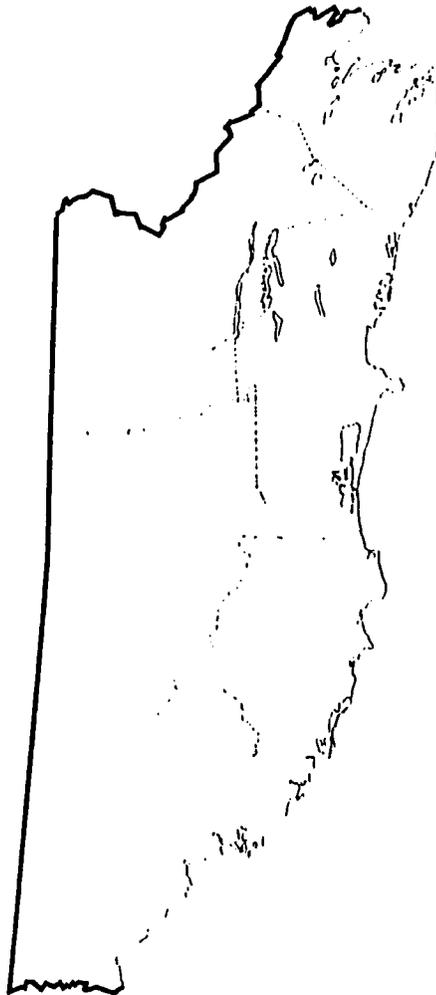


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Central America Regional Transportation Study

Belize

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CENTRAL AMERICA
REGIONAL TRANSPORTATION STUDY
BELIZE

TABLE OF CONTENTS

EXECUTIVE SUMMARY	es-1
Physical Limitations	es-2
Institutional Limitations	es-3
Recommendations-Physical	es-4
Recommendations-Institutional	es-4
CHAPTER 1: INTRODUCTION TO THE STUDY	1-1
SYNOPSIS	1-1
BACKGROUND	1-3
OUTLINE METHODOLOGY	1-6
Metrication	1-9
CHAPTER 2: GENERAL	2-1
GEOGRAPHY	2-1
POPULATION AND DEMOGRAPHICS	2-2
THE INFLUENCE OF GEOGRAPHY ON THE TRANSPORTATION NETWORK	2-3
CHAPTER 3: THE EXPORT OF NON-TRADITIONAL PRODUCTS PROBLEMS AND POTENTIAL SOLUTIONS	3-1

OVERVIEW	3-1
Principal Exports	3-1
Constraints to Agricultural Growth	3-6
Traditional and Non-Traditional Exports	3-8
SENSITIVITY OF PRICE TO TRANSPORTATION COST	3-10
TRADITIONAL EXPORTS	3-12
Sugar	3-12
Bananas	3-16
Timber	3-18
NON-TRADITIONAL EXPORTS--AGRICULTURAL	3-20
Citrus Products	3-20
Fish and Shellfish	3-23
Meat and Livestock	3-26
Cacao	3-27
Rice	3-29
Fruit, Vegetables, and Honey	3-29
NON-TRADITIONAL EXPORTS--INDUSTRIAL	3-32
Garments	3-33
CHAPTER 4: NATIONAL TRANSPORTATION	4-1
ROAD TRANSPORTATION	4-1
Main Highways	4-1
Feeder Roads	4-3
Trucking Industry	4-4
WATER TRANSPORTATION	4-7
Inland and Coastal Waterways	4-7
Ports	4-8
International Shipping Services	4-12

AIR TRANSPORTATION	4-13
COMPARATIVE TRANSPORT COSTS	4-14
The Regional Comparison	4-14
CHAPTER 5: EVALUATION OF POTENTIAL SOLUTIONS TO TRANSPORTATION PROBLEMS	5-1
OVERVIEW	5-1
ROAD TRANSPORTATION	5-3
The Road Network	5-3
Trucking	5-6
WATER TRANSPORTATION	5-8
AIR TRANSPORTATION	5-10
GENERAL BUSINESS CLIMATE	5-11
CHAPTER 6: RECOMMENDATIONS	6-1
Physical Recommendations	6-2
Institutional Recommendations	6-4
Non-Priority Recommendations	6-6
APPENDIX A: ECONOMY AND TRADE	A-1
ECONOMIC OVERVIEW	A-1
AGGREGATE ECONOMIC ACTIVITY	A-3
Employment	A-3
Inflation	A-6
Economic Growth	A-7
Industrial Origin of GDP	A-8
MAJOR ECONOMIC SECTORS	A-10
Agriculture, forestry, and fishing	A-10
Mining	A-13
Energy	A-14
	:

31

Manufacturing	A-15
Tourism	A-16
FOREIGN DEBT	A-17
Debt	A-17
Balance of Payments	A-18
FOREIGN TRADE	A-18

LIST OF TABLES

<u>Tables</u>	<u>Page</u>
3.1 Principal Exports	3-1
3.2 Export Projections	3-3
3.3 Projected Changes in Exports	3-5
3.4 Export Profile	3-9
3.5 Comparative Unit Costs of Exports	3-11
3.6 Main Industrial Exports	3-32
4.1 Port Cargo Handled	4-8
4.2 Air Cargo Movements	4-13
4.3 Typical Costs of Moving a 20-foot Container	4-15
A.1 Gross Domestic Product	A-2
A.2 Employment: Structure	A-4
A.3 Employment by Sector	A-5
A.4 Industrial Origin of Gross Domestic Product	A-9
A.5 Agricultural Production	A-12
A.6 Industrial Production	A-15
A.7 Debt Service Payments	A-17
A.8 The Pattern of Growth of GDP, Exports, and Imports	A-19
A.9 Domestic Exports by Value	A-20
A.10 Imports by Category	A-20
A.11 Balance of Trade	A-21
A.12 Main Trading Partners as a Percentage of Total Value	A-21

LIST OF FIGURES

<u>Figure</u>	<u>Following Page</u>
Districts	2-1
Highways	4-1
Principal Airports & Landing Strips	4-13

CENTRAL AMERICA TRANSPORTATION STUDY

BELIZE

EXECUTIVE SUMMARY

This report evaluates the role of transportation in Belize's drive to diversify its economy into export products that will help the country improve its balance of payments position and reduce its reliance on the fluctuating income from its traditional export, sugar.

This report is part of a regional study that consists of one regional report and six national reports (Belize, Guatemala, Honduras, El Salvador, Costa Rica, Panama). It was sponsored by the United States Agency for International Development (USAID) through the Regional Office for Central America and Panama (ROCAP) to help the USAID missions in the region understand the role of transportation in the export of non-traditional products. Reducing transportational limitations on these exports supports the Caribbean Basin Initiative (CBI) for a healthy regional economy based on greater and more varied exports to the United States and other nations.

Interviews and fact-gathering in the countries of the region and in the United States showed that many factors, both physical and institutional, limit the transportation and export of non-traditional products. Belize, however, has in most cases adapted to regional constraints, particularly the relative difficulty of ocean shipping to North America, by concentrating on the export of high quality/high value products. This minimizes the effect of transportation costs on the final cost in the marketplace.

The study investigated both physical and institutional limitations that, if removed or mitigated, could improve the export transportation system.

Physical Limitations

Belize has access to transportation by roads, air, inland and coastal waterways, and by the Caribbean Sea. Topographically, the country comprises a mountainous interior with a coastal plain crossed by numerous rivers discharging into shallow coastal waters. These waters are protected by a barrier reef. The difficult terrain has inhibited the development of a national road network, and the coastal shallows have prevented the construction of a deep-water port.

Lack of good roads, together with a population density that is one of the lowest in the world (8 persons per square kilometer), leave Belize a largely undeveloped country. Exacerbated by absentee ownership, only about 15% of potentially good agricultural land is productive.

However, because of the low volumes of production and the recent diversification into high-value-per-ton exports, improvements to the existing road network, while welcome, offer marginal benefits to export values. A more urgent need is the opening up of new farmland by farm/feeder roads to increase the volume of exports. Revenues from the increased volume of exports can then be channeled into a more extensive maintenance and construction program for the existing road network.

Sea transportation is in a similar position. Insufficient volumes of exports (and imports) do not justify the construction of a deep-water port in Belize (Ref.: Export Transportation Master Plan by Louis Berger International Inc. for the Ministry of

Works, Belize). Hence, tug and barge movement of the major, traditional export products to deep-draft ships will continue for the foreseeable future. Recent "non-traditional" exports use containerized services provided by shallow-draft vessels, or travel by truck to the southwestern United States.

Some minor structural impediments to present transportation modes were identified during the study, but by and large, production rather than export transportation is seen as the biggest constraint to development in Belize.

Institutional Limitations

Here again, Belize's export trade is not significantly affected by any institutional constraints. Trucking regulations, including Belize's recent ban on foreign trucks and a similar U.S. ban on foreign vehicles entering more than 40 kilometers into the U.S.A., are irritants that have some financial implications that have been largely overcome by the exporters involved. The Belizean regulation has more effect on imports than on exports unless retaliatory action is taken by Belize's neighbors.

Belize's greatest institutional limitations appear to be mainly political, with the perception of regional tension and the continuing, although recently muted, military threat from Guatemala. This regional atmosphere of instability deters private investors from financing sorely needed long-term infrastructure projects that could lead to increased production of a variety of high value export products. By contrast, investors are enthusiastic about the potential for growth in Belize and about the extent of their markets for quality products.

The Basis for Recommendations. With few transportation constraints that can be solved in the near term or that would have immediate and substantial effect on export traffic, the recommendations for Belize tend to be more policy-related and to serve as a long-term guide to promotion of development in the country.

Recommendations--Physical

- o Review Ministry of Works' capability for maintaining its own road equipment and provide tools and training to make up shortfall.
- o Continue or expand the existing road programs for the construction of farm roads and feeder roads.
- o Review the World Bank study of a deep-draft port at Big Creek.
- o Provide additional refrigerated container outlets at Belize City port and eliminate the sharp corner in the access trestle.

Recommendations--Institutional

- o Establish a diesel school in Belize to train mechanics for heavy equipment. One local operator has agreed to provide the facilities.
- o Establish a driving school for truck drivers.
- o Create financial incentives for Belizean exporters.
- o Establish a national marketing organization.
- o Review the recent trucking regulations preventing foreign trucks from operating in Belize.
- o Approach the US for exemption to its 40-kilometer limit on entry of foreign vehicles.
- o Actively assist Belize in attracting private capital by financing promotional campaigns and trade missions.

BELIZE

CHAPTER 1

INTRODUCTION TO THE STUDY

SYNOPSIS

Parsons Brinckerhoff International, Inc., has been commissioned by USAID, as part of Contract No. OTR-0000-I-00-6071-00, to supply technical services in Central America in the form of a study for the Central America Regional Transport Project. The objective of the study was to produce a series of reports that would enable the Regional Office for Central America and Panama (ROCAP) and the USAID missions to understand more fully the role of transportation in the development and promotion of extra-regional and intra-regional trade in non-traditional exports, and to assist in the formulation of proposals for the removal of the identified transportation-related problems. Recent experiences in the region have concluded that recent initiatives by ROCAP and the Central American bilateral USAIDs in support of non-traditional exports have invariably encountered transportation-related problems which have dampened the anticipated impact of the programs.

To complete the contract requirements, a study team was proposed which, for the six countries given (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Panama), identified land, sea, and air transportation constraints inhibiting private sector exports of Caribbean Basin Initiative and Central American

Initiative non-traditional products in both intra- and inter-regional markets, and recommended means for removing these constraints. For the recommended means, order-of-magnitude costs and time frames were to be developed.

A non-traditional export was to be considered any product other than the traditional export products of coffee, sugar, beef, cotton, and bananas.

A constraint was to be considered any condition that served to lessen service quality, increase transport costs, or reduce producer incentives to generate non-traditional products.

The results of the study were to be contained in seven reports: one for each of the countries and one covering the region as a whole.

The study was conducted in three phases:

Phase I - US review of documentation, consultations and survey methodology development

Phase II - Field interviews, documentation research and survey research

Phase III - Analysis of needs and prioritization of recommendations.

A study team of one transportation economist and two transportation engineers provided services both in the USA and in Central America, while a third transportation engineer provided additional services solely in the USA. A total of 21 weeks was allowed from the start of the contract to the submission of the draft final report to ROCAP. Work started on the project in the USA on Monday, September 29, 1986.

This report, then, presents the results of the study for one of the subject countries: Belize. It contains a review of the economic, institutional, physical and operational aspects of the country and its transportation system and the effects that all these have on the exports of non-traditional products. The report identifies problems that inhibit the export of the non-traditional products, and makes recommendations for their removal or amelioration. The report makes a particular effort to present the views of the exporters themselves regarding transportation.

BACKGROUND

Legislators, policy formulators and administrators, and responsible observers--in both the public and private sectors--in the United States and in Central America have recognized that the recent economic decline in the region has deep roots and that the resulting political, economic, and financial disequilibrium is not likely to be self-correcting. A major surge in the primary commodity price levels so critical to the current economic health of the region is not a near-term probability. Indeed, the December 1986 decision by the United States to reduce its sugar

imports from Latin America and the Caribbean by 41% in 1987 will put downward pressure on world sugar prices. A comparable decision on meat imports from the region will also have a destabilizing impact on world prices.

Regional protectionism appears to be on the rise, with the obvious negative impact on trade between the individual Central American nations. Political tensions--and the widespread, often exaggerated, perception of these tensions--serve to limit investor confidence in the countries of the region and restrain critical capital inflows.

This critical--and potentially worsening--situation has given rise to the political and legislative background for planned USAID regional and bilateral programs in Central America: the 1984 enactment of the Caribbean Basin Initiative (CBI) and the follow up Central American Initiative (CAI).

The CBI and CAI programs are designed to stimulate investment and trade in the several Central American nations. The aim of the CBI and CAI programs is easier access to the US market. In order to add to the concrete value of this improved access, an increased program of foreign economic assistance is being undertaken by ROCAP and the Central American bilateral USAIDs.

An important focus of the proposed interventions is on assistance to exporters of products that are "non-traditional" to the countries of the region. The "traditional" exports are the major commodities, such as bananas, coffee, cotton, sugar, and meat, while the "non-traditional" are all the other items of export that can compete in world markets. As discussed later, these classifications are not strictly relevant to Belize.

Previous interventions by the Regional Office for Central America and Panama and bilateral USAIDs have encountered serious obstacles that have been identified as being transportation-related. In an effort to investigate the validity and dimensions of the impediment, this study was commissioned.

The study sought to achieve its objectives by:

- o A review of existing documentation related to sea, air, and land transportation, including economic trends, cargo volumes, and other Central American transportation studies.

- o Consultation with institutions, organizations, companies, and individuals in the USA that are or have been involved with the export of non-traditional products in the region.

- o Interviews in each of the identified countries with individuals and groups such as

Growers and exporters of non-traditional perishable agricultural products;

Exporters of other non-traditional export products;

Importers of inputs to the non-traditional sector;

Chambers of Commerce, industry, and manufacturing;

USAID private sector officers and rural development officers;

Government ministries related to the transport of non-traditional commodities;

Export promotion councils;

Shippers' councils;

Airlines, ocean shipping companies, truckers, and ports and airports;

Shipping agents, freight forwarders, customs brokers, and customs officials.

- o Identification of both physical and institutional constraints affecting the operating efficiency and cost of roads and road transport, railways, aviation, and ports and maritime transport.
- o Analysis and formulation of prioritized interventions that should be undertaken to improve the quality of transport service and to reduce its cost, as related to the movement of non-traditional products to market.

OUTLINE METHODOLOGY

The approach adopted started with an analysis to derive a definitive list of non-traditional exports for each country. For this purpose, published trade statistics, such as those contained in the UN Yearbook of International Trade, were analyzed and abstracted.

Dividing work between the United States and Central America, the team recognized from the start that the transportation-related constraints on Central American industries may not be located in those countries themselves, but in the United States. The transportation chain from producer to market was seen as a long one, and solving a problem observed at one point in the chain may in fact depend on solving other problems far down the chain, perhaps in another country. The choice of the US importing port, for example, could affect transportation cost and efficiency as much as the choice of the exporting port in the country of origin. Thus time was spent in the early stages of the study interviewing US-based exporters, shipping company representatives, trade groups, international agencies, local embassy officials, and representatives of the major ports serving Central America.

The approach that was actually used in the field by the study team in this case was a studied compromise. While interviews with users, shippers, carriers, and agencies were being conducted in the USA, the export figures of the countries were studied to arrive at a definitive list of traditional and non-traditional exports. The information collected in the USA was used to develop a first cut at a list of names of individuals and organizations in each of the target countries who would have to be interviewed to obtain greater details on the nature of the products and the nature of the constraints. Interviews in Central America sought to obtain an idea of the potential for the export product to grow, a measure of the relationship between the price of the product on the open market and the cost of remedial transportation-related work, and an idea of what products could be aggregated to benefit from the same improvements. Before formulating any recommendations for improvements or amendments,

officials of national governments and international agencies were questioned, where appropriate, to ensure that no plans were being formulated by others that would pre-empt or otherwise override any proposals contained in the reports of this study. Hence, the final reports contain prioritized lists of products whose export volume could be significantly increased by suggested improvements or modifications to the transportation infrastructure, both physical and institutional. Modifications or improvements that would be better introduced on a regional basis, rather than country-by-country, are included in the regional report.

In addition to interviews, the study team used available documents, such as relevant studies, Central Bank review, ministry papers, USAID memoranda, and newspaper and magazine articles. On-the-spot investigations were made as needed. Thus major ports and airports were inspected, particularly since their efficiency would affect several industries at once. In many cases producers of similar export items had similar constraints, and the flexible interviewing schedule allowed the team to pursue such common concerns through directed questioning and on-the-spot inspections. Thus if interviewees perceived roads as a problem, the team sought to drive the roads in question.

The results of the studies were written up in the USA under the following headings:

- * geography, population and demographics
- * the export of non-traditional products
- * national transportation
- * recommendations
- * national economy and trade

Mettrication

The metric system of weights and measures has been adopted throughout this report, retaining pounds and feet only where their use is an industry standard (e.g. 20-foot containers). In the case of tons, the use of "metric tons" has been avoided in preference for the simpler "tons." Thus tons and metric tons refer to 1,000 kg throughout.

BELIZE

CHAPTER 2

GENERAL

GEOGRAPHY

Belize, located on the Caribbean coast of Central America, has a land area of 22,963 square kilometers. It is bordered on the north and northwest by Mexico and on the west and south by Guatemala.

Belize's coastline on the Caribbean runs for some 325 kilometers. There is a narrow coastal plain, behind which the land rises steadily into mountainous areas. North-south land communications are inhibited by small rivers, especially in the southern half of the nation. Belize's greatest width is 112 km and the narrowest only 16 km.

Belize has a subtropical climate. August is the hottest month, with temperatures ranging between 24°C-31°C. The coolest month is January, when the average daily range is between 19°C-27°C. Rainfall varies between regions. Average annual rainfall in the northern Corozal District is 1,295 mm, while in the south the average is some 4,445 mm.

Formerly the British colony of British Honduras, Belize adopted its present name on achieving self-government in 1963. It was granted independence on September 21, 1981, but statehood is not recognized by its western neighbor, Guatemala, which has maintained a claim over the territory since the 19th Century. In

Mexico

COROZAL DISTRICT

ORANGE WALK DISTRICT

BELIZE DISTRICT

★ Belmopan

Guatemala

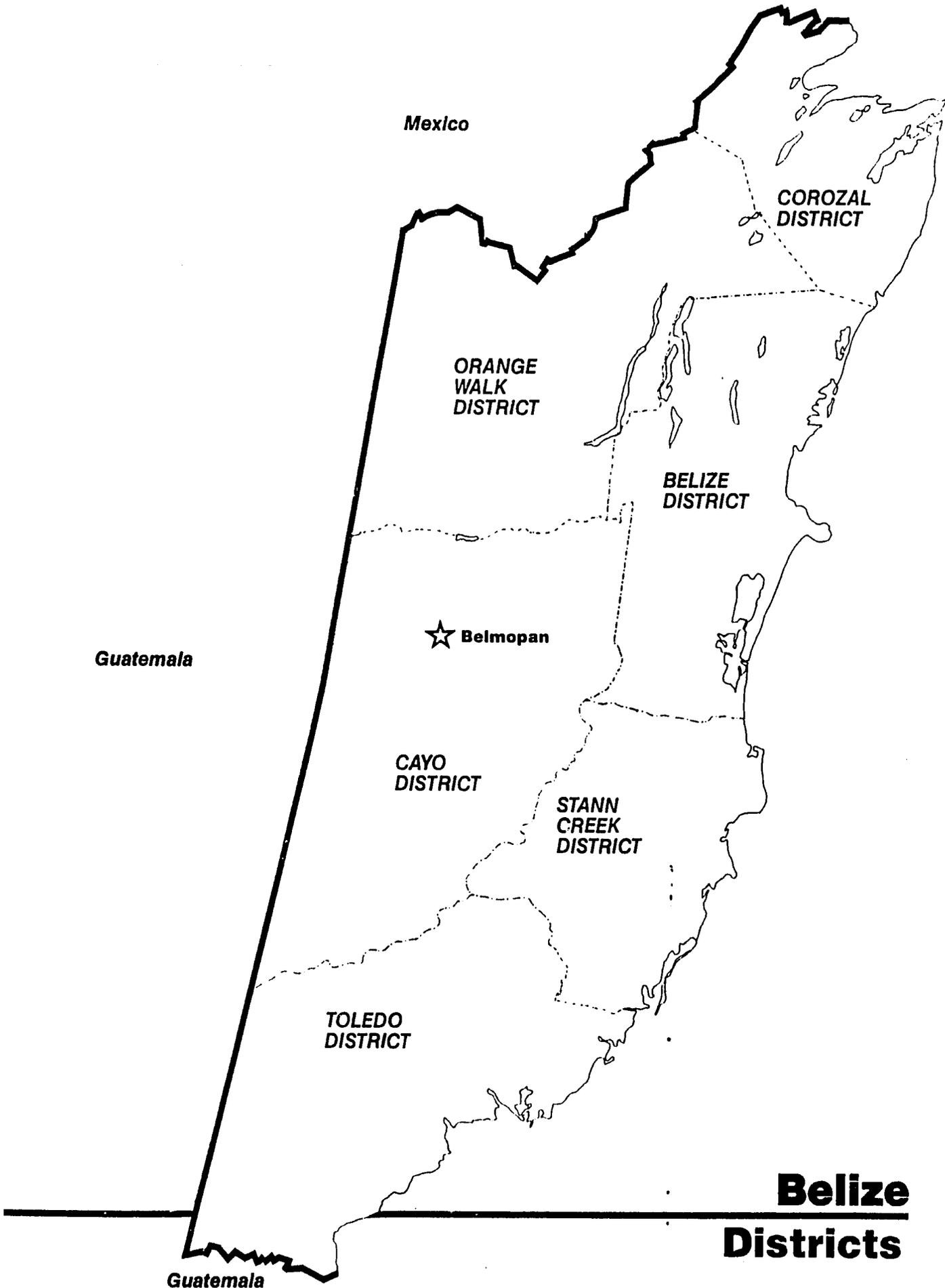
CAYO DISTRICT

STANN CREEK DISTRICT

TOLEDO DISTRICT

Belize
Districts

Guatemala



order to deter Guatemala from attempting a military solution, as it has periodically threatened, Belize retains a British military garrison and its own Defense Force.

The country is divided into six administrative districts: Orange Walk and Corozal (with capitals of the same name) in the north; Belize (Belize City), and Cayo (San Ignacio) in the center and west; and Stann Creek (Dangriga) and Toledo (Punta Gorda) in the south.

National government is based on the British bicameral system, with a Belizean-born governor representing the monarch as nominal head of state.

POPULATION AND DEMOGRAPHICS

Belize's population is estimated to be 166,000, with 47,000 living in Belize City. National population density is one of the lowest in the world at less than 8 per square kilometer. Since 1980 annual population growth has been at a steady 2.7-2.8 percent.

Belize City is the largest city and the commercial center of the nation. Belmopan--west of Belize City and in the geographic center of the nation--has been the capital since 1970. Belmopan has a population of 4,500.

In addition to Belize City and Belmopan, other population centers are:

Corozal	10,000
Orange Walk	9,600
Dangriga	7,700
San Ignacio and Santa Clara	7,500

The main ethnic groups are Creole (African descent), Mestizo (Spanish Maya), and Garifuna (Caribs). Other groups are of European and East Indian descent. English and Spanish are widely spoken. The former is the official language and is spoken by half the people. Some 30% of the population--principally residents of the north and west--speak Spanish. The ethnic mix has begun to change over the last two decades with emigration (primarily of Creoles) to the U.S. and the influx of refugees from neighboring Latin American countries.

Educational standards in Belize are relatively high; 85-90% of children complete 8 years of primary education and the literacy rate is over 90%.

THE INFLUENCE OF GEOGRAPHY ON THE TRANSPORTATION NETWORK

Geography and historical development have determined the present transportation network in Belize.

Rivers and Ports. Numerous rivers traverse the coastal plain and discharge into coastal waters protected by the longest barrier reef in the northern hemisphere. Therefore, although Belize has a long Caribbean coastline in proportion to its size, it is mainly shallow water. Early development of the country was based on the export of timber by making use of the rivers to float the logs down to small ports on the coast. The lack of deep water was not a problem then because vessels were small and the economics of ocean shipping were less dependent on efficient port operations. The rivers became the main transportation system as settlements grew with the logging industry and with the establishment of other agricultural communities.

In recent years both the draft of oceangoing vessels and the mix of cargo types have changed. Deeper draft vessels bring in

consumer goods and pick up agricultural products for export. Lightering of the more recent agricultural products (sugar, bananas, citrus fruit, and other commodities) from the small ports to vessels anchored in deep water became the predominant practice. This continues to the present day with bananas barged to Puerto Cortes in Honduras, sugar to vessels offshore Belize City, and citrus fruit by container from Stann Creek to the new port at Belize City. Limited by a depth of 5.5 meters, the new port is used primarily for imports.

Roads. Road development has, until recently, taken a secondary role in the development of Belize. Low population density, long distances between settled areas, and a swampy coastal plain crossed by numerous rivers have made road construction a high cost proposition. Nevertheless, riverine and coastal water transportation has been economically superseded by road transport. Although ton-kilometer barge costs are theoretically lower, point to port, double handling and port handling charges offset the savings. In addition, the high volumes needed to take advantage of lower costs are not available.

Belize's road network consists of four main highways and various secondary and feeder roads. The roads vary considerably in serviceability; parts of the main network are unpaved and have narrow one-lane bridges.

It has been estimated that the combination of low population, absentee ownership, and lack of access has limited agricultural development to only 10-15% of the estimated 4,500 km² of land capable of supporting large-scale agriculture without heavy investment in drainage, irrigation, fertilizers, or erosion control.¹

¹Economist Intelligence Unit

BELIZE

CHAPTER 3

THE EXPORT OF NON-TRADITIONAL PRODUCTS: PROBLEMS AND POTENTIAL SOLUTIONS

OVERVIEW

Principal Exports

The following table (Table 3.1) lists Belize's principal exports in 1985 by both value and tonnage (where applicable).

Table 3.1
Belize
Principal Exports (1985)

Product	'000 tons	Bz\$ million	%	
			<u>All</u>	<u>Excluding Garments</u>
Sugar	90.5	45.9	36	48
Molasses	25.0	1.7	1	2
Citrus	4.4	24.2	19	25
Bananas	10.2	6.5	5	7
Fish products	0.6	13.6	11	14
Sawn Wood	1.3	1.2	1	1
Garments	NA	31.4	25	-
Other	<u>NA</u>	<u>3.2</u>	<u>2</u>	<u>3</u>
Total		127.7	100	100

Source: External Trade Report. Adapted by Parsons Brinckerhoff International, Inc.

N/A = Not available

Quite clearly, in terms of tonnage, sugar and molasses account for by far the major share of exports--well over 80% (excluding garments and 'other,' which are difficult to quantify but likely to be very small). In value terms, sugar and molasses

amount to almost 45% of export earnings, though this understates their value to the economy because of the overstatement of the value of garments: these are given a total value, even though the material is imported and the value added is only in assembly. Excluding garments, sugar and molasses account for 50% of export earnings. Similarly, excluding garments, citrus products account for 25% of export value, fish products for 14%, and bananas for 7%. All other exports together account for less than 5% of total value.

In terms of those products that are considered traditional in other countries of the region (coffee, sugar, beef, cotton and bananas), only sugar and bananas figure significantly in the export items from Belize. Coffee and cotton are non-existent, and beef, although expansion programs are underway, is still a very small contributor to export earnings. Lumber, with its 200 years history, is Belize's most "traditional" export item but no longer figures significantly.

Projections of future development of Belize's export industry are given in the following table (Table 3.2):

Table 3.2
Belize: Export Projections

<u>Product</u>		<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
<u>Principal Products:</u>					
		(in thousands of tons)			
Sugar	Low	102	71	81	91
	Likely	107	97	102	107
	High	107	107	112	112
Molasses	Low	33	22	26	29
	Likely	35	30	33	35
	High	35	35	37	37
Citrus	Low	4.3	4.9	5.7	6.6
	Likely	4.6	6.1	8.2	10.9
	High	4.6	13.7	27.4	41.1
Bananas	Low	9.5	11.4	12.4	13.3
	Likely	10.5	14.3	15.2	17.1
	High	10.5	17.2	28.6	38.1
Fish/Shellfish	Low	1.4	1.9	2.5	3.0
	Likely	1.4	2.5	3.6	4.8
	High	1.4	4.9	8.9	13.1
Timber*	Low	3.6	3.8	4.0	4.2
	Likely	4.5	4.9	5.4	6.2
	High	4.5	14.5	24.9	26.3

*(estimate based on 1 bd ft = 2 kg)

Other Products:

Frozen Meat	Low	0.9	1.0	1.1	1.4
	Likely	0.9	1.1	1.5	1.9
	High	0.9	1.5	2.4	3.8
Cocoa	Low	0.2	0.5	0.9	1.4
	Likely	0.2	0.7	1.8	2.7
	High	0.2	0.9	2.7	4.5
Rice (milled)	Low	0	0	0	0
	Likely	0	1.1	2.3	3.4
	High	0	2.3	3.4	6.8
Fruit/Veg/Honey	Low	1.1	1.3	1.5	1.6
	Likely	1.1	1.5	1.8	2.4
	High	1.1	1.8	2.9	4.7

Source: Louis Berger International Inc., adapted by Parsons Brinckerhoff International, Inc.

In percentage growth terms, the volumes of principal exports are not predicted to increase substantially, particularly sugar and molasses (most likely zero growth to 2000). Bananas and timber exports are more promising (about 50% increase over the next 15 years). Only citrus and fish products are likely to increase at a more substantial rate.

Among other export products, cocoa and rice are expected to increase dramatically, whereas frozen meat and fruit/vegetables/honey exhibit a more moderate projected growth.

This swing from the existing principal exports to a more diversified mix of exports is in line with Belize government policy and is shown more explicitly in the following table, based on most likely projected growth, that shows relative dollar values of exports in 1985 and 2000, assuming commodity prices remain constant. Note that the table uses estimated 1985 figures for two reasons: (a) to be consistent with projection methodology; and (b) to eliminate the effect of short-term fluctuations.

22

Table 3.3
Belize
Projected Changes in Exports, 1985-2000

Product	Bz\$	1985		2000	
	<u>per ton</u>	<u>Bz\$ million</u>	<u>%</u>	<u>Bz\$ million</u>	<u>%</u>
<u>Principal products:</u>					
Sugar	510	54.6	50	54.6	28
Molasses	70	2.5	2	2.5	1
Citrus	5 500	25.3	23	60.0	30
Bananas	'640	6.7	6	10.3	6
Fish/Shellfish ^a	23,000	13.6	12	46.6	24
Timber	920	4.1	4	5.7	3
Product	Bz\$	1985		2000	
	<u>per ton</u>	<u>Bz\$ million</u>	<u>%</u>	<u>Bz\$ million</u>	<u>%</u>
<u>Other products:</u>					
Meat/Fruit/Veg/ Honey	Various	2.1(est)	2	4.5(est)	2
Cocoa	4,000	1.0	1	10.8	5
Rice (milled)	550	0	0	1.9	1
Total other products		<u>3.2</u>	<u>3</u>	<u>17.2</u>	<u>8</u>
TOTALS		110	100	197.5	100

^aActual amount: projected figures were significantly higher

Source: Parsons Brinckerhoff International, Inc.

By the year 2000, assuming market prices are similar to those in effect today, citrus products (32%) and fish/shellfish (25%) are projected to compete with sugar (25%) as the principal exports from Belize. Cocoa (5%) will approach bananas (6%) in export earnings, although according to World Bank, Price Prospects for Major Primary Commodities, September 1984, p. 114, banana prices are projected to drop some 15% over the period, whereas cocoa prices are expected to rise slightly, thereby making cocoa equal or surpass bananas in export earnings.

Constraints to Agricultural Growth

Constraints to agricultural development can best be summarized as follows:

- o Land constraints: underutilization because of
 - absentee ownership
 - lack of access

- o Transportation constraints
 - limited markets served by air and sea carriers
 - slow and expensive tracking over existing roads

- o Educational and labor constraints:
 - academic rather than skills-oriented education, particularly in farming
 - low population
 - preference of individuals for 'white collar' work rather than work on the land

- o Capital constraints:
 - regional political climate taints Belize, affecting the attraction of foreign private investors
 - technical as well as financial investment is required

- o Production constraints:
 - relatively small scale of current production prohibits economies of scale and hence limits competitiveness in world markets
 - the need for new agricultural export projects to be entirely self-sustaining (own vehicle fleet, own sales and marketing operation) discourages entry by small operators.

- o Trade constraints:
 - lack of formal trade agreements with neighboring countries hinders transborder traffic, particularly in the trucking industry (also includes the US) and leads to exclusive, non-competitive import practices for material that might be bought more competitively from Central American neighbors.

Fundamentally, however, the constraints are theoretically surmountable.

- o Ample land is available for agricultural development if access is provided.

- o Population can be increased, given the Government's liberal immigration policy.

- o The population can be educated in necessary agricultural skills.

- o Investment can be attracted by appropriate tax incentives.
- o Trade agreements with neighbors can be negotiated, particularly so given recent conciliatory statements by the government of Guatemala.

The major catalysts to bring about the removal of the constraints are money and a favorable regional political climate.

Traditional and Non-Traditional Exports

The distinction between traditional and non-traditional exports in Belize is not clear-cut; only sugar can strictly be categorized as a traditional product for Belize. Bananas and timber are no longer major products; although attempts have been made recently to rejuvenate the industries, only limited growth is expected. Cotton and coffee are practically non-existent, and beef is a possible growth industry only now that USDA approval has been reinstated, though the effects of recent quota cuts by the USA may reverse the trend.

For the purposes of this report, traditional products are sugar, bananas, and timber. Non-traditional products comprise the remainder of the export product list. The values of exports in the two categories are shown in Table 3.4.

Table 3.4
Belize
Export Profile
1985
 (Bz\$ Thousands)

<u>Site Code</u>	<u>Category</u>	<u>Value All Exports</u>	<u>Value Non-Traditional</u>	
0	Food & Live Animals	95,238	41,451	
01	Live Animals		422	422
02	Meat		493	493
03	Dairy		0	0
04	Fish/Shellfish		15,037	15,037
05	Cereals		0	0
06	Fruits and Vegetables		30,956	24,351
07	Sugar, Etc.		47,982	800
08	Coffee/Cocoa		348	348
09	Misc.		0	0
1	Beverages & Tobacco	0	0	
11	Beverages		0	0
12	Tobacco		0	0
2	Crude Materials	1,547	349	
3	Mineral/Veg. Fuels	0	0	
4	Petroleum Derivatives	0	0	
5	Chemicals	857	857	
6	Basic Manufactures	37	37	
7	Machinery Etc.	1	1	
8	Other Manufactures	31,171	31,171	
9	Misc. & Special	1	1	
Total		128,852	73,867	

Conversion: US\$ 1=Bz\$ 2

Source: Trade Report 1985, Central Statistical Office, Ministry of Economic Development, Belmopan

Table 3.4 shows the comparative export profile for Belize in 1985. Using the Standard International Trade Classification (SITC) for aggregation into universally recognised groupings, the value of all exports is shown against the value of non-traditional exports.

Of significance from the table is that agricultural production--SITC codes 0 through 2--accounted for 75% of the value of all exports, and for 57% of non-traditional exports, thus emphasizing the country's dependence on the agricultural sector. For the promotion of non-traditional exports, it is apparent that equal emphasis should be placed on both the agricultural and the industrial sectors, their share of exports being roughly equal.

Belize is relatively fortunate among the countries of Central America in that non-traditional exports account for 57% of all exports, much higher than in the other countries. The rule in the rest of the region is that traditional exports account for up to two thirds of all exports, thus leaving very little opportunity for creating an economic base for countering the price fluctuations of the traditional commodities.

SENSITIVITY OF PRICE TO TRANSPORTATION COST

Table 3.5 demonstrates the relative sensitivities of different export products to the cost of transportation.

The table was prepared from information gathered relating to prices and quantities prevailing in the region in 1985, that are, with some minor adjustments, readily transferable to conditions in Belize. The figures shown are typical ranges, and are presented to demonstrate overall comparisons. Individual exporters may pay

more or less than the figures shown, depending on such variables as location of the production area in the country, volume shipped, final destination, time of year, and so forth.

The typical unit prices for the products are given FOB a main Atlantic (Caribbean) port, and include an allowance for land transportation and port charges. The percentage of total cost that is represented by transportation is the ratio of the sum of all transportation costs to the price of the product landed at a typical port overseas (e.g., Miami).

Table 3.5
Belize
Comparative Unit Costs of Exports

<u>Export Product</u>	<u>Typical Unit Prices FOB 1985 US\$</u>	<u>Typical Total Transportation Cost as % CIF Price</u>
Shrimps & Lobsters (frozen)	\$10,000-12,500/ton	2- 5%
Frozen Meat	\$ 1,900- 2,200/ton	12-15%
Bananas	\$ 300- 400/ton	40-50%
Cocoa	\$ 2,000- 2,200/ton	13-16%
Citrus:Fruit	\$ 200- 300/ton	50-60%
Citrus:Concentrate ^a	\$ 2,500- 2,800/ton	5-10%
Fruit and Vegetables (fresh) ^a	\$ 300- 400/ton	5-20%

^aEstimated for Belize

Source: Parsons Brinckerhoff International, Inc., field surveys

In the short term, volumes shipped are insensitive to changes in transportation costs. Producers do not stop shipping the moment their costs go up; they merely find it harder to pay their debts and stay in business. In the long term, therefore, many will be forced out of the export business entirely, making their volume eventually crash abruptly to zero.

It is worth noting that the "traditional" export of bananas falls into the same broad unit-value category of agricultural exports. The characteristic that makes the banana "traditional" and other fruit and vegetable products "non-traditional" is that the banana is produced and marketed on a large scale, making use of all the advantages of economies of scale. Even so, the international corporations that trade in bananas frequently run into financial difficulties, and with all their abilities to control and reduce costs and to benefit from international financing facilities, bankruptcies are common. Faced with the same class of products and small margins but without any benefits of scale, it is to be expected that producers of other agricultural exports in the region will make a precarious living.

Not all the export products, however, are as sensitive to the cost of transportation as bananas and fruit are: those items that have value added as a result of some degree of processing count transportation as a much smaller fraction of the overall cost to the buyer.

TRADITIONAL EXPORTS

Sugar

General Observations. Sugar is the largest industry in Belize, and has accounted for as much as 50% of export earnings, 50% of land under cultivation, and 25% of gross national product. The cane is produced on a large number of farms in the extreme northern part of the country, and the refined sugar is barged from

the processing factory to warehouse facilities in Belize for lightering to deep-draft vessels. Organization of deliveries and quotas is the responsibility of the Cane Farmers' Association, with overall coordination of the industry by the Belize Sugar Board.

Until 1985 processing was by a subsidiary of the British firm Tate & Lyle, Belize Sugar Industries (BSI). BSI is now owned by a trust on behalf of BSI employees, but a casualty of the deal was the closing of one of the mills (Libertad) and a 20% cutback in production to 80,000 tons per year. The Belize government, with US aid, is actively promoting crop diversification, partly by feeder road construction, in the areas hit by the drop in production.

Sugar and molasses are normally handled in ports in bulk, with purpose-built dockside equipment for rapid loading of vessels. This makes Belize's lack of deep-water port facilities a comparative cost disadvantage.

However, long-term agreements with Britain and the US for a substantial portion of the crop shelter Belize from the competitiveness of the open market. Even though seen as a no-growth industry in Belize, sugar will continue to be a major export revenue earner. Potential savings in transportation costs would have a significant beneficial effect on Belize's balance of payments.

In early 1985, Louis Berger International Inc. studied transportation alternatives for the sugar industry, but concluded that financial and economic justification was insufficient to introduce any of them. The two most promising schemes were:

- o a US\$ 20 million combined container/general cargo and sugar/molasses terminal at Belize City with a 9-meter-deep channel dredged to the existing pierhead, and trucking rather than barging of the product to the port
- o a US\$ 12 million sugar/molasses terminal at Robinson Point with a conveyor trestle extended out to a natural water depth of 9.75 meters, and a continuing use of the tug and barge system from the refinery.

Benefit/cost ratios were both well under unity (0.58 for Belize City port and 0.81 for Robinson Point), with the internal rate of return for the better of the two, Robinson Point, only 6%. Reference should be made to the Louis Berger International study for detailed analysis.

Interview Findings. Sugar industry officials recognized the major transport problem that is forced on them by the lack of deep-water port facilities; however, they considered that they had optimized the present system, which worked smoothly and efficiently. They were interested in Mexican plans to construct a new deep-water port at Quintana Roo that would be closer to the Belizean sugar producing areas than Belize City is, and would allow the more cost-effective trucking of sugar to replace the present barging and lightering operation.

Cane roads from the fields in the Corozal District to the Orange Walk refinery are in poor condition and often impassable. This has been so discouraging to the cane farmers that many are unwilling to continue having to work with them and are leaving the industry in great numbers. Feeder, farm, and rural roads are considered desperately necessary.

Cane farmer officials know that the sugar industry is depressed. They argue that rural roads in the north will help the entire sugar industry and--at the same time--support the national policy of encouraging crop diversification.

Evaluation. The sugar industry has professional management and is geared to solving problems. However, there is no doubt that its competitive ability and its financial performance are affected by additional costs of lightering as opposed to direct loading of products.

In addition to problems brought about by international sugar markets, Belizean sugar interests have considerable problems to contend with within the country. Agricultural labor in Belize is a valuable commodity--an entirely opposite situation to that in other countries in the region--such that the economic health of the country depends on keeping workers in the rural areas. If these workers feel that their efforts are being impeded by the lack of adequate roads to the extent that it is causing them to leave the land, then a rural road rehabilitation program is not only necessary from the sugar industry's point of view, but from social considerations as well.

As an added incentive for farmers in the cane areas to remain, the road program could be incorporated into a "package" intended to stimulate the entrance of farmers into new crops, especially vegetables. The "package" would include technical, financial, and marketing assistance.

Bananas

General Observation. Bananas account for about 5% of export earnings, and although absolute tonnages are expected to almost double by the year 2000, the industry's share of export earnings is projected to remain more or less constant.

It is a fledgling industry since being reintroduced in 1975, and still requires government assistance. According to the Economist Intelligence Unit, despite a protected market in the UK under the Lomé Convention, the industry has been plagued by poor plantation management, undercapitalization, and transport problems. Takeover by the Banana Control Board (BCB) did not help matters: by mid- 1985 the BCB had accumulated Bz\$ 17.7 million of debts. The board's 2,200 acres of plantations have now been sold to the private sector. The export crop is marketed through Fyffes, a British firm, and income has risen steadily due to favorable price agreements. The government's aim is to expand production to the 1.5 million boxes per year level required to make calls by a weekly banana boat economic. At present the total export crop is barged from Big Creek to Puerto Cortés in Honduras for transshipment.

Interview Findings. Bananas are struggling to gain a foothold and are scheduled to have their incentive privileges end by 1992. The absence of a direct export shipping service means bananas have to be cut earlier than is ideal, and control of quality and appearance is therefore difficult.

When banana acreage increases and production reaches 30,000 to 40,000 boxes a week, direct service is expected to be available. The present barge facility can accommodate 5-meter and 7-meter drafts, and adding a banana port at Big Creek is not considered to require a major engineering effort. The World Bank has estimated that adding a banana port at Big Creek would cost \$3.2 million. The industry believes a more modest outlay will suffice.

In terms of present transport problems, the roads from the banana fields to the Southern Highway are in very bad condition. The Southern Highway connection to Big Creek is also in poor condition. Finally, Big Creek lacks customs, immigration, and health staff. At present those using Big Creek--mango producers and shrimp farmers also use the facility--have to pay to bring personnel down from Belize City to perform these functions.

Evaluation. AID is financing a feeder road program in Belize that is likely to help banana producers. An improvement to the Southern Highway and construction of a major banana port at Big Creek would also benefit the banana industry. However, there is not yet sufficient evidence that the industry will soon get to the level needed to warrant direct maritime service. Therefore, it may be wise to observe industry progress before recommending these transport improvements in terms of their benefits to the banana industry alone.

Port facilities at Big Creek also serve mango producers and shrimp farmers. For the moment, the response of these exporters to the USAID feeder road program in the area should be studied. Clearly, port and road facilities south of Dangriga are deficient. If the results of the feeder road program are encouraging, review of improvements to other transport sectors should be considered.

The absence of customs, health, and immigration officials in the area should be remedied. Formerly, the staff of the District Officer had included personnel who performed this function on an 'as required' basis.

Timber

Although the country contains significant reserves of hardwoods-- studies indicate that only 5 percent of potential annual yield is produced--the wood is no longer competitive internationally and the markets for logwood (a source of dye) and chicle (chewing gum base) have been taken over by synthetic substitutes.

Export of timber, mainly to the Caribbean, is small scale; facilities are inefficient and undercapitalized; and there are no kiln drying facilities. In fact, because of poor quality locally, timber is imported in Belize City. However, at a recent meeting of the CARICOM Ministers of Agriculture, promotion of the region's timber industry was discussed in order to reduce imported products by development of the Caribbean's ample forest resources (particularly in Guyana and Belize).

Interview Findings. Logs are moved by river and road to a typical mill. At Spanish Lookout in the Orange Walk District, the mill sits astride the Western Highway and products are trucked to Belize for local consumption and export. Before the Mexican devaluations, most foreign sales went to that country. The industry is seeking to increase its modest sales to the US and Jamaica. At present, they say, high maritime rates substantially reduce the profits of such sales. Mill capacity is being doubled to some 60 cubic meters per production day. Officials hope that greater volumes for export will permit negotiation of more favorable maritime tariffs.

No problems were cited in connection with the moving of logs to the mills.

Evaluation. With the devaluation of the Mexican peso, beginning in 1982, lumber sales to that market virtually disappeared. The industry is now casting about for export markets, and the assertion that transport costs to the US and to the Caribbean are too high is almost a reflex response. A significant national investment could be made in a kiln dryer, thus making possible the export of high-grade cured timber. A favorable report and business analysis could possibly attract a foreign private sector investor.

NON-TRADITIONAL EXPORTS--AGRICULTURAL

Citrus Products

General Observations. The citrus industry exports frozen concentrate from the port facility at Commerce Bight near Dangriga, and in 1985 accounted for some 19% of export economies.

Citrus production, mainly of oranges (3,812 ha) with some grapefruit (1,272 ha), is concentrated in the Stann Creek Valley; 10 percent of the area is situated in the west of the country. New plantings are being extended along the highways from Stann Creek into less ideal soils. First established in the 1930s, sustained development of the industry has been hampered by notorious fluctuations in the market price. The Commonwealth Development Corporation finances programs of rehabilitation for farmers and advises on cultivation.

Two processing plants produce concentrate for export as well as some canned goods and oils. Belize Food Products is a subsidiary of Nestlé, producing primarily for the North American market. The Citrus Company of Belize is 51 percent owned by the Trinidad Citrus Association, its main customer, the minority shareholding being owned by Belizean growers. The processors have effective control of the industry, since they own 32 percent of orange acreage (1985).

Frost and disease in Florida in 1983-84 led to a surge in citrus prices, and led to citrus becoming Belize's second largest agricultural revenue earner. The industry was aided by the

abolition of the 30 percent tariff on concentrate exports under the terms of the Caribbean Basin Initiative, which has enabled Belize to compete with Brazilian produce in the US market. The upturn in the market has stimulated growers to plan to double acreage by 1989. In addition, the government is investigating, in conjunction with the British Overseas Development Administration, the possibility of developing 12,000 hectares in the southern Toledo district.

In October 1985 Minute Maid, the fruit juice subsidiary of Coca Cola, was part of a US consortium that purchased 277,615 hectares of forest in northwest Belize. Over the next five years the company will plant 10,000 hectares of oranges. The value of the investment will be in the region of US\$ 50 million. It is planned to export whole fruit to Florida for processing, although the company may build a concentrate plant after 1990 if production warrants it. As of 1987, however, very little of the program had actually been implemented.

Interview Findings. The two major processing plants in Belize use the Hummingbird Highway as their primary artery. Their reaction to the condition of this road reflects the typical situation for agricultural producers in the country. This one-lane road has deteriorated to such an extent that very little of the original construction is left, leaving a rutted and potholed surface. The processing companies are obliged to be entirely self-sufficient as regards transportation, and thus have to operate and maintain a fleet of equipment to bring the fruit in from the field as well as to take the product to the pier at Commerce Bight. The poor state of the highway seriously adds to the cost of production because:

- o all transport equipment is subject to frequent breakdown, requiring
 - excessive standby equipment
 - excessive spare parts inventory
 - extensive repair workshops
 - a permanent staff of auto mechanics

- o journey times for all movements are unacceptably long, resulting in
 - utilization of more equipment
 - greater labor costs for drivers.

It was also pointed out that frozen concentrate could not tolerate a journey time from factory to port of more than about three hours, thus limiting the distance inland that a facility could be located.

The firms did not view lightly the need to pay for the services of customs, health, and immigration personnel brought down from Belize City. It was claimed that these expenses added about US\$ 5 per ton to export transport costs. Although this is insignificant to the export value of US\$ 2,000-2,500 per ton of concentrate, it was perceived as an annoyance. A further irritant was the perception that the money paid for this service went to improvements at the Belize City port.

Of the 1,250,914 gallons of orange and grapefruit concentrate exported in 1985, 933,287 gallons, or 75%, went to the USA. The UK and Trinidad were the recipients of the remainder. Attempts had been made to export fresh oranges and grapefruit, particularly to markets in the Caribbean, but the lack of direct liner service from Belize to the islands made the operation unfeasible.

Evaluation. Improving roads leading to Dangriga will aid the citrus industry. However, the justification for sorely needed road rehabilitation cannot be tied to any individual industry. In the context of an overall justification, which would take account of benefits to passenger travel as well as the gains in such areas as public health, education, national security, etc., the benefits to the promising citrus industry should not be overlooked. The preliminary stages for the rehabilitation of the Hummingbird Highway were under way at the time of the study.

With respect to the complaint about delays and payment for customs, immigration, and health officials travelling from Belize City, it should be pointed out that the Port Authority runs both ports and considers it uneconomic to dedicate staff for the low volume at Commerce Bight. Reinstatement of these functions as part of the District Officer's duties might alleviate friction on both sides.

Recent interest by Tropical Shipping Company in establishing regular liner service to Belize could go a long way towards opening up new markets for Belizean citrus.

Fish and Shellfish

General Observations. Exporting of lobster, shrimp, conch, fish, and stone crab, primarily to the USA, is a successful and profitable activity that accounts for over 10% of export earnings. The industry was boosted by a price boom in the late 1970s. It is also a vital source of food for domestic consumption.

The export industry is dominated by four large fishing cooperatives that provide credit, refrigerated storage facilities, and a marketing organization for their 800 members. There are an estimated 400 independent fishermen providing fin fish for the domestic market, and a small export trade in freshwater fish, primarily catfish.

The most rapid area of expansion is in mariculture. The first shrimp farm was established in 1978. It is intended to raise both Atlantic and Pacific varieties for export both as adults for consumption and as larvae to large producers such as Ecuador. General Shrimps' first exports were made in late 1985, marketed through a local cooperative, but labor problems in 1986 have set the industry back and prevented export goals from being reached.

US companies are also developing farming of spiny lobster, American lobster, and crayfish. A USAID-funded investigation of the practicality of a conch nursery is also underway.

Fish and shellfish exports are projected to grow rapidly over the next 10 to 15 years, and if projected volumes are realized the industry could equal sugar and citrus as Belize's major revenue earner.

Interview Findings. The new trucking regulation that requires foreign-registered vehicles to transfer their cargos to Belize-registered vehicles at the border has hindered the import of shipping cartons. The fishing industry buys shipping cartons from El Salvador, and the first result of the new law was that cartons were dumped at the Guatemala-Belize border, where there were no covered storage facilities.

Moving cartons to Belize City was an added cost that had to be borne by Belize fishing interests. Some Belizean firms are exempt from the new regulation, but these exemptions seem to be dispensed on a random rather than a logical basis. The problem posed by the new trucking regulation was solved by the cooperatives--or at least minimized--by buying a one-year supply of cartons in advance.

Exports go to the US by refrigerated container. The routing is Belize-Puerto Cortés-Rowaton-Miami. Since products are frozen, the 5- to 7-day trip is not too burdensome. Volume is about one 20-foot container every 10 days during the July-March lobster season. Therefore, direct service is neither justified nor expected.

Fresh fish is shipped by air to Florida. The cooperatives have no complaints about the service. For shrimp and lobster, however, the cost of air freight is not offset by the marginal additional sales price of the fresh over the frozen product.

Evaluation. The new trucking regulation has not posed a major transport impediment for the fishing group. However, the regulation, which might have been prompted by the surplus of vehicles brought about by the cutbacks in the sugar industry, is in violation of efforts to strengthen the regional economies and expand intra- and extra-regional trade.

As to exports of fish on ice, most airlines are reluctant to accept any product on ice--not just fish. It is claimed that the melting ice can damage other cargo in the same hold. Exporters from other parts of the region have investigated alternative methods of cooling that would be suitable for air transport.

The fishing industry in Belize operates in two fairly distinct areas: inshore of the barrier reef and beyond the reef. The nation's catch of shellfish and most of its fin fish comes from within the reef. This area is traditionally seen as the preserve of the Belizean fisherman. The capacity within the reef is considered by many to be close to its maximum yield, leaving only deep-water fishing as the source for growth. While it is known that stocks are plentiful beyond the reef, no detailed analysis has ever been made. The potential for lobsters, for example, is virtually unknown.

If deep-water fishing is to be developed, capital investments will have to be made in the appropriate boats and equipment. To that end, fishing cooperatives in Belize are looking for possible joint-venture partners to assist with opening new deep-water fishing grounds.

Meat and Livestock

General Observations. Production of beef has remained fairly static since the early 1970s, although with recent approval by the USDA and with current programs to expand the Belize Meats abattoir, beef production is projected to double over the next 10-15 years. The export of live cattle is prohibited to prevent depletion of breeding herds, although a profitable trade worth Bz\$ 6 million in 1984 was established with the French West Indies during a temporary lift in the ban from 1983 through 1985.

Pork, fresh milk, and poultry supply the domestic market, supplemented by imports of dairy products. However, the new dairy (funded by USAID) opened in mid-1986 will ease the country's reliance on imports.

Cacao

General Observations. Cacao, the raw material for cocoa and chocolate, is not presently a significant export. It figures highly, however, in recent studies as one of the most promising potential export products for Belize. If projections are realized it could equal or exceed bananas in revenue.

The underdeveloped south of the country has suitable climate and soil and a development project is underway. Production is projected to reach 600 to 800 tons of beans by 1990 and almost 3000 tons by the year 2000.

Interview Findings. Officials at Hershey in Pennsylvania USA, (Hershey Corporation is the sole purchaser of cocoa from Belize) do not see any specific transportation problems in getting the product to the USA. At present, Belize is exporting about 114 tons per year, and even if this quantity is increased substantially, the present land and sea transportation is expected to handle it without difficulty.

The entire cacao crop is grown on plantations in the Sibun river valley south of Belmopan on the Hummingbird Highway, but is trucked north to Belize City port for shipping, the road east to Commerce Bight port being in too poor a condition. Seasonal floods occasionally block the highway to Belize City, but cocoa is not a perishable crop and can be stockpiled until floods subside.

The traditional production area in the south of Toledo district, if redeveloped, could be more affected by road conditions. Although crops could use existing main roads to Punta Gorda for shipment by barge or shallow coastal vessel to Belize, there would be a need for feeder roads from the farms. Hershey stated that there were no limits to market absorption of any near-term production increases in Belize.

With respect to institutional problems, the firm had no complaints other than the common one of immigration delays for personnel entering Belize by air. They made the comment that this was only an annoyance for their personnel, but could be a more critical concern to the growing tourism industry.

Evaluation. The industry is typical of the low-transportation-intensive industries in that it would obviously benefit from an improved transportation network. There are no significant constraints to exporting existing and planned production.

A dramatic rise in production in the south, say to Brazilian standards of 650-700 kg/hectare, could only be achieved efficiently if new farm (feeder) roads were constructed to link the producing areas to the existing road network. Much of the transportation evaluation of the citrus industry applies equally to the cacao industry.

Rice

General Observations. Belize is self-sufficient in rice but has the capacity to double its production capacity to provide over 6,000 metric tons per year for export. Primary constraints to growth are on the marketing side, where the USA and Thailand dominate world markets. Regional markets are dominated by Guyana and Surinam, but Belize might be able to trade with regional neighbors and Mexico. Clearly, no increase for export should be considered for this low-unit-price item unless a clear comparative advantage is first established.

Fruit, Vegetables, and Honey

General Observations. The export of fresh vegetables such as cucumbers, okra, and bell peppers to the USA during the winter season is a new enterprise begun as a result of the Caribbean Basin Initiative. The industry has the enthusiastic support of the government and USAID agencies as part of the crop diversification program. In 1984, winter vegetables was the fastest growing export sector. The industry accounts for about 2 percent of Belize export earnings, and although this is likely to remain a constant proportion, production is projected to double to maintain it.

Honey production potential is good, but producing districts are presently saturated with apiaries. Belizean honey is considered excellent and with development of new districts its market prospects are good. In 1985 nearly 50,000 gallons of honey were exported, worth BZ\$ 400,000, of which 30,000 gallons went to the UK.

Interview Findings. The industry is centered in the Mango Creek area south of the Hummingbird Highway. At present the export trade of fruit and vegetables is run by one company, Caribe Farm Industries Ltd, and products are shipped by barge from Dangriga to Belize City in refrigerated containers for onward shipment by sea to Miami, or by truck through Mexico to the company's new distribution center in McAllen, Texas.

The northern haul by truck carries tomatoes, okra, bell peppers and cucumbers. The southern haul brings shipping cartons and needed materials, equipment, and supplies. The balance between northbound and southbound flows keeps costs low.

Shipping by sea is more expensive than by truck, but market demand has exceeded the volumes handled by truck only. In early 1987 the company took delivery of 10 more trucks and refrigerated containers and will concentrate on trucking operations. Sea transport will still be used for markets in the eastern and midwestern USA.

The company has made it commercially feasible to truck produce to McAllen and is poised to approach Hershey to offer a more competitive system for moving cocoa beans to the US.

Company representatives stated that in their opinion a new or substantially improved road linking the south of the country to Belize City would open up "hundreds of thousands of acres of good agricultural land and a dramatic boost would be evident within 5 years." In general, they have considerable confidence in the future of Belize. They believe they can more than compete with Mexico in supplying fruit and vegetables to the US.

The company has recently constructed a vegetable processing facility at Mile 40 on the Northern Highway and has noted an immediate rise in demand from local farmers wanting to market their produce. The firm is, in return, providing technical assistance to farmers.

Transportation costs are about 10 US cents per kilogram for produce selling between 60 cents and US\$ 2.00 per kilogram depending on type. This represents a transportation element of between 5 and 17 percent on c.i.f. price. Consequently the industry is only moderately sensitive to fluctuations in transportation costs.

With respect to constraints to transportation the company cited the US regulation restricting foreign-registered vehicles from travelling more than 40 kilometers into the U.S. This they have mitigated to some extent by owning some dual registration vehicles and by efficient use of their distribution point in McAllen.

Of more urgent concern, although at the moment mainly an annoyance, is the practice of 'mordidas' in Mexico, whereby the "federales," and more recently the highway patrol, demand payment in dollars for no legal reason. Because of the general panic over the peso, the practice is increasing both in numbers of those practicing it and in the dollar amounts demanded. It is still a long way, however, from becoming a financial burden or forcing the industry to resort to sea transport.

Evaluation. The US policy of requiring a change of vehicles to those of US registry shortly after crossing the border appears to contradict the spirit of the CBI: it is one thing to impose standards of vehicle safety and performance; it is quite another to discriminate by license plate.

Another danger to this firm arises from the new Belize trucking regulation. Legislation of this type invites retaliation. If Mexico denies permission for the Belizean vehicles to transit the country, two vehicle changes will be required to reach Los Angeles. The impact of such a burden will be adverse, but cannot now be clearly foreseen.

NON-TRADITIONAL EXPORTS--INDUSTRIAL

As shown in Table 3.6, of the Bz\$ 32,067,000 exports from the industrial sector, fully 99% is composed of just the five items shown. Of these items, exports of clothing and apparel account for 97% of the total.

Table 3.6
Belize
Main Industrial Exports
1985
(Bz\$ Thousands)

<u>Description</u>	<u>Value</u>
Pharmaceutical Products	319
Grapefruit Oil	123
Orange Oil	388
Furniture	113
Clothing & Apparel	<u>31,050</u>
Total	31,993

Source: Central Statistical Office

The value to the economy of the clothing and apparel sector, however, is somewhat distorted by the fact that the export value stated on documents is the full value of the merchandise, and not the value added in the country. Of the remaining items, exports of citrus oils for pharmaceuticals form the largest group, and illustrate that the industrial sector relies heavily on the agricultural sector.

Garments

General Observations. Revenues from the garment industry accounted for 25 percent of export earnings in 1985. However, the net value added to the economy by this industry is very low, being primarily a source of employment. The cost of the imported raw materials largely cancels out the export earnings. Nevertheless, the industry is a highly successful manufacturing operation.

Interview Findings. Mexican haulers move cloth between a plant in the US at the Mexican border and a manufacturing facility in Belize. The reverse haul carries blue jeans and overalls to the US. A flat fee is paid for transport which amounts to \$0.40 per kilogram.

The manufacturers have a temporary exemption from the new trucking regulation but are concerned that the exemption may not be renewed.

The journey takes one week in either direction. The shipping pattern is set so as to avoid Friday and Monday delays at the Mexican border crossing. Inventories in Belize are kept to a minimum and containers in both directions are fully loaded. As matters stand at this juncture, the firm is totally satisfied with its basic transport situation.

Evaluation. This is a low-transport industry and the firm has achieved a high level of productivity. They are a major factor in the Belizean economy and yet they are vulnerable because of the uncertain application of the new trucking regulation and the uncertainty of their continued exemption from its application to the government industry. The fishing cooperative was unable to get such an exemption from the trucking regulation but managed to minimize the impact by accelerating purchases and building up inventories. This option is not open to the garment manufacturer.

Any regulation that requires the transfer of cargo at the Belize- Mexican border would threaten the continued existence of the industry. In addition, concessionary exemption from taxes (the tax holiday) for the major manufacturer is scheduled to end in a year, at which time they will be liable for full income taxes. The future viability of the industry, therefore, will be gauged by the performance of this firm as the two concessionary advantages are reviewed.

BELIZE

CHAPTER 4

NATIONAL TRANSPORTATION

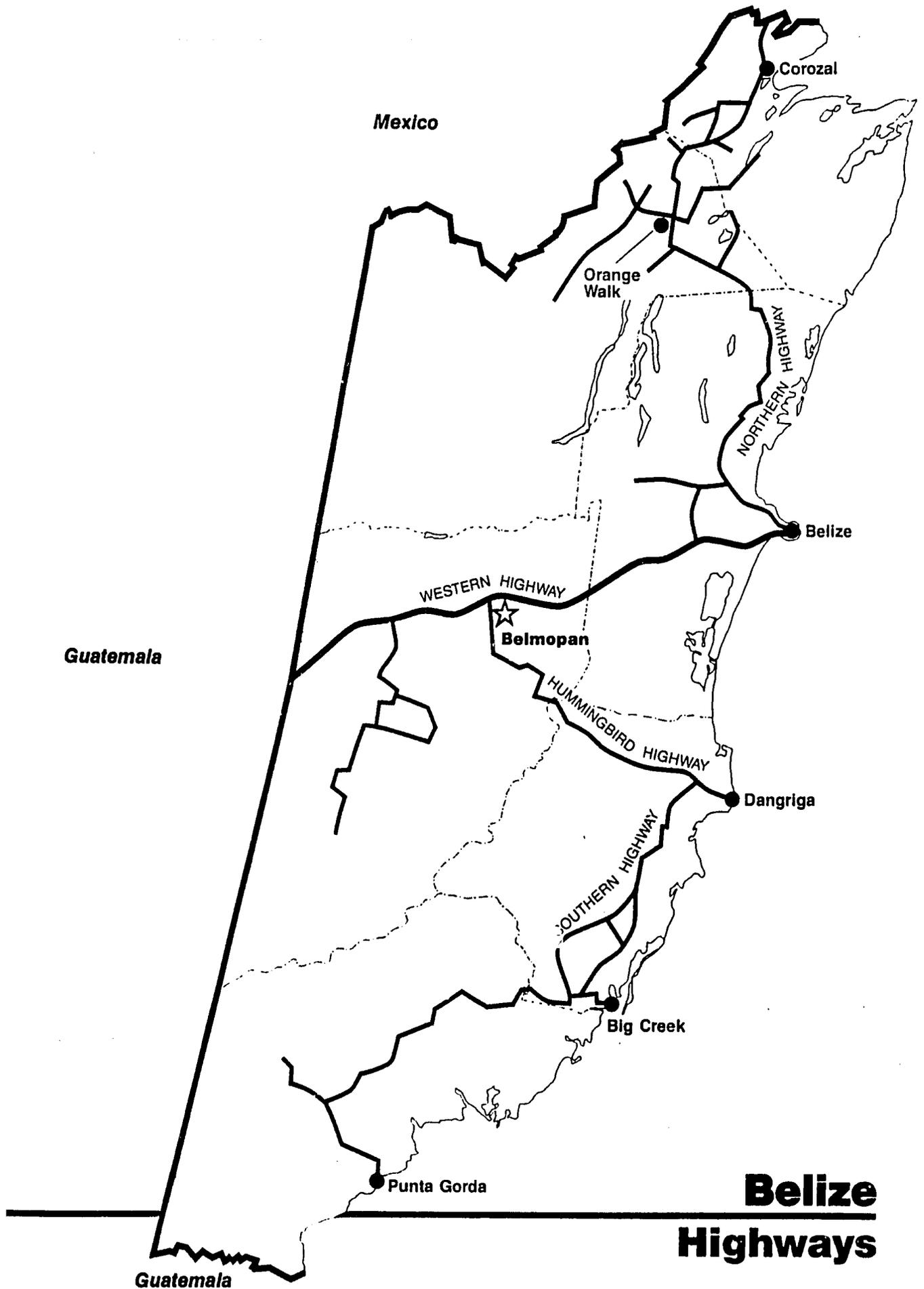
Belize has access to transportation by road, air, inland and coastal waterways, and the Caribbean sea. The one railroad fell into disrepair with the demise of the first banana industry and is no longer serviceable.

ROAD TRANSPORTATION

Belize has some 2,500 km of roads of which 350 km are paved. The recent study by Louis Berger International Inc. describes in detail the condition of the road network and gives cost estimates for construction and rehabilitation of parts of it. Reference should be made to that report for further information.

Main Highways

Major land routes include the Northern Highway that connects Belize City with Chetumal on the Mexican border. This highway serves the sugar cane areas of Corozal and Orange Walk. Except for the 25 km nearest to Belize City, which is old and heavily patched, the 150 km Northern Highway is in better than adequate condition.



Belize

Highways

The Western Highway connects Belize City with Belmopan and continues to the Guatemalan border. This 134-km, mostly paved route is in fair condition for most of its length and the gravel surface for the 18 km before the border is in average condition.

The 163-km Southern Highway runs from Dangriga/Stann Creek to Punta Gorda and serves the Stann Creek and Toledo districts. The road has a gravel surface and is subject to frequent flooding. World Bank and UK aid are funding improvements to some of the worst sections.

The 88-km Hummingbird Highway connects the southern districts to the rest of the country. A one-lane road with narrow one-way bridges, the highway is in poor and sometimes dangerous condition. Some improvements were carried out in 1985/86 but only to the 18 km in the Stann Creek Valley. Improvements to the mountainous section will be costly, but plans are under way for the redesign and rehabilitation of the entire highway.

An alternative to the Hummingbird Highway, a coastal plain road directly south from Belize City to Dangriga, would be costly because of the swampy conditions. No feasibility studies have been performed, but Louis Berger International discusses in its report the cost of such a highway and the potential impact of it on port development at Stann Creek.

Feeder Roads

Most feeder roads were originally built to serve a particular industry, as:

Corozal District	-	Sugar Cane
Orange Walk District	-	General Farming/Forestry
Belize District	-	Rice Farming/General Farming
Cayo District	-	Forestry/General Farming
Stann Creek District	-	Citrus/Banana Industry
Toledo District	-	Forestry/Rice Farming

and their condition is influenced by the fortunes of the industry for which they were constructed. Generally, the feeder roads are better in the south because of better construction materials. In 1984 there were no plans for new roads.

Responsibility for the maintenance and repair of roads in Belize is the responsibility of the Ministry of Works (MOW). To perform this task the MOW maintains a small fleet of construction equipment and operates a workshop in Belmopan. As was found throughout the region, the road equipment was for the most part inoperable, due in large part to the deficiencies of the workshop. No process existed for the rapid procurement of spare parts, workshop facilities and tools were inadequate for the functions of repair and maintenance of heavy equipment, and the shortcomings of management hampered the introduction of any serious improvements. Until recently it could not be claimed that any practical road maintenance was being carried out.

In the face of the failure of the road program, the World Bank funded a detailed survey of all roads in Belize, noting construction standards, condition, and so forth. Building on this foundation, USAID sponsored a rural roads program with the aim of improving the state of the rural roads in the country. The program was carried out by the operation of two road construction units of 20 people under the supervision of engineers from the USA. The unit personnel are trained in all aspects of rural road maintenance, from care and servicing of equipment through to unit management. As part of the program, 103 steel bridges were imported to facilitate the provision of adequate access.

In spite of the obvious success of the rural road program, only about 28% of the work required to maintain the national highways and rural roads is completed in an average year. The net effect is that roads in Belize are steadily getting worse.

Trucking Industry

The trucking industry in Belize falls into two distinct groups: the trucks run by growers and producers for their own purposes, and the independent truckers.

Independent truckers are simply a collection of small operations--usually owner-drivers, but with a handful of small fleets. This has come about because of the country's traditional trade through the ports to the USA and Britain rather than long hauls to Central American neighbors. Current practice in Belize favors the grower/trucker operation rather than the independent

truckers because the financing is more readily available to the larger operator and because the lack of independent support services requires that the trucking operation be entirely self-sufficient.

Typically the 6-ton-capacity, 2-axle trucks and the 20- to 25-ton tractor/semitrailers that make up the fleet, are imported as 6-year old vehicles at the end of their depreciated life in the U.S.A. Because of the generally good road conditions in the U.S.A., the trucks' suspension systems are normally in very good condition. They still require reinforcement for use in Belize. However, the low mileage utilization in Belize does not significantly deteriorate the condition of the engine and transmission. These used trucks are therefore suitable for Belize conditions, inexpensive to buy (say 15% of new cost) and the import duty of 53% not as onerous as for a new vehicle.

Costs of trucking in Belize are typically calculated on an hourly basis, as opposed to tonnage or distance. The normal range at the time of the study was Bz\$ 75 to 100 per hour, while a general rule of thumb for long hauls was about Bz\$ 2 per mile. This resulted in charges of US\$ 2,500 to US\$ 3,000 to haul a product across Mexico to the US border, though figures were based on the premise of no return consignment.

Comparisons of trucking costs are normally done on the basis of cost per ton-kilometer, but where charges are computed on an hourly basis, the ton-kilometer statistic becomes highly variable. Taking an average charge of Bz\$ 85/hour (US\$ 42.5/hour), an average speed of 40 km/hour and a typical load of 20 tons, the

rate becomes 5.3 cents per ton-kilometer. This figure compares favorably with the rate obtained in other countries in the region. Clearly, if the load is reduced to 10 tons or less, the charge becomes less reasonable, though it should be pointed out that most of the truckers in the region calculate on a similar basis.

For longer hauls across Mexico, where higher average speeds can be achieved and greater loads can be carried, the ton-kilometer statistic alters again. The distance from Belize to the US border is of the order of 2,100 km, a typical charge would be US\$ 2,600, and maximum loads can be up to 30 tons (65,000 lb). The statistic becomes just over four cents per ton-kilometer, which is extremely competitive.

Prices of gasoline at the pumps were US\$ 1.80 and US\$ 1.85 per gallon (US\$ 0.476 and US\$ 0.489 per liter), while diesel cost US\$ 1.39 per gallon (US\$ 0.367 per liter). No concessions were made for commercial truckers in regard to fuel, but duty-free imports were available for export operations. The application of this incentive to trucking had been found hard to implement.

No schools were available in Belize for the training of diesel mechanics, and there were likewise no facilities for training drivers of heavy equipment.

The main constraints are the condition of the highways (particularly the Hummingbird Highway) and the uncertainty of transborder traffic. Although there are no legal constraints, Belize trucks are hampered in Mexico and Guatemala, largely confining their operations to Belize. Inter-governmental trade agreements should be attempted. The industry is underutilized, so capacity is not a constraint.

WATER TRANSPORTATION

Inland and Coastal Waterways

Several rivers and lagoons are navigable by shallow draft vessels. Logging activities use the Belize River. The most important use of barge transportation is by the sugar industry which uses the inland waterway network to bring sugar from the refinery in the north to the warehouse in Belize City and subsequent lightering to deep water vessels. Citrus fruit products are also lightered from Stann Creek district to Belize City, and bananas barged from Big Creek to Puerto Cortés in Honduras for shipment.

Before completion of the new port in Belize City in 1980, imported cargos were also lightered ashore. Now, however, containerized imports are directly off-loaded at the new facility and many barge operators have switched to trucking. Exports, however, still make substantial use of the remaining barge fleet.

As part of their study of possible port developments, Louis Berger International developed costs for domestic shipping. The reader is again referred to that report for an in-depth analysis.

Ports

Major port facilities are Belize City Port and Commerce Bight (Dangriga). Several smaller ports and barge wharves are located at Big Creek (for banana barges in the south), the sugar refineries, and for fishing and coastal vessels at Corozal, Dangriga, Placentia, and Punta Gorda. Other facilities include small piers on the cays (offshore islands) and other localities, as well as offshore mooring points for oil tankers, and for sugar and some other cargo vessels.

Table 4.1
Belize
Port Cargo Handled
(Tons)

Cargo	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
<u>Imports</u>				
Fertilizers	2,435	1,976	4,834	3,455
Fuel	55,697	60,343	63,320	66,841
Wheat	6,016	4,975	N/A	1,470
Other General	<u>52,515</u>	<u>51,448</u>	<u>62,058</u>	<u>72,011</u>
Total Imports	<u>116,663</u>	<u>118,742</u>	<u>130,212</u>	<u>143,776</u>
<u>Exports</u>				
Citrus	6,063	4,446	5,609	6,966
Lumber	5,743	3,598	2,360	963
Sugar/Molasses	145,949	137,766	129,577	118,809
Other General	<u>6,006</u>	<u>6,673</u>	<u>4,544</u>	<u>9,032</u>
Total Exports	<u>163,761</u>	<u>152,483</u>	<u>142,090</u>	<u>135,770</u>
Total Cargo Handled:	280,424	271,225	272,302	279,546

Source: Belize Port Authority

N/A = Not available

The port cargo figures for the period 1982 through 1985 are shown in Table 4.1. Over the period, the total cargo handled by facilities under the jurisdiction of the Belize Port Authority has remained fairly constant at around 275,000 metric tons per year. Of this total, exports account for slightly over half, at about 145,000 tons on average.

Of significance to the exporters of non-traditional products is a comparison between the volume of general cargo imports and general cargo exports. Of the imports, fertilizers, fuel, and wheat commonly do not use the same vessels or liner service as general cargo; of the exports, sugar and molasses do not compete with citrus, lumber, and general cargo for space on board. Thus there is a current, 1986, demand for import space for about 75,000 tons, and a demand for export space for about 20,000 tons. Thus there is nearly a 4:1 imbalance in the space demands of imports over exports. This fact has clear implications for maritime service, in that imports are more likely to be of interest to a liner service than exports.

Port Operations and Organization. Both operations and port organization have changed since the opening of the new ports at Belize City and Commerce Bight.

A semiautonomous and self-supporting Port Authority has been set up as a statutory body with a board appointed by the Ministry of Trade and Industry. In effect, the Authority owns and operates the facilities at Belize City and Commerce Bight and is responsible for all maritime activities except stevedoring. Tariffs are set by the Authority but must be approved by the Government.

Stevedoring is organized privately by the consignee or shipper at the small ports, but by subsidiaries of shipping agencies at Belize City. Labor is unionized and must be requested from the Christian Workers Union when needed.

Belize City. The main port is at Belize City. The facility takes the form of a T-head pier connected to the shore by a trestle 762 meters long. The pier head has an area of 2,400 square meters, and is divided into two main berths: a general cargo or load-on/ load-off berth, and a ro-ro berth. Heavy cargo handling is severely limited by the cramped space on the pier head. The depth of water alongside is about 6 meters, which restricts use of the pier to small vessels only. The problem of shallow water depth has been studied, most recently by Louis Berger International, and it has been determined that increasing the depth by dredging is not an economic proposition. The normal procedure for handling cargo to or from larger vessels, such as container ships and sugar and molasses tankers, is lightering. The port operates two mobile cranes, and there are two electrical hookups for refrigerated containers.

Of particular concern at the port is the fact that the meeting of the trestle and the pier head is not at right angles, but skew. The angle involved makes turning a truck with a 40-foot container onto the pier head a very tight operation, sometimes resulting in damage to the container.

Commerce Bight. This reinforced, prestressed, precast concrete T-head pier on cylindrical concrete piles is located to the south of Dangriga. It is reached by 3 km of single-lane road running parallel to the shore. The approach trestle is 150 m long, and is just wide enough to accommodate a single vehicle. As with the pier at Belize, there is a dog-leg in the approach trestle which, given its narrowness creates an added hazard in cargo handling operations.

The pier is used mostly to service the citrus industry. Vessels with refrigerated holds tie up alongside in the 7-m depth of water and take on a typical load of 3,200 55-gallon drums. Loading is by ship's gear, and service is arranged for about once every two weeks during the harvesting season. No calls are made in the off-season.

The comparatively favorable depth of water has led to some interest in providing more regular service. However, the restricted operational area at the T-head pier has created some doubt as to the efficiency with which this facility could handle containers, and the fact that the deck is in excess of 5 m above sea level makes it all but useless for roll-on/roll-off (ro-ro) operations. It would, however, be feasible to reduce the level of the deck, should a genuine demand be established. Given the fact that this pier is out of action for several months during the year, it would be an ideal candidate for a phased reconstruction program.

Big Creek. Located about halfway between Dangriga and Puerto Gorda, the banana barge facility at Big Creek has a draft of about 5 meters. A large part of the bananas that go through this port are transshipped at Puerto Cortés in Honduras, the distance being about 50 miles. This distance is about the same as that to Commerce Bight, and less than half the distance to Belize Port.

International Shipping Services

Until recently, most inbound cargo was shipped weekly from Miami by a dedicated vessel operated by Hyde Shipping. In 1987, Tropical Shipping Company established a weekly service to Belize from Palm Beach, with expressions of interest in additional service.

Service from Europe and the Caribbean is provided by the Carol consortium (Harrison Line, Hapag-Lloyd, CGM and NedLloyd) either directly or through transshipment in Kingston, Jamaica. Carol uses large ships with their own gear, so only sufficient water depth and wharf space are required at their port of call for them to be able to deliver and take on cargo.

Charter services move the main export products (sugar, molasses, and citrus), and there are a variety of small trampers serving the region.

AIR TRANSPORTATION

Belize International Airport, 15 kilometers from Belize City, is served by three international carriers: Challenge, TACA, and Tan Sahsa. There are direct flights to Miami, New Orleans, Houston and Central American destinations. Eleven municipal airstrips serve all the larger settlements except San Ignacio.

International cargo movements for Belize International Airport are shown in Table 4.2. As can be seen, cargo volumes have followed a general downward trend over the last 4 years, coinciding closely with the falloff in economic performance within the region. Since cargo is carried in passenger aircraft, the available space for cargo is directly proportional to overall passenger demand, and this demand has dropped substantially since its peak in 1979. As with sea freight, the average demand for air cargo imports is about 50% greater than for air cargo exports.

Table 4.2
Belize
Air Cargo Movements
(Tons)

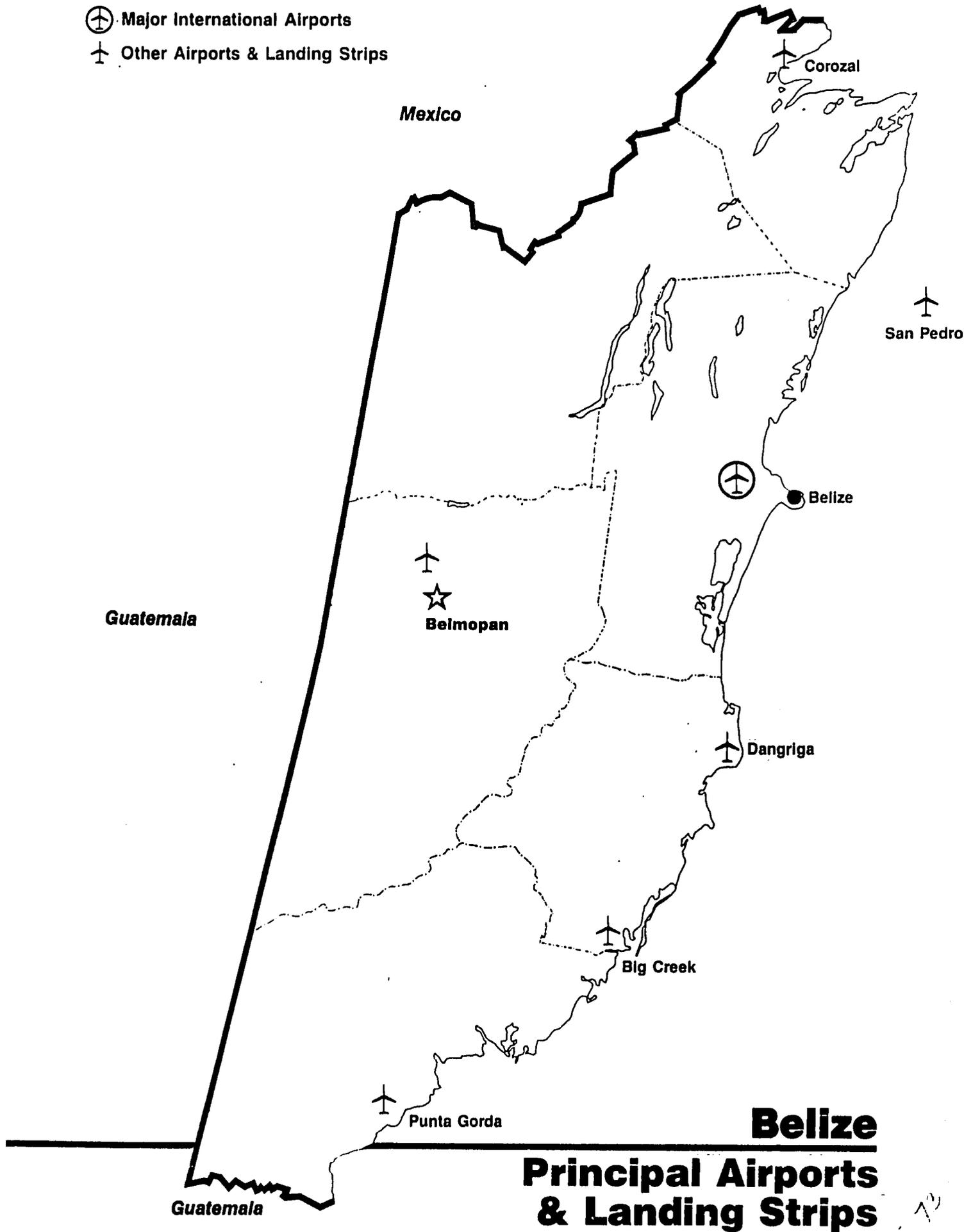
	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Imports	1,027	1,031	949	918
Exports	1,012	899	531	602
Transit	1,065	846	709	N/A
Total	3,104	2,776	2,189	2,220*

Source: Civil Aviation Department

N/A = Not available

* Estimated

- ⊕ Major International Airports
- ✈ Other Airports & Landing Strips



Belize

Principal Airports & Landing Strips

Of the airlines offering service to the USA, TACA was exercising an aggressive policy towards obtaining new clients. For US\$ 0.48 per kg, this airline would virtually guarantee daily space to Miami on its Boeing 767. For inbound cargo, TACA operated a DC6 cargo plane from New Orleans to San Salvador, from where the cargo was transshipped and backhauled to Belize on the 767. Because of the guarantee of space, TACA was popular with exporters of highly perishable items such as fresh fish and fresh fruit and vegetables. TACA also offered connections to Los Angeles by way of San Salvador.

COMPARATIVE TRANSPORT COSTS

The Regional Comparison

A pervasive view of most exporters of non-traditional products from Belize was that they were paying the highest transportation costs in the region. This charge was investigated, and resulted in the following analysis.

Table 4.3 indicates the comparative rates for a 20-foot container of dry cargo from the various ports of Central America to Miami, or an equivalent Gulf port. The table contains a number of assumptions, needed to make the figures comparable.

The basic figure is the door-to-US-port charge of major shipping lines operating within the country. This figure is the one-time charge levied by the shipping line for carriage from the producer's factory to the dockside in Miami. The charge includes land transport to the port, documentation charges, stevedoring charges, port charges, sea freight, and port and stevedoring charges in the USA. Estimates were made of the current cost of

each of these activities in the chain, emphasizing the fact that these separate charges have to be met even if the same company handles the consignment from start to finish. Even shipping lines that operate their own trucking fleets have to pay market rates for trucking operations. Port charges and stevedoring are based on estimates of costs to the average vessel loading or unloading.

Table 4.3
Typical Costs of Moving a 20-foot Container
 (US\$ Per Container)

<u>Country</u>		<u>Door to US Port</u>	<u>Trucking To Port</u>	<u>Port Charges</u>	<u>Sea Freight</u>	<u>US Port Charges</u>
GUA	A*	2,018	363	100	1,200	355
	P*	2,500	240	100	1,800	360**
C.R.	A*	1,475	300	550	325	355
PAN	A*	1,700	350	150	850	350
	P*	1,900	300	200	1,040	360
BEL	A*	1,790	40	300	1,100	350
HOND	A*	1,800	300	450	700	350
EL S	A***	2,150	500	100	1,200	350
	P*	2,330	60	100	1,800	360**

* Atlantic or Pacific port.

** Los Angeles

*** Routing through Santo Tomás de Castilla in Guatemala.

Source: Field Interviews, computations by PBI.

17

Notes for Container Costs Table.

1. Door-to-US-port charges were based on actual quoted rates for a 20 ft container of typical non-perishable product. Origin was taken as within a 40-km radius of the capital city, and destination was taken as the container yard of a typical US Gulf port (mostly Miami).

2. Trucking to port charges were based on quoted rates for collecting the full container and delivering it to storage at the Atlantic or the Pacific port.

3. Port charges were based on typical per-container costs levied by the port of the country for loading the container from storage to the vessel. Stevedoring charges are included, as are vessel charges. Fixed costs were allocated per container depending on typical volume loaded/offloaded.

4. Sea freight charges were determined to be the cost to the shipper of the purely maritime transport. The charge was arrived at in conjunction with estimates made by operators of the shipping companies.

5. US port charges were based on typical per container charges payable at the typical Gulf port. Fixed costs were distributed according to typical volume loaded/offloaded.

6. The purpose of the table is to enable a general comparison of the relative costs of exporting non-traditional products from each of the countries. All estimates are conservative: most exporters could obtain rates lower than these, but for the inexperienced low-volume exporter the figures are not unreasonable.

The calculation of typical costs for a typical container requires careful consideration: door-to-US-port charges, on the one hand, are directly comparable because they are well established for a particular commodity on a particular route; port charges, on the other hand, are a function of the vessel size, the number of containers handled, the equipment used, and so forth. The door-to-US-port charge was the same for 25 containers or 50 containers, as was the trucking charge, but the port charges--evenly distributed between the containers--were very different for 25 or 50 containers.

One approach was to standardize the calculation by assuming that the same size vessel and the same number of containers was used on each occasion. This concept, however, conflicted with the reality in each country: adopting 50 containers might be representative in one port, but it could be excessive at another. The system adopted was to report the costs that interviewees reported as being their average. These were cross-checked in each country, and the most consistent amount was reported in the table.

The table shows that Belize is toward the middle or low end in the spectrum of total regional shipping costs, and actually had the lowest charge in one component, the cost of trucking to the port. Exporters from Costa Rica had a basic cost advantage in exporting to the USA. Recent introduction of service by one of the world's major container companies, Evergreen, served to introduce increased competition, and so rates were reduced considerably. This company is discussing further plans with the port authorities at Limón in connection with construction of a major transshipment terminal.

Panama, Belize, and Honduras were all charged approximately the same for the 20-foot container service shown. It was felt that the small differences shown in the table demonstrated no real advantage of one country over another in this group.

Guatemala and El Salvador have a rate that is somewhat-- though not by much--greater than for Panama, Belize, and Honduras. The Atlantic rate for El Salvador is greater than that for Guatemala, as might be expected since the port used was Santo Tomás in Guatemala.

The lowest trucking cost to the nearest port was the cost to the exporter from Belize, since the capital is adjacent to the port. For the other countries, there was found to be an unexpected consistency in the costs involved in trucking the container to the nearest port-- unexpected because the distances involved were so different. In Guatemala, Costa Rica, Panama, and Honduras the rates were comparable, though Costa Rica and Honduras profited from being at the lower end of the range (\$300), and Guatemala and Panama had the disadvantage of being at the higher end (\$350-363). For the exporters of El Salvador the trucking cost to Santo Tomas involves an additional \$140 over the exporter from Guatemala City.

Port charges varied considerably, from \$100 at Santo Tomás and Acajutla to more than \$500 for Limón and \$450 for Puerto Cortés. Given the caveats regarding these figures, it would be safe to conclude that Limón and Cortés are comparable in terms of charges. The ports of Panama and Belize fell between the two extremes.

The charges shown for sea freight were the most controversial for the group, since the different lines operated differently, and thus they considered that the costs were not comparable. The point was accepted. However, the figures were retained and serve to illustrate the approximate proportion of the door-to-door charge that is under the control of the shipping lines (i.e. ocean costs), and hence determine the range of reduction that negotiation at conferences could achieve. To insist on a 10% reduction in a door-to-door charge of \$2,000, for example, would signify a 20% reduction to a shipping line whose ocean costs were only \$1,000.

The range of the sea freight allocation varied considerably, from of the order of \$325 per container from Costa Rica to approximately \$1,200 from Guatemala, with Belize near the top of the range at \$1,100. Given the probable accuracy of the survey, it was concluded that sea freight on a 20-foot container to Miami was about \$1,000, more or less depending on other factors. Clearly, one major factor that influenced the cost was the efficiency of the port, with exporters from Panama and Honduras benefiting from better-than-average efficiencies.

The sea freight from Costa Rica was distorted by the fact that the major shipping line consolidated in Jamaica before carrying to the USA. Had this not been the case, costs would have been more in line with those of the other ports.

The exporters from Guatemala suffered the expenses involved in loading a considerable number of containers each year (over 46,000 in 1985) without the appropriate equipment and facilities. While the charges levied by the port reflected the absence of such equipment, the cost of slowly offloading each ship using ship's equipment is reflected in the sea freight component of the costs.

BELIZE

CHAPTER 5

EVALUATION OF POTENTIAL SOLUTIONS TO TRANSPORTATION PROBLEMS

OVERVIEW

The business of exporting non-traditional products from Belize is currently in a state of fine balance: a small population is producing a limited selection of agricultural products in relatively small volumes, these products are being moved slowly over a deteriorated highway system, they are being painstakingly loaded on ships using a system that was more appropriate for a previous generation, or they are being trucked long distances to markets in the USA, and the small quantity that goes out by air fits adequately in the cargo hold of two passenger aircraft per day. Any significant increase in exports will require changes at all levels if the products are to be competitive on world markets.

The small population will require that the future export products be more capital-intensive than labor-intensive. Increases in output of basic agricultural products will require the increased use of foreign migrant labor, with possible damage to the current fragile national Belizean identity.

A significant factor in lowering the cost of transportation is bulk handling, or moving sufficient quantities that will allow the negotiation of reduced transportation rates. The highway infrastructure in Belize is far from being capable of permitting the competitive operation of a heavy-duty trucking company. Similarly, the port facilities are not up to the demands of rapid loading and unloading that would make substantial container movements economical. The airport facilities lack adequate storage for the operation of any significant air freight service.

In spite of the major disadvantages and the apparent impediment to the growth of non-traditional exports, there is every evidence that confidence exists that growth is possible: major international businesses are investing in agricultural projects and tourism projects; alongside all the major highways, land is being cleared for agricultural exploitation; major maritime carriers are investigating the possibilities of establishing regular line services; and major funding institutions are giving favorable consideration to applications. Belize is seen as having all the advantages of the only Caribbean nation on the mainland of North America.

This wealth of interest in the development of Belize could easily become a major threat if a development policy is not carefully enforced, and if the transportation infrastructure is not in place when it is needed.

ROAD TRANSPORTATION

The Road Network

The extensive construction program of the early 1980s has improved Belize's road network but still only approximately 15 percent of roads are paved and several main highways become impassable in the rainy season. The Hummingbird Highway connecting the southern districts of Stann Creek and Toledo to the capital (Belmopan) and the country's main port and commercial center (Belize City) is in very poor condition and generally avoided whenever possible.

The Potential of the Southern Districts. The opening up of the southern districts by constructing a good road from Belize City to Punta Gorda could lead to development of as much as a hundred thousand hectares or more of good farm land. Similarly, feeder roads in connection with a new southern road as well as elsewhere, will be required to provide the farms with access to the main roads and hence the export points. As an example of potential, an annual crop of 650-700 kg of cocoa beans (Brazilian standards of production) is equivalent to Bz\$ 2600 of export earnings. If only 200 hectares are developed for each kilometer of road (a 1-kilometer strip on each side) the total export value generated by that one kilometer is of the order of Bz\$ 0.5 million per annum. Highway construction costs in 1985 for the Western Highway were of the order of Bz\$ 600,000 per kilometer (US\$ 300,000). Feeder roads should be substantially less.

According to industry officials, finding new markets for the increased volumes of 'non-traditional' exports (e.g. citrus, cocoa and fruit/vegetables/ honey) is not a constraint. On the face of it, therefore, expansion of the existing road network should

attract private investment into agricultural production and hence help diversify the Belizean economy as well as substantially raise export revenues in absolute terms. Quite clearly, given the potential, this development approach merits further study.

Construction of Feeder and Rural Roads. In terms of priorities, the construction of feeder roads and rural roads would be the most effective generator of increased volumes of non-traditional exports. Clearly, without some reasonable access, not even the preliminary work of clearing and irrigation can be started. The fact that these roads are recommended as priorities does not mean that major highway and construction projects are not warranted: once the areas developed as a result of the feeder roads begin production, major demands will be put on the highway system. If the operation of heavy trucks over the highways in place at that time proves too expensive--long journey times, damage to suspension and lines--then the newly-developed areas may be forced to cease operations.

Road Maintenance. All roads require some degree of maintenance: unpaved roads require constant upkeep, while paved roads require routine maintenance. Maintenance requirements can be made more critical in heavy-rainfall areas and where there is heavy vehicle traffic. Increasing the total length of roads increases the demands for road maintenance. Thus an active road maintenance program must run in parallel with any road construction program.

In spite of some consulting assistance, the Ministry of Works (MOW) has proved ill-equipped to keep highways operational. The two USAID-funded road units have made considerable improvements, but are not organized to work at the national level. The root of the problem was found to be the under-capitalized workshops of the

MOW and the serious shortage of operational expertise. Thus, a logical progression for establishing a body capable of protecting the proposed national investment in new roads would be:

1. Practical training in road maintenance unit management techniques for MOW line managers.
2. Establishment of an efficient equipment maintenance unit at Belmopan, with adequate machine tools, bench tools, and trained mechanics. The current workshop would need considerable organizational restructuring to permit acceptable operation. Management and budgeting should receive emphasis, and the units' place in the national budget will require to be stabilized.
3. Acquisition of such equipment required to carry out that volume of road construction and maintenance that is considered appropriate.

In order to encourage the formation of new and larger Belizean construction companies, it is recommended that the MOW divide the road construction and maintenance work between its own forces and the private sector. Increased development and construction in the country will create demands for more contractors, but these may need the stability of government contracts for their financial security. In particular, encouragement needs to be given to the establishment of a rock-crushing company for the provision of road material, and for the establishment of an asphalt plant.

Trucking

The trucking industry in Belize is a comparative newcomer in the field of transportation. It is the advantageous property of road transportation that it is fairly robust and can take a considerable amount of abuse. It thus becomes popular for developing areas, and has considerably assisted in the development of the Belizean economy.

Pioneer trucking, however, is normally relatively expensive, and requires considerable refinement if products are to be carried competitively. To ensure that trucking offers an attractive service in the future, the following need to be developed:

1. Training facilities for diesel mechanics. The repair and maintenance of heavy road equipment requires mechanics with specialized training.
2. Training facilities for truck drivers. Much damage to trucks and cargo can be avoided if drivers receive adequate instruction.

These facilities were not available in Belize, and their lack was viewed seriously by operators of road transport companies. After some discussion, it was determined that Caribe Farm Industries were about to build their own workshop to maintain and repair recent additions to their fleet. For the instruction of the mechanics, an experienced mechanic was being brought in for a brief period from the USA. This firm volunteered the use of their

facility for the training of mechanics from outside their own company, and offered the use of the instructor to any organization willing to pay his fee. It was felt that this was an excellent opportunity to establish the basis of a future diesel school in Belize.

Similar arrangements could be made to establish instruction in the handling, care, and maintenance of heavy-duty road vehicles. There was considerable interest among truckers in cooperating on such a venture, and only an implementing agency was needed.

Institutional problems such as regional trucking regulations (both within Belize and with its neighbors including the USA) can best be solved by intra-regional trade negotiations and agreements. Belize could set an example by relaxing or abandoning the recently enacted regulation banning foreign vehicles from operating in the country, but this might be politically difficult to do internally given pressure from an underutilized local trucking industry. The USA could also set such an example by relaxing their 40-kilometer limit on operations by foreign registered vehicles. At present, these regulations hinder intra-regional trade by, among other things, forcing consumers to pay for imported products from outside the region where cheaper goods could be available from their Central American neighbors.

Finally, problems such as the prevalence of the 'mordidas' practice in extracting money from truckers passing through Mexico is a particularly difficult subject to handle, let alone solve, but it is important to note that it exists.

WATER TRANSPORTATION

Water transportation affecting Belizean exports can be distinctly divided into two parts; barge transport/lightering and ocean-going transportation.

Given the absence of a deep-water port and the unlikelihood of one becoming economically viable in the foreseeable future, Belizean exporters have optimized the use of tugs and barges both to transport products from small ports to larger ones and to lighter their products to deep draft vessels moored offshore. Existing equipment is apparently well maintained and, in the words of one sugar industry official, the system works smoothly and efficiently.

The two major international ports are new and well maintained, although some improvements to the design of both ports (the elimination of the tight turn in the access trestle and provision of additional electrical outlets) are identifiable structural constraints. Belize City port however, accounts for only 4% of export tonnage (primarily containerized products and some general cargo) as the major exports such as sugar are lightered to offshore vessels, bananas are barged from Big Creek to Puerto Cortés in Honduras, garments trucked to the US and most fruit and vegetables also trucked to the US. The port at Commerce Bight presents no structural transportation problems other than its limited depth alongside of 6.7 meters (Belize City has 5.5 meters), but the feasibility of lowering the deck to permit ro-ro operations should be investigated to expand the versatility of this facility.

Institutional problems at the ports are marginal at worst, given the low volume of export traffic and the relatively high value per ton of export products using the port (sugar excluded). Irritations such as the need to fly customs, health, and immigration officers from Belize City to service Commerce Bight port are not financially significant. The present export demands include only one container of frozen seafood per 10 days, 8 containers of citrus products per week, 10-18 containers of cocoa per year, some containers of fresh fruit and vegetables (the industry is concentrating on trucking to the US) and a few miscellaneous cargo containers. These do not present a handling problem and are unlikely to do so in the near future.

Ocean transportation costs, however, constitute a large part of the total costs for Belizean exporters both because of the country's low export volumes and because of the overall rates prevailing in the Caribbean. Belize suffers the same problem as the Caribbean islands and its Central American neighbors in that traditional exports are bulk products using chartered or dedicated vessels (sugar, bananas etc.) with the non-traditional exports having to rely on general cargo/container vessels bringing what is largely a one-way traffic in imports. This primarily one-way flow of relatively high value consumer goods leads to high freight rates when compared to trans-Atlantic and trans-Pacific movements. This will not be alleviated until exports of non-traditional products from the region become a significant enough backhaul to shipping lines in order for them to be able to reduce regional freight rates.

Hence it is only because of the high per ton value of Belize's 'non-traditional' exports and the existence of the land route to the USA that these export products are competitive with other world producers.

AIR TRANSPORTATION

While air transport in Belize accounts for only a small fraction of total exports, air freight was considered to be the mode with the greatest potential for the future. The following advantages accrued to Belize:

1. The closest Central American airport to the continental USA.
2. The lowest air freight charges in the region.
3. A runway practically at sea-level, ensuring cargo space on any plane arriving from Guatemala or Tegucigalpa.
4. No national airline, giving rise to political conflicts in route allocation. A genuine "open skies" airport.

At the time of this study, British consultants were beginning a program for the redesign and expansion of Belize International Airport. It is expected that an analysis of the potential will be included in this contract. In the meantime, the existing airlines serving Belize are entering on an active campaign to attract exporters to air freight.

GENERAL BUSINESS CLIMATE

An overriding characteristic of the major Belizean exporters interviewed, was their informed understanding of the industry's transportation problems and of the alternatives open to them. They made the available transport facilities work in the most efficient manner possible. One example is the pride that the sugar mill took in its ability to lighter its products "smoothly and efficiently."

While it is true that exporters currently make the best use of the transportation that is available, they are forced to reduce the impact of the cost of transportation by exporting only "top of the line" products. While the reputation for being the supplier of high-quality fruits and vegetable is an invaluable asset, the inability to export more mundane varieties becomes an impediment to export growth. It was concluded that it would be dangerous to consider that current export successes in the face of transportation difficulties serve to minimize those difficulties.

The export of both "non-traditional" and "traditional" products is well organized. The four main groups of exports, other than sugar and bananas, and their exporters are as follows:

- o Citrus: Belize Citrus Company
- o Fruit and Vegetables: Caribe Farm Industries Ltd.
- o Fish and Shellfish:
 - Northern Fishermen Cooperative Society
 - National Fishermen Producers Cooperative Society
 - Placencia
 - General Shrimp Ltd.
- o Cocoa: Hummingbird Hershey.

The most common arrangement is for the producers (farmers, growers, fishermen, etc.) to supply the exporting company with their produce, and for the company to process, pack, ship, and market it for them. In addition, most of the companies provide technical assistance to their producers. This benefits both the grower, who can thus produce more, and the exporter, who receives a higher-quality product. To minimize the effect of transportation costs, vegetables are top of the line quality, fish products are high-value frozen shrimp, lobster, or conch and fresh fish (fresh fish is airfreighted to the US), citrus is in concentrate form, and cocoa beans are bagged and shipped by ventilated containers to preserve freshness and prevent sweating.

In all the above cases it was stated that there were no significant transportation constraints and definitely no market limits for whatever Belize could produce. The limitations are all on the production side--lack of access to open up productive land and a need for capital investment (for example new, larger fishing vessels to supplement the traditional skiffs).

For the small exporter from Belize--particularly the native Belizeans--the incentives available for foreign investors did not apply. Only recently had serious consideration been given by the government to allowing tax abatement incentives to all exporters. The small Belizean exporter found himself disadvantaged from the tax aspect, from the shortage of investment capital, from the limited destinations of scheduled carriers, and above all from a lack of information regarding potential markets. While programs were in effect at the time of the study to rectify some of these faults, the marketing information for the small operator seemed

the least well-developed. While the export promotion groups and the chambers of commerce were providing some assistance with marketing, it was recognized that their contributions could only be limited because of a lack of resources. Detailed marketing studies involve considerable cost, but without them producers are more gambling than running a business.

The Government of Belize is actively promoting diversification of agricultural activity but is hampered by the lack of finance caused by the severe drop in revenues from its traditional product, sugar. Investment must come from international aid organizations or privately.

So far, aid (soft loans, grants etc.) has gone primarily toward stemming the balance of trade deficit caused by low sugar revenues. However, some has financed agricultural development projects (e.g. mariculture, cacao, feeder roads etc). Private, international investors are there (Hummingbird Hershey, Caribe Farm Industries Ltd., and others) and are enthusiastic about Belize's future. The Belize government has devised attractive investment incentives, few exchange controls, and liberal immigration laws, and encourages foreign investment for export by tax abatement schemes. In spite of these inducements, the rate of foreign investment growth has been disappointing.

Without postulating solutions to the problem, the following list presents the causes, which taken individually or as a group, appear to be holding back the development of the country:

Structural:

- o Lack of infrastructure, particularly secondary roads. Investors are reluctant to invest in infrastructure projects because of the longer time required to realize a return on investment.
- o Its small size and small population. Even though any investment project would have a dramatic effect on the economic future of the people of Belize, outside investors find that greater labor availability and the ability to operate on a large scale make other countries in the region more attractive.

Institutional (including political):

- o The perception of Belize as a Central American country and hence one that is politically unstable. The country's record proves just the opposite.
- o The continued military threat from its large neighbor, Guatemala.
- o Belize's low profile in the world economy. Its agricultural and hence economic prospects are overshadowed by regional politics.

Clearly, Belize suffers in one sense from its location and the geopolitical forces over which it has no control. It is its location and its political and social structure that set it aside from its neighbors, and it is these that will become its greatest assets for future development.

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BELIZE

CHAPTER 6

RECOMMENDATIONS

The transportation system is not an existing or a near-term problem for the export of non-traditional produce (citrus products, cocoa, fish and shellfish, and fruit and vegetables) from Belize. The exporters have concentrated on high-quality/high-value products that minimize the effect of relatively high regional transportation costs on their produce. The government of Belize encourages the development of this export sector in order to diversify the economy and reduce reliance on the main traditional export, sugar. The government assists by providing fixed and monetary incentives that are within its power and resources, and actively seeks aid and foreign private investment. The constraints to growth are more on the production side particularly lack of access to potential farm land, low population and difficulty in attracting foreign private investment. These factors are discussed in more detail in the body of the report.

Apart from a few specific but relatively minor items that can be rectified almost immediately the following recommendations are more of a guide to future development in Belize. The recommendations have been separated into two groups, viz: physical and institutional. They are not prioritized as there are none that, by themselves, will show an immediate improvement in export-related transportation.

Physical Recommendations

The benefits of improvements in transportation infrastructure normally extend far beyond the benefits that would accrue to the export of non-traditional products. Infrastructure programs have been suggested throughout this report, and while these actions will certainly reduce the cost of transportation, possibly quite significantly, it is difficult to justify the expenditures on the basis of non-traditional exports alone. Since non-traditional exports are such a small part of the whole, the specific recommendations focus on those items that will have more direct benefits to them.

- o Of great importance would be the continuation of the existing energetic program of rural road rehabilitation and maintenance. A road maintenance program would reduce land transportation costs by lowering the cost of repairs and maintenance on the trucks. The cost to the trucker in the near future will not be the cost of new equipment but the cost of imported, and expensive, spare parts. It is therefore recommended that

- all existing roads be made passable in all weather
- a program be instituted on a regional basis to ensure that rural roads receive a level of regular maintenance that minimizes damage to the existing trucking fleet.

USAID in Belize already has experience with road rehabilitation and maintenance programs, and it is recommended that this work be continued.

The current stumbling block to improved road maintenance is the woeful inability of the Ministry of Work to keep the inventory of roadwork machinery operational. As a clear priority it will be necessary to work out a program of mixed public and private sector contracting to maintain the road network to an agreed level. Whatever the public sector contribution is deemed to be, it will be unable to carry out its charge without an extensive refurbishing of its workshops and replacement of its inoperable machinery. The government and its ministries are the only implementing agencies, though it is recommended that they be given assistance in determining the best balance to achieve optimum effect.

- o Review the World Bank study of a deeper-draft port at Big Creek that will allow direct calls by dedicated banana vessels. This recommendation, however, is closely dependent on the future viability of the recently re-introduced banana industry and should be borne in mind rather than actively pursued in the near term.
- o Provide additional refrigerated container outlets at the Belize City port. Cost will be minimal but of the order of \$2000 per unit for say 4 more units.
- o Eliminate the sharp corner where the access trestle adjoins the pier head at Belize City Port. This would be more of a flagship project as the costs (say of the order of US\$ 75,000- US\$ 100,000) would not show any substantial financial benefit.

Institutional Recommendations

Education Programs. It is recommended that education and courses be made available to all those involved in the export process. This is not to take away from any of the education programs currently implemented their due recognition, but rather to recommend that they be supplemented by:

- o A training program for truck drivers. It is recommended that a school for Belizean truck drivers be set up in Belize. This should be a collaborative project between the Belizean trucking companies, manufacturers of trucks, and an enabling agency such as USAID. The aim of the school would be to turn out drivers who were aware of the role that they play in the trucking industry, and how correct driving habits can lead to more efficient use of equipment. The graduates of the course would receive a diploma that would be recognized as a sign of superior ability. The cost of such a school would depend to a great extent on how much assistance could be found from the major equipment manufacturers.

- o A training program for mechanics. It is recommended that the offer by Caribe Farm Industries to make available facilities and instructors for the basis of a mechanics school be accepted. The aim of the course would be, not only to teach mechanics the details of repair and maintenance of heavy equipment, but also to demonstrate how to recognize and measure the results of a successful maintenance program. Again, graduates would receive a diploma of competence. The main cost would be in the retaining of the instructor beyond the period of his contract with Caribe Farms.

The Cost Distortions. A cost distortion is present in the system that will need to be corrected by:

- o Export Incentives. Native Belizean exporters are at a disadvantage when compared with investors from overseas: the foreigners have tax incentives, the local people do not. Local producers thus have higher production costs. It is recommended that current incentives be given broader application and that a tax rebate scheme for foreign exchange earnings be introduced.

National Marketing Organization. There is a clear need in Belize for a well-funded and well-directed marketing organization. The main priority for this organization would be to find, markets for the products of Belize that take advantage of Belize's comparative advantages. The organization would split its functions between active overseas promotion on a national basis, and analysis and investigation of potential markets.

It is therefore recommended that promotional and marketing assistance be given to Belize by the hiring of an existing firm of US marketing specialists. This firm should be given clear objectives, against which its success would be measured, and the budgets would be agreed beforehand. It is recommended that target of 3% annual increase in non-traditional exports be established, or about Bz\$ 2.5 million increased sales each year. This should be achieved through a marketing and promotional budget of 8%, or Bz\$ 175,000.

It is further recommended that both the target and the budget be increased to include traditional exports and possibly tourism.

The recommended implementing agency is the Belize Export and Investment Promotion Unit of the Belize Chamber of Commerce.

General. There are three general recommendations for improving conditions for trucking between Belize and its neighbors, and for improving the investment climate:

- o Review the recent trucking regulation preventing foreign trucks from operating in Belize. Belize should actively assist Guatemala in its development of El Petén province by encouraging direct trucking to Belize ports to generate additional port revenues. In addition, a joint effort in constructing a good road would benefit both countries.
- o Approach the U.S. for an exemption to its 40-kilometer limit for entry of foreign registered trucks. Although this would only marginally improve the transport of fruit and vegetables, it would be in the spirit of regional cooperation.
- o Actively assist Belize in attracting private capital by financing promotional campaigns and trade missions. Assist Belize in identifying target industries that would be candidates for investing in agricultural development in Belize.

Non Priority Recommendations

While the needs of Belize in terms of transportation-related improvements have been analyzed in depth in the report, only a few of these have been listed as priority recommendations. This has resulted from the high level of activity in the country and an obvious determination to obtain improvements in international competitiveness. Thus, by the time this report came to be completed many programs had already been put into effect to solve the problems that were identified. These included:

- o A plan for rebuilding a 22 km section of the Hummingbird Highway. This work, under the direction of the Ministry of Works using European consultants and contraction, will be financed by the EC Design bids were to be invited by February 1987 and civil works bids by June 1987. Estimated cost US\$6 million.

- o A call for consulting assistance by the Ports Commissioners of the Belize Port Authority to improve organization and management of the nation's ports. The study and the implementation of the recommendations are to be funded by the Caribbean Development Bank. The consultants are to be selected in mid - 1987.

- o The appointment of the British consultants Sir William Halcrow and Partners to draw up plans for the expansion of Belize International Airport.

- o The extension of the USAID rural roads project for a further period, keeping on the two road units. This program not only involves complete rehabilitation of selected rural roads but the training of operators and managers at all levels.

APPENDIX

BELIZE

APPENDIX A

ECONOMY AND TRADE

ECONOMIC OVERVIEW

Historically based on the export of forest products, Belize's economy is now predominantly dependent on agriculture. The transition to agriculture started at the end of the 19th Century, initially with banana cultivation that expanded rapidly, then declined as a result of disease. Sugar production also began at that time, but large expansion of the sugar industry took place in the 1960s, since when it has remained the major commodity. Exports of citrus started around 1925 and expanded rapidly 20 years later.

Belize enjoyed sustained and fairly rapid economic growth in the 1960s and 1970s (Table A.1). The upward trend occurred by way of cyclical fluctuations reflecting the value of export earnings--particularly earnings from sugar. However, by 1981 the economy had begun to stagnate and it reached crisis proportions the following year because of the international recession, particularly the Mexican debt crisis that caused the thriving re-export trade to collapse. The accompanying table shows that real gross domestic product (GDP) has not had any significant growth since 1980, averaging only 1.5% per annum. With an average population increase of 2.7-2.8% per annum over the same period, this translates to a decline in per capita GDP.

Table A.1
Belize
Gross Domestic Product
(Millions of 1973 Bz\$)
Bz\$ 2 = US\$ 1

1979	123.5
1980	128.9
1981	130.8
1982	129.6
1983	130.6
1984	132.3
1985(e)	133.1

(e) estimated by Parsons Brinckerhoff International, Inc.
on basis of partial data--International Financial
Statistics, IMF, November 1986.

Source: Central Statistical Office

Agriculture and services are the most important sectors of the Belizean economy, each of them accounting for 40% of GDP. Sugar, citrus and bananas are dominant in agriculture; trade, public administration and tourism in services. Manufacturing, is about 8% of GDP, but this includes sugar and citrus processing.

Construction is a dynamic sector that traditionally contributes more than 5% of GDP, a percentage that may increase as investment projects are implemented. According to a recent quarterly report by the Economist Intelligence Unit, the expenditure of the British garrison stationed in Belize has been estimated to be as much as 15% of GDP and the value of the marijuana trade (some estimates put it as high as US\$120 million per annum) has a limited but tangible economic impact.

AGGREGATE ECONOMIC ACTIVITY

Employment

The economically active population totals 47,000. The following table (Table A.2) shows the employment structure over the last two decades to 1980, clearly showing the growth in the proportion of women in the work force. This proportion has continued to increase into the 1980s.

Table A.2

Belize

Employment: Structure

	<u>1960</u>	<u>1970</u>	<u>1980</u>
Population at working age - Total	46,335	55,624	71,510
Females	23,739	27,845	35,096
Males	22,596	27,779	36,414
Economically active population-Total	27,006	33,360	46,457
Females	4,883	6,012	10,627
Males	22,123	27,348	35,830
Employment - Total	24,477	31,465	39,806
Females	4,498	5,981	8,024
Males	19,979	25,484	31,782
Labor force participation (%)	58.3	60.0	65.0
Females	20.6	21.6	30.3
Males	97.9	98.4	98.4
Unemployment (%)	9.4	5.7	14.3
Females	7.9	0.5	24.5
Males	9.7	6.8	11.3

Source: 1960, 1970 and 1980 Census.

106

The unemployment rate has remained high but relatively stable at 14% since 1980, but only due to emigration. Geographical distribution of unemployment is significant in that it ranges from under 10 percent in the northern sugar-growing districts, through 16 percent in Belize City to 23 percent in the under-developed Stann Creek district. Figures would be higher still if adjusted for under-employment.

Employment by sector is shown in the following table (Table A.3):

Table A.3

Belize

Employment by Sector (%)

	<u>1980</u>	<u>1984</u>
Agriculture	37.0	32.1
Quarrying	-	0.8
Manufacturing	10.4	10.3
Utilities	1.5	1.5
Construction	4.5	4.9
Trade	14.1 ^a	11.2
Transport	4.3	5.0
Financial services	0.9	1.4
Government & other services	22.5	31.4 ^a
Other	<u>4.8</u>	<u>1.4</u>
Total	100.0	100.0

^a Includes hotel and restaurants.

Sources: ILO Yearbook; Labour Force Survey 1984.

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Employment in, or dependent on, agriculture is higher in reality when the agricultural components of other sectors are taken into account.

Underdevelopment of agricultural land in Belize has been blamed in part on low population. However true, part must also be attributed to the geographical and sectoral distribution of unemployment caused both by poor infrastructure (roads in particular) and a traditional academic-oriented rather than skills-oriented education system. This is clearly reflected in the high unemployment rates in the Stann Creek district (infrastructure) and Belize City (education).

Inflation

The fixed exchange rate between the Belize dollar and the U.S. dollar, together with the U.S. being by far the country's most significant trading partner (including oil and petroleum products), has dictated that inflation in Belize closely follows that in the United States. This is currently at a very modest level.

The government attaches a high priority to maintaining reasonable levels of price stability. It is not content to rely on steady prices for imports to bring stable prices to Belize. The major weapons used for controlling domestic sources of inflation are the tightening of credit and the issuance of guidelines for wage settlements. In addition, public expenditures are held under tight control.

Economic Growth

After the drop in GDP in 1982, a modest recovery has been evident in subsequent years to the present, although per capita GDP still declined.

Growth in the Belizean economy depends primarily on the state of the world economy and on the country's ability to attract foreign investment, particularly in the export-oriented agricultural sector.

The Five Year Macro-Economic Plan for Belize, 1985-1989 published by the Ministry of Foreign Affairs and Economic Development, postulates three scenarios for the performance of the Belizean economy over the five year period:

Scenario 1 predicts a pessimistic annual growth in GDP of less than 1% caused by continuing low sugar prices and a drop in sugar exports, a failure to realize large scale investment in citrus, shrimp, cocoa and livestock, and a continuing public sector deficit.

Scenario 2 predicts a moderate annual growth in GDP of between 1 to 3% based on controlling the public sector deficit and implementing some of the investment projects, although foreign exchange earnings from sugar will remain low.

Scenario 3 predicts an optimistic annual growth in GDP between 3 and 6% from increased value of sugar exports and high value by-products, successful implementation of investment projects and elimination of the public sector deficit.

Clearly, with sugar dependent on world market conditions and the public sector deficit dependent at least in part on governmental performance, investment in the diversification of agriculture into citrus, shrimp, cocoa, and livestock is a major target for financial and technical assistance. Of these commodities, all but livestock are considered non-traditional to the region.

Industrial Origin of GDP

The following table (Table A.4) giving the origin of GDP by industrial sector, shows the decline of agriculture as a contributor to GDP, caused by the depressed world sugar market. However, as with the earlier table on employment by sector, the above figures should be read with caution, bearing in mind the agricultural components of sectors such as commerce, transport, manufacturing and others. It is estimated that over 50% of GDP is directly dependent on agriculture.

Table A.4

Belize

Industrial Origin of Gross Domestic Product (%)

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Agriculture	18.1	19.7	17.8	15.0	15.4	14.6
Forestry	2.7	1.5	1.7	2.9	2.1	2.1
Fishing	3.2	2.4	4.0	3.8	4.2	4.1
Mining & quarrying	0.3	0.3	0.2	0.2	0.2	0.2
Manufacturing	13.5	15.2	14.8	12.5	13.2	14.6
Electricity & water	1.3	1.3	1.6	1.9	2.0	2.0
Construction	6.6	6.4	5.4	5.2	5.2	5.8
Commerce	18.5	19.2	17.9	17.1	16.7	17.5
Financial services	8.7	8.7	9.3	11.4	10.8	10.6
Transport	9.2	9.0	10.5	12.4	12.5	11.0
Public administration	11.2	10.5	10.5	11.0	10.6	10.4
Other services	9.0	8.5	9.2	10.1	10.6	10.5
Less: imputed banking services charges	<u>-2.4</u>	<u>-2.7</u>	<u>-3.1</u>	<u>-3.5</u>	<u>-3.5</u>	<u>-3.5</u>
Total	100.1	100.0	100.0	100.0	100.0	100.0

Source: Annual Abstract of Statistics.

MAJOR ECONOMIC SECTORS

Agriculture, forestry, and fishing

Although the timber industry that dominated the Belizean economy for 200 years now makes an insignificant direct contribution, its legacy remains in the ownership and utilization of land. 60 percent of potentially productive agricultural land is held in large tracts by foreign owners, and is for the most part not utilized. Recent tax legislation has been introduced to combat underutilization of potential agricultural land. However, lack of access to productive land is a severe constraint to development, as is the difficulty experienced by small-scale farmers in obtaining capital for improvement: 75 percent of agricultural credit goes to larger farmers producing export crops.

Sugar, produced in the north of the country and shipped by barge to Belize City for transshipment, is by far the major crop in terms of export earnings, volume and employment. The citrus industry--centered in the Stann Creek district--is the second most significant agricultural activity. Most of the output from some 4,500 hectares of orange and grapefruit groves is processed into concentrate for export to the United States. An attempt to re-establish bananas--also in the Stann Creek area-- as a major export crop has not yet proved its economic and financial viability, and requires continued government support.

Extensive improvements to the road system during the 1980s have gone some way to improving market access for farmers in the southern districts, but the problem remains severe. Marketing of a wide range of products, including rice, beans and maize, is undertaken by the Belize Marketing Board, which has experienced both administrative and financial difficulties requiring government subsidy. As a result of restructuring measures taken at the insistence of the International Monetary Fund (IMF), the board showed a small surplus in 1985, the first for many years.

Maize, rice and red kidney beans are produced for domestic consumption. Other crops for the local market include coconuts, root crops, peanuts and vegetables. Winter vegetables are also exported by land to the Southwest U.S.A.

Belize has a national cattle herd of some 50,000 head and had modest exports to Guadeloupe and Martinique, where it has preferential rights as an associated state of the European Common Market before exports of live cattle were banned in 1985. In 1983 the industry was prohibited from exporting beef to the U.S. because of U.S. Department of Agriculture (USDA) requirements. Trade was resumed after the Belize Meats abattoir received USDA clearance in April 1985. In 1986, Belize obtained support, for the first time, for export of meats to CARICOM nations.

Agricultural production is summarized in the following table (Table A.5):

Table A.5

Belize

Agricultural Production

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Sugar ^a ('000 tons)	98.6	103.3	97.7	106.0	114.3	103.2
Molasses ^a ('000 tons)	32.3	32.3	32.0	37.7	37.5	33.5
Oranges ('000 90 lb boxes)	568	1,109	1,063	1,065	750	1,124
Grapefruit ('000 80 lb boxes)	108	408	586	703	178	344
Bananas ('000 42 lb boxes)	842.4	784.9	549.0	524.0	531.0	523.0
Maize (mn lb)	34.0	41.0	47.0	47.0	33.8	34.7
Rice (mn lb)	14.7	19.0	23.8	17.5	13.5	10.8
Red kidney beans (mn lb)	2.24	3.07	3.80	3.90	4.00	1.63
Beef ^b (mn lb dressed)	2.6	2.3	2.2	1.9	2.1	2.2
Pork ^b ('000 lb dressed)	659	487	365	332	506	595
Honey ('000 lb)	...	496	483	440	543	624

^a Crop year December-June. ^b Slaughterhouse production only. Estimated 60 percent of pigs slaughtered without record.

Sources: Annual Abstract of Statistics; Belize in Figures.

114

Not listed in the above table is a new crop, cacao, that offers considerable potential. A cacao development project is underway funded by government, USAID and Hummingbird Hershey, a subsidiary of the U.S. chocolate company, which provides a guaranteed market for the total crop.

Forestry, now only a minor contributor to the export market, has been hindered by poor forest management, inefficient and undercapitalized milling facilities, and lack of kiln drying facilities. Studies indicate that only 5 percent of potential annual yield is being produced.

Fishing has become an important earner of foreign exchange through exports of shrimp, conch and lobster. Lobster and conch are presently harvested from the sea but shrimp are produced in farms.

Experiments are underway on mariculture of lobster, conch and crayfish.

Mining

Deposits of bauxite, barytes (barium ore), cassiterite (an ore of tin) and gold are known to exist, but not in commercial quantities. Belize's limestone geology could yield a number of products, including gypsum and dolomite limestone, but only the latter is exploited (for road ballast).

Energy

Despite extensive prospecting, especially since 1981, no substantial deposits of oil have been found. 35 of the 45 wells drilled, both on and offshore, since 1955 have shown the presence of oil, but never in commercial quantities. The most productive, near Belmopan and at Don Que, Corozal (Spartan/Howell 1984), offered a prospective flow of 10-20 b/d. In March 1986 the government invited a further round of tenders for concessions; despite some of the most liberal legislation governing oil exploration and exploitation in the world, in the current depressed state of the oil market the response was not expected to be good.

In early 1986 it was expected that the closed sugar factory at Libertad would reopen in the 1986/87 season for the production of ethanol. Prospects for this enterprise are unclear, despite probable access to the US market under the CBI provisions, particularly since the price of ethanol has fallen.

Belize's oil needs are supplied by a monthly tanker from Exxon's Gulf Coast refineries. Mexico agreed in May 1986 to recommence the supply of diesel for electricity generation, previously suspended due to repayment difficulties. The Belize Electricity Board's (BEB) Bz\$3 million debt to Pennex has been rescheduled. Total consumption is between 600,000 and 900,000 barrels a year.

Manufacturing

The manufacturing sector, limited by the size of the domestic market, is small and confined to import substitution. The single exception is the well established "offshore" garments industry, making up imported cloth for re-export to the USA. Although this enterprise is second in rank after sugar as an earner of revenue, its main economic impact is as a source of employment. The value added in Belize is very small.

Table A.6 summarizes industrial production.

Table A.6

Belize

Industrial Production

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Sugar ('000 tons)	103.3	97.7	106.0	114.3	103.1
Molasses ('000 tons)	32.2	32.0	35.1	36.6	33.5
Cigaretts (mn)	63.4	68.3	56.0	57.4	64.6
Beer ('000 gals)	689	889	818	850	630
Batteries (units)	4,100	4,500	4,836	5,000	5,555
Flour ('000 lb)	14,554	9,100	10,900	110,992	2,528
Fertiliser (tons)	3,002	4,300	3,600	3,080	4,641
Garments ('000)	1,600	1,200	577	781	1,966
Rum (gals)	...	5,850	4,552	4,850	4,300

Source: Belize in Figures

The industrial sector is protected against foreign competition by a system of import controls, without which little of it would survive. As a result of the protective legislation, a wide range of articles is produced on a small scale, and new enterprises are constantly being set up. Of particular importance in 1986 was the re-establishment of flour milling facilities, which failed in 1984.

The government hopes that overseas private investment in other industries will be forthcoming in order to take advantage of the CBI provisions. Trade delegations have visited the Far East as well as the USA. Consideration is being given to the establishment of a free trade zone to encourage further offshore processing developments.

Tourism

The present government elected in 1983 has revised the low priority afforded the tourist industry by its predecessor. The barrier reef offers excellent sub aqua diving and the unspoilt interior contains abundant wildlife and many small Mayan ruins.

Development is limited by the current basic level of hotel facilities, although capacity will increase by over 30% with the anticipated completion of a luxury hotel in Belize City and an 800-room resort in Corozal. Estimated tourist receipts have more than doubled from 1984 to Bz\$23.5 million in 1985.

FOREIGN DEBT

Debt

Up to 1980, external debt was marginal with loan receipts averaging 1.2% of GDP for the years 1975 to 1980/81. At independence in 1981, Belize had no significant debt burden; most external aid was in the form of grants, or loans on extremely soft terms.

Since 1981 world recession, devaluation of the Mexican peso, and declining sugar prices have escalated foreign exchange shortfalls. As a percentage of total exports of goods and non-factor services, debt service payments were:

Table A.7

Belize

Debt Service Payments

<u>Year</u>	<u>Debt Service Payment</u>
1980	1.4%
1981	2.5%
1982	8.8%
1983	6.9%
1984	7.1%

In December 1984 the arrears on debt payment totaled US\$6.5 million (the 7.1 percent), with a further US\$10 million due in 1985. By the end of 1985, US\$14.5 million had been repaid and US\$2 million rescheduled. Scheduled repayments for 1986 totalled US\$12.25 million.

Balance of Payments

At the end of 1984 Belize's balance of payments was in a critical position due mainly to falling sugar, citrus and re-export revenues, and a reduction in capital receipts. To stave off devaluation, the government approached the IMF and other agencies for support. Loans from the IMF (Special Drawing Rights--SDR--7 million), USAID (US\$13 million), the International Development Agency (US\$5 million) and the British government (up to US\$10 million), improved the reserves position in 1985. Reserves increased strongly through 1985 as the balance of payments moved into a surplus equal to 6.5 percent of GDP.

FOREIGN TRADE

The pattern of growth of exports and imports as well as GDP, since 1971 set out in the following table (Table A.8) clearly shows the effect of the slump in 1982 and the severe drought that drastically cut back sugar exports in 1976.

Table A.8**Belize****The Pattern of Growth of GDP, Exports, and Imports: 1971-77**

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Annual rate of Growth (%) of:							
GDP (real) (a)	3.4	6.7	4.2	9.3	0.7	-0.7	4.2
Exports (domestic) (b)	6.4	28.6	32.6	48.4	53.3	-28.9	30.6
Imports (retained) (b)	8.6	16.7	2.7	53.6	41.9	0.7	6.9

The Pattern of Growth of GDP, Exports, and Imports: 1978-84

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Annual rate of Growth (%) of:							
GDP (real) (a)	7.9	3.9	4.3	1.5	-0.9	0.8	1.3
Exports (domestic) (b)	23.4	3.1	44.7	-8.7	-20.0	8.9	15.6
Imports (retained) (b)	6.9	12.6	24.6	18.9	-2.6	-17.8	6.5

Sources: (a) Calculated from time series of GDP at factor costs in 1973 prices, prepared by the Central Statistical Office (CSO).

(b) Calculated from time series of merchandise trade, prepared by CSO.

121

The following three tables (Tables A.9, 10, and 11) show the breakdown of imports and exports in the 1980s as well as overall balance of trade. As can be seen, exports are led by sugar, garments, citrus, and fish products; imports are led by food, machinery, miscellaneous manufactures, and fuels.

Table A.9
Belize
Domestic Exports by Value (Bz\$ million)

	1981	1982	1983	1984	1985
Sugar	85.3	65.7	68.3	65.1	45.9
Molasses	2.4	1.7	1.9	2.3	1.7
Citrus	13.0	14.1	13.7	19.5	24.2
Fish products	14.4	12.6	14.0	13.4	13.6
Bananas	4.3	4.2	4.8	6.3	6.5
Sawn Wood	2.4	3.6	2.7	2.1	1.2
Garments	22.1	12.7	16.8	31.2	31.4
Other	<u>5.5</u>	<u>4.9</u>	<u>8.2</u>	<u>5.7</u>	<u>3.2</u>
Total:	149.4	119.5	130.4	145.6	127.7

Source: External Trade Report

Table A.10
Belize
Imports by Category (Bz\$ million)

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984^a</u>	<u>1985</u>
Food	67.5	79.8	58.8	46.8	56.0	NA
Beverages	6.4	7.1	5.7	5.0	6.3	NA
Crude materials	2.4	4.9	3.2	0.7	1.0	NA
Fuels	54.5	51.3	45.6	52.6	43.4	NA
Oils & fats	1.4	1.0	0.6	0.6	0.9	NA
Chemicals	19.5	22.9	22.5	16.5	21.7	NA
Manufactures	41.6	39.5	33.1	28.4	32.8	NA
Machinery	57.9	57.5	48.9	43.3	51.9	NA
Miscellaneous manufactures	48.0	58.3	35.4	28.1	44.7	NA
Other	<u>2.2</u>	<u>1.6</u>	<u>2.2</u>	<u>1.5</u>	<u>1.5</u>	<u>NA</u>
Total	299.5	323.9	256.0	223.6	260.3	157.5

^aProvisional

Source: Annual Abstract of Statistics.

172

Table A.11
Belize
Balance of Trade (Bz\$ million)

	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Domestic exports	149.5	119.6	130.3	145.7	127.7
Re-exports	<u>88.5</u>	<u>62.4</u>	<u>25.2</u>	<u>40.7</u>	<u>52.3</u>
Total exports	238.0	182.0	155.5	186.4	180.0
Total imports	<u>-323.9</u>	<u>-256.0</u>	<u>-223.6</u>	<u>-260.4</u>	<u>-257.5</u>
Balance	-85.9	-74.0	-68.1	-74.0	-77.4
Terms of trade (1980=100)	89.5	73.9	78.1	82.7	...
Export prices (1980=100)	98.4	80.2	80.2	81.9	...
Import prices (1980=100)	109.4	108.6	102.6	99.1	...

Source: Central Bank.

Main trading partners as a percentage of total value are given in the next table (Table A.12). For both exports and imports, the United States is the leading partner, followed by the United Kingdom.

Table A.12
Belize
Main Trading Partners as a Percentage of Total Value

<u>Exports</u> ^a	<u>1982</u>	<u>1983</u>	<u>1984</u> ^b	<u>Imports</u>	<u>1982</u>	<u>1983</u>	<u>1984</u> ^b
USA	45.9	42.8	57.8	USA	37.5	41.4	43.5
UK	29.7	28.7	20.5	UK	11.2	10.4	8.3
Caricom	11.8	14.2	9.5	EEC (excl UK)	8.6	5.6	7.6
Canada	5.6	11.2	2.6	Canada	1.5	1.6	2.3
EEC (excl UK)	5.0	0.4	6.4	Caricom	1.9	1.8	1.5

^aDomestic exports only. ^bProvisional.

Source: Annual Abstract of Statistics.

127

The USA now accounts for almost half of Belize's total imports and over half of domestic exports. Belize has a substantial trade surplus with CARICOM, over Bz\$10 mn in 1984. Many of the goods, for the most part consumer goods, currently imported from the Caribbean are now available much more cheaply via Mexico. Political difficulties have prevented Belize from taking advantage of membership of the Central American Common Market.

If Belize and Guatemala continue the recent improvement in relations, Belize could serve as the outlet to the sea for the developing province of El Petén in the north of Guatemala. This, of course, is a long-term prospect with major transport implications.

On the other hand, the re-export trade with Mexico is not likely to be an enduring advantage for Belize. Belize has raised transit taxes on this flow of goods so severely that the Mexicans have decided to build a major port facility at Progreso in the Yucatan. This development would substantially close the re-export trade no matter what the international value of the Mexican peso.

Despite Belize's small economy, there is reason to be optimistic about the nation's ability to compete in world markets. Belizean exports have favored access to the U.S., Canada, the Caribbean, and Europe. These varied advantages reflect the nation's role as a former UK colony as well as a beneficiary nation under the CBI and CAI.