer be of three-eighths to one-half Zebu blood.[12] Other types of cattle that can be bred successfully in the Territory include the Brown Swiss, Charolais, Holstein-Friesian, Aberdeen Angus, Indú Brazil, and Jersey. As shown in Table 19, the livestock population is somewhat concentrated in the southern half of the Territory.

TABLE 19

LIVESTOCK POPULATION IN QUINTANA ROO, 1966

	Delegation				
	Isla Mujeres	Cozumel	Carrillo Puerto	Chetumal	Total
Cattle	1,500	3,500	6,000	7,500	18,500
Horses	90	225	985	200	1,500
Sheep	---	55	135	310	500
Goats	---	---	219	175	394
Pigs	957	1,500	2,250	6,252	10,959
Mules	32	200	500	300	1,032
Oxen	---	5	10	20	35
Beehives	120	340	3,975	2,565	7,000
Poultry	5,000	20,000	45,000	55,000	125,000

Source: Secretaría de Agricultura y Ganadería, Ciudad Chetumal, December, 1967.

[12] Informativo No. 1, op. cit., p. 14.

Ejido Program

Of all the agencies engaged in financing agrarian development in the Territory, the Banco Agropecuario del Sureste is the most progressive. Established in 1966, in Ciudad Chetumal, the Bank was already supervising five major ejido projects by 1968 and planned to develop an additional seven the following year. It is the only agency that conducts intensive investigations of proposed ejido sites and the only one employing the services of soil scientists, veterinarians, zootechnicians, and field inspectors. It is a highly sophisticated organization by any standard and is rapidly garnering widespread support among the ejiditarios of Quintana Roo.

The five ejidos operating in 1968 under the direction of the Banco Agropecuario were Nuevo Xcan in the north, Tihosuco, Valle Hermoso, and Señor in the central portion of the Territory, and Caobas in the south. The seven new sites to be added in 1969 included Leona Vicario, Puerto Morelos, Nuevo Valladolid, Chiquila, and Solferino in the north, X-Hazil near the center, and Subteniente López along the Río Hondo in the south. Summary descriptions of four ejidos, Nuevo Xcan, Tihosuco, Valle Hermoso and Caobas, have been prepared from records in the files of the Bank.[13]

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[13]Ejido Señor was the last of the initial five to begin operation (late February) and was therefore not included.

Ejido Nuevo Xcan

Located in the northern part of the Territory, Ejido Nuevo Xcan lies some 233 miles from Ciudad Chetumal. The most direct route from the capital is via Carrillo Puerto and Valladolid, in eastern Yucatán. The roads through these centers are major arteries, and travel from Chetumal to the ejido takes about five hours.

On October 26, 1967, twenty-nine ejiditarios were constituted as an integrated group (Constitución del Grupo Solidario). The average age of individuals in the group was thirty-nine, with a range from twenty-two to seventy years of age. Of the total, twenty-seven men were married, accounting for an aggregate of 96 children, while two were single. Four were illiterate, and nine had no formal education but could read and write. One had attended the first year of school, seven had attended two years, five had attended three years, one had attended four years, and two had completed five years of primary education. Previous labor experience included agriculture and forestry for the majority, while a few had worked with livestock and agriculture. The entire group was of Mayan stock.

The program at Nuevo Xcan will cost the Bank $166,792, which is to be repaid by the ejiditarios within ten years at an interest rate of 6 percent. A little more than $159,000 will finance the conversion of 1,920 acres of selva (monte bajo) to guinea grassland and provide for

fence construction, salting-tubs, wells to provide drinking water, a corral with gallery and platform scale, a warehouse and office, veterinarian instruments and agricultural equipment, a three ton truck, three horses, 673 heifers and 32 bulls, and the transportation of these animals. The remaining $7,520 will be used for 400 beehives, swarms of bees, extractors, salaries of three apiarists, and technical equipment. Due to thin soils, the program does not incorporate investment in agriculture. Nearly all of the financing is in goods delivered. The only money transferred to the ejiditario is for his labor in clearing the land.

Ejido Tihosuco

Ejido Tihosuco is located 150 miles north of Ciudad Chetumal, just fifty miles past Carrillo Puerto on the new highway to Valladolid. Travel to the site from Chetumal takes about three hours.

On October 16, 1966, thirty-eight ejiditarios formed a grupo solidario assigned an area encompassing 12,500 acres of forested land. The average age of the men was thirty-five, with an individual range from nineteen to sixty. All but three were married, and there was a total of 151 children. None of the men were classified illiterate; most had received a second or third grade primary education, and two had completed the sixth grade.[14] Their combined

[14]Although none of the men were considered illiterate, six could not sign their name for pay purposes and, rather, used the thumbprint.

labor experience varied from general agriculture and apiculture to livestock, chicle, and henequen. All of the men were of Mayan stock.

The total cost of financing the program at Tihosuco will be nearly $219,000. As at Nuevo Xcan, the greater part of the expenditures will be directed to the development of livestock, with a smaller allotment for agriculture. Following the clearing of the land (monte alto), the planting and sowing of grasslands, and the construction of two wells, the project will get well underway with the acquisition of 323 young calves, 13 bulls, and horses needed for herding. The ultimate goal at Tihosuco is to develop a substantial milk production, the goal for the sixth year of operation being 66,200 litres of milk. As a supplement, some meat will be produced from beef cattle. During the first three years of credit, designated cleared areas will be utilized for maize cultivation. The earnings from the sale of both maize and felled trees, used widely throughout the Territory for charcoal, will augment the income of the ejiditario.

Ejido Valle Hermoso

Valle Hermoso is located about sixty-five miles northwest of Ciudad Chetumal. The site can be reached via the Chetumal-Carrillo Puerto highway (40 miles) and a dirt road west into the brush (25 miles). The trip by jeep or landrover takes from two to four hours, depending upon weather conditions.

The grupo solidario at Valle Hermoso was established by thirty-seven ejiditarios on November 4, 1966. Their ages ranged from sixteen to seventy-two, with an average age of thirty-five. Seventeen of the men were married, fifteen were single, and five were widowers. Nine had experience as herdsmen, fifteen as maize cultivators, seven as farmers, two as tractor operators, two as ordinance men, one as a domestic servant and one as a mason. All are migrants from the central states of the Republic.

The Valle Hermoso program is, to date, the Bank's largest undertaking. A sum of $273,007 will be loaned to the group. Of this amount, $176,729 will be directed to the development of livestock, $66,076 to fruit culture, and $30,202 to agriculture. Approximately 12,750 acres will be utilized for cattle production, 375 acres for fruit (mango, avocado, pepper, cashew-nuts, and coconuts), and 150 acres for agriculture. Most of the agricultural land has already been cleared by bulldozer, making this one of the few ejidos in the Territory currently benefiting from mechanization. Livestock was to be introduced in late 1968 or early 1969, depending upon the rate at which the monte alto was cleared.

Ejido Caobas

Ejido Caobas is located in the southwestern part of the Territory, about fifty-four miles from Ciudad Chetumal. From the capital, it is reached via the Chetumal-Escárcega highway to a point forty-eight miles west where it

intersects with a dirt road leading six miles south to the ejido. When the highway is asphalted, the trip will take about one to one and one-half hours.

The grupo solidario was formed on November 26, 1966. There were thirty ejiditarios, with an average age of thirty-nine, and a range from eighteen to fifty-nine. Eighteen of the men were married, whereas nine were single and three were widowers. Collectively, the married men accounted for ninety children. Of the group, nine had no formal education, and eighteen had less than three years of primary school. Two had a fourth-grade education, and one had reached the fifth grade. All had experience in cultivating maize, while eight had worked as chicleros, nine as mahogany cutters, two as masons, two as stone-cutters, one as a herdsman, one as a tractor driver, one as a baker, and one as a soldier. With the exception of the chicle gatherers and woodcutters, the men were all from central Mexico.

The total cost of the program will be $251,827. Of this amount, $158,348 will be invested in livestock, $66,075 in fruit culture, and $27,404 in agriculture. Precious woods from the area (mainly mahogany) will be cut and sold in the Territory, and maize will be planted initially to further supplement the income of the ejiditarios. Also, cut hardwoods will be utilized in the construction of corrals, fences, and miscellaneous structures. Plans call

for the conversion of the monte alto and selva to 1,525 acres of pasture; 375 acres of coconuts, mangos, avocados, pepper, and cashew nuts; and 150 acres of maize.

Ejido Caobas is the first of the bank's projects to be initiated in the southern portion of the Territory, an area that is expected one day to accommodate relatively dense settlement and contribute significantly toward the development of a viable rural economy.

CHAPTER V

THE URBAN ECONOMY

A significant expansion of urban settlement has been a recent phenomenon in Quintana Roo. Although the population of the Territory remains overwhelmingly rural, the increase in population in the urban centers between 1960 and 1966 was 7,300, compared with an increase of 2,601 in the rural areas. As illustrated in Table 11 (p. 53), approximately 23,000 persons, or 38 percent of the Territory's population, were urban residents in 1966.

The rebuilding of Ciudad Chetumal and the growth of a prosperous tourist industry at Cozumel Island are largely responsible for the recent gain in urban population. From 1956 to 1966, numerous job opportunities were made available in the capital city as a result of the reconstruction following Hurricane Janet. Chetumal has subsequently become a modern and spacious city which serves as the centripetel force of the Territory. The emergence of Cozumel Island as an international tourist attraction has likewise resulted in urban population growth at San Miguel. By 1966, there were more than 17,000 residents in Chetumal and approximately 4,000 in San Miguel.

The task now confronting Territorial planners is to design an urban economy to meet the needs of a growing population. It is anticipated that the amplification of a mainland tourist trade and the development of small industries throughout the Territory will be instrumental in the development of a viable urban economy.

Tourism

Tourism is perhaps the most promising element for the future economic development of Quintana Roo. The Territory possesses scenic interior lakes, calm coastal waters bordered by sandy beaches, and a tropical environment characterized by year-round warmth and luxuriant vegetation. Unlike such notable tourist centers as Puerto Rico and Jamaica, Quintana Roo offers an additional attraction in its vestiges of the ancient Mayan empire. Hundreds of ruins, ranging in size from the "walled city" of Tulum to plant-covered edificial mounds (Figure 4), are scattered throughout the Territory. Numerous cenotes, sinkholes artistically designed by natural processes of solution, further adorn the Territory's landscape.

A branch of the Cámara Nacional de Turismo (National Tourist Council) was established in the Territory on January 31, 1967. The council, or board, has representatives at Ciudad Chetumal, Cozumel island, and Isla Mujeres and is currently disseminating tourist information

Figure 4. Vegetation covered Mayan edifice near highway thirty miles south of Felipe Carrillo Puerto.

Figure 5. Fortress at Bacalar.

throughout the Republic. Its major goal is to organize an integrated peninsular tourist program by 1971 which will focus on the Mayan ruins of Campeche, Yucatán, and Quintana Roo.[1]

Government planning, including the construction of highways, has given a strong impetus to the development of tourism. Completion of the Gulf Coastal Highway in 1961 and more recent roads linking Ciudad Chetumal with Valladolid and Francisco Escárcega have brought Quintana Roo into close communication with the states of Yucatán and Campeche. The only major communication void is the eastern littoral of the Territory. Recreational circuits designed to facilitate local tourist traffic are also nearing completion. One circuit termed Lagunas will include lakes Bacalar, Milagros, and Encantada, and Chetumal Bay.[2]

The historic town of Bacalar, rapidly becoming the most popular mainland attraction in the Territory, was to be allocated more than $35,000 in 1968 for the rebuilding of its only hotel, Jardín de Niños, and its park, the Parque Infantil.[3] The town is about forty minutes by bus

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[1] Novedadas (Ciudad Chetumal), January 18, 1968.

[2] Informe de Actividades (Chetumal: Gobierno del Territorio de Quintana Roo, August, 1965), p. 5.

[3] Informador (Ciudad Chetumal), January, 1968.

from Chetumal and offers a scenic lake and an historical fortress recently converted into a museum (Figure 5).

Ciudad Chetumal may likewise evolve into a major tourist attraction. Spaciously designed and strikingly clean, Chetumal often elicits surprise from the unsuspecting visitor. By virtue of its border location, many travelers pass through the city annually on their way to or from British Honduras. In 1966, a total of about 79,000 people were reported to have crossed the International bridge at Santa Elena.[4] Chetumal is also scenically situated on the west side of the shallow Bahía de Chetumal. Unfortunately, almost the entire periphery of the bay is strewn with stones, thus offering limited possibilities for recreational swimming (Figure 6).

There are at least five modern hotels with telephones, hot water, and dining facilities in Chetumal. The largest of these, Los Cocos (Figure 7), was built in the early 1940's and renovated 1962-1963. It includes forty rooms and twenty bungalows, plus a dining room, bar, and the only swimming pool in the city. The hotel is maintained by a staff of twenty-six. As illustrated in Table 20, most tourists visiting Los Cocos in 1967 were residents of Mexico. The foreign clientele included primarily residents

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[4]Interview with Sr. Umberto Rodríguez, Mexican Consul in British Honduras, Belize, December 22, 1967.

Figure 6. Partial view of Chetumal Bay.

Figure 7. Hotel Los Cocos in Ciudad Chetumal.

of the United States, British Honduras, Panama, Germany, and France. The months from February through June constituted the primary tourist season, although December was, by far, the single month of greatest occupancy.

TABLE 20

NUMBER AND ORIGIN OF LODGERS AT THE HOTEL LOS COCOS IN CIUDAD CHETUMAL, 1967

Month	Nationals	Foreigners	Total
January	128	48	176
February	169	78	247
March	200	72	272
April	211	53	264
May	208	20	228
June	192	35	227
July	132	53	185
August	125	53	178
September	176	47	223
October	138	19	157
November	184	61	245
December	361	91	452
Total	2,224	630	2,854

Source: Records of the Hotel Los Cocos, Ciudad Chetumal, February, 1968.

While the development of a significant mainland tourist trade appears likely in the not-too-distant future, two of Quintana Roo's islands have already prospered from a well-established resort business. Cozumel and Isla Mujeres, once the setting of Mayan ceremonies, are today the leading recipients of tourist revenue in the Territory. Thousands of people from Mexico, the United States, and Europe make annual visits to the islands because of attractions such as the mild climate, panoramic setting, modern hotels, water sports, and historical features. Both islands are served daily by Aereo Maya passenger flights. Departing Mérida in the morning, Aereo Maya makes stops at Chichén Itzá, Isla Mujeres, and Cozumel. The latter, with its two runways of nearly 7,000 feet each, is also served by small Aereos Mexicana jets direct from Mexico City and larger international jets from Miami. For persons who prefer to travel by bus, the two hundred mile drive from Mérida to Puerto Juárez takes about 4-1/2 hours. Puerto Morelos, the terminal point of bus service and the ferry station for the trip to Cozumel, lies an hour south of Puerto Juárez. Daily launches, except on Sundays, shuttle the tourist traffic to Isla Mujeres and Cozumel from Puerto Juárez and Puerto Morelos, respectively. The boat ride is one of the highlights of travel, since the waters around the islands are considered by many to be the clearest in the world.

Accommodations on both islands resemble the best available at other major Caribbean resorts. An example is the Hotel Cozumel Caribe, one of eleven first-class hotels on Cozumel island. Located about two miles from San Miguel, adjacent to scenic San Juan Beach, it offers thirty-four air-conditioned rooms and four suites. The Zazil-Ha (Mayan for "clear water") at Isla Mujeres is undoubtedly the most beautiful hotel on that island. It is situated on a rock platform overlooking the Gulf of Mexico and offers thirty-eight rooms and forty-eight bungalows. The majority of people who frequent the two islands are from the United States, with the remainder being chiefly from Mexico, Germany, and France.

Government assistance in the form of widespread advertising and financial aid has given added impetus to the tourist program. Thousands of travelers annually now frequent the Territory, and the number is growing. Although Cozumel and Isla Mujeres remain the principal attractions, it is hoped that an integrated mainland tourist trade will develop. With the completion of a coastal highway scheduled for 1970, that hope may become a reality.

Industry

Except for the traditional production of forest products, such as chicle, red cedar, mahogany and other hardwoods, Quintana Roo has been virtually devoid of

industry. Until a decade ago, few roads penetrated the Territory, and the establishment of industry was almost impossible. Today, due in large part to the accelerated drive toward internal and peninsular integration, rapid strides are being made in the planning and implementation of small-scale industry. When operational, the industries (including diversified forest products, fishing, and copra processing) will serve to expand the economic base of the Territory and provide added employment for a growing labor force.

The largest manufacturing establishment in the Territory is the Maderas Industrializades de Quintana Roo (MIQRO), established in 1957. Situated at Santa Elena, on the Río Hondo, the MIQRO produces lumber, plywood, and veneer (see Figures 8, 9, and 10). There are approximately five hundred employees, of whom three hundred cut and transport the timber and two hundred work at the plant. All of the MIQRO's markets are domestic and include the states of Chihuahua, Guadalajara, México, Nuevo León, Puebla, Sinaloa, Sonora, and Veracruz.

Raw materials for the industry are available locally. Large quantities of cedar, mahogany and other hardwoods are cut from the northern and southern government lands, which are harvested under contract. Contiguous to these lands are six smaller ejido properties also contracted for felled timber.

Figure 8. Westward view from MIQRO plant to International Bridge spanning the Río Hondo. Note logs in foreground.

Figure 9. The MIQRO plant at Santa Elena.

Figure 10. A splicing machine at the MIQRO plant.

To a large degree, the problems encountered by the MIQRO are those which confront industry generally in Quintana Roo. Due to the frontier location of the Territory, national markets are distant, and the prices of items purchased reflect the high cost of transportation. Even production costs, including wages, are higher in the Territory than in neighboring states. In early 1968, minimum daily wages in the Territory were $2.08 as compared with $1.44 in Campeche and $1.28 in Yucatán.[5] Another problem at the MIQRO is the replacement or repair of machinery parts, since all equipment must be purchased from distant Mexico City and requires at least one month for delivery unless shipped by air.

Despite various handicaps, the MIQRO has been a successful undertaking, in large part due to the relative abundance of first-class woods in the Territory. Neighboring Campeche and Yucatán states, however, import their timber from South America rather than pay high prices for the Territory's top-quality woods.[6]

The future of wood processing appears bright. Plans for the MIQRO involve an immediate expansion of production to include precut furniture and dimensional

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[5] Informador, January 20, 1968.

[6] Interview with Engineer Mario Avila Hernández, Director of the MIQRO, Santa Elena, February 22, 1968.

lumber (floors, doors, walls, etc.), while possibilities such as the development of wood by-products (paper and plastics) exist in the more distant future. The cost of transporting the wood will diminish appreciably as a result of newer and more direct routes to national markets (see Map 4, p.100), and the conscientious enforcement of laws pertaining to rational exploitation of the forest should insure the continued availability of timber.

In addition to utilization of the forests, the Territory has plans to develop other resources as the basis for small industry. Fish production is perhaps of greatest priority. Bordering both the Caribbean Sea and the Gulf of Mexico, the Territory's littoral extends for more than two hundred and fifty miles. Though not the richest fishing grounds in the world, the adjacent waters contain more than adequate amounts of marine life for both the internal needs of the Territory and an expansion of commercial activities.

Present fishing centers are Xcalak in the south and Cozumel, Isla Mujeres, and Holbox in the north. The former is the residence of approximately thirty-five fishermen forming the cooperative Andrés Quintana Roo.[7] Other fishing cooperatives include Cozumel, with one hundred and five members, at Cozumel; Caribe, with sixteen members, and

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[7]Due to a lack of internal direction, this cooperative is virtually a nominal organization. Interview with Sr. Apolonio Valencia G., Chief of Fishing Administration, Ciudad Chetumal, February 4, 1968.

Pátria y Progreso, with twenty-four members, both at Isla Mujeres; and Pescadores Isla Holbox, with seventy-two members, at Holbox Island. The two cooperatives at Isla Mujeres have been operating since 1956, the one at Xcalak since 1959, and the one at Cozumel since 1960. Pescadores Isla Holbox, established in 1965, is the most recently organized group.[8]

Two major obstacles have prevented the development of the fishing enterprises in the Territory: (1) much of the fishing apparatus is antiquated, and (2) there is a paucity of refrigeration equipment. There were, however, plans to purchase additional boats and equipment during 1968.[9] Fish packing plants were also to be constructed at Puerto Juárez and Ciudad Chetumal in 1968. The former will be the largest in the Territory, with a daily packing capacity of twenty tons. The plant at Chetumal will be similar to those at Xcalak, Cozumel and Holbox, each having a packing capacity of one ton per day. Smaller fish packing services are already in operation at Isla Mujeres.

A resumé of the 1966 fishing catch, including edible and industrial varieties of fish, is presented in

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[8]Interview with Sr. José Antonio Ascensio Navarrette, Federal Delegate to the Cámara de Industria y Comercio, Ciudad Chetumal, January 17, 1968.

[9]Plans to modernize the fishing industry were to be initiated in 1968 with a $648,000 investment. Interview with Governor Javier Rojo Gómez, January 22, 1968.

Table 21. The value of edible varieties was $207,006, or nearly 98 percent of the total. Lobster was the main catch, worth $123,169, or more than one-half the total production value. By delegation or municipio, lobster provided the highest revenues in the north (Cozumel and Isla Mujeres) and was second only to the mero (a type of halibut) in the south (Chetumal). Of the industrial catch, sharks and alligator skins accounted for about 50 percent. The total value of fish production in 1966 represented a sizeable increment over that of preceding years. Annual production during the period 1949-1955 ranged from a low of $10,240 in 1952 to a high of $105,600 in 1953.[10]

Another product with bright prospects for industrial development is the coconut. Most of the palms currently under cultivation grow along the east coast of the Territory from Xcalak northward. Numerous cocales, or coconut plantations, are also in operation on Cozumel and Isla Mujeres. With the exception of one or two cooperatives, the cocales are managed by small landholders. The largest individual enterprise is La Victoria, with 9,000 palms, located at Bahía Espíritu Santo.[11]

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[10] Quintana Roo: Esquema Social y Económico (México, D.F.: Almacenes Nacionales de Depósito, S.A., 1957), p. 43.

[11] Secretaría de Agricultura y Ganadería (1966 data), Ciudad Chetumal, December 22, 1967.

TABLE 21

FISH PRODUCTION IN QUINTANA ROO, BY DELEGATION
1966

Location	Edible Varieties		
	Species	Catch (Pounds)	Value
Isla Mujeres			
	Lobster (meat)	29,271.0	U.S.$ 26,610
	White sea turtle	109,137.6	9,558
	Fresh shrimp (peeled)	12,100.0	8,800
	Fresh shrimp (boiled)	11,286.0	2,529
	Shark (salted)	22,464.2	2,481
	Other	50,226.0	8,338
	Total	234,484.8	$ 58,316
Cozumel			
	Lobster (meat)	73,121.4	81,494
	Salted fish	77,748.0	5,654
	Turtle (cagauma)	12,760.0	2,688
	Fresh fish	13,640.0	2,358
	White sea turtle	14,740.0	2,272
	Other	48,134.4	9,618
	Total	240,143.8	$104,084
Payo Obispo			
	Mero	138,600.0	17,331
	Lobster (meat)	21,848.2	15,065
	Red snapper	29,007.0	4,410
	Mojarra	21,252.0	2,704
	Other	32,505.0	5,096
	Total	243,212.2	$ 44,606
Total edible varieties		717,840.8	U.S.$207,006

TABLE 21--Continued

	Industrial Varieties		
Item	Production (pounds)	Value	
Isla Mujeres			
Shark skin	9,878.0	U.S.$	794
Turtle shells	7,040.0		480
Natural sponge	99.0		216
Other	23,247.4		268
Total	40,264.4	$	1,758
Cozumel			
Alligator skin	314.6		665
Turtle oil	1,047.2		297
Other	61.6		30
Total	1,423.4	$	992
Payo Obispo			
Turtle shells	44.0		160
Total	44.0	$	160
Total industrial varieties	41,731.8	$	2,910
Total fish production, 1966	759,572.6	$	209,916

Source: Dirección General de Pesca y Industrias Conexas, S.I.C., Ciudad Chetumal, February, 1968.

The bulk of the copra harvested in the Territory is currently sent to Mérida, Yucatán, for commercial processing. A minimum monthly production of 300 tons of copra would make the construction of an oil processing plant feasible, but production in the Territory has recently averaged only about 150 tons per month.[12] The Banco Agrícola plans to

[12] Informativo No. 1, op. cit., p. 7.

provide the necessary credit to augment production and to construct an oil extraction plant at Puerto Juárez in the near future.

In addition to industrial developments in the Territory generally, there are the usual small manufacturing concerns in the towns and cities. In Ciudad Chetumal, for example, there were twenty-two such establishments in 1966. This number included six bakeries, four carpenter shops, four tortilla producers, three producers of flavored ice and ice cream, two block and mosaic contractors, two block-ice concessions, and one distributor of bottled-gas.[13] In early 1968, the only major change observed was a notable increase of tortillerías and carpenterías. Both types of enterprise had more than quadrupled since 1966.

The rapid growth in number of tortillerías and carpenterías is mainly due to the expanding population of Ciudad Chetumal and the availability of maize and wood. Maize is the main food crop, both in terms of acreage and of daily caloric intake throughout the Territory. The tortillerías range in size from one to three operators, and the only machinery utilized are tortilladoras which mold and bake the tortillas. The machinery is purchased in Mérida or Mexico City. Along with the construction of new

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[13]Gregoría Cob, Generación "Professor José Vera Gonalez" 1960-61, 1965-66 (Ciudad Chetumal: Secretaría de Educación Pública, August, 1966).

Figure 11. Electric power plant in Ciudad Chetumal (built in 1959).

Figure 12. Water purification plant serving Ciudad Chetumal (built in 1962).

housing, there has been a growing demand for such wooden accessories as doors, windows, and furniture. Ironically, first-class wood is scarce in the carpentry trade because of its high cost, and the MIQRO therefore sells mostly third-class wood to the carpenterías of Chetumal. Each establishment is small and is normally operated by from three to six men.

Largest of the manufacturing establishments in Chetumal are a block and mosaic concern and a bakery. The former was established in 1962 and employed twenty-two persons in 1968. It specializes in the production of cement blocks, mosaic tiles, gravel and stone construction materials, wash basins, and water containers. The bakery, La Invencible, was established as early as 1915, was rebuilt following Hurricane Janet, and employed twelve persons in 1968. Except for their end products, the two plants have much in common. The block and mosaic concern obtains cement from Mérida and paints from Mexico City, while the bakery imports flour from Canada and the United States, sugar from Campeche, lard and butter from Yucatán, and machinery from Mexico City. One delivery truck transports block and mosaic items to local markets at Chetumal, Calderitas, Bacalar, and Santa Elena, while one bakery truck distributes rolls, cookies, and bread to local markets in Chetumal, Bacalar, Xul-Ha, Huay-Pix, and Xpuhil.

In addition, both proprietors anticipate a good future for small industry in Chetumal.

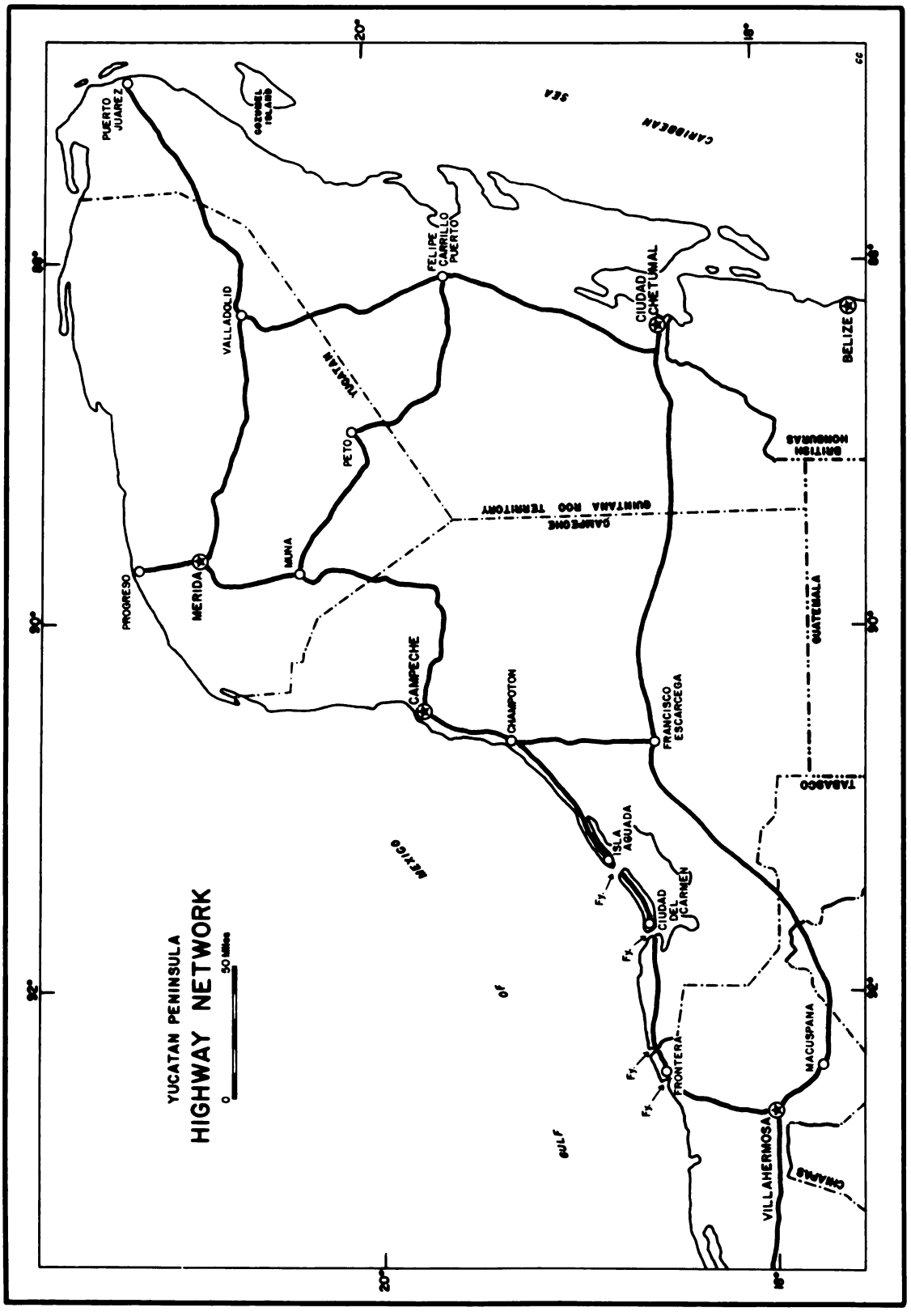
Twenty-seven proprietors of manufacturing establishments were interviewed during the period January-March, 1968. Without exception, they expressed the need for an expansion of small industry. Each is well aware of the rapid influx of people to the Territory and to Chetumal and believes that small industry must be developed to help provide employment for the working-age population.

CHAPTER VI

HIGHWAY TRANSPORTATION

The construction of an effective system of roads is one of the most important recent developments in Quintana Roo. In just ten years, 1958-1968, the Territory emerged from a long period of isolation and moved rapidly toward becoming an integrated and functional part of the Mexican Republic. Vital arteries of communication now link Quintana Roo with its peninsular neighbors and play a paramount role in the evolving economic structure of the Territory.

Today, one can travel non-stop by first-class bus from Ciudad Chetumal to Mérida, a distance of 280 miles, in about six hours. Prior to the completion of the Mérida-Chetumal highway, in 1958, the trip could easily have taken seven or more days, depending upon the mode of travel and weather conditions. As shown in Map 4 the highway passes through Muna and Peto in Yucatán state and Felipe Carrillo Puerto in Quintana Roo. Only a twenty-five mile stretch remained to be paved in 1968, from a point fifteen miles south of Felipe Carrillo Puerto to about forty-five miles north of Chetumal.


YUCATAN PENINSULA
HIGHWAY NETWORK
0
50 Miles
PUERTO JUAREZ
COZUMEL ISLAND
VALLADOLID
YUCATAN
PETO
FELIPE CARRILLO PUERTO
CIUDAD CHETUMAL
BELIZE
BRITISH HONDURAS
GUATEMALA
TABASCO
CHIAPAS
MERIDA
MUNA
PROGRESO
CAMPECHE
CHAMPOTON
FRANCISCO ESCARCEGA
ISLA AGUADA
CIUDAD DEL CARMEN
FRONTERA
MACUSPANA
VILLAHERMOSA
MEXICO
GULF
CARIBBEAN SEA
20°
18°
92°
90°
88°

Map 4

Highway 180, crossing the northern part of the Territory, forms the terminus of the nation's Gulf coastal, or Gulf Circuit, route which extends from Tampico, in Tamaulipas state, to Puerto Juárez. The two-hundred mile segment from Puerto Juárez to Mérida is paved, and the trip by bus takes from five to six hours. This road is currently the only overland passage through the northern part of the Territory and is a vital link for peninsular integration.

The highway from Chetumal to Francisco Escárcega, Campeche, was for many years only a dirt trail, with traffic limited to four-wheeled drive vehicles and dry-season passage. It now has a gravel-packed surface and is to be paved by 1970. Most important, the route from Chetumal to Escárcega (170 miles) eliminates 280 miles from the previous route of travel westward toward central Mexico. It is also the only major link between Quintana Roo and Campeche. The road connecting Escárcega with Villahermosa provides a more direct route between Ciudad Chetumal and Veracruz. Prior to its establishment, the coastal road from Champotón to Villahermosa, which included four ferry crossings, was utilized. This was not only time consuming but 357 miles longer, as indicated in Table 22. Undoubtedly, the new highways will serve to more firmly integrate both the Territory and peninsula with the rest of the nation.

TABLE 22

COMPARATIVE DISTANCES, IN MILES, OF SELECTED ROADWAYS IN THE YUCATAN PENINSULA

Highway	Distance	Difference
Chetumal-Escárcega, via Felipe Carrillo Puerto-Muna-Campeche-Champotón	450	
Chetumal-Escárcega (direct route)	171	279
Chetumal-Mérida-México, via Gulf Circuit (4 crossings by ferry boat)	1,228	
Chetumal-Escárcega-Villa-hermosa-México	910	318
Chetumal-Mérida-Escárcega-Villahermosa-Mexico	1,259	
Chetumal-Escárcega-Villa-hermosa-México	902	357

Source: Junta Local de Caminos, Ciudad Chetumal, February, 1968.

The new 90-mile road between Felipe Carrillo Puerto and Valladolid was constructed in 1967. Its major significance has been to bring the northern portion of the Territory into closer contact with the south, though partially routed through Yucatán. Prior to its construction, the only overland route between Ciudad Chetumal or Felipe Carrillo Puerto and Puerto Juárez was via Mérida, Yucatán. Although presently a gravel-surfaced road, it is to be paved in the near future (Figures 13 and 14).

Figure 13. Northward view of the Felipe Carrillo Puerto-Valladolid highway.

Figure 14. Base camp at Ejido Tihosuco viewed from the Felipe Carrillo Puerto-Valladolid highway.

The projected highway and secondary road system for 1970 is presented in Map 5. A coastal road linking Felipe Carrillo Puerto with Playa del Carmen will be of primary importance to the Territory. For the first time in history, a direct means of overland communications will exist between the northern and southern areas of Quintana Roo. The road will provide accessibility to a sizeable area along the east coast and greatly reduce travel time between north and south. Another road will parallel the Río Hondo, as far southward as Pucté, and a road in the extreme northern part of the Territory will link Chiquila with the Gulf coastal highway. Also, many branches from the major arteries to interior towns will receive gravel or hard-packed surfaces. The total cost of the program will be U.S. $15,358,000.[1] A list of the most urgent investments is presented in Table 23.

The status of road construction in Quintana Roo for the years 1960, 1967, and 1970 is illustrated in Table 24. In 1960, there were 217 miles of roads, of which 28 percent was paved. By 1967, paved roads represented 44 percent of the total network, while in 1970 the figure is projected to rise to 53 percent or 375 miles.

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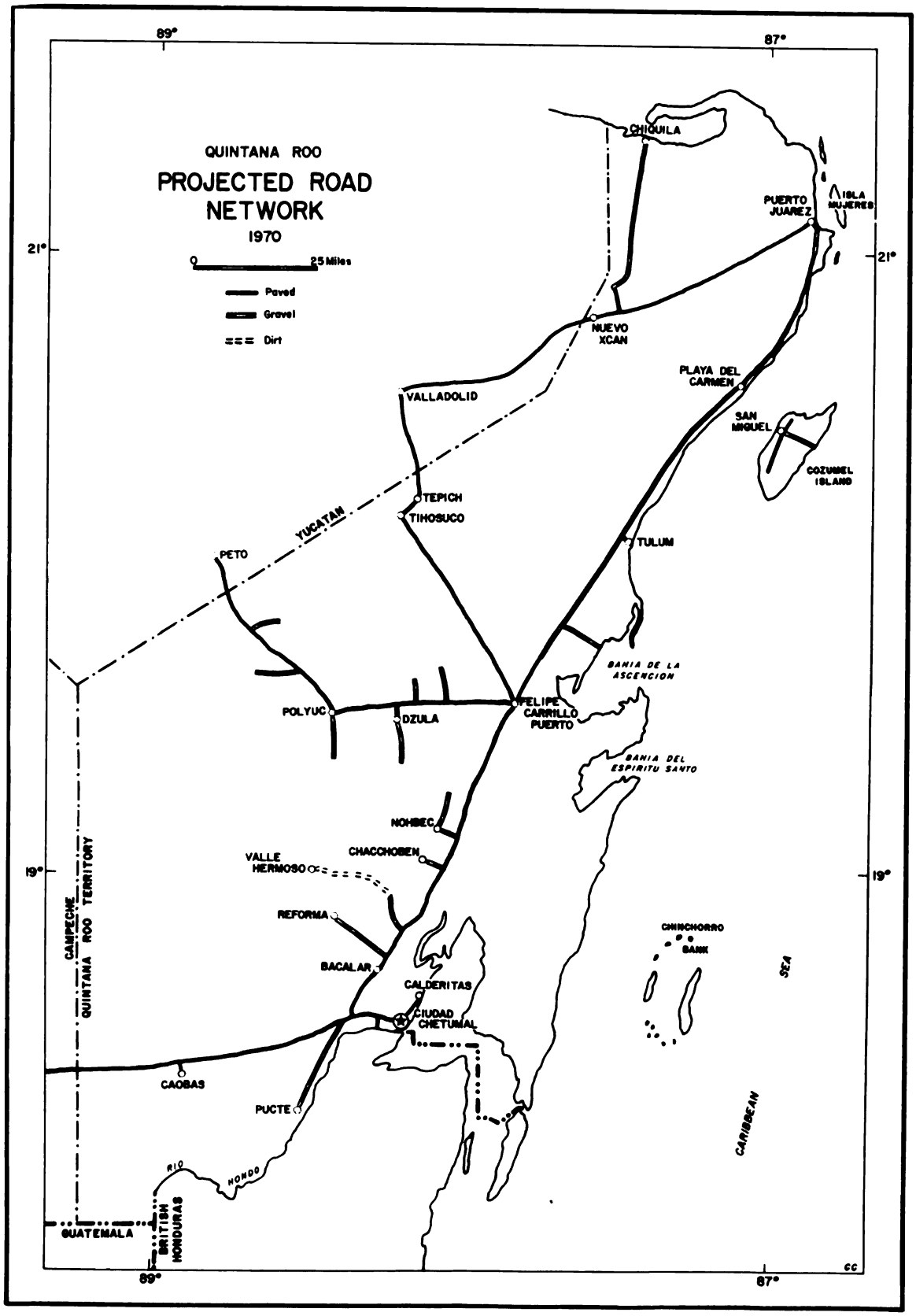
[1]Junta Local de Caminos del Territorio de Quintana Roo, Ciudad Chetumal, February, 1968.


QUINTANA ROO
PROJECTED ROAD NETWORK
1970
0 25 Miles
Paved
Gravel
Dirt
89°
87°
21°
19°
CHIQUILA
PUERTO JUAREZ
ISLA MUJERES
NUEVO XCAN
PLAYA DEL CARMEN
SAN MIGUEL
COZUMEL ISLAND
VALLADOLID
TEPICH
TIHOSUCO
YUCATAN
PETO
TULUM
BAHIA DE LA ASCENCION
POLYUC
DZULA
FELIPE CARRILLO PUERTO
BAHIA DEL ESPIRITU SANTO
NOHBEC
CHACCHOBEN
VALLE HERMOSO
REFORMA
BACALAR
CALDERITAS
CIUDAD CHETUMAL
CHINCHORRO BANK
CAOBAS
PUCTE
RIO HONDO
CAMPECHE
QUINTANA ROO TERRITORY
GUATEMALA
BRITISH HONDURAS
CARIBBEAN SEA
CG

Map 5

TABLE 23

EIGHT MOST URGENT INVESTMENTS FOR THE 1970 HIGHWAY SYSTEM OF QUINTANA ROO

	Project	Cost
1.	Chetumal-Escárcega (asphalt surfacing)	U.S.$3,200,000
2.	Puerto Juárez-Felipe Carrillo Puerto,	
3.	Río Hondo road,	
4.	Transversal of Cozumel, and	
5.	Chacchoben-Valle Hermoso	3,983,584
6.	Chetumal-Peto (asphalt surfacing)	480,000
7.	Valladolid-Felipe Carrillo Puerto (asphalt surfacing)	1,040,000
8.	Supervision and maintenance	200,000
	Total	U.S.$8,903,584

Source: Junta Local de Caminos del Territorio de Quintana Roo, Ciudad Chetumal, February, 1968.

The roads have already begun to play a significant role in the economic development of the Territory. Chicle latex is trucked via the Chetumal-Mérida highway to Progreso, where it awaits delivery to world markets. Fresh fish products from the northern part of the Territory are sent to Mérida via the Gulf Circuit. After its completion in 1967, the Chetumal-Escárcega highway provided the major artery by which large-scale shipments of guayacán wood were trucked from Campeche to Belize for export to the United

States and Japan.[2] In addition, large quantities of cattle hides and live calves were delivered to such distant markets as Guadalajara, Pachuca, Guanajuato, and Villahermosa. Likewise, many consumer products from throughout the Republic are being made available to the Territory.

TABLE 24

STATUS OF ROADWAYS IN QUINTANA ROO
1960, 1967, AND 1970
(IN MILES)

Surface	1960	1967	1970
Paved	62	205	375
Gravel or hard-packed	73	168	270
Dirt	82	92	62
Total	217	465	707

Source: 1960 data-Mapas de México, Quintana Roo, 1961; 1967 and 1970 data-Junta Local de Caminos, 1968.

[2]More than 1,535 cubic meters of the wood were assessed a shipping tax for delivery through the Territory. (Secretaría de Agricultura y Ganadería, Ciudad Chetumal, January, 1968.)

CHAPTER VII

CONCLUSION

In a nation characterized by a burgeoning population and a paucity of arable land, the Territory of Quintana Roo, Mexico's extreme southeastern frontier, has recently become of national interest. During the decade 1950-1960, the population of the Territory nearly doubled, largely as a result of in-migration. The overwhelming majority of the migrants came from neighboring Yucatán, a state plagued by thin soils and a critical dependence upon henequen monoculture. Basically, the migrants came in search of land. Aided by a national concern and reconstruction projects in the aftermath of Hurricane Janet (September, 1955), the Territory became a symbol of hope to many destitute settlers. In about three years,1958-1960, the Territory's population increased by 15,000, raising the total to 50,169.

The rate of population growth from 1960 to 1970, in contrast with that of the previous decade, appears to be much reduced. For the current period, Territorial officials estimate a population increase of 37.5 percent, or less than half the 86 percent experienced during the previous

ten years. In absolute terms, this means an increment of about 19,000 people from 1960 to 1970, compared with 23,000 between 1950 and 1960.

The "slow down" of population growth in Quintana Roo appears due, at least in part, to attempts to revitalize the economy of Yucatán. During the past ten years, a concerted effort has been made to diversify the livelihood of this northern peninsular state. In 1960, the Coordinating Center of the Mayan Region, at Peto, piloted a large-scale conversion of farm land to pasture.[1] Whereas the annual income for a family growing maize is about $200, it was found that stock raising increased the income to $800 per year, with an added potential increment of $600 every eighteen months. The community of Santa Rosa, Yucatán, subsidized by the Banco National de Credíto Agrícola, has become one of the state's model agricultural enterprises. Augmented by irrigation, crops such as citrus, other fruits, cucumbers, tomatoes and flowers are exported. The latter two products are flown directly to the United States. Cordemex, Yucatan's most recent henequen-processing enterprise, plans to market a diversity of henequen products to provide amplification and greater stability for the industry.

One of the more ambitious development schemes in Yucatán is the proposed construction of a protected inland

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[1]Sara Moiron, "A Road in Yucatan," Landscape, Vol. XI, No. 3 (1962), p. 12.

harbor near Progreso. Inaugurated June 1, 1968, by President Gustavo Diaz Ordáz, Yucalpetén will be equipped with two piers and administrative, industrial, commercial, and tourist zones.[2] It will serve mainly to harbor small fishing vessels, although boats of up to twelve-foot draft may seek its refuge. Yucalpetén will serve as a modern port facility for much of the Yucatan peninsula.

Although plans and projects are being implemented, not all of the basic problems of Yucatán are likely to be resolved in the immediate future. As recently as December, 1968, there was widespread peasant unrest in the state because of a worsening henequen situation. The Banco Agrario de Yucatán, which finances and supervises the communal farm operations, is estimated to be losing more than $650,000 a month. Along with poor soils, ". . . poor quality of the henequen fiber, inefficiency, overpopulation in the henequen-growing areas--which cover half the state--and widespread fraud both in the management of farms and in the distribution of funds have all contributed to the depressed regional economy."[3] In any event, what transpires in Yucatán state, will continue to have a direct relationship with the development of Quintana Roo.

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[2]Diario del Sureste (Merida), February 30, 1968.

[3]The New York Times, January 13, 1969.

It should also be emphasized that while the resources of Quintana Roo were largely unexploited until 1958, these resources are clearly not unlimited. In large part, the Territory has many characteristics of neighboring Yucatán state. Each of these areas presents an arduous way of life to the rural settler, is distant from national markets, and must accommodate a growing urban population. Any plans for large-scale agricultural development in either Yucatán or Quintana Roo would dictate sizeable investments in irrigation schemes, soil management, and the subsidization of farm equipment and machinery purchases.

Unlike Yucatán, the Territory of Quintana Roo has yet to develop its economy beyond that of the traditional forest products. Crude chicle, cedar, mahogany and other hardwoods constitute the bulk of production, It is anticipated, however, that forest products will not long sustain the Territory's growing population, and programs have been formulated to diversify income.

The basis of Quintana Roo's future economy will be livestock, primarily beef and dairy cattle. At least 5,000,000 of the Territory's 12,500,000 acres are potentially suited to pasture. Because of the difficulty and expense involved in clearing the selva and initiating a basic livestock operation, various government agencies are subsidizing the ejidatario. One progressive program,

sponsored by the Banco Agropecuario, provides everything from seed to calves to field instruction.

To supplement its rural economy, the Territory has potential for the development of a variety of other resources. The possibilities for increased tourism are especially noteworthy. Historical Mayan ruins, scenic lakes and cenotes, and extensive sandy beaches abound on the mainland. Tourist agencies have been created and await only the necessary funds and completed roads to commence a full-scale operation.

Other resources to be developed include fish, coconuts, and fruits. The establishment of a fishing fleet, utilizing modern equipment, and a large fish-packing plant at Puerto Juárez, should become a reality in the near future. A variety of commercial seafoods, including lobster, shrimp, and numerous species of fish, are immediately accessible to the Territory. Coconut growers are receiving government assistance so as to raise monthly copra production to 300 tons. The construction of an oil extraction plant was to begin in 1969 at Puerto Juárez. Fruit processing offers still another means to augment the economy. Mangos, avocados, papaya, and melons are already cultivated in the Territory, although no formal plans have been made to commercialize the fruits.

One of the most interesting proposals to aid the Territory's economy is the construction of a deep-water

port. Potential port sites include Puerto Juárez, Playa del Carmen, and Bahía Espíritu Santo.[4] Puerto Juárez is programmed to become an industrial complex in the north. A deep water port there depends, in part, upon the expense of dredging a harbor. In terms of shelter, neither Puerto Juárez nor Playa del Carmen are well located. Of the three potential sites, Bahía Espíritu Santo alone offers the advantage of a natural protected canal and would be capable of handling vessels of up to eighteen-foot draft.[5] When constructed, a deep-water port would accommodate international trade and would virtually eliminate Quintana Roo's dependence on Mérida and Belize.

The fundamental prerequisite to the economic growth of the Territory is an integrated communication system. Already, work has begun on a coastal highway, which when completed will provide uninterrupted linkage between the Territory's four municipios, or delegations. Major arteries connecting Quintana Roo with neighboring Campeche and Yucatán state are currently being paved. In addition, an extensive system of secondary roads, from the major routes to small pueblos and ejidos, will receive gravel and hard surfaces. By 1970, the foundation of an integrated communication system will be complete.

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[4]Interview with Governor Javier Rojo Gómez, Ciudad Chetumal, January 22, 1968.

[5]Cruz, op. cit., p. 85.

Despite decades of isolation and only recent emergence as a national interest, the Territory of Quintana Roo has moved rapidly toward becoming a functional part of the Republic. Endowed with large tracts of untended land, and a variety of natural resources, the Territory faces a brighter future. It appears likely that before long the Territory will gain equal status with the other political divisions of the Republic by becoming the State of Quintana Roo.

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