
Central America Regional Transportation Study

Costa Rica

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COSTA RICA

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CENTRAL AMERICAN TRANSPORTATION STUDY

COSTA RICA

EXECUTIVE SUMMARY

This report evaluates transportation in Costa Rica and recommends ways to reduce existing limitations to the export of non-traditional products (products other than the traditional bananas, coffee, sugar, and meat).

The full study consists of six national reports and one regional report. It was sponsored by the United States Agency for International Development (USAID) through the Regional Office for Central America and Panama (ROCAP) to help 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 Costa Rica and in the United states showed that many factors, both physical and institutional, limit the transportation and export of non-traditional products.

Physical Limitations. Roads are generally adequate, and further construction is under way, but the chief need for the producers of non-traditional products is improved maintenance to keep existing rural roads passable. The future of the rail system is problematical since without extensive rehabilitation or new construction, its existing design makes it impossible to achieve modern operating standards. It was assumed in this study that rail would continue to function only as it does now, for passengers and limited coastal freight (bananas). Water depth currently limits the use of the modern ports of Limón and especially Caldera, where the port design needs to be analyzed to determine if effective deepening is even possible. Some additional port equipment is needed.

Institutional Limitations. A lack of trust and confidence pervades the whole of the business fabric and discourages both cooperative action by producers and the making of practical contracts between carriers and producers. Producers export as individuals and are dependent on brokers to handle and market their goods in the foreign port. Producers are often unaware that by coordinating efforts they can more effectively market products abroad and can induce carriers to offer lower rates in return for shipments of guaranteed volumes and schedules. Air freight service suffers from a situation of matched risks: neither the national carrier nor private-sector carriers will consider providing additional service until the shippers guarantee cargo volumes and schedules; shippers in turn will not increase production until one or another carrier has guaranteed space.

Institutional factors lead the ports to overcharge exporters for the services actually rendered: Puerto Limón is expected to earn a surplus to support local development beyond the port itself; Puerto Caldera is expected to recover its full port costs from user charges, though as a new port it has not yet attracted users for its full capacity.

The Basis for Recommendations. The report records numerous suggestions from persons interviewed, as well as programs devised by the study team itself, and should be viewed as a storehouse of possibilities. Actual recommendations were made on the basis of potential benefits to exporters of non-traditional products. Actions primarily benefitting others are not singled out as "recommendations," but are mentioned and may attract the attention of appropriate institutions for implementation.

Relative costs and benefits were estimated for each recommendation and recommendations were ranked within the two categories, physical and institutional. Relative benefits are estimated as the amount by which each action can increase the export of non-traditional products.

INSTITUTIONAL RECOMMENDATIONS

1. Contract Law Amendments

Approximate cost: not known

Approximate benefit: \$75 million increase in exports

Time frame: study 1988-1990

immediate programs 1990-1995

long-term programs 1990-on

- o Introduce changes to the current system of contract law to enable contracts to be easily entered into and for their disputes to be quickly, cheaply, and consistently resolved.
- o Introduce contracts of carriage to enable a shipper and a carrier to enter into definite and easily enforceable agreements regarding date, quantity, and cost. By allowing carriers to plan for guaranteed volumes and schedules, such contracts would reduce the cost to carriers and hence reduce freight charges to producers.
- o Form exporters' groups to negotiate contracts; determine the best legal structure so that groups can bind their members to the volumes and schedules they have set out in contracts with carriers.
- o Introduce appropriate legislation to encourage the operation of transport brokers.

2. Education Programs

Approximate costs: \$1 million total annual budget

Approximate benefit: \$1.5 million increased exports

Time frame: 1988 on

- o Introduce education programs to help nationals involved in the export of non-traditional products to produce, transport, and market these products more effectively.
 - Training for truck drivers, including awareness of the special needs of easily damaged products
 - Training for mechanics, including ways to verify the effectiveness of truck maintenance programs
 - Training for managers of trucking companies, including ways to reduce empty trips
 - Classes in group problem-solving techniques. Graduates of such classes would be a seed group of nationals trained in group problem-solving who could improve the methods and focus of meetings among producers, carriers, and government officials.

3. Overseas Representation

Approximate cost: \$300,000 per year

Approximate benefit: \$16.8 million in increased exports

- o Place exporters' representatives in Miami to verify the condition of cargo on arrival and seek potential buyers (especially for perishable products).

4. Revise the port tariff structure to be compatible with other ports in the region, using assistance from government revenues when necessary.
Approximate cost: \$35 million per year
Approximate benefit: \$110 million per year in increased exports
Time Frame: 1988/89

5. Reduce port charges to be commensurate with the services offered. This would require legislation enabling the governments to adopt some port expenses as being in the national interest.
Approximate cost: \$26 million per year
Approximate benefit: \$80 million per year in increased exports
Time Frame: 1988/89

6. Revise the exchange earnings tax rebate (CAT) to remove existing uncertainties that have prevented its acting as the intended incentive to greater production.
Approximate cost: minimal
Approximate benefit: \$15 million increased exports (estimate)
Time Frame: 1987/88

PHYSICAL RECOMMENDATIONS

1. Review of Road Repair and Maintenance
Approximate cost: \$300,000 (study only)
Time frame: studies 1988
implementation & procurement 1989-1994

An energetic program of rural road rehabilitation and maintenance to keep roads passable in all weather and to reduce damage to trucks, starting with review of ministerial workshop capability.

2. Container Freight Stations

Approximate cost: \$3.5 million

Time frame: location, design etc. 1988
construction 1989-1992

Construct a network of container freight stations in seven key locations to facilitate the consolidation of cargo for export and the unpacking of containers for distribution.

These recommendations result from an in-depth look at problems facing the exporters of non-traditional products and an attempt to rank remedies by their relative costs and benefits. The analysis convinced those preparing this study that the problems were deep-seated. Capital improvements at particular facilities, unless directed specifically to meet clear-cut needs, become merely cosmetic improvements that leave untouched more basic factors controlling the volumes and prices of goods. Often, exporters' problems have their roots in general business conditions and practices, including uncertainty regarding U.S. quotas and trade restrictions. What is recommended is the establishment of reasonable business security and predictability. Changes to the economic climate can help producers to use less costly transportation options and increase the competitiveness of Costa Rican products on the world market.

COSTA RICA

CHAPTER 1

INTRODUCTION TO THE STUDY

SYNOPSIS

Parsons Brinckerhoff International, Inc., was 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 the Caribbean (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 had concluded that initiatives by the Regional Office for Central America and Panama (ROCAP) and the Central American bilateral USAIDs in support of non-traditional exports had invariably encountered transportation-related problems which had dampened the anticipated impact of the programs.

To complete the contract requirements, a study team was to identify 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, for the six countries given (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Panama). Means for removing these constraints were to be recommended. 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 which 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 transport 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: Costa Rica. It contains a detailed

review of the economic, institutional, physical and operational aspect 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 are having an inhibiting effect on 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, and discusses the accuracies and possible misconceptions contained in these views.

BACKGROUND

Legislators, policy formulators and administrators and responsible observers--in both the public and private sectors--in both the United States and in Central America have recognized that the recent economic decline in the region has deep roots and 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 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 to restrain critical capital inflows.

This critical--and potentially worsening--situation has given rise to the political and legislative background for planned AID 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 arch 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.

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 sea, air and land transportation and related documentation, 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, custom brokers, customs officials.
- o Identification of institutional and structural 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 which should be undertaken to improve the quality of transport service and 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 U.S. 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 of the export product to

growth, 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:

- o geography, population and demographics
- o the export of non-traditional products
- o the national transportation system
- o prioritized recommendations
- o national economy and trade.

The analysis of each nation's non-traditional exports was done within the classification framework of the internationally-accepted Standard International Trade Classification (SITC), Revision 3. The adoption of this system was considered fundamental to the study, in giving it a consistent and systematic framework within which to analyze the information collected regarding the wide range of non-traditional products.

The studies were produced in the form of seven separate reports: one each for Belize, Guatemala, Honduras, El Salvador, Costa Rica, and Panama, and one report covering the region as a whole.

Metrication

The metric system of units has been adopted for this series of reports. Only where industry standards are in the pounds-foot system (e.g., 20-ft containers) is this alternative system used. The terms "tons" and "metric tons" refer to 1,000 kg throughout.

COSTA RICA

CHAPTER 2

GEOGRAPHY, POPULATION, AND DEMOGRAPHICS

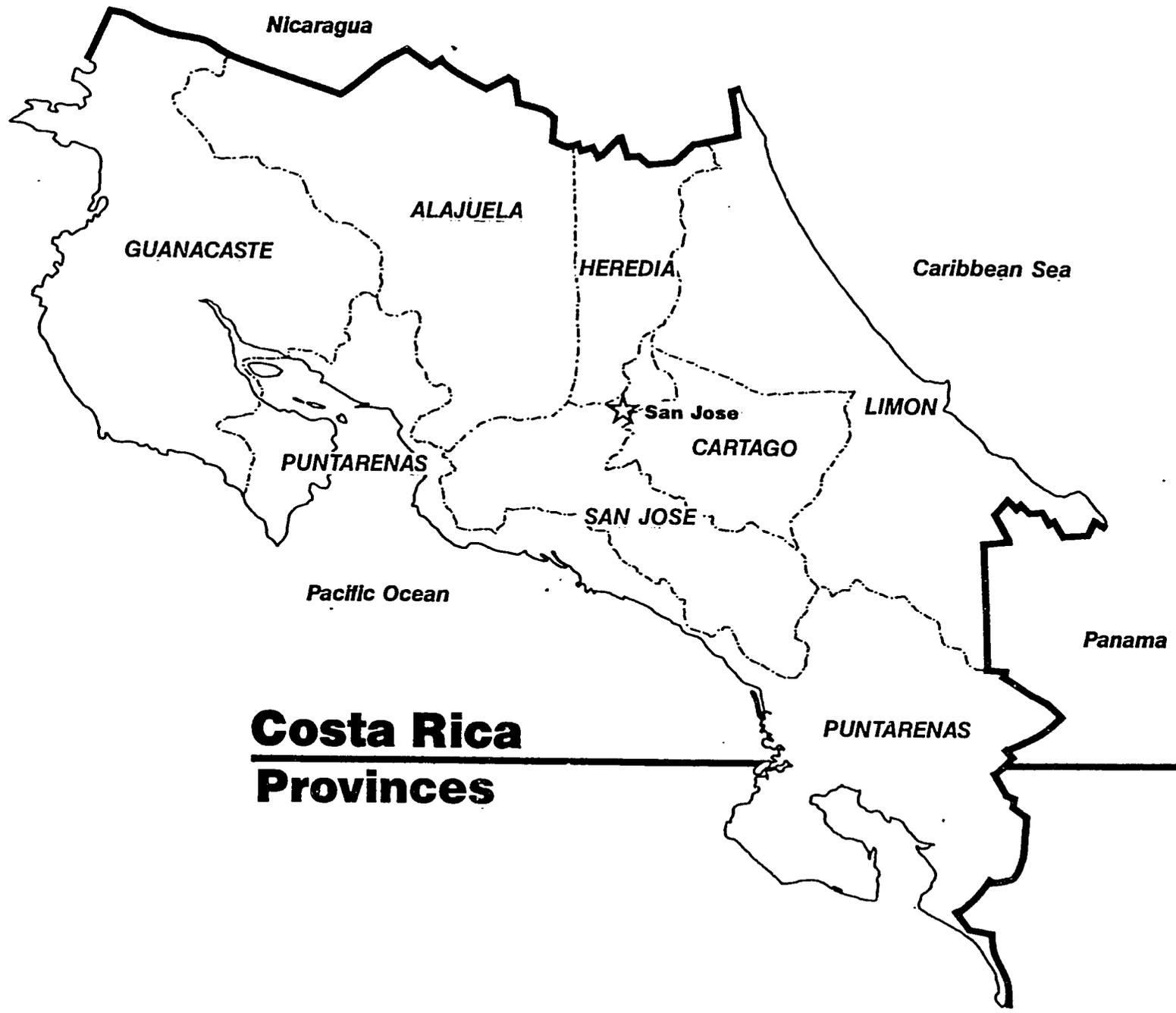
Physical Geography and Climate

Costa Rica straddles the isthmus of Central America, with Nicaragua to the north, Panama to the south, the Caribbean Sea to the east, and the Pacific Ocean to the west. Its maximum length, measured in a NW-SE direction, is 480 km, while its minimum width is only 188 km. The land rises to a maximum elevation of 3,819 m, and the total land area is of the order of 51,000 square kilometers, making it one of the smaller Central American nations.

Costa Rica shares 300 km of border with Nicaragua, and 363 km of border with Panama. The Caribbean coastline extends some 212 km, while the much longer Pacific coastline measures 1,016 km.

The climate of Costa Rica is conditioned principally by altitude. The three main climatic zones are:

1. between sea level and 700 m--the coastal areas
2. between the plains and about 2,000 m, incorporating the central valleys and plateaux
3. the high mountain regions.



Costa Rica
Provinces

The plains are characterised by high rainfall and temperatures, while the intermediate temperature zone has a rainy period from April to November and a temperature range from 14°C to 17°C. The capital, San José, located in a large inter-montal basin at 1,146 m, has an average daily range of 22°C to 24°C in December and January. The driest month is February (5 mm average rainfall) and the wettest is September (305 mm).

The political geography of Costa Rica takes the form of subdivision into provinces (7), cantons (81) and districts (418). The provinces are San José, Alajuela, Cartago, Heredia, Guanacaste, Puntarenas, and Limón. With the exception of Guanacaste (capital Liberia), the capitals bear the same names as the province.

The country is also divided into five physiographic regions, as follows:

1. The Central Valley. The four most important cities in the country are located within this 3,246 sq km area. They are, San Jose, Alajuela, Cartago, and Heredia.
2. The North Pacific. This essentially dry coastal plain comprises the province of Guanacaste, the Central Canton of Puntarenas, and the cantons of Esparza and Montes de Oro, Orotina, and San Mateo.
3. The Northern Basin. Located adjacent to the border with Nicaragua, comprising the northern part of the provinces of Heredia and Alajuela, and the plains of Guatusos, San Carlos and the flood plains of the Sarapiquí River.

4. The Caribbean Region. This area of high rainfall annual average 4,100mm) and high humidity comprises the Atlantic coastal plain. The region includes the province of Limón and the cantons of Turrialba (in Cartago province) and Alvarado/Jimenez.

5. The South Pacific Region. With about double the annual rainfall of the North Pacific Region (average annual 3,450mm), this hot and humid area extends along the Pacific coast from the Central Valley to the border with Panama. The area comprises the greater part of the province of Puntarenas.

Population and Demographics

In population as in area, Costa Rica is somewhat smaller than the median for Central American nations, but the average population density is rather high. According to the 1984 census, the total population of Costa Rica was 2,467,266, giving an average population density of 48 per sq km, the third greatest density in the region, just below El Salvador and Guatemala. Of these, the men outnumbered the women by only 2,000.

The population's age structure has undergone fundamental changes in the past two decades, mostly attributable to the drop in the birth rate. Whereas 48% of the population was less than 15 years of age in 1960, by 1979 this figure had become 40%. Projections by the Statistics and Census Bureau indicate that by the year 2000 this may drop to 26%, and the productive age population (15 to 64) should increase from 49% to 67% during the same period.

Concentration in the Central Valley. Population is by no means distributed evenly. The distribution of population by province, together with the population density per sq km, is shown in Table 2.1.

Table 2.1
Costa Rica
Population of Costa Rica by Province

<u>Province</u>	<u>Population</u>	<u>Density</u> <u>/sq km</u>
San José	893,254	180
Alajuela	430,634	44
Cartago	269,860	86
Heredia	195,389	74
Guanacaste	193,024	19
Puntarenas	291,008	26
Limón	187,057	20

While these figures are the result of the national census, and reflect the political geography of the country, in terms of physical geography it has been estimated that approximately half of the population lives in the area of the Central Valley. This would give a maximum population density for the area of 379 per square kilometer.

The Census Bureau of Costa Rica published the following vital statistics for 1983, all of which reflect a growing, urbanizing population with good health and life expectancy:

- o annual growth per thousand inhabitants 27.0
- o annual urban growth rate 35 per thousand inhabitants
- o annual number of live births per thousand inhabitants 29.9
- o annual mortality per thousand inhabitants 3.9
- o life expectancy at birth
 - men 70.5 years
 - women 75.6 years

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Geographic Factors Particularly Affecting Transportation

The figures given above show that Costa Rica has a land area that is smaller than all the other countries of Central America except El Salvador and Belize, and has a population that is lower than all but Panama and Belize. Much of the population, however, is concentrated into a still smaller area within the central highlands. Of particular concern to a study of transportation are the following:

1. A large proportion of the population chooses to live in one small area in the central highlands.
2. The population density in this area highlights the fact that most of the consumables will have to be brought into the area--either as imports from neighboring provinces, or as imports from abroad.
3. The elevation at which the majority of the population live--1,100 meters--would serve to make expensive any imported item that came up from the coast.
4. Similarly, the elevation would also make expensive the cost of transporting exports to the coast.
5. High elevations limit the freight-carrying capacity of aircraft.

6. The average grade from the central highland to the nearest Atlantic Coast is 1.2 percent, while that for the Pacific coast is 1.8 percent. (The grade to the Atlantic coastal plain is considerably greater than the average to the coast.) Grades such as these point up potential difficulties in designing road and rail infrastructure to handle large volumes of freight.

7. The combination of mountainous terrain and proliferation of mountain streams makes construction of highways expensive.

COSTA RICA

CHAPTER 3

THE EXPORT OF NON-TRADITIONAL PRODUCTS

As has been stated previously, the study used as a basis interviews with the exporters of non-traditional products. A selected group of exporters, or their representatives, were asked to describe the transportation system that they used when exporting their product, and were asked to describe what, in their opinion, were the main problems related to those transportation modes.

Prior to examining the interview findings, however, this section of the report looks at published trade statistics for both traditional and non-traditional products for Costa Rica.

OVERVIEW OF TRADITIONAL PRODUCTS

As with many of the other countries in the region of Central America, Costa Rica has an official list of traditional exports. The Official Gazette of the Government of Costa Rica lists the following as being "traditional products":

coffee beans, untoasted
coffee beans or ground coffee, toasted
bananas, fresh, whole
cacao beans
cane sugar, unrefined
cane sugar, refined
rice, with chaff
rice, without chaff
beans
corn
sorghum
tobacco
skins and pelts
beef, fresh, refrigerated or frozen
wood, trunks or quartered
wood, sawed, planed or crushed
cattle, ordinary breed
pigs, ordinary breeds
goats, and sheep, ordinary breeds
non-metallic minerals in bulk
iron ore and concentrates
scrap iron and steel
non-ferrous common metal ores and concentrates
non-ferrous scrap metals
gold and silver ore
coal, coke and charcoal
valuables, including dentistry gold
tuna and parts (uncanned), fresh, refrigerated or frozen
cotton

While the above may, indeed, be traditional exports from Costa Rica, in the sense that the country has been involved in the export of these items for a considerable time, in the mid-1980s it could not be claimed that all these products were contributing to the national economy. Many of the items were, in fact, no longer produced or exported.

For the purposes of the study, it was intended that the classification "traditional exports" signify rather more than just those items that had traditionally been exported. The classification was intended to separate those exports that had reached a level of sophistication and volume which enabled them to be managed with economic efficiency from those exports which were small in volume and were uncoordinated. The rationale behind the definition was that exports defined as being traditional in this

sense could be expected to be making use of transportation in as efficient a manner as possible, as a result of their great volumes and international management expertise. On the other hand, exporters of what are defined as non-traditional products might be expected to be experiencing correctable difficulties in their use of transportation facilities.

Table 3.1 lists the major export items, together with the value of each in 1983 in US\$ thousands:

Table 3.1
Costa Rica
Major Exports from Costa Rica 1983
(US\$ thousands)

<u>Item</u>	<u>Value</u>
Bananas	240,335
Coffee	230,121
Packaged/processed meat	34,317
Fresh meat	31,924
Medical/pharm.prods	29,714
Sugar	17,448
Textiles	16,707
Paper, pulp, cardboard	11,108
Tires, inner tubes	10,949
Re-exports	10,235
Plastics & synthetics	9,360
Electric cells, batteries	8,648
Plastic products	7,221
Clothing	5,903
Tin cans	5,804
Fertilizers	5,511
Insecticides etc.	5,465
Galv. plates & sheets	4,309
Refrigeration equipment	4,281
Concentrates	3,555
Switches	2,990
Biscuits	2,902
Electric cable & wire	2,647
Shrimp	2,509
Cocoa	1,021
Cattle	787
Other exports	74,225
TOTAL EXPORTS 1983	US\$ 705,771

Source: Central Bank of Costa Rica

A look at the history of the top three items since 1981 (Table 3.2) demonstrates clearly that coffee, bananas, and meat have become the "traditional" exports of Costa Rica, enjoying all the advantages of potential economic efficiency.

Table 3.2
Trends in Costa Rica's Three Leading Exports, 1981-1986
(values in US\$ millions)

<u>Item</u>	<u>1981</u>		<u>1983</u>		<u>1985</u>		<u>1986</u>	
	<u>Value</u>	<u>%age</u>	<u>Value</u>	<u>%age</u>	<u>Value</u>	<u>%age</u>	<u>Value</u>	<u>%age</u>
Coffee	240	24	231	26	313	33	372	33
Bananas	225	22	238	27	203	21	227	20
Meat	33	3	29	3	56	6	66	6
Others	513	51	372	43	391	41	460	41
TOTAL	1011	100	871	100	963	100	1,125	100

Source: The Economist Quarterly Reports, Economist Intelligence Unit

Thus over the last few years coffee, bananas, and meat have together made up between 50 and 60 percent of Costa Rica's exports by value. Even the third in line--meat--only constituted at most 6 percent of export value. For the sake of completeness a fourth item should be added to the list: sugar.

Although sugar contributes at the moment only a small part of the export total, it shares with coffee and bananas the property of being a traded commodity, and as such is subject to international forces that are outside the control of the Costa Rican producer. While meat is not strictly a commodity in the same sense, when trading with the USA it is subject to quotas and pricing forces that are not dissimilar to those that affect coffee, bananas and sugar. As shown by recent cuts by the USA in import quotas for both sugar and meat, trade in such commodities can have devastating consequences for a small country.

In terms of tonnages--one of the basic factors in a study of transportation--the following table (Table 3.3) illustrates that the four products classified above as traditional dominate exports by tonnage to an even greater extent than by value.

Table 3.3
Costa Rica
Leading Exports by Tonnage

<u>Product</u>	<u>1983</u> <u>1000</u> tons	<u>1984</u> <u>1000</u> tons
Coffee	235	237
Bananas	1,013	1,030
Meat	13	20
Sugar	54	88
TOTAL	<u>1,315</u>	<u>1,375</u>

Source: Direccion General de Estadisticas y Censos

Given that the total exports from the country amount to 1,550 tons per year, having fallen from a peak of 1,871 tons in 1981, these four traditional exports account for 85 to 90 percent of the total export tonnage. Thus, for the purposes of the study, it can be accepted that non-traditional products are all those except coffee, meat, bananas, and sugar.

At this stage it is worth addressing the concern that was expressed by a number of interviewees regarding the effectiveness of a transportation study that omitted such a large sector of the economy. As the study progressed it became more and more clear that traditional exports operated in their own transportation environment: the large scale of the operations was such that the traditional exporters needed to share only a few of the transportation facilities used by the non-traditional exporters.

Bananas, for example, used their own types of refrigerated containers, used only dedicated banana facilities at the ports, had plantations located near the coast so that very little highway was used, and used their own refrigerated and container vessels. Thus for the most part, exporters of traditional products competed very little with the exporters of non-traditional products for the use of transportation facilities. A study, then, of non-traditional exports becomes very much a study of the entire transportation system available in the country, and excludes only a few very specialized items of transportation that are the province of the exporter of the traditional products.

OVERVIEW OF NON-TRADITIONAL PRODUCTS

In this study, then, non-traditional products are all the exports that remain once the four traditional exports have been removed. Clearly, these run into several hundred different traded items, and so aggregation was necessary to facilitate the interviewing and subsequent analysis.

Treatment on an aggregated basis, as in Table 3.4, was also necessary because individual export items did not appear in the national statistics every year. Factors combined differently each year to make export products either profitable or not; exporters would be active in years of economic returns, and inactive in years where their product was not competitive overseas. For most exporters of non-traditional products, there was little attempt at planning and putting into effect a program for increasing exports, it being considered that the future was far too uncertain for them to make such a commitment.

Table 3.4
Costa Rica
Non-traditional Exports by SITC Category
1985
 (US\$ Thousands)

<u>Code</u>	<u>Classification</u>	<u>Value</u>
00	Food & Live Animals	84,028.2
10	Beverages & Tobacco	380.2
20	Crude Materials Excluding Fuels	23,554.4
30	Mineral Fuels Etc.	3,884.1
40	Animal & Vegetable Oils & Fats	86.6
50	Chemicals	66,072.8
60	Basic Manufactures	83,999.8
70	Machines & Transport Equipment	23,158.4
80	Misc. Manufactured Goods	35,446.1

Source: Central Bank of Costa Rica

Table 3.4 shows the non-traditional export profile for Costa Rica in the mid 1980s. The profile differs from the total export profile by the removal of the figures for bananas, coffee, sugar and meat from code 00 - Food and Live Animals.

Of significance from the table are the following:

1. Non-traditional exports constitute about 40 percent of total national exports.
2. The value of non-traditional agriculture-related exports is approximately \$108 million per year.
3. The value of all classes of manufactured goods exported is approximately \$210 million per year.
4. The manufacturing sector in Costa Rica generates double the value of exports over the agricultural sector, with a significantly lower demand on transportation.

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The relationship between the agricultural and the industrial sectors in Costa Rica set this country apart from the others in the region. The norm for the countries of Central America is a high dependence on non-traditional agricultural exports, with very little in the way of manufacturing exports. Costa Rica's comparatively healthy manufacturing sector shows that the nation's health is better able to withstand transportation inefficiencies than its neighbors.

Each of the SITC categories are now looked at in turn and its transportation problems analyzed.

FOOD

For the purposes of the study, this category included all agricultural foodstuffs except bananas and coffee, but excluded all fresh meat except seafood. It also makes a considerable difference to both economy and transportation if the food is processed, semi-processed, or fresh. Fresh food is normally characterized by a short post-harvest life, needing cooling or other means of preservation, and needing a rapid delivery to the final consumer. Semi-processed food includes frozen and dried food, where the post-harvest life is longer than for fresh food, and where the transport system need not be so rapid. Processed food includes canned and bottled food, where the processing permits the products to be kept for considerable periods without deteriorating, and where the length of the journey to the consumer does not necessarily affect the quality of the product. These three categories of food differ in what they require of a transportation system and were therefore treated separately.

Fish and Shellfish

The only non-traditional fresh meat export from Costa Rica is made up of fish and crustacea, for which the Central Bank of Costa Rica issued the following export values for the eleven months January to December of 1985 (Table 3.5):

Table 3.5
Costa Rica
Export Values of Fish and Crustacea
(US\$ thousands)

<u>Product</u>	<u>1985</u>
Lobsters	2,998.6
Shrimp	16,343.9
Fish	8,018.6
Shellfish	225.2
TOTAL	<u>27,586.3</u>

Source: Central Bank of Costa Rica

This total accounts for 24 percent of the total non-traditional agricultural and fishing exports for the period, and for 3 percent of all non-traditional exports. For the previous year, 1984, the total value of the above products exported to the USA was somewhat lower, \$19.4 million. Traditionally 99 percent of the fish and crustacea exported from Costa Rica is for USA consumption.

According to official figures for the last three years, the tonnage of the total catch was 14,00 metric tons, with almost the whole volume from the Pacific Ocean. Of this total, tuna represent 35 percent, sardines 30 percent, shrimp 15 percent, and other species 20 percent.

Shrimp. Shrimp is by the far the most important seafood resource in terms of volume and exports. The shrimp fleet brings in over 2,000 tons of tails per year. Over half this figure is caught in deep waters. The total catch of coastal shrimp began to

decline in the early 1970s, indicating excessive exploitation, which has contributed to the decrease in the total income of Costa Rica's fishing industry.

Sardines. The total annual catch of sardines in Costa Rican waters reached over 7,000 metric tons by the mid 1970s. Due to overexploitation, this declined to less than 3,000 metric tons by the early 1980s.

Tuna. A large number of ships fish the Pacific waters where high-value tuna species such as yellowfish and skipjack are found. Catch reached 7,999 metric tons in 1979, but has decreased since; and now there is no tuna industry as such.

Lobsters. Because of the migratory patterns of lobsters, the volume of lobsters caught off the Caribbean coast is irregular.

Obstacles to Greater Exporting of Fish and Shellfish. The people who were interviewed for the project on the subject of export of fish, shrimp and lobsters said that their fishing grounds were mainly on the Pacific Coast and that there was some fresh water shrimp farming taking place on the Southern Pacific coast area. Over the last few years, it was reported, the irregularity and unpredictability of the air freight service from San José had forced a number of the exporters to abandon their activities. Consequently, the exporters interviewed mostly sent the catch to the markets in the USA by sea in refrigerated containers, having frozen or deep frozen the fish. An additional obstacle to exporting the fish and shellfish by air was that there were no refrigeration facilities at the airport. It was considered by the exporters that the amount of paperwork required for exporting was not a problem.

It was also stated by some of the exporters that the tax rebate incentives on foreign exchange (CAT) were insufficient as an inducement to export.

Exporters of fish and shellfish stated that the industry in Costa Rica would not improve significantly until a large firm set up operations in Costa Rica. As an example, a typical firm in the business took three months to gather 49,000 lbs of lobster and approximately two months to gather a container load of shrimp. With such small volumes, it was extremely difficult to obtain any favorable consideration from transportation companies.

Fresh Fruit and Vegetables

Table 3.6
Costa Rica
Export Values of Fresh Fruit and Vegetables
(US\$ thousands)

<u>Fruit/Vegetable</u>	<u>1985</u>
Fresh fruit n.e.s.	322.4
Roots & Tubers	689.1
Chayote	2,144.9
Yuca	2,868.2
Vegetables n.e.s.	322.7
Melons	328.2
Fresh ginger	315.7
Plantains	1,293.3
Potatoes	.8
TOTAL	<u>5,128.9</u>

Source: Central Bank of Costa Rica

Fresh fruits and vegetables (Table 3.6) account for about 4.5 percent of non-traditional agricultural and fishing exports from Costa Rica, and about 1.6 percent of the total non-traditional exports. Figures for 1983 show the following allocation between the USA, the Central American Common Market (CACM), and the rest of the world (Table 3.7):

Table 3.7
Costa Rica
Exports of Fruit and Vegetables
Allocation by Destination

<u>Fruit/Vegetable</u>	Total	<u>1983 US\$ Thousands</u>		Others
		USA	CACM	
Fresh fruit	1,931	1,803	494	128
Roots & tubers	3,778	2,686	0	1,092
Fresh vegetables	2,425	1,928	51	446
Plantains	4,610	4,108	236	266
Potatoes	148			148
TOTAL	12,892	10,525	781	2,080

Source: Central Bank of Costa Rica

From these it can be seen that the USA accounts for 82 percent of Costa Rica's exports of fresh fruits and vegetables.

The Recent Development of Fruit and Vegetable Production.

Costa Rica, with its fertile soils and range of climatic conditions, including variations in both temperature and rainfall, can grow a large variety of agricultural products. Although it has traditionally depended upon coffee, bananas, sugar and fresh meat as the principal agricultural products for its export trade, in recent years a steady development of non-traditional items has emerged. Costa Rica can grow tropical fruits such as papaya, pineapple and mangoes as well as temperate zone products such as strawberries, tomatoes, artichokes and all types of cut flowers. Many of the potential tropical fruit exports are not exploited because of USDA bans stemming from medfly control programs.

Oranges and Pineapples. US and local entrepreneurs have planted 7,500 acres in orange groves in the lowlands of the northern tropical section of Costa Rica, and the first concentrate plant is now under construction. A 6,000-acre pineapple plantation on a plateau of about 1,200 feet elevation in the southern part of the country is owned and operated by Del Monte. This new project expects to export 120,000 metric tons of fresh pineapples a year when in full production.

Vegetable Oil Crops. United Brands has approximately 35,000 acres of oil palm under cultivation, and has embarked on a program to encourage small farmers to join with the company in expanding the oil palm plantations, which are located primarily in the hot, heavy-rainfall areas of the coastal plains. There is considerable interest in other oil-bearing crops such as coconuts, peanuts, sunflower, and soybeans.

Cocoa, Spices, and Miscellaneous Crops. Many small farmers grow cocoa for local chocolate manufacture and for export. Spices have become an export product line, with black pepper and nutmeg being grown in the low, tropical areas of the Caribbean, and oregano, cinnamon, and allspice in the drier climates of the Pacific coast. Melons, which grow very well on the Pacific side of the country, and tomatoes, which are cultivated in the higher Central Valley areas, are both export products to markets in the US during the off-season winter months. Two products which have found a market in Europe are the heart of palm and ginger root, both being grown in the hot, lowland regions near the coasts.

Small processing firms for the manufacture of food products already exist. These include, in addition to those already mentioned, items such as yuca (cassava plant), okra, broccoli, green peas, carrots, yams, onions, cashew nuts, peanuts, macadamia, cardamom, jojoba, hot peppers such as the jalapeno, and banana puree for export to baby food and bakery product manufacturers. Avocados of all sizes and varieties are abundantly grown in Costa Rica. Artichokes are now being cultivated on the high, cool slopes of Irazu volcano, but as yet there is not sufficient quantity for even the local market.

Melons. The cultivation of melons as a non-traditional export item has only been developed in Costa Rica during the last seven years. Although its market potential is great, particularly during the "window" of opportunity from December through March, the areas that have been planted have not increased to any great extent over the years.

In 1980, the public sector organization DAISA, a subsidiary of the Costa Rican development institution CODESA, began producing and exporting to the USA cantaloupe and honeydew melons using know-how and assistance from Israel. The initial areas developed were Guanacaste, Paquera, Aranjuez de Puntarenas, and Salinas, but these have since been joined by Parrita y Quepos.

The situation remained unchanged until the harvest of 1983/4, at which time DAISA canceled its programs, and production was taken over by private enterprise--though with continued assistance as before. Until recently the experiences have not been encouraging, as efforts to establish commercial melon production have run into serious marketing problems, leading to losses being experienced by both producers and exporters. New attempts are being made to resolve these issues by selling consignments FOB Limón with the buyer opening a letter of credit in favor of the shipper as a guarantee of payment.

Recent cost figures for melon production in Costa Rica show that for an average harvest production of 100,000 boxes of 12 kg each, and a sale price CIF of \$8.00 per box, the total unit value of the product (value CIF/total weight in tons) is of the order of \$667/ton, while the unit value of transportation is \$302/ton. Thus for melons landed CIF Miami, the cost of transportation makes up 45 percent of the total cost.

The Export of Fresh Fruit and Vegetables. The exporters of fresh fruit and vegetables from Costa Rica covered a wide range of products including ones mentioned above. Most of the exporters used refrigerated containers and sent the product by way of Puerto Limón to the USA. The main port that was used was Miami.

The exporters of fresh fruit and vegetables covered a wide range of sophistication and experience. Some of the major firms exported of the order 500 containers of product a year while others were limited to 20 or 30. The major firms were able to freeze and mix products in a shipment, while the smaller firms were restricted to one fruit or vegetable item only.

Among the larger and better organized firms, the major complaint was that the demand for their product exceeded their ability to supply. Some firms had recently opened new farming areas in order to meet this demand and were confident that their enterprise would meet with success.

The main buyers in the USA for their product were small and medium-size distributors and supermarkets. Some of these specialized in fruit and vegetable products of a Latin flavor while others only contracted for those items that they could sell across the board.

In order to exploit new areas of farming, entrepreneurs either needed to finance the purchase and development of new properties or persuade existing farmers to risk growing new products. It was their experience that neither course was particularly easy, and that they would prefer to be able to get access to reasonable financing conditions for their own expansion programs. Some exporters complained that the loan officers at the banks and other financial institutions did not have the necessary experience to evaluate an agricultural project feasibility study. This often led to viable projects being denied necessary funding.

Those exporters who did not have their own farms said that the farmers that they dealt with, since these were mostly small, also had great difficulty acquiring the necessary finance to plant the quantities required and to maintain the quality standards required for sale in the USA. Some exporters bought seeds to distribute to the farmers to encourage them to grow the crops and varieties that they could sell overseas. However, the farmers were reluctant to plant the seeds because there was no guarantee that the product could actually be sold at harvest and there was no guarantee regarding price.

It was pointed out by a number of exporters that there was a huge potential for the sale of fruits and vegetables that were well known to Latin consumers but which were unknown to others. It was also noted that the Latin market was not restricted to the United States and that a number of European countries had considerable Latin populations who had migrated from former colonies.

Most exporters of fresh fruit and vegetables stated that they send their products by way of SeaLand, SeaBoard, and CCT. The actual line that was used depended on the day of the week that the product would be ready for transportation. Evergreen Shipping Co. and others were not used because they had no facilities for refrigeration. SeaLand was used by some producers because of its route to the west coast of the USA by way of the Panama Canal. All exporters claimed problems when exporting to the USA as a result of the restriction imposed by the FDA to control the medfly. Certain fruit and vegetable products cannot be exported in a fresh condition to the USA because of an FDA ban on these products.

The more successful exporters of fresh fruits and vegetables managed to compete in markets as far afield as the New York area and Europe. They claimed to have had successful relations with their customs and forwarding agents and had not had any great problems with customs and paper work. A few, however, had experienced customs difficulties in the USA as a result of attempts by drug smugglers to use their shipments. Because of the difficulties in obtaining dollars, most sales were done on an FOB basis. In discussing arrangements for clearing and forwarding in the USA, many complaints were heard regarding the doubtful honesty and integrity of some of the forwarding agents in, for example, Miami. It was felt by a number of the smaller exporters that they were not being billed correctly and that they were taken advantage of. Since they had no other representative in the USA, they were obliged to take the word of the forwarding agent regarding the condition of the produce on arrival. It was felt that in some cases, the produce was declared by the agent as damaged when in fact the condition was entirely satisfactory. The exporters who did not complain of the situation in the USA were those who had established their own forwarding and clearing organizations at the port of arrival.

The main competition for the smaller firms of exporters of fresh fruit and vegetables were the large fruit growers and exporters of mainly the traditional products such as bananas and coffee. Since these major companies had all the facilities available for large scale operations as a result of their involvement in export of traditional produce, they were able to export the non-traditional produce using the same facilities for a fraction of the cost that had to be faced by the smaller exporters. A case in point was the exporter of pineapples. The major fruit companies had been growing pineapples to complement their exports of bananas and had been using these as an inducement to the buyer of bananas. It was found that many supermarket

chains could be induced to buy a less than container load shipment of bananas if some pineapples were included. This had meant that the smaller producer and exporter of pineapples was thus competing with a loss leader of the major producers and exporters.

However, many of the exporters interviewed stated that, since Costa Rica had only been seriously considering non-traditional exports for the past five years, experience was lacking at the moment, but as time went on the exporters would become more proficient at competition and successful marketing. Before real success could be achieved, however, it was considered that more assistance should be given to the agricultural exporter. It would help if the banks had more knowledgeable officers in charge of approval of loan applications. It would help considerably if there was a lower interest rate for agricultural loans, which at the time of the interviews were of the order of 20 percent.

It was felt that in many cases the government had been encouraging the farmers to export their product, but that they had abandoned the farmer at the point where he would embark on an exporting enterprise. There was no assistance, for example, with crop insurance, with transport insurance, with export credit guarantees, and above all, there was no offer of any overseas marketing experience. It was felt unreasonable that the government should expect that the new exporter would be familiar with all the marketing and sales requirements in the United States.

Insurance had been recently introduced into Costa Rica, but at the time of the interviews it was extremely expensive. A number of exporters, however, considered that the cost was worthwhile; though other exporters considered that this additional cost on top of the other already high costs made their product uncompetitive in overseas markets.

The processing of fresh fruit and vegetables normally requires that the field heat be taken out of the crop soon after harvesting. This process is performed most effectively and efficiently in refrigerated warehouses constructed and located near the site of the harvest. At the time of the study, a loan had been agreed between Costa Rica and the government of Spain for the construction of a network of seven cold storage warehouses throughout the country. The total value of the loan was \$8.75 million. It was felt that the construction of these warehouses would significantly reduce the practice of the past whereby farmers would attempt to take the field heat out of crops by use of ordinary refrigerated containers: they would perform this function by loading the container with the harvested crop and turning the power up to its maximum level. The shipping companies and owners of the refrigerated containers claimed that this practice had two significant effects:

1. The containers were kept by the farmers for extended periods in order to cool the crop down sufficiently. This led to a chronic shortage of containers in the country.
2. Using containers with the refrigeration unit turned up to its maximum invariably led to unreasonable amount of breakdown, thus placing out of service the desperately needed refrigerated containers.

The larger exporters of fresh fruit and vegetables claimed that some of the smaller exporting companies got themselves into trouble because they were insufficiently experienced in international trade. It was claimed that these smaller exporting companies would sell their product in the USA purely on consignment: that is, that the price was fixed by the buyer on receipt of the shipment. The experienced exporters used 30 to 60

day standby letters of credits or used 50 percent payment on receipt of documents and 50 percent on arrival. This was considered to be an acceptable business arrangement and one that avoided the losses associated with shipments on consignment.

Some exporters complained that the country did not have its own merchant fleet. They pointed out that while 20 percent of the world's bananas came from Costa Rica, there had been no attempt by the government to capitalize on this by insisting that this export be carried in Costa Rican vessels. Not all exporters, however, felt that a national merchant fleet would necessarily improve the current situation or make it any cheaper.

Food, Processed and Semi-processed

For the first eleven months of 1985, the following were the export values of processed and semiprocessed foods (Table 3.8):

Table 3.8
Costa Rica
Export Values of Processed Fruit & Vegetables
(US \$ thousands)

<u>Product</u>	<u>1985</u>
Fruits, frozen, jams	278.1
Fruit jellies, jams	229.1
Fruit pulps & pastes	4,335.4
Unfermented fruit juice	124.5
Canned vegetables	1,007.9
Potato or fruit chips	<u>974.9</u>
TOTAL	6,949.9

Source: Central Bank of Costa Rica

Processed and semi-processed foods account for 31 percent of the non-traditional agricultural exports from Costa Rica, and account for 11 percent of all the non-traditional exports.

The processed fruit and vegetable industry in Costa Rica is divided between two major groups: large exporters of basically traditional products who have turned also to processing the fruits and vegetables, and the smaller groups. There is clearly a need, in order to avoid peaks of supply and demand, to be able to keep the produce in a saleable condition for longer than is possible with the fresh produce. Thus a portion of Costa Rica's fruit and vegetable export takes the form of processed and semi-processed produce. The smaller firms involved in exporting are mostly the same firms that are involved with the export of the fresh produce. The producers of conserves and jams, however, tended to restrict their exporting activities to the regional markets.

It was felt that there was a potential market overseas for more of the processed and semi-processed produce, but that a number of restrictions and considerations made their product not competitive. A major element in this was the cost of the container itself, whether this be a glass jar or a can. It was considered, for example, that jellies, jams, marmalades, and ketchup could be sold outside the region if the cost of the container could be significantly reduced.

The problems associated with the export of semi-processed products were similar to those of the fresh produce, mostly because the processing involved refrigeration or freezing. With this process, the cost of packaging avoided the problems of bottles and cans as the package was mostly of plastic. Thus for exporting, refrigerated containers had to be used; the same

shipping lines, therefore, had to be used and the same destinations were also used. For the few small firms who found overseas markets for the canned and bottled fruits and vegetables, regular dry containers were used, and the items were packed in cardboard boxes. In many cases the label on the bottle and the boxes was that of the buyer and not of the shipper. By and large, no complaints regarding the transportation system were received from this group that were not also received from the exporters of the fresh produce. A number of the individuals interviewed in this group stated that they were researching different processes for some of their existing products to determine if there were any acceptable variations on treatment and packaging. Such items as small packs of dried bananas, for example, were being test marketed, and investigations were taking place using biotechnology research to see if different uses could be made of coffee, cocoa, etc.

When questioned about problems related to transportation within the region, all producers stated that there was no shortage of truckers willing to take their consignments to any other country within the region. Apart from one or two incidents, nobody had had any disastrous occurrences or any losses of shipments. It was the attitude of these people that business continued as usual regardless of the political situation in the region.

BEVERAGES AND TOBACCO

Beverages

The export of beverages from Costa Rica is mostly limited to exports within the region. All the countries within the region have well developed breweries and most produce their own extracts of sugar such as rum. There is therefore very little demand

between the countries for beverages. Similarly, overseas demand for beverages produced by Costa Rica is currently extremely limited. Successes, however, particularly in the case of rum from such countries as the Dominican Republic, have led to a reconsideration of this product by some of the producers within Costa Rica. Since the Costa Rican product would have no particular advantage to the consumer over competitive products, the only way that increased sales by exportation could be achieved would be through an extremely sophisticated and therefore expensive promotion campaign.

Tobacco Products

The trade figures for Costa Rica show that every year a small quantity of cigars is exported to the USA. This is a specialized high price, low volume item which is also exported in the same way by other countries within the region. A certain amount of promotion is undertaken by the manufacturers of these items, and sales are generally on the increase. Advantage has been taken of the difficulty imposed on obtaining cigars from Havana by promoting cigars from Central America as being of equal quality to the smoker. The demands on transportation imposed by this product are small and no serious complaints were registered by the producers. The product was sent to the USA quite often by air freight, since the space did not justify the use of containers and marine transportation.

Since the product was not perishable, the service offered by the existing air cargo companies was considered quite adequate.

CRUDE MATERIALS, EXCLUDING FUELS

This category includes virtually any natural or growing product excluding food. It includes, for example, wood and fresh flowers. It also includes such items as animal skins and pelts, ground nuts, beans, latex, synthetic rubber, wood particles, veneer, lumber, cotton, fibers, phosphates, clays, iron ore, copper, and so on. The category makes up about 7 percent of total non-traditional exports.

The dominant non-traditional exports from Costa Rica in this category are fresh cut flowers, ornamental plants and flower seeds. Table 3.9 gives the export values of this group.

Table 3.9
Costa Rica
Export of Flowers, Plants, Seeds, Etc.
(US\$ Thousands)

<u>Product</u>	<u>1985</u>
Flower Seeds	17,076
Flowers, fresh cut	3,754
Palm Oil Seeds	1,415
Plants, medicinal	568
Scrap iron	431
Firewood, charcoal	160
Nonferrous scrap	<u>150</u>
TOTAL	23,554

Source: Central Bank of Costa Rica

There are no significant exports of wood from Costa Rica. Most of the wood export takes the form of processed wood into, for example, plywood, and in the form of manufactured items such as furniture.

Flowers

Costa Rica has a very well developed flower industry. There is a considerable local market for the sale of fresh flowers, and it is on the basis of this that exports have been generated. There have also been official government incentives, of particular importance being the export earnings tax rebate (CAT).

Flower producers are located throughout the highlands between 1800 and 2300 meters, but most of the major ones are within transport distance of the airport at San José. The organization of the flower producers is variable: in some cases there are cooperatives that produce, sell, and export while at the other extreme there are individual producers and cooperatives of buyers and exporters.

Almost without exception, the fresh flowers are exported by air from the airport at San José. The airport has a small refrigerated warehouse for the exclusive use of the flower producers. The nature of the product is such that it is essential that the flowers be cut and shipped to the markets overseas in the same day. The normal process is for a truck belonging to the buying cooperative to start early in the morning and make a tour of the producers' farms, picking up the boxed flowers for export. This truck ends up at the airport after completing its run through the countryside. Under ideal circumstances, the truck would arrive at the airport in time to load the flowers directly onto the plane, which would then leave soon after.

Most of the flower exporters spoken to complained that because of the irregularity and unpredictability of the air freight service, the ideal solution was seldom encountered. The time of departure of the plane was often in the afternoon. This made the arrival of the flowers at the market unacceptably late. The cold storage at the airport, it was claimed, was mostly used by the larger exporting organizations. The smaller groups ran the risk of losing their shipment due to lack of refrigeration. The smaller groups did not have refrigerated trucks for use in picking up the flowers from the growers. The shipping days to Miami at the time of the survey were Mondays, Wednesdays, and Fridays. The flowers were shipped in cardboard boxes and a typical large cooperative would ship about 50 boxes on each flight.

All producers complained that it was a far too frequent occurrence for the airline companies to cancel or delay departure of their flights. This criticism applied to both LACSA and Challenge.

There was no complaint about difficulties with the necessary export paperwork. Most of the exporting groups used customs agents and forwarders to provide this service. The exporters complained that the air freight rates on cut flowers was high. Some quoted, \$0.52/kilo, and some as high as \$0.57/kilo. The service that Challenge provided was not popular because it left San José at noon, which meant that the truckload of flowers would be waiting at the airport for a number of hours. Eastern was also not popular because of its tendency to give priority to passenger baggage and to leave cargo until a subsequent flight.

It was explained that flowers were a commodity item and because of this they were normally sold to a distributor in the USA on consignment. Thus, there was no control in Costa Rica on the price for which the flowers were sold in the USA. Where an acceptable price could not be obtained overseas, the flower growers attempted to sell the export flowers on the local market. At the time of the survey, the export of certain varieties of flowers to the USA had been halted as the result of charges of dumping. It was alleged by interests in the USA that certain countries, including Costa Rica, had been unfairly selling their flowers in the USA at less than the cost of production. Most of the flower growers interviewed claimed that it was outside their power to affect the price of their produce in the USA and thus they felt that they were being discriminated against.

Some of the flower grower cooperatives were found to be using some sophisticated techniques in their production. A great deal of cooperation had been taking place over the years with French and Dutch growers. There had been interchanges of seeds and much experimentation to determine the best varieties, and to improve on existing varieties.

Tropical Plants

In parallel with the export of cut flowers was the export of ornamental plants. In 1984 Costa Rica was the eleventh largest exporter of ornamental plants, being responsible for a value of \$14.1 million. Of that total, \$8.6 million was destined for markets in the USA. For Costa Rica, this brand of agriculture has exhibited significant growth, with averages between 1982 and 1984 of 48 percent per annum.

While a large portion of Costa Rica's exports of ornamental plants goes to the USA, being second only after Canada, the USA is only sixth in the list of the world's importers. Of the total world market of \$852 million in 1984, West Germany imported the equivalent of \$234.9 million, France \$113 million, United Kingdom \$112.9 million, Sweden \$86 million, Italy \$54.8 million, and Holland \$53.5 million.

Over the years, it has been found that the market for ornamental plants is extremely volatile, and economic declines of the early 1980s produced significant drops in demand. The subsequent recovery had brought with it a revival of interest, with a number of Costa Rica's firms actively trying to meet the demands.

Producers who were interviewed stressed that shipment of the plants required considerable care, such that the only acceptable method of transport was by air. When exporting plants to the USA, it was necessary to take account of the FDA ban on the import of any plant in soil; exports to Europe and elsewhere did not have this requirement. However, with the level of service supplied in Costa Rica, it was considered to be a risky business: their plants, having no roots, could not spend more than an absolute minimum of time waiting to be loaded onto the plane. Some producers reported that it had taken up to three separate flights to transport one consignment. Not only was this treatment unacceptable to the exporter, but the importer was forced to put up with delays and abnormal expenses in receiving the shipments.

A normal shipment would require two days of packing at the exporter's nursery, a third day was not unusually added at the airport, two further days often went by while formalities were being completed at Miami, resulting in arrival at the importer's nursery on the sixth day. Such a length of time without attention was hazardous to the plant, and made quality control difficult.

Since the client normally paid on delivery or after 30 days, leaving the exporter to seek hard-to-find credit facilities, and since there was no insurance available, it was considered that the exporter was subject to a great deal of risk. If the importer rejected the consignment and refused to pay, the exporter lost his merchandise, his labor costs, the costs of packing, the costs of transport, and other incidental costs.

Exporters also considered that the air cargo rates were excessive.

While there were no major complaints concerning paperwork, it was generally agreed that not all government departments were working towards helping the exporter. It was hoped that unhelpful paperwork would be reduced.

MANUFACTURING

The principal exports from Costa Rica's manufacturing sector are shown in Table 3.10.

Table 3.10
Costa Rica
Principal Manufactured Products Exported
(US\$ Thousands)

<u>Product</u>	<u>1985</u>
Medicines, internal use	16,742
Artificial fibres, textiles	13,291
Tires and tubes	9,762
Fertilizers	7,954
Veterinary medicines	6,656
Glass containers	6,355
Metal containers, boxes	6,158
Electrical dry batteries	5,964
Ethylene alcohol	5,867
Insecticides, fungicides	5,791
Rubber containers etc.	5,768
Synthetic materials, perfumes	5,587
Electrical switches	5,238
Plastics & synthetic resins	5,010
Other items	<u>121,857</u>
TOTAL	228,000

Source: Central Bank of Costa Rica

The 14 classes of products listed in the table account for 47 percent of all manufactured products exported. The table also highlights the fact that Costa Rica has a well-established chemical and pharmaceutical industry, one which considerably overshadows the textile industry. Chemical and pharmaceutical exports, however, are mainly destined for other countries in the region--as are most of the other manufactured items--while textile exports for the most part go to the USA under the "drawback" scheme. This scheme allows import duty concessions to manufacturers whose imports are destined for re-export.

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Those exporters of the manufacturing sector who were interviewed claimed that there was considerable industrial expansion taking place, and that much of this was as a direct result of Costa Rica's cheap and productive labor. Recent studies had shown that there was great potential in Costa Rica for metal and mechanical industries, such as tool and die manufacture and plastic injection molds, food and agricultural process industries, textile, apparel and leather industries, paper and wood products industries, chemical and health care products, electronics industries, and consumer and leisure products. Already a number of major US corporations had established factories in Costa Rica, and were manufacturing such items as stereo components and starters for fluorescent lamps. Interest had also been expressed in the establishment of a high-technology plastic products plant; as a result of the excellence of their communications system, Costa Rica was chosen as a site for the research and development for a special line of earphones. There are also moves in progress for the establishment of a high energy industrial park, based on the availability of cheap electrical power.

The main incentives that attracted foreign manufacturing investors were the absence of duty involved in bringing into the country new or used manufacturing equipment, and the 10-year income and export tax-free holiday.

Textiles

Most of the textile firms in Costa Rica that are involved with exporting are operating under USTS 806.30/807. In general terms, this system of tariff preferences permits the tax-free reimport into the USA of goods that were partially processed prior

to exporting. In the textile industry the normal practice is to cut the cloth in the USA, export the cut cloth or partially assembled garment on a temporary basis to Costa Rica, use Costa Rican labor to complete the assembly, and then to reexport--or "drawback"--to the USA. In this way the producer can take advantage of the reduced labor and operating costs in Costa Rica, assuming this gain to be less than the additional cost of transportation.

The firms spoken to were either direct investors and managers, in that they had set up and operated their own factories in Costa Rica, or they contracted with local manufacturers for the work. Most interviewees preferred the security of direct investment, where the complete control of the operations was in the hands of the parent company.

All manufacturers reported that they were extremely busy, and most had plans for expansion in the near future. Bluejeans, shirts, and female undergarments were the main production items. While much business was directed to the USA, in recent months interest had been shown by companies in the Far East, and Costa Rica was already exporting 20,000 to 25,000 sweaters a month to Korea.

Exporters of textiles had two major concerns: they were concerned that, while labor at the time of the survey was economically efficient, inroads by labor unions had served to put up the cost of labor, and they were concerned that the USA might in the near future put quotas on textiles imported under the "drawback" program. It was felt that such quotas were likely on shirts and jeans. The economic cost of labor was a complex

combination of direct costs and efficiencies, and indirect costs. Producers quoted that 40.33 percent of the labor cost went into fringe benefits, though some producers insisted that this was a minimum figure. On the other hand, while labor was not cheap, it was considered productive, particularly when compared with other countries in the region. While it took 17 percent longer to produce a garment in Costa Rica than in Tampa, the output was about double of what could be achieved in the Dominican Republic. As for indirect costs, a number of manufacturers stated that they were voluntarily providing a whole range of facilities for their workforce in order to induce them not to join labor unions. Margins were small in this industry, and all manufacturers were keeping an eye on these costs. It was felt that the assistance given to investors in textile factories by the government of Costa Rica was inadequate, though firms with operations in other areas claimed that Costa Rica was not without advantages in this respect.

Exporters of textiles used both air freight and sea freight, with 85 percent by sea and 15 percent by air as the common split. In their use of sea freight shipping lines they were mostly indifferent, using whichever line had the next scheduled stop at the port. While maritime transport took a considerable time to reach its destination, it was felt that this mode was at least predictable; while air freight could be quicker, perishable goods had priority over textiles, and so it was never certain just when a consignment would actually be delivered. Maritime transport was considered adequate for most purposes, and most firms managed to achieve a balance between the containerloads of imported materials and the containerloads of completed exported garments. Air freight was only used when absolutely necessary, even though facilities had recently been provided at the airport at Santamaria for quick handling of the import/export paperwork.

Prices quoted for air freight to Miami were of the order of \$0.22 per pound (\$0.48/kilo), while for containers the door-to-door charge was \$1,300 for a 20-foot container and \$2,100 to \$2,200 for a 40-foot container.

Construction Materials

Representatives of the construction materials industry who were actively involved in export stated that the market for these products had virtually disappeared. Until recent years there had been a lucrative market for construction materials, particularly cement, in the islands of the Caribbean. The two government and one private cement plants together supplied the needs of the region, chartering vessels for the purpose: it was cheaper and more direct to charter a vessel to go direct to the buyer, rather than use a regular shipping line and deliver by way of Miami. Since that time Costa Rica has been unable to compete due to the following factors:

1. Several South American countries with large operations can deliver cement in the region at less cost than Costa Rica.
2. There are no facilities for handling bulk cement at any of the ports of Costa Rica, and there are no bulk over-the-road cement carriers in the country: few buyers these days are interested in bagged cement.
3. The manufacturing of cement involves energy-intensive processes. The increases in the cost of energy in Costa Rica made the production of cement too costly.

The privately owned cement plant no longer operates because, while it was conveniently close to the roads and the port for exports, it is now located too far away from the main development centers in the country for economic operation.

GENERAL BUSINESS CLIMATE

The general view on the business climate in Costa Rica was that it was fairly healthy. Exports were expected to exceed the equivalent of \$1,000 million in the current year (1986), and considering that the wider export base program had only been started five years previously, that figure was considered a good basis for optimism. Most people felt that continued effort was going to be required before all the problems could be resolved, and that the government was going to have to establish some clear directions for the exporting business community. Many expressed the opinion that Costa Rican businesses were going to need much more representation abroad, both for promotion of goods and services and for protection of the exporter, if export potentials were going to be met. Most of what was needed within the country was already in place: an educated population, telecommunication, transportation infrastructure; but without permanent representation overseas much of this would be wasted.

A greater foreign interest could be obtained if investment and export incentives were improved, and if more active assistance could be offered in dealing with the problems of setting up a business venture and of exporting. While the tax-free holiday for investors was a worthwhile inducement, it was considered that the

type of inducement that was lacking was of the purely practical type. Some of those interviewed questioned the seriousness of the government when it came to the export question: they quoted a recent case of foreign aid given to the country to improve exports which was accompanied by an offsetting increase in taxes, so none of the beneficiaries were able to improve their exports.

Exporters from within Costa Rica could receive a tax deduction based on foreign exchange earned in the form of the "Certificado de Abono Tributario" (C.A.T.), but since this was only applied at tax time--and it was not always certain that the deduction was allowable--few business people could realistically figure this incentive into their calculations. If the C.A.T. was found to be valid at the end of the year, then the resulting saving was considered by the firms to be a windfall profit. Otherwise, prices were quoted without taking this into consideration. A number of those interviewed were concerned that, despite the fact that the C.A.T. was unpredictable, the powers in the USA would consider it to be a subsidy, and so subject their products to high import duties.

Many representatives of business interests were concerned that small businesses were proliferating in the absence of any plan. Most felt that for exporting purposes the firm had to have a substantial volume to offer the potential client, and that the size of operation that was officially being encouraged would be incapable of effective competition in overseas markets. There was little enough in the field of serious marketing studies, mostly as a result of shortage of financing, but small operations would without a doubt not have the financial resources required for this type of investigation. They noted that many organizations had

been set up in Costa Rica to assist the producer and the exporter, but that most of these became opportunities for "empire-building." The practical help that was needed regarding markets, production standards, potential client location, helpful statistics, external fund sources, exporting techniques, and short cuts, all these were just not available from these institutions. (In the course of the study it was certainly found that investor and exporter groups did not always have just the basic type of information that would seem useful.) Rather than represent their clients, it was perceived that some groups were more adept at promoting themselves.

The export business community in Costa Rica was not large: of the 4,000 to 6,000 firms registered with the Central Bank as exporters, only a few hundred actually did export. Most of the others, it was claimed, had sufficient markets for their goods within the domestic economy, and so had little incentive to export. When foreign exchange was harder to get it was felt that there was more genuine interest in exporting: it was only by selling products overseas that many firms obtained the exchange they needed to import their equipment and parts. More recently, with the introduction of easier exchange controls, a basic incentive to export had been removed.

On the whole, however, the opinion was expressed that Costa Rica was not a particularly difficult place in which to do business. The paperwork was not onerous, and certainly did not hold up shipments. Established exporters had experienced staff who knew how to expedite the export and import procedures, and no-one claimed that export shipments had been turned back because of incorrect documentation (as was a common complaint in other countries of Central America). It was possible for established exporters to clear up minor errors in documentation after departure of the consignment. There was considerable interest in the establishment of the "ventanilla unica"--the single window at

which all export documentation could be handled. It was generally believed that this concept would be introduced into the country in the near future. A similar hope was expressed that central processing of transportation could be established.

COSTA RICA

CHAPTER 4

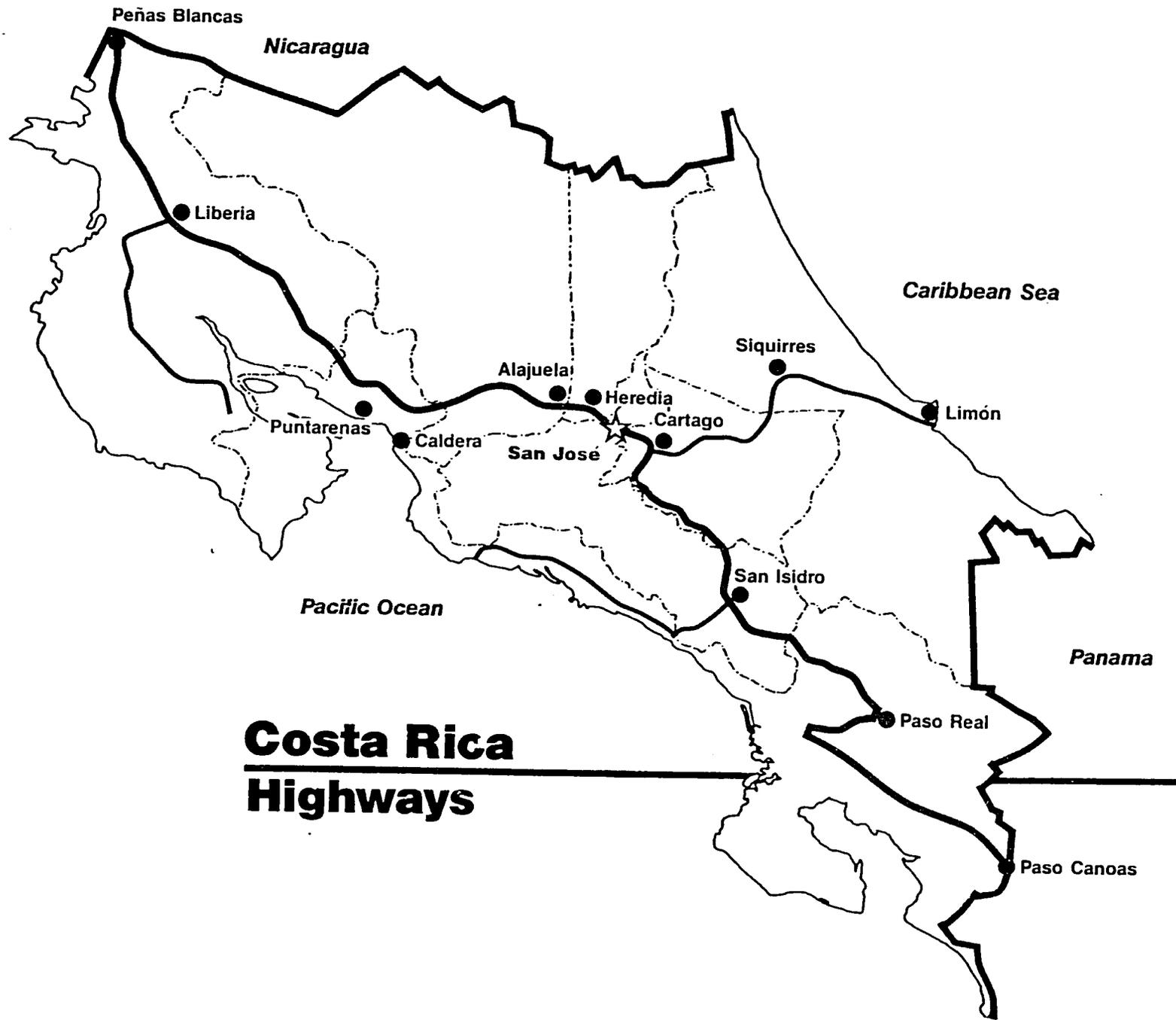
NATIONAL TRANSPORTATION

ROAD TRANSPORTATION

Costa Rica has a total length of highways and roads just short of 29,000 kilometers. It has been estimated that about 10% of the total highway system is paved.

Major Highways. The backbone of the highway system in Costa Rica is the Pan-American Highway, which runs along the western side of the country and connects Panama with Nicaragua. Within Costa Rica the Pan American Highway is well-constructed and well-maintained, and varies from being a wide two-lane highway to a four lane highway. The other major arteries are those connecting the capital, San José, with the major Atlantic port, Puerto Limón, and the single highway connecting the capital with the new port at Caldera on the Pacific.

Road Export Routes. About one fifth of Costa Rica's exports and imports cross the border by road. The main routes for exports and imports are by way of the customs posts at Peñas Blancas on the border with Nicaragua, and Paso Canoas on the border with Panama. Both these customs posts are on the Pan American Highway, there being no other major land accesses between these countries. Figures from 1983 show that goods to a value of approximately \$300 million were handled at Penas Blancas, and approximately \$65 million was handled at the southern border, so that by far the major part of Costa Rica's trade by road is with Nicaragua. Thus, approximately 20 percent of the country's combined exports and imports by value go to Nicaragua and Panama by road. For the most



Costa Rica

Highways

part, the total value of exports exceeds the total value of imports by about 30 percent. The main items handled include processed food products such as jellies, jams, flour, cookies, canned fish and other preserved meat, and a whole range of manufactured goods, hardware and dry goods. While imports and exports by road are not a major part of Costa Rica's trade, the trucking industry, at one stage or another in the transportation chain, carries virtually the whole of the country's imports and exports.

Trucking Charges. The following average rates were quoted as being in effect per metric ton of freight for the given routes (Table 4.1):

**Table 4.1
Costa Rica
Trucking Charges**

<u>Route</u>	<u>\$/T</u>
San José - Puerto Limón	\$15.40/T
San José - Puerto Caldera	\$12.00/T
San José - Paso Canoas (Panama)	\$31.24/T
San José - Peñas Blancas (Nicaragua)	\$27.08/T

It was found, however, that rates were extremely variable, and not all truckers calculated on a ton-kilometer basis. Quite often the rate was given as a lump sum, and depended on the likelihood of a backhaul load. The rates averaged at about \$0.12 per ton-km, which in regional terms is low.

Import duties for companies that could not be classified as exporters were of the order of 75 percent for equipment and 50 percent for spare parts. Most general trucking companies were subject to these duties, though those with passenger services were exempt. Diesel at the pumps was 19 colones per liter (US\$ 0.32 per liter), and gasoline was 24 colones per liter (US\$ 0.40 per liter).

THE RAILROAD SYSTEM

It was claimed that in 1983, Costa Rica had just short of 900 kilometers of railways. The bulk of these, 500 kilometers or more, were in the hands of the railway company in charge of the connection between San José and the Atlantic coast, 142 kilometers were run by the Pacific Coast Company, and approximately 250 kilometers were in private hands in the south.

Rail transportation in Costa Rica is mainly used for traditional exports, such as bananas and coffee. There is a mixture of private sidings and main lines to the ports, significantly the port at Limón. There is also a passenger service to both coasts.

According to the General Department of Statistics and Census, the distribution of rail freight over the period 1980 to 1983 was (Table 4.2):

Table 4.2
Costa Rica
Tons of Rail Freight Carried

<u>Railway Co.</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Pacific Line	474,930	398,207	331,169	314,421
Atlantic Line	1,160,421	1,266,174	1,234,003	1,218,719
Southern Line	387,453	342,297	323,354	276,717
TOTAL	2,022,804	2,006,678	1,888,526	1,809,857

Goods are not exported from the country by rail since there is no connection with the rail system of any neighboring countries. All the nation's ports, however, have dockside trackwork, facilitating the use of rail as the land transportation leg when convenient.

While the total railroad in place may be 900 kilometers, it is certain that some sections are inoperable due to their having been isolated from the main system. Much of the railroad system was badly damaged during the earthquake in the mid-70's and has not been repaired.

An inspection of the railroad system revealed that the extent was quite considerable in that it did reach main centers of commercial activity, but that the design of the system was somewhat antiquated in that the design criteria included unacceptable gradients and unacceptable curves. Railroad equipment had also not been well maintained.

An inspection of the railway operations at the port of Moín revealed that rail delivery of bananas--both containers on flatcars and boxes in boxcars--could achieve a high degree of efficiency. Exporters of bananas and pineapples--the major fruit companies--effectively used mixtures of trucks and rail, as needs dictated.

The following were quoted as the rates in effect for each fully-loaded railcar (Table 4.3):

**Table 4.3
Costa Rica
Rail Freight Charges**

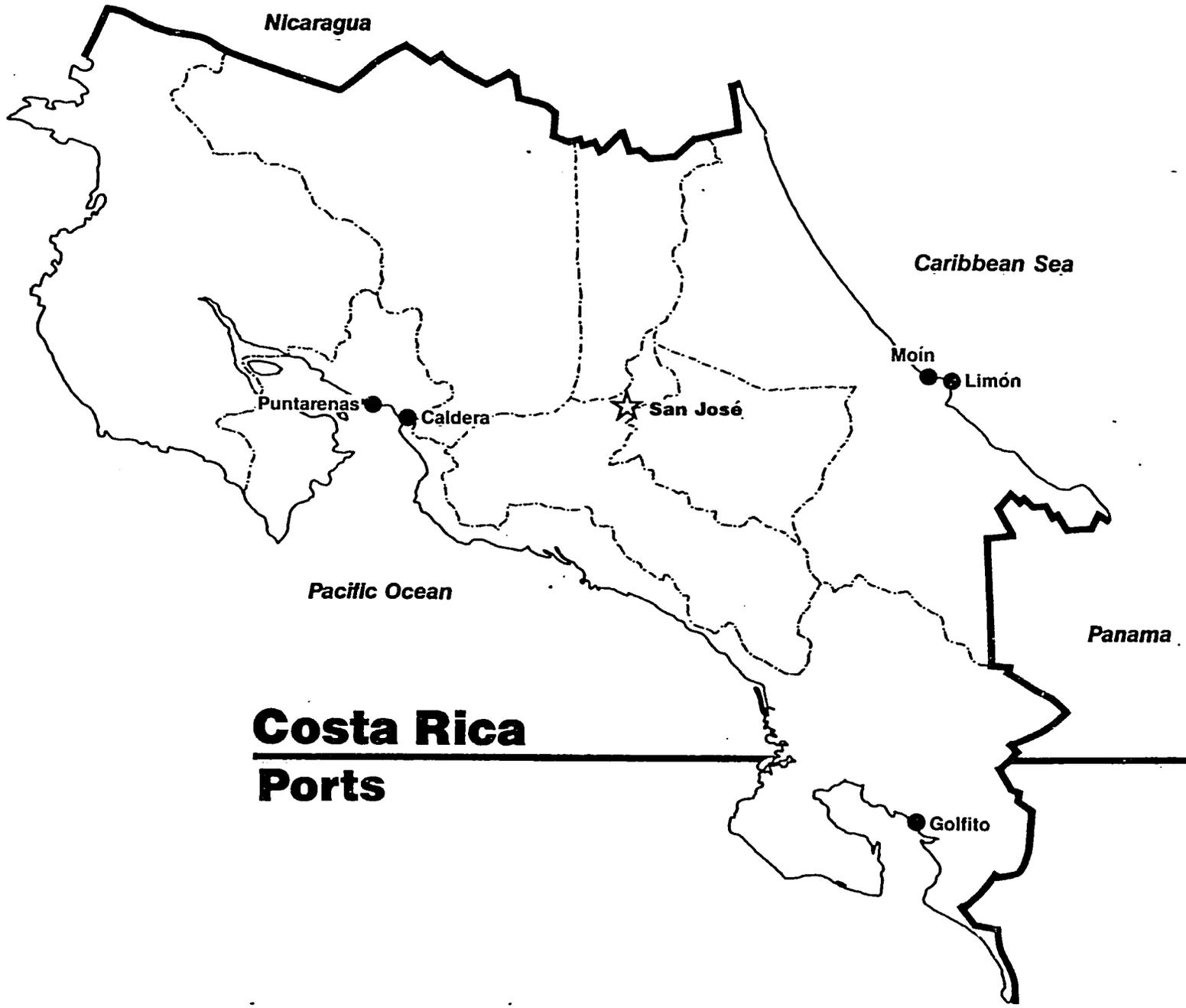
	<u>Import US\$</u>	<u>Export US\$</u>
San José--Moín	157.29	123.96
San José--Caldera	115.62	86.46

Although the prices are quoted here in US\$ equivalents, they are done so for comparison purposes only: actual freight rates are charged in colones. It should be noted that for about 20 tons of freight the rail charges are about one half of the trucking charge for the same route.

MARITIME TRANSPORT

Distribution of Ports. For historical reasons, Costa Rica has a number of ports on both the Atlantic and the Pacific coasts. The main ports at present, however, are the neighboring Limón and Moin on the Atlantic coast, and Caldera on the Pacific coast. The old port of Puntarenas on the Pacific coast is quite likely to fall into an unacceptable state of disrepair in the near future, and the cargo that it receives at present is liable to go through the nearby new port at Caldera.

The Combined Ports of Limón and Moin. The port of Limón, taken with its neighboring port of Moin, is one of the most advanced and possibly most efficient in the region (Table 4.4). The complex has benefitted from some capital investment in new facilities recently, and is thus able to offer a fairly high level of service. The port is operated by a semi-autonomous body with the acronym JAPDEVA. This body is responsible for the operation of the ports under its jurisdiction on the Gulf coast and it is also responsible for implementing certain regional development projects in the coastal provinces. This dual role of the authority has led to some controversy in the matter of setting rates.



Nicaragua

Caribbean Sea

Puntarenas

Caldera

San José

Moin

Limón

Pacific Ocean

Panama

Costa Rica

Ports

Golfito

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Table 4.4
Costa Rica
Total Cargo Moved Through the Port of Limón/Moin
(metric tons)

<u>Type of vessel</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Conventional	332,171	319,296	313,296	280,378	254,387
Ro-Ro/Lo-Lo	240,647	206,544	314,328	448,383	540,822
Bulk cargo	13,546	13,156	12,761	23,740	29,744
Tankers	6,663	3,239	11,081	11,057	13,300
Others	410	910	121	9,780	---
Total	593.437	543.503	652,269	773,338	838,253
Fruit ships	694,474	801,847	679,679	690,306	732,218
Total including Fruit ships	1,287,911	1,345,350	1,331,948	1,463,644	1,570,471
Petroleum tankers	607,169	687,462	626,291	618,620	623,769
Gas tankers	11,939	15,756	6,984	12,618	19,625
Tankers total	619,101	703,218	633,239	642,291	643,394
GROSS TOTAL	1,907,102	2,048,568	1,965,187	2,094,878	2,213,856

Source: JAPDEVA

Puerto Limón

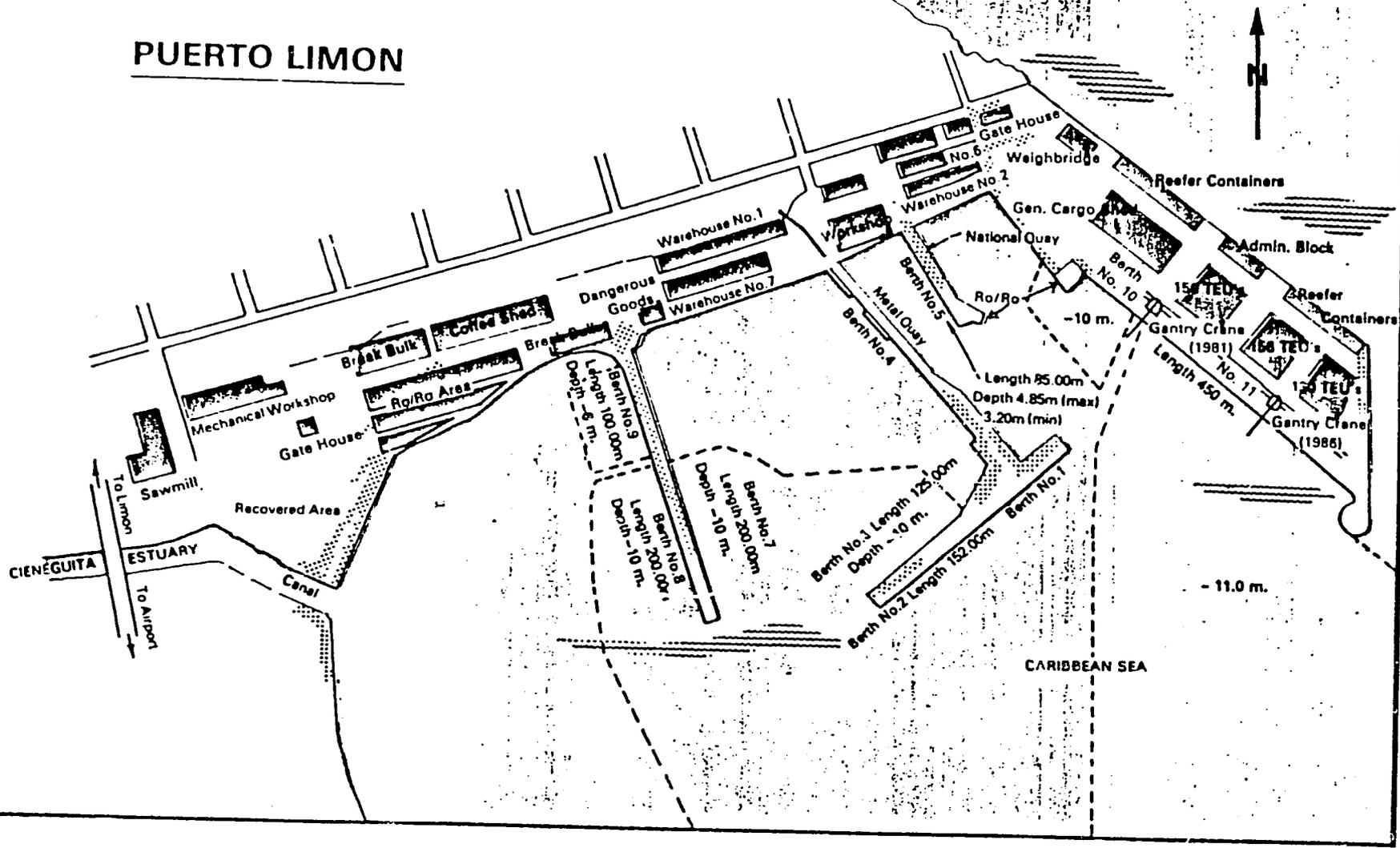
The port of Puerto Limón is located on the Atlantic-Caribbean coast of Costa Rica at latitude 9° 59' 30" North and longitude 83° 01' 48" West. By road, the port is 129 kilometers from San José, and by rail 180 kilometers.

The port is noteworthy in being able to handle vessels of deeper draft than many other parts of the region. It includes the following installations:

- o Pier "Muelle Setenta." This pier has a length of 320 meters and a width of 17 meters. There is a depth of 8 to 10 meters of water alongside. General and bulk cargoes are handled at the pier, with the assistance of a 10-ton portal crane. Both road and rail access are included.

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PUERTO LIMON



- o **The Ro-Ro and Container Terminal ("Muelle Aleman")**. This terminal has 460 meters of berthing space and 130 meters of apron, covering a total of 7.5 hectares. Constructed with assistance from West Germany in the period 1979-82, it is the major general cargo-handling installation in the country. The berthing space is divided into two sections, for containerships, and for roll-on roll-off (Ro-Ro) vessels (using a Ro-Ro ramp 19.8 meters wide). Containers can be loaded or offloaded using the port's own 40-ton Liebherr container crane, and stored in a container yard with space for 560 containers, and ground level electrical hook-ups sufficient for 80 refrigerated containers. Depths vary from 10 to 12 meters. Access is by road or rail.

- o **Pier "Muelle Metalico."** This T-shaped pier is 230 meters wide by 320 meters in length. The trestle pier connecting the head with the land is 8.23 meters wide. The pier has three berths for handling general cargo. Depths of water are from 8 to 10 meters, and access is by rail only.

- o **Storage Areas.** Storage at the port includes five transit sheds with a total covered area of 17,100 square meters. There is also a total of 11,520 square meters of paved open storage for the use of vehicles and general machinery.

- o **Equipment.** The equipment available at Puerto Limón includes:
 - 3 container straddle carriers, 3 high
 - one 40-ton Liebherr container crane on rails
 - 37 fork lift trucks of various capacities
 - 10 yard tractors
 - 24 trailers
 - 10 container chassis
 - one 30-ton crane
 - one 50-ton crane
 - 2 tugs

Total cargo handled by Puerto Limón is shown in Table 4.5, where it is apparent that imports exceed exports, and that containerized cargo accounts for somewhat more than half of both imports and exports.

Table 4.5
Puerto Limón, Costa Rica
Total Cargo Handled
(metric tons)
1985

<u>Type of Cargo</u>	<u>Handling Location</u>			<u>Total</u>	
	<u>"Muelle Metalico"</u>	<u>"Muelle Sententa"</u>	<u>"Muelle Nacional"</u>		
<u>IMPORTS</u>					
General Cargo	1,890	26,390		60,000	88,280
Containerized				194,050	194,050
Ro-Ro				65,720	65,720
TOTAL	1,890	26,390		319,770	348,050
<u>EXPORTS</u>					
General Cargo	20	3,070	350	15,240	18,680
Containerized				122,930	122,930
Ro-Ro				100,000	100,000
TOTAL	20	3,070	350	238,170	241,610
<u>GRAND TOTAL</u>	1,910	29,460	350	557,940	589,660

Source: JAPDEVA

Puerto Moín

The port of Puerto Moín is located on the Atlantic--Caribbean coast of Costa Rica, only 7 kilometers from Puerto Limón. It is 120 kilometers from San José on the new highway, and 171 kilometers by rail, which makes the route from San José to Moín slightly shorter than to Puerto Limón. The coordinates are latitude $10^{\circ} 00' 30''$ North and longitude $85^{\circ} 5'$ West.

Puerto Moín handles more than twice the annual tonnage of Puerto Limón and was designed principally for exporting of bananas and importing crude oil and its derivatives. The port has 400 meters of berths for banana operations, divided into two operating areas, one berth of 218 meters for tankers, and one Ro-Ro ramp 30 meters wide.

Aside from the pumping facilities installed for the crude oil operations, the port has two banana box cranes on rails. These were out of commission at the time of the study.

Depths of water are somewhat greater than at Puerto Limón, averaging 12 meters at the banana berths and 14.5 meters at the oil berth. Access to the berths is by both road and rail. For the most part, cargo handling is by ship's gear, including container load-on load-off (Lo-Lo).

Table 4.6 shows that the tonnage of imports and of exports is more nearly in balance at Puerto Moín than at Puerto Limón (though imports surpass exports at both), and that containerized cargo plays a far smaller role.

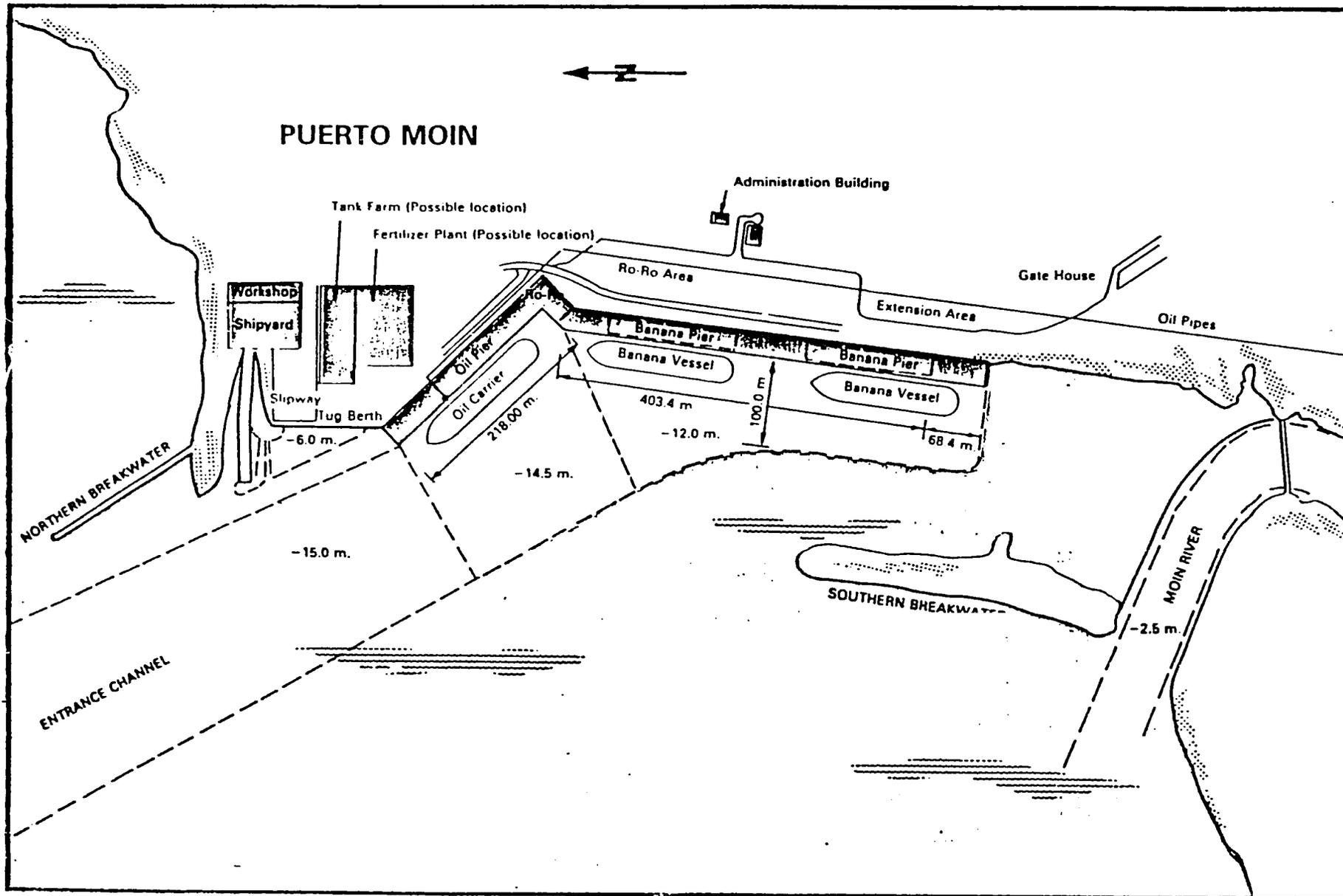


Table 4.6
Puerto Moin, Costa Rica
Total Cargo Handled
(metric tons)
1985

Type of Cargo	Petrol Berth	Handling Location		Total
		Ro-Ro Berth	Banana Berth 1 2	
<u>IMPORTS</u>				
General Cargo	5,500	9,400		14,900
Containerized			7,900 34,200	42,100
Liquid Bulk	624,000			624,000
TOTAL	669,100	9,400	7,900 34,200	720,600
<hr/>				
<u>EXPORTS</u>				
General Cargo			255,900 400,000	655,900
Containerized				42,700
Ro-Ro		10,400		10,400
TOTAL		10,400	255,900 442,700	709,000
<hr/>				
GRAND TOTAL	669,100	19,800	263,800 476,900	1,429,600

Source: JAPDEVA

Puerto Caldera

Costa Rica's most important Pacific Coast maritime port is situated 84°43' longitude West and 9°54' latitude North, a short distance from the resort town of Puntarenas.

Puerto Caldera is a relatively new port that has not yet attracted sufficient shipping to use more than about half its capacity. Indeed, not all planned facilities are yet in place: while container crane rail systems were included with the construction, no crane has yet been procured. Even so, it gives the impression of a modern and efficient little port. It was built to meet the modern demands of containerization and general cargo.

There are adequate areas available for future extensions or additions to its container and conventional cargo terminals and warehouses. The present maximum water depth is 11 meters, which is below the maximum at either Puerto Limón or Puerto Moín.

Puerto Caldera has the largest container storage yard in Costa Rica, and could increase the space available for container storage if demand ever justified the expense.

* Area:	26 Hectares
* Storage:	12,700 m ²
* Yards:	50,000 m ²

Recent events in the region have enabled Puerto Caldera to take advantage of the reluctance of shipping lines to call at Puerto Corinto in Nicaragua. Considerable volumes destined for Nicaragua are now handled at Caldera.

In total tonnage moved each year, Puerto Caldera now roughly equals the Atlantic Coast's Puerto Limón, but is far behind Puerto Moin; actual tonnages are shown in the accompanying Table 4.7.

Table 4.7
Total Cargo Moved in Puerto Caldera, Costa Rica
(metric tons)

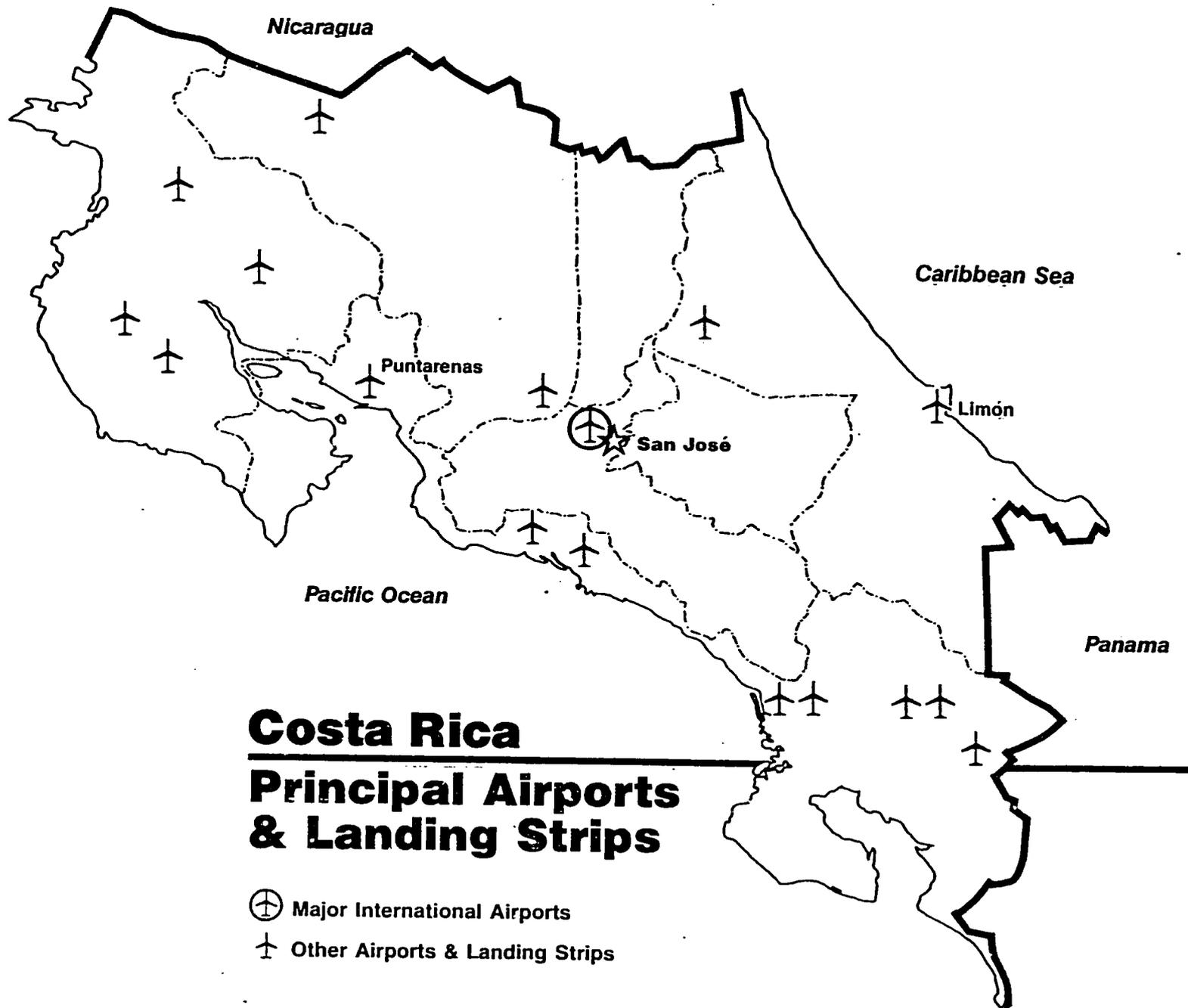
Year	Bulk (Grains)	Wheat	Sugar	General	Total of Tons
1980	---	88,113	71,425	302,640	462,178
1981	23,221	77,087	72,087	365,600	538,194
1982	28,548	91,808	54,647	98,378	277,557
1983	71,151	102,706	53,925	139,093	410,788
1984	67,987	121,769	102,604	246,027	485,505

Source: Costa Rica en Cifras

AIR TRANSPORT

Costa Rica has one major international airport: Juan Santamaria Airport at El Coco, 16 km from the capital, San José. A modern expressway links the capital to the airport. The total number of all classes of airstrips is 173, though 143 of these are basic gravel or grass runways. The number of airports operated by the public sector amounts to 26, the rest being in private hands.

The main function of Juan Santamaria Airport is the handling of passengers, the handling of airfreight being considered of secondary importance. Passenger services are offered by the national carrier, Lacsá, and:



Taca
 Sahsa
 Mexicana
 Aeronica
 SAM
 KLM
 Iberia
 Eastern

Air freight service is offered by LACSA (3 to 4 flights per week) and Challenge (daily flights Miami-Panama-San José-Miami).

The annual volumes in tons of air freight imports and exports are shown in the following table (Table 4.8):

Table 4.8
Costa Rica
Air Freight
Total Volumes (tons)

	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Imports	5,479	4,170	5,316	6,494	7,151	8,730
Exports	<u>3,984</u>	<u>5,271</u>	<u>5,968</u>	<u>7,551</u>	<u>9,914</u>	<u>13,724</u>
TOTAL	9,463	9,441	11,284	14,045	17,065	22,454

Source: Division de Aeronautica Civil

Thus, by 1986, the demand for export space exceeded import volumes by 57 percent, and was projected to increase to 64 percent in 1987.

The recent values of the main perishable air freight exports are shown in the following table (Table 4.9):

Table 4.9
Costa Rica
Air Freight Exports
Perishable Products
(US\$ thousands of FOB)

	<u>1983</u>	<u>1984</u>	<u>1985</u>
Fresh cut flowers	1,290	2,224	3,754
Fresh fish	3,524	7,021	8,018
Lobsters	595	2,999	2,048
Fresh fruit	--	194	322
Ornamental Plants	<u>8,575</u>	<u>14,941</u>	<u>17,076</u>
TOTAL	13,984	27,379	31,218

Source: Division de Aeronautica Civil

The list of products exported by air, in addition to the above, include live cattle, frozen meat, draw-back textiles, medicines, cloth, clothing and books.

However, the main air freight export item is draw-back textiles, which in 1984 was valued at \$42,771,799, and comprised 69 percent of the value of all air freight exports in that year.

The airport at Juan Santamaria had a small refrigerated storage warehouse for the use of cut flower exporters. Other open and closed storage areas are available, but are of small capacity. There is no covered storage area.

COMPARATIVE TRANSPORT COSTS

The Regional Comparison

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

Table 4.10 indicates the comparative rates for a 20-ft 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 4.10
Typical Costs of Moving a 20-ft 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(LA)**
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(LA)**

* Atlantic or Pacific port.

** Los Angeles

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

Source: Field Interviews, computations by PBI.

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 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-ft 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.

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. The lowest in the region was the cost to the exporter from Belize, since the capital is adjacent to the port.

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 percent reduction in a door-to-door charge of \$2000, for example, would signify a 20 percent reduction to a shipping line whose ocean costs were only \$1000.

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. Given the probable accuracy of the survey, it was concluded that sea freight on a 20-ft

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.

Sensitivity of Price to Transportation Cost

Table 4.11 demonstrates the relative sensitivities of different export products to the cost of transportation.

The table shows that, for the most part, fresh fruits and vegetables are extremely sensitive to the cost of transportation. Since these products are sold on a commodity basis--the price is based on the day-to-day balance between quantity supplied and quantity demanded--there is no opportunity for the exporter to pass a transportation cost increase on to the consumer. Any such cost increase has to come out of his margin. Clearly, where transportation accounts for up to 50 percent of the buyer's cost, an increase of, say, 10 percent in the cost of transportation could reduce a seller's margin by considerably more.

Table 4.11
Costa Rica
Comparative Unit Costs of Exports
 (Typical Unit Prices FOB 1985 US\$)

<u>Export Product</u>		<u>Typical Total Transportation Cost as % CIF Price</u>
Shrimps & Lobsters	\$10,000-12,500/ton	2-5 %
Frozen Meat	\$ 1,900-2,200 /ton	12-15%
Bananas	\$ 300-400 /ton	40-50%
Coffee	\$ 2,400-2,700 /ton	10-15%
Pineapples	\$ 350-400 /ton	40-50%
Melons	\$ 340-380 /ton	40-50%
Grapefruit	\$ 250-280 /ton	50-60%
Fresh Cut Flowers	\$ 2,000-2,500 /ton	55-65%
Fruit Jams/Jellies	\$ 500-550 /ton	35-45%
Cocoa Beans	\$ 2,000-2,200 /ton	13-16%
Palm Oil Seeds	\$ 250-300 /ton	45-55%
Seeds, Tubers, Roots, etc.	\$ 860-910 /ton	25-30%
Wood Furniture	\$ 1,200-1,500 /ton	20-25%
Doors, Window, etc.	\$ 300-350 /ton	40-50%
Bamboo Furniture	\$ 4,000-4,200 /ton	5-10%
Cardboard Boxes etc.	\$ 530-560 /ton	35-45%
Metal Lids, Tins, etc.	\$ 9,000-9,250 /ton	2-5%
Female Underwear	\$22,000-25,000/ton	neg.

Source: Banco Central, computation by PBI

Typical Margin Analysis. Taking the typical case of an exporter of fresh fruit and vegetables, here melons, selling in Miami, a typical breakdown on a tonnage basis would be (Table 4.12):

Table 4.12
Costa Rica
Typical Cost Breakdown for Melons Selling in Miami

production costs	\$225 /ton
transport & selling costs	\$250 /ton
administrative costs	<u>\$ 15 /ton</u>
Total fixed costs	\$490 /ton
Total income on sale	<u>\$650 /ton</u>
Margin on sale	\$160 /ton

Source: Field Interviews

The margin is used for recovery of initial investment and payment of interest and, finally, some profit for the producer. It is the margin that determines whether the exporter will remain in business or not.

If transportation and selling costs go up by, say, 10 percent, the distribution becomes (Table 4.13):

Table 4.13
Costa Rica
Effect of 10% Cost Increase on Margin for Melons

production cost	\$225 /ton
transport & selling costs	275 /ton
administrative costs	<u>15 /ton</u>
Total fixed costs	515 /ton
Total income on sale	<u>650 /ton</u>
Margin on sale	135 /ton

The 10 percent increase in transportation cost has thus reduced the margin by 16 percent, and has probably made production unprofitable. (We have kept the production cost constant, though in reality this would have a transportation content and would thus increase.) Common agricultural products produce very small margins, and it is safe to suppose that most growers in Central America have much smaller margins than that shown in the above example. Thus, as a generalization, every percentage increase in the cost of transportation reduces the producer's margin by 1.5 to 2 percent; since the profit margin is small, only a few percentage point increases in transportation cost will account for all profit and start eating into the producer's ability to repay his debts.

As can be seen from the earlier table of comparable unit costs, melons have a fairly average unit value, and include most of the properties of the typical fresh fruit and vegetable exports of the country. Thus, in economic terms, the above figures could be aggregated and generalized to represent the situation of non-traditional agricultural exports.

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 the melon "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 Central America will make a precarious living.

Transport Cost Versus Export Volume. Attempts were made during the analysis phase of the project to determine the sensitivities of export volumes to the cost of transport. It was concluded that, on the surface, the volumes exported were not directly responsive to transportation costs. This conclusion had already been reached by persons responsible for price-fixing of transportation in the country, and was used as a justification for price increases. The Atlantic Port Authority (JAPDEVA) stated, for example, in their 1985 Annual Report:

"It should be noted that the factor of the port cost is almost insignificant among all the other production costs up to the point of loading on board."

(translation)

Unfortunately, when the actual effects of cost changes are calculated, it appears that it is indeed only on the surface, or in the short term, that the 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, many will be forced out of the export business entirely, making their volume eventually crash abruptly to zero.

In many cases the port charges constituted up to 35 percent of the cost of door-to-door transportation, and were commonly double the cost of port-to-port sea freight. Thus for commodities where transportation was 50 percent of the buyer's price, the port charges contributed 17.5 percent. A 10 percent increase in the port charges would result in a 5 percent reduction in margin, clearly jeopardizing the producer's ability to service his debts.

Thus there is a clear connection between changes in transportation charges and the ability of the non-traditional exporter to stay in business, but the volumes may not be affected immediately. Since agricultural production starts some considerable time before use is made of the transportation system, and because agricultural cost accounting is not sophisticated in the countries of Central America--the final balances are not calculated until the product has been harvested and sold--there may not be an immediate correlation between the transportation cost and the volume exported.

There will, however, be a correlation between transportation costs and businesses being started or being terminated. Amongst other things, this translates as a connection between increases in transportation costs and bankruptcies. Analysis of the goods traded each year show that a considerable number of items disappear each year from the list of exports and new ones appear.

Even though, overall, export values and tonnages may increase, this only happens because the composition of the exports alters each year. Thus, to introduce an increase in transportation costs and to note that exports did not fall off as a result is to not recognize the damage that is being done to the economy as businesses are forced into liquidation.

Not all the export products, however, are so sensitive to the cost of transportation: 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. Where these items are not commodities, and subject to worldwide pricing forces, the price increases can often be passed on to the buyer. With bamboo furniture, for example, prices are fixed by agreement between the buyer and the seller, and the proportion of the cost of transport is only 5 to 10 percent, it is therefore not likely that less would be sold if transportation costs rose, or more sold if transportation costs dropped.

Costa Rica is fortunate among the countries of Central America in that more than 50 percent of non-traditional exports involve value-added processing. Most of the other countries have a preponderance of low unit price commodities for exports and are thus supremely sensitive to the cost of transportation.

TRANSPORTATION-RELATED CONSTRAINTS

It cannot be denied that, in a country where the cost of transportation can absorb as much as 50 percent of the income from producing an average export product, transportation plays a critical role in the economy of the country. It is also indisputable that, for the future economic well-being of the country, the competitiveness of the country's exports will have to be improved. For a particular class or quality of merchandise,

the competitive factor is invariably the cost. In terms of transportation, the competitiveness can be improved by, either, reducing the real cost of transportation or by reducing the proportion that transportation cost occupies in the total cost of the products.

In fixing the cost of transportation, three groups have responsibility for entirely different aspects; the lowest overall cost being achieved when each of the three groups performs to the limit of the resources available to it. It is important to establish the limits of this responsibility so that recommendations for improvement are targeted for the right group.

Responsibilities of Government. The government has the responsibility for providing, or for enabling the provision of, those items of infrastructure that could not be provided by individuals or corporations. The government also has the responsibility for ensuring that legislation and institutional requirements do not impede the carriers in the efficient practice of their trade. For efficient operation of carriage services, the infrastructure has to be appropriate and has to be of good quality.

Responsibilities of Carriers. The carriers themselves, operating in an environment of fair competition, have the responsibility for operating the transportation modes as economically as possible. The carriers have to achieve the optimum level of efficiency within the framework of the available infrastructure, the legal and institutional setting, and the demand for their services.

Responsibilities of Producers. The producers or exporters have a responsibility to get those goods for which there is a demand, in the best combination of price, quality, and quantity, to those markets where the financial returns are the greatest.

Interacting Roles of Government, Carriers, and Exporters. In the case of Costa Rica, all three groups have ample opportunity for improving the economic cost of transportation, and thus improve the export potential for non-traditional products. The relative importance of the three groups in terms of ability to affect cost are: firstly, the producers, secondly, the government, and thirdly the carriers. The main conclusion of the study was that the carriers themselves did not have it in their hands to significantly reduce the cost of transportation.

It was clear from the interviews that were undertaken that exporters were, with very few exceptions, unaware of the factors that affected transportation costs and of the groups that controlled the factors that affected the costs. The most obvious inconsistency was the inability to relate what was considered to be an excellent trucking service that was provided by the major steamship companies with the cost of that service. It was not clear to the exporters that it was their demand for quality in carriage that had driven up the prices, and that prices would go down only when a lower standard was demanded.

For most of the transportation modes the comments received could be reduced to one of cost. Shortages, inefficiencies, irregularities, unpredictabilities, and so on could all be associated with a cost, and ultimately it was a cost that had to be paid by the exporter to get his product to market. Thus the total cost of transport to the exporter was not only what he paid to the carrier, but also all his losses experienced in the process of exporting. As an example of this: almost all exporters are

self-insured, that is, if they lose a shipment--for whatever reasons--they bear the cost of this themselves. Since they are often unable to pass this cost on to the consumer, the cost has to be taken out of margin. The cost to the nation is thus one of increasing private sector debt and bankruptcies. The recent history of private sector debt is that it quickly becomes public sector debt and hence national debt.

Thus, proposals for reducing the national cost of transportation can be reduced to an exercise in correct cost allocation--or national cost accounting--followed by an analysis of means of reducing the correctly allocated costs.

The Role of the Government

Roads. The extent and quality of the physical infrastructure in the country has a direct bearing on the cost of transport. In the case of Costa Rica the highway statistic is 0.6 km of road per square kilometer. Considering that the road density varies considerably within the country, from high density around the capital to very low density on the Atlantic coast, and considering the low average population density, the road penetration represented by the statistic is adequate. The statistic says nothing about the quality of the roads, which is known to have a poor average.

A review of the average condition of the roads in Costa Rica concluded that maintenance programs were not keeping up with the rate of deterioration of the highways. Many of the unpaved sections were reported to be impassable in wet weather. The 170-kilometer main road connecting San José to the port at Limón, over which the major part of the country's exports and imports have to

pass, was found to be mainly a two-lane highway with steep gradients and sharp curves, with no passing lanes for faster-moving traffic; serious damage had occurred in places, in the form of wash-outs on the downhill side, and these were threatening to cut into the pavement itself; average speeds quoted by truckers were of the order of 20 km/hr. In others areas users reported that it was not unusual for a farmer at harvest time to find that his access to the highway system had been completely cut off, and for the crop to be entirely lost.

It is reasonable to assume that the highway network in position at the time of the study will not have any major alterations in the near future. While the connection between San José and Limón should be completed in 1987, and a possible similar standard of highway constructed between San José and Caldera within the next 5 years, a major paving project to improve rural penetration is not likely. It is also not necessary.

For Costa Rican exporters and truckers, the state and disposition of the roads was a fact of life. The main request was that roads should be kept passable, not that the design should be improved. However, much of the reticence in complaining of road condition was due to the prevalence of self-insurance. When questioned, most producers of fresh fruit and vegetables agreed that a significant part of a shipment could be bruised if carried over a bad road. They accepted this loss as part of the cost of doing business. Similarly, the owners of trucks complained of the high cost of imported spare parts, likewise considering this factor as part of the cost of business. Both costs could be significantly reduced if the road surface were improved; harvest losses could be reduced if existing accesses could be made operable in all weathers.

Unsurfaced roads in themselves are not unacceptable: there are undoubtedly more unsurfaced roads in the world than there are surfaced roads, so most of the world's trade passes over them. What unsurfaced or unpaved roads require is regular maintenance and grading. Paving and surfacing do much to eliminate this cost, but in areas where labor is cheap and plentiful, road maintenance programs can be executed extremely economically. Recent road maintenance and repair projects in Costa Rica--where private sector contractors were used to repair an existing section of road and then maintain it for a fixed period--demonstrated the economic feasibility of the system. The maintenance program can be made even more cost-effective if the design of the rural road is improved: drainage channels alongside, culverts and bridges over streams, protection against slides and washouts, gentle curves and gradients, all these serve to lessen the damage inflicted by the elements and the users.

Road Maintenance Capability

Having determined that the poor state of the nation's roads was contributing to the cost of road transport--both directly as charges for carriage and indirectly as self-insured losses--an assessment was made of the nation's ability to conduct the required level of maintenance program. The following points emerged from discussions with those responsible for road maintenance.

1. It was considered that the annual budget allocated to road repair and maintenance, if current negotiations succeeded, would permit completion of 50 percent of the work required on the national system and 35 percent of the work required on the local road system.
2. Monies allocated in the past for road repair and maintenance were approximately one third of estimated requirements.
3. The high incidence of crisis work left little capability for continuous routine work.
4. Of the equipment owned by the Ministry of Public Works and Transportation for use on roadworks, some 70 percent was permanently unusable. A large part of the remainder required major repairs.
5. The workshop section essayed to keep enough equipment operational to do 40 percent of the planned work.
6. The national workshops were almost totally devoid of the equipment required for the normal maintenance and repair of heavy engineering equipment.
7. Experienced mechanics were being pensioned off and not replaced, leaving the workshops with a severe shortage of experienced mechanics. Younger trainees were unwilling to tolerate the low salaries given to ministry employees.
8. There was a permanent shortage of spare parts, and there was no engineering department to design and manufacture workshop equivalents.

It was clear that the existing administration and organization of the road maintenance and workshop divisions would not be capable of effecting any significant changes to the condition of the nation's roads.

Recent studies had shown that private sector contractors were able to do road construction and maintenance work more efficiently than public sector workforces. As a result it had been suggested that more of this work be given to private contractors, and that the Ministry should remove itself from active involvement in such work.

While such comparisons may show the public sector in a poor light, given the handicaps under which they operate, the unfavorable comparison is entirely predictable. Given the financial structure of the Ministry, and the need for contractors to be paid promptly, it would not follow that short-term large increases in use of private contractors would result in a less costly situation. Furthermore, given the responsibility of the public sector for emergency work, and for much work beside roadwork, it would not be realistic to expect the public sector to withdraw significantly from working on its own account. In the near term a judicious use of both public and private sector contracting would appear warranted.

For the public sector to fulfill its responsibility for halting the deterioration of the national road network, the following actions are required:

1. A determination of the optimum level of work required to keep the national road network in a state of equilibrium.

2. Provision of adequate workshop, tools, and equipment for the repair and maintenance of the Ministry's equipment.
3. Provision of adequate equipment for undertaking the amount of work determined to be the direct responsibility of the Ministry.

It is hard to see how the required standard of national road would ever be reached and maintained without such a program. Yet, with deteriorating roads, the inevitable rise in transportation costs will become an ever more serious impediment to increased exports.

Rail. The rail system in the country was described as a disaster. The system was operated by the state, and was in a deplorable physical condition. The system was having financial troubles. (According to figures shown in a recent study by Louis Berger International, the rail system was not covering its costs--at least not with freight. It is not known how profitable the passenger operation is, though it is unlikely that it makes money.) There was not the necessary flexibility required for it to compete with road haulage. (On a km-ton basis, however, the rail charges were less than the road haulage, but the overriding cost was that of double-handling when using rail transport. A piggy-back system just might be competitive, but there is not the administration in place, or the user confidence, that would make this work.)

The interviewees, when asked if they used the railroad system, replied that they would not use it, the reasons being that it was extremely unpredictable and that it was in the hands of Government agencies, which made responsibility hard to allocate. There was no responsibility accepted by either of the two state agencies for any liability for freight being carried. It was reported that schedules were not adhered to and as a result it was impossible for anyone to consign a shipment to the railroad and expect it to arrive at a port destination in time to catch a particular sailing.

The study team, however, were of the opinion that the railway system could benefit from some planning, and since the rail infrastructure was already in place, that some part of the country's development in the future could be assisted by a more efficient rail system. Clearly, however, rehabilitation and reconstruction of the present system would not achieve any desired objectives without the introduction of new operating techniques and an acceptance of responsibility for schedules and consigned freight.

The future of the railroad system is problematical: a considerable capital investment is represented by the system that is in place. Unfortunately, the operating restrictions imposed by the obsolescent design and layout make it impossible for the system to operate to current standards without considerable investment. Since estimates show that both rehabilitation and new construction require similar capital outlays, it can be assumed that the system will serve no different purpose in the future from the purpose it serves now: providing a passenger service and providing a limited coastal freight facility for bananas.

The effect of the economic cost of transportation is well illustrated by the case of rail freight: while the cost of moving a container by rail was approximately half of the road cost, exporters were unwilling to accept the risk involved with entrusting valuable or perishable cargo to the rail companies. It was perceived by the exporters that their potential cost in using rail was greater than the cost of using the alternative modes.

Ports. A major national investment is represented by the ports at Limón, Moín, Puntarenas, and Caldera. The function of government with regard to ports is very similar to its function regarding highways: the provision of an appropriate facility for effectively and economically meeting the demands placed on it by the carriers. (It is the carriers who are essentially the users of the ports.) Unlike the highways and railroad, ports also represent an interface between national and international interests.

Atlantic Coast Ports. There is no doubt that the port of Limón is among the more costly ports in the region. The factors that have contributed to the high cost include, primarily, the fact that the Atlantic Ports Organization (JAPDEVA) is responsible for funding development projects in its own region. This requirement is part of its charter, and the financing for the projects is raised from the port charges. The second factor is that the port is expected to be entirely self-supporting, paying for all its capital and operating costs from its revenues.

A further factor in the expensive operating mix is the fact that the senior personnel in JAPDEVA are political appointees who are changed and replaced in accordance with changes in national politics. While the port's middle management claimed that these changes had little effect on the way that the port operated, it was clear that the formulation and implementation of long-term policies would be extremely difficult. It was also clear that where advancement was dependent on political connections, the development projects must assume greater importance than the fate of the port.

The inconsistencies of such a double responsibility have long been recognized in Costa Rica, and a recent study by the consultants Louis Berger International repeated the recommendation that the responsibility for development be devolved from the port authority's brief. The Atlantic coastal provinces are, however, the poorest in the country. As has been demonstrated elsewhere in this report, historical development has led to more resources being allocated to the Pacific coast than to the Atlantic coast. The Atlantic provinces thus feel that their only source of development funds is the port, and in the absence of any contrary assurances from the central government, they intend to keep the port under their control.

In 1986 serious negotiations were started between the central government and the representatives of the Atlantic provinces--including JAPDEVA. The initial results were not favorable, and a number of influential members of the government's team withdrew from the proceedings. Under continued pressure from the World Bank and USAID it is probable that, in the fullness of time, the port authority will be absolved of its development requirements.

The continuing political struggle over the management of the ports of Limón and Moin has led to a situation where complaints are constantly heard by port users of three aspects of the port:

1. The port equipment is not always as well maintained as it should be, and operators were not always capable of operating the equipment efficiently.
2. The longshoremment and the stevedoring operations are all in the hands of strong union organization. Hence, it is difficult to get a faster or more efficient loading or off-loading operation. Unlike other ports in the region, it is not possible to introduce a separate group of stevedores. Thus the labor rules in the port are felt to be an impediment to efficient operation.
3. The tariffs charged by the port for the use of its facilities are considered to be out of all proportion to the actual services being provided.

In spite of the complaints raised against the port, others have expressed interest in some of the positive aspects of the Costa Rican gulf port system. It has been pointed out that Limón has the advantage of 14 meters of water which is enough to accept most of the larger carriers in operation in the region. The ports have sufficient space for expansion and they will soon have a fast highway connection to San José, the capital city.

The study team concluded that while it would be unreasonable to expect that a solution would be found to the political problems related to the administration of the port, some improvement could be made, given that the port tariffs were contributing to the high cost of marine transportation, and thus impeding the competitiveness of Costa Rican exports. It was felt to be certainly within the realm of practicality to introduce operating measures into the port that could increase the efficiency and reduce the waiting time and loading time at the port. The 1986 Costa Rican ports study demonstrated that there is an unacceptable amount of waiting by vessels coming into the port, and an unacceptable amount of time spent unloading the vessels already in the port. Even with continued use of organized labor in the port, the introduction of more equipment for loading and unloading would reduce the marine transport cost to the exporter. Such reduced waiting and loading time would be passed on to the exporter by the steamship companies.

If it is accepted that more equipment will be introduced into the ports, then there must also be a properly conceived training program for the stevedores, port captains, and longshoremen. The training program would have to be extremely well considered in order that it meet the realities of the situation at Limón. In the past, training programs have often given the middle level and lower level managers information and techniques that they could not possibly use when returned to the job. Thus the training program proposed for Limón operators, should be based on the realities of a unionized work environment, where not all improvements in efficiency are seen as beneficial to the members.

The whole situation at Puerto Limón might be changed considerably for the better if the shipping companies that had expressed interest in setting up their distribution point at Limón could be encouraged to make the necessary investment to do so. The new terminal could quite conceivably be administered by an authority outside the regulations of JAPDEVA. Any such new terminals would thus be free to operate on a competitive and an efficient basis. There is much interest by the shipping companies in this terminal, and it is recommended that negotiation should be started to determine the possible advantages to all parties.

Pacific Coast Ports. Turning to the Pacific Coast of Costa Rica, the two ports of Puntarenas and Caldera will, as previously discussed, need to be reduced to the one port of Caldera. The pier at Puntarenas has not been well maintained over the years and is now in a critical condition, and could not be salvaged without a considerable injection of capital. Even if the capital were to be injected into the pier at Puntarenas, the design of the pier and the operating system required to transfer cargo from the pierhead to the shore would make the system inefficient by modern standards, and would seriously limit its capacity. It seems clear that Puerto Caldera is destined to be Costa Rica's main port on the Pacific coast. In some ways this is unfortunate because of deficiencies in the design of the port itself.

Potential Limitations of Puerto Caldera. First, the depth of water in the port is limited to a maximum of about 11 meters, though this varies, not only because of the design of the port itself, but because of siltation that has been taking place within the port. It has been reported by some shipping companies that

depths at the wharf are less than what they are reported, or less than what they are supposed to be, and that on several occasions ships have touched bottom at times of low tides. This is extremely hazardous, and on several occasions these ships have offloaded the cargo in order to withdraw from the port.

Thus there is a limitation on the use of Caldera, both because of its intrinsic design and because of movements of bottom material with the currents. This siltation affects the approach channel to the port and it affects the alongside depth of water. Where these two items are unpredictable, the port becomes an unpopular port of call with ships in general. Ship captains are reluctant to entrust their vessels to pilots who are not familiar with changes in sea bottom elevations.

A weakness of the original design is that dredging and deepening of the areas in front of the dock is not possible without affecting the structural stability of the port. Thus a situation exists that needs a solution, but one in which the solution will be hard to find and possibly difficult to implement. The study team concluded that for the sake of preserving the investment in the port at Caldera, an immediate study should be undertaken to determine ways of making the port safe for the use of deep draft vessels. If trade with the Far East increases in Costa Rica, and if the land bridge or Canal Seco is put into operation, the port at Caldera will need to be transformed into one that is acceptable to ship owners. Thus, the determination of an acceptable solution to the siltation problem becomes one of extreme urgency.

Further operating problems that were observed by the study team at Caldera included the fact that while at present storage space for containers was adequate, if the number of containers increases to the port's design capacity, the storage area will become insufficient and the movement of the containers in and out of the port in front of the transit shed will interfere with the loading and unloading of cargo in the port. It is recommended that to increase the efficiency of the port, a container crane be acquired to take its place on the rails that have already been included as part of the dock infrastructure. With this crane in place, it would not be possible for container trucks to pass along the dock to reach the port gates. For this reason, it is recommended that the traffic flow in the port be studied and a container gate solution be implemented, possibly using area behind the port and the warehouses for the incoming and outgoing trailers.

The best solution would be for a separate container entrance with inspection platforms and weighstations. At the present time the container freight goes in and out at the same entrance as the general freight. For speedier and more efficient operations, it is generally advised that the entrances be separated. The port seems to be fortunate in having at its disposal a considerable amount of land area in which to construct new facilities as required.

A revision could usefully be undertaken of the cargo handling equipment at the port. While it was noted that a considerable amount of cargo handling equipment was available for the use of loading and unloading cargo, the main items such as container handling equipment were very much in short supply. Also the port

was being forced to rent trucks and trailers for the movement of containers around the port. On the other hand, there seemed to be a reasonable number of the smaller size forklift truck for moving palletized cargo. There were also tractors and trailers and similar combinations. Since for the future, it can be expected that the amount of containerized cargo will increase, it seems advisable to review the shortage of container handling equipment and see if this can be supplemented with additional funds.

The study team, during their review of the port facilities, while remarking on the efficiency of the cargo operation given the equipment that was available, noted that it might be advisable to bring the maintenance procedures for the equipment up to a higher standard than was in operation at that time. It was deemed that it would be advisable to investigate any possibilities of improving the standard of maintenance of the various pieces of equipment in the port. If the port throughput increased over the years, it would be better if the equipment received a well planned system of maintenance in order not only to reduce down time on this equipment, but also to avoid the necessity of having to purchase new equipment in the future.

Unlike the Atlantic ports, the Pacific ports were under the jurisdiction of an entity that was not responsible for development. There was a small amount of responsibility for matters outside the ports but this was not felt to be a significant factor in the efficient management and operation of the port facilities. Most of the administrators of the port were responsible on a full time basis for the port. However, as with the Atlantic ports, the Pacific ports were criticized for their high tariffs and port charges.

A recent study of Caldera revealed that the charges for the port were based on full capital cost recovery and on the actual level of usage of the port. Since the port is currently used at only about 50 percent of its capacity, this led to users being charged double what they would normally be charged for such a facility. For the future, therefore, some arrangement will have to be reached by those responsible for the financial administration of the port as to how they will be paying for the port and its infrastructure over the years. Clearly, the current arrangement is a vicious circle in that the potential users of the port are unwilling to use the port because of its high charges, and the charges cannot be lowered because of the apparent lack of demand. A financial decision by the administrators is the only effective solution to this dilemma.

There can be no doubt that, in the provision of ports, the governments of Costa Rica have taken this charge seriously, and have provided two of the most modern ports in the region. It is also indisputable that the ports have some inefficiencies and inconsistencies, but given the general level of interest in the nation's ports it is confidently expected that these matters will be resolved. Included here are such items as the need for additional deepening of Limón and Caldera, additional equipment for Caldera, a review of equipment maintenance and repair, the provision of an additional container crane at Limón, and the expansion of the "Muelle Aleman." Some review is needed of traffic movements within the port at Caldera, and solutions should be sought to the problem of increasing the depth of water, especially if more bulk trade with the Far East is envisaged.

The main issue that requires resolution at the nation's ports is the one of port charges. It would not be altogether relevant that the port charges at Limón are high, if the charges reflected the quality of the service offered. It is possible to charge highly for an efficient service if the result is an overall low cost per ton handled. Analysis shows, however, that the cost per ton is also high. This is clearly a cost impediment to exports, and the effective contribution of port charges was shown earlier in Chapter 4 to be up to 35 percent of the cost of door-co-door transportation.

In the case of Costa Rica, the issue of port charges is twofold: the issue of the local development responsibility of the port authority, and the issue of the cost of service. In using the income from port user charges to pay, not only for the operation of the port, but for local development projects as well means that importers and exporters are paying more than the actual worth of the services they are getting: importers and exporters are being taxed, and the taxes are going to a local development fund. These taxes, however, have a number of repercussions, and don't only serve to benefit the local community:

1. They limit the demand overseas for every product that Costa Rica exports.
2. The exporter's margin is in foreign currency, thus the taxes, by reducing margin, reduce the flow of foreign currency into the country.
3. Taxing imports by the use of import duties is an acceptable method of raising revenues, since the cost tends to be widely distributed throughout the consumers of the imported products, but to tax exports is to tax

exporters only. Since the exports are mostly labor-intensive, the net effect is to tax the laborers working on export products. The effect is clearly contrary to any policy of increasing exports. A development program would be much fairer if it taxed those who could afford to pay, and didn't tax poor laborers in one part of the country to pay for rural developments in another part of the country.

4. It was considered by the proponents of the arrangement that the money collected was coming from elsewhere to pay for the development of the Atlantic coast province. The anomaly is that, since a large part of the exports--bananas--come from Limón, the inhabitants were partly taxing themselves to pay for their region's developments.

In the matter of port charges generally, it has to be borne in mind that international shipping companies develop systems to enable them to provide cheaper and more competitive services. Containerization, Ro-Ro, barge systems, and all the specialized bulk handling techniques were all introduced as attempts to reduce the transportation component in a product's cost. In determining the economics of the new system, assumptions had to be made regarding port charges: it was assumed that all ports, to a greater or lesser extent, charge in proportion to the value of the service offered. For ports where this was the case, the new system was competitive; for ports where this was not the case, rifts developed between the ports and the shipping lines.

The ports of Central America, in general, have an abundance of what is considered cheap labor. Most modern unitized systems were developed to reduce the labor content in loading and offloading operations, based on the situation where labor was becoming prohibitively expensive. For Central American ports to handle the newer systems, more expenditure had to be made on

expensive equipment, using hard-to-find foreign exchange. Thus the port tariff structures in the region favor the use of the older, more labor-intensive, systems, and discourage the use of the newer systems. There had been thus established a considerable conflict in operating philosophy between the ports and the shipping lines.

The shipping lines are caught between the capital-intensive demands of the users in the USA, Europe, and Japan, on the one hand, and all the ports in the developing countries, on the other hand. It would be a mistake for the ports in the region to do other than charge, as accurately as may be determined, for the actual services provided. Any other approach would cause a distortion in the operating economics of the shipping lines, and would lead to economic services not being made available to the Costa Rican exporter.

Air. The function of the government in regard to air transport is to provide the basic infrastructure to permit this to function competitively. In the case of Costa Rica an airport of international standard has been constructed at Juan Santamaria, with all the features of such a facility fairly adequately represented. In spite of this, much criticism has been leveled at the providers of air freight service and at the lack of facilities for the export of perishables. The question is: to what extent is it the government's responsibility to intervene in the use to which the facility is put?

The air transport situation in Costa Rica has caused a great deal of concern of late, and has given rise to a vociferous campaign on the part of exporters and their representatives. The claim is that their needs are being ignored, and that the government is unwilling to become involved.

At the end of 1985 there were three companies providing connections to Miami, namely:

SERCA --operated 3 flights per week, carried 90,000 lb of cargo per trip, or 270,000 lb per week

LACSA --operated 3 flights per week, carried 80,000 lb of cargo per trip, or 240,000 lb per week

Challenge--operated an irregular charter service of approximately 3 flights per week with a total capacity of 210,000 lbs. Since these flights came north from Panama, the availability of space to Costa Ricans was unpredictable.

In January 1986 the US Federal Aviation Agency ruling FAR-36 came into effect, banning the landing in the USA of aircraft which did not meet the noise level requirements. This ruling, of which notice had been in effect for three years, forced LACSA and SERCA to curtail their freight operations. Attempts to reduce the national carrier's aircrafts to an acceptable noise level were unsuccessful.

To meet the shortfall in service the national carrier chartered aircraft that were acceptable in the US, but since the FAA ruling had resulted in a world-wide shortage, the availability of planes was unpredictable. A considerable loss to flower exporters was experienced when they were unable to deliver their US orders in time for St. Valentine's Day in 1986. The situation has continued in this manner, and SERCA never restored its service.

In mid-1986 a consultant was contracted through USAID to study the air freight situation for CAAP-CINDE (Consejo Agropecuario Agroindustrial Privado--CINDE). Wendell R. Stevens published his report in August 1986, with the following conclusions:

- "1. Uncertainties in the performance and capacity of Costa Rica's air cargo system, if not corrected, will continue to frustrate the national program to export perishable products.
2. It does not seem prudent for the exporters of Costa Rican perishables to rely principally on outsiders for air transportation.
3. The permanency and success of the program require the enthusiastic participation of the national carrier. Instead the national carrier appears to be content with a minor and declining share of the air cargo market. Recognizing that political as well as financial considerations are involved, this probably means that dedicated individuals with acceptance at the highest levels of industry and government must be enlisted to change the management objective of the national carrier to include full support of the Costa Rican export program.
4. The physical facilities and procedures at Juan Santamaria airport are inadequate for proper handling and protection of perishables. A number of relatively simple and inexpensive improvements are urgently needed.

Prompt steps should be taken to prevent more air transport failures from interfering with the marketing of Costa Rica's perishable exports and other exports. A large amount of additional capital is not required. All the elements for action already exist. What is needed is creative planning and coordination among shippers, importers, government officials, agents and carrier management to ensure the air transport base required to support the national export program."

The report contains specific proposals and requirements to improve air cargo facilities. There are also costs and demand projections.

The findings of Mr. Stevens agree closely with the findings of this study, and his perception of the need for cooperation reflects a basic inadequacy in the whole of the business of exporting, not just by air.

As with the nation's ports, the national airport should have all the facilities needed for it to be used as intended. It is indisputable that the airport is intended to be used as a freight facility, so that aspect should not be ignored in terms of equipment and facilities: there must be sheltered storage space, and there must be appropriate handling equipment.

The remaining issues are those of refrigerated storage facilities and adequacy of air cargo service. Without refrigerated facilities located near the airport, much of the cargo that is best suited for air freight--fresh, highly-perishable products--just cannot be produced. A major source of national revenue is thus lost. Refrigerated warehouses are sophisticated facilities, requiring considerable expertise in their design, their construction, and their operation. There are many private-sector firms more than adequately qualified to

perform all three functions. Refrigerated warehouses are business ventures, with revenue being gained from charges to the users. They are thus additional costs involved in the act of transportation, and should not be considered the province of government: when costs are in controversy, it is always the most difficult for government to pass the legislation that controls itself. Encouragement should thus be given to private sector companies to construct and operate such refrigerated facilities as are required.

Costa Rica has an acceptably efficient national passenger airline, but one which has a poor record in dealing with freight. Private-sector airlines--all foreign--are also criticised for their record in dealing with air freight. Petitions and public meetings have done little to help. As matters stood at the time of the study, little improvement could be expected in the air freight situation.

In the case of air transport we have the situation of matched risks: the exporter is not willing to face the risk associated with a deficient air service, and the air freight services are unwilling to provide a service in the face of absent cargo. It is interesting to note that the producers of perishable products that can go by sea are willing to face the risk of a shortage of refrigerated containers, but the producers of flowers are not willing to risk increased production without assurances of increased air service. In both cases, the carriers--the shipping lines and the airline--have established what they consider to be the maximum sustainable level of service in the absence of further assurances. For a solution to this impasse it is necessary to look at the legal framework within which business has to function in Costa Rica.

Legal Framework. The role of government in transportation is not purely that of providing physical infrastructure, but also in providing a legal and institutional environment that permits the economic operation of transport facilities. The major environmental obstacle encountered was the legal one: risk is typically minimized in other countries by the use of contracts of carriage, entered into between the shipper and the carrier. Some use of contracts was made by organizations in Costa Rica, more often between major producers and major truckers, but also between major maritime shipping companies and truckers. It was not normal for the typical exporter of non-traditional products to enter into a contract with a carrier ahead of time. The request for transport was often made just prior to harvesting. While this practice will be discussed later, it is relevant to consider here the role of government in producing a situation where contracts are avoided.

There is a close correlation between the history of contract law and the history of international trade: security in trade was greatly dependent on enforceable contracts. Trade without contracts places all the advantage in the hands of the strongest party. For contracts to work, however, the outcome of default has to be fairly predictable, and the cost of a claim has to be reasonable in comparison with the value of the merchandise. In Costa Rica exporters expressed reluctance to involve their operations in legal formalities. They avoided as much as possible any action that might require settlement in a court of law. The impression was that the procedure was expensive, time-consuming, and had unpredictable outcomes.

For transportation systems to operate efficiently there has to be legal parity between the shipper and the carrier: neither must be allowed an unfair advantage over the other. For the most part, this parity does not exist in Costa Rica, and the major

disadvantage is that of the shipper--the owner of the merchandise. Because of the absence of contracts, there is very little liability borne by the carrier.

To improve the situation, the government needs to look at the process for dealing with contracts in the country. For trade to be given the best chance to improve, contracts between parties must be routine, and the methods of settling disputes must also be routine. The responsibility of government in this respect must be to encourage the use of contracts, but it should also set up procedures whereby the contracts can be fairly, quickly, and economically enforced.

Returning to the impasse over airfreight, three issues are waiting on a first move:

1. Neither the national carrier nor the private-sector carrier will consider providing additional service until the shippers guarantee the cargo.
2. No user of air freight will increase production until one or other of the carriers has guaranteed space (in fact, a number of producers have cut back on production to minimize their risk under the current regimen).
3. Without a solution to 1 and 2, there is not enough information available to enable any refrigeration company to design, construct, and budget for operating a warehouse facility.

The only solution is one of organization, and the group requiring the organization has to be the one that has the potential for wielding the maximum power: the exporters. The first thing to do is to determine amongst themselves how much cargo volume they represent; if possible, they should also determine how much incoming cargo they could attract. They should then determine for themselves the cost of chartering their ownplane on a schedule that best suits their purposes. If they represent enough demand amongst themselves for independent chartering, they should contract amongst themselves for supply of cargo, and they should agree to a production schedule. They can also agree to supply demand for a refrigerated warehouse. If, in the light of this, there is no response from the national airline or from the other air freight company, then the group can go ahead and contract with any other group for the provision of the charter service.

In this way, the stand-off between the carriers and the shippers is removed: the shippers have removed their risk by providing their own insurance, or their own assurance of service.

The real point at issue here is not one of air freight or no air freight, but rather one of creating an environment that encourages cooperation for business purposes versus the laws of the jungle. In his study of the Costa Rican air freight situation, the consultant, Wendell R. Stevens, stated:

"Shipper, agent and carrier communication and trust have deteriorated to an unworkable level. An executive of exceptional ability and stature may be able to guide the industry back to a state of mutual trust and confidence."

Our interviews showed that the lack of trust and confidence pervaded the whole of the business fabric, and crippled the ability of groups with similar interests to get together to solve their problems in concert. This is not to say that the business community of Costa Rica is operating in a cloud of acrimony and mistrust, just that there is a marked reluctance to collaborate for genuine mutual benefit.

It is not suggested that contracts be introduced at every stage of trade in Costa Rica. There is no need for business to be made any more complicated than it is. It is, however, felt that the business community's ability to act together to obtain better service would be improved if the consequences of binding agreements were consistent and were better understood. Without the formation of larger groups to purchase transportation services, the Costa Rican exporter will remain at a disadvantage in the markets of the world.

The Role of the Producer

It was not understood by most interviewees that their own decisions, as much as anything else, influenced the transportation cost. Transportation was seen as a basic commodity that should always be available in the quantity and quality demanded, but at a price that ensured that the product reached the selected market at a competitive price. The impression was given that if these requirements were not met, then the government should step in and ensure that they were met. This fundamental misunderstanding led to the formulation of demands by groups of producers that were directed at entirely the wrong targets--chiefly the government.

The transportation system within a country is a given: the system changes very slowly, and it does so mostly at the demands of the users. When a producer is planning a product for export, the factor of transportation has to be included in the planning. It is erroneous to consider that, merely because natural resources permit the production of a certain commodity, that that item is therefore a candidate for export. The process for determining the exportability of a product is long and complicated, and was not commonly followed through by exporters. The vicious circle that operated in this case was: there was so little margin to make in exporting common non-traditional products that exporters were unable to afford marketing and logistics studies, and so they were forced to perpetuate the same mistakes, and so perpetuate the small margins.

It is not the purpose of this report to serve as a manual for export marketing studies, but insofar as they bear on the cost of transportation, the following points require consideration:

1. **The product.** As mentioned, the ability to produce a product is no automatic qualification for a place in world markets. Any new product makes an additional demand of the transportation system. Under some circumstances increased demand helps reduce the transportation cost. In many others it only serves to put the cost up--for all the users. Thus an export product unwisely chosen may not only be unprofitable, but it may also serve to make other products unprofitable. As an example of this phenomenon we would give the case of a new exporter of perishable products demanding refrigerated containers at a time of existing peak demand. In this situation, while the charge for the containers will not necessarily increase, when the quantity of containers is relatively fixed, loss will be experienced by some producers in their being unable to acquire containers.

2. **The volume or quantity.** All other factors being equal, the per ton cost of transport can be reduced if the quantity shipped is increased. There is a distinction that has to be made between increased marginal demand, where costs can be increased, and true bulk handling. One additional producer, acting as an individual in demands for transport, is a user at the margin--even if the product being shipped is the same one being shipped by all the others. Where a significant volume can be handled at any given point in the transportation chain, and where there is one representative of the shipper and one representative of the carrier, then the nature of the transportation changes and the costs can be negotiated downwards. As an example of this one can look at the pineapple situation in Costa Rica: a number of small producers have entered the export market, and a major fruit company has planted a massive acreage. The individual producers are producing at the margin and a major fruit company has planted a massive acreage. The individual producers are producing at the margin and will eventually push up the cost of transport; the major company has chosen the quantity so that fleets of trucks can be contracted and refrigerated ships can be chartered. The pineapples from the two groups of producers are destined for the same markets; the price demanded by the major producer will set the price for the smaller producers, and so the margins for the smaller producers will be far smaller than for the major producer.

3. **Origins and destinations.** The discipline of transportation logistics requires complex analysis. The main objective of the exercise is to make the margin remaining for the exporter as large as possible. The analysis involves the balancing of quantities, times, different markets, alternative transportation modes, and mixes of products until the maximum margin has been identified. In the case of Costa Rica the main exporting market was the USA; it was normally assumed that exports meant sending to the USA. When exporters were asked if they had investigated markets further afield it was found that they had not. One of the main advantages that Costa Rica has over other countries is its Atlantic and Pacific Ocean access: to export from this country in only one direction is to ignore a major potential. It is not inconceivable that markets exist for Costa Rican products as far away as Australia and the Middle East. Interviews tended to consider transportation costs to such regions as prohibitively expensive, without considering whether local prices obtainable for Costa Rican products might not justify the extra cost. Where there is a considerable amount of one-way traffic, bargains may be struck by providers of cargo in the return direction: there is a Far East connection for imports by way of Caldera, though very little gets picked up. It might be possible to arrive at a creative negotiation by supplying cargo for these vessels so that they could return directly to the Far East. The transportation cost to cross the Pacific can, under the right circumstances, be less than the cost to ship to the USA.

4. **Marketing.** Selling anything in the USA is a difficult and potentially expensive exercise. Selling basic food commodities--fruits and vegetables--is not less difficult than for manufactured items. Basic foods are difficult to differentiate as to origin, and so it is hard to establish any brand loyalty. The major fruit companies have managed to produce just the right shape, size, and consistency of banana to capture the optimum market, and in doing so have even managed to associate brand names with the fruit. The cost of the required research and development has been huge, and the continuing promotion also consumes considerable funds each year. There is now considerable effort being expended in trying to put labels on all fruit and vegetables, and for the companies that do this to promote their product by name. The competition in this field is fierce, and fruit and vegetable growers without the resources for this type of promotion will find it hard to establish themselves in the market. Costa Rican exports are indistinguishable from all the same exports from the rest of Central America and the Caribbean. This means that the first country that promotes its products as a whole, and can produce a consistent range of products that are considered desirable by the US consumers, this country will stand to corner a large part of the market. Even at the level of the individual exporter, much can be done to increase margins by targeting the product and its package to the intended consumer. Exporters have to realise that selling in the USA is not a larger version of selling to Costa Rica.

Florida Ports. As with the other countries in this study, the question arose as to why such a high percentage of the sea freight was sent to Miami. Some cargo was destined for New Orleans, and an even smaller amount went to Houston, but by far the greatest amount of cargo destined for the USA called in at the ports of Miami and Tampa. Producers who used maritime transport gave a number of reasons for their preference for Miami, but most of the reasons had little to do with the marketing logistics of their products. One of the main reasons for the preference for Miami is that it is an area in the USA which deals in Spanish. It is also an area which has come to specialize over the years in the handling of small quantities of tropical products from Central America and the Caribbean.

Much complaining took place, however, on the treatment at the Florida end of the transportation chain. Many shippers stated that they had lost shipments after arrival in Miami, that their produce had been sold off at rates that were clearly below any reasonable market rate, and that they felt helpless in the hands of the forwarders in Florida. Most of the producers of agricultural products and flowers sent their products to Miami on consignment. This invariably encouraged the forwarder in Florida to spend his time with the larger consignments, where his income was dependent on receiving a reasonable price, and devoting very little of his time to the small consignments, which would probably not be worth his while anyway. Hence the prevalent feeling that the small shipper was invariably being short changed.

Many small operators in Costa Rica had lost considerable sums of money over the years in this operation in Florida. It was not reported that these conditions were prevalent in the other gulf ports. The study team considered this problem, since it was one that affected most of the other countries surveyed as well, and concluded that the solution was basically in the hands of the exporters. These exporters should be encouraged to set up their

own forwarding and receiving organization in Florida using their own nationals. These would then be responsible to their own people, and would ultimately return to Costa Rica, to assist exporters as advisors.

The Role of the Carrier

Few producers had any overall complaints of the road system or of the trucking industry. In fact, many interviewees expressed the view that the service offered by the road transporters was exemplary. While there was no shortage of horror stories concerning lost and damaged consignment, most exporters treated the current situation with equanimity. They expressed the views that they were stuck with the roads and trucks currently available, and they did not see that either the road condition or the state of the trucking industry affected them directly. The two major complaints were:

- o The cost of trucking was high.
- o There was a constant shortage of refrigerated containers for their perishable exports.

It was assumed that the cost of trucking was high because the cost of diesel was high, and it was supposed that the shortage of containers was a result of a miscalculation by the shipping companies--the main suppliers of the containers.

The situation was discussed with trucking operators, at which time the following points emerged:

- o Most of the nation's exporters of non-traditional products, being exporters of fresh and frozen fruits and vegetables--or of perishables in general--were bound to use one of the major maritime shipping lines because only these provided refrigerated containers.

- o All the major shipping lines operating out of Costa Rica offered a door-to-door rate. This service included the handling of a consignment from the premises of the shipper to the premises of the consignee. One bill of lading and one invoice covered the whole arrangement.

- o Refrigerated container traffic was purely one-way. Bringing empty containers into the country was not only costly in itself, in that costs of transportation, handling, duties and so on had to be paid, but that while the container was being brought empty from the USA it was losing revenue that could have been found by using it elsewhere.

- o The balance of dry containers was slightly in the other direction--there being more demand for dry containers for imports than for exports. Some groups had tried to relieve this situation by offering importers the use of refrigerated containers.

- o There was a mixture of arrangements between the shipping companies and the trucking companies: some subcontracted the land portion of the transport to a local trucking company, some just hired a cab with a flatbed to take the containers, while others hired a cab only to tow their own container/trailer units, and some operated their own trucking operations. Either way, the shipping line incurred the normal national charge for road transportation.

- o The fundamental shortage of refrigerated containers was being exacerbated by farmers using these in place of adequate refrigerated warehouses to take out the "field heat" from their crops. No penalty was enforced against any exporter who kept a container beyond a minimum free period. It was hoped that the network of refrigerated warehouses being built around the country would help resolve this problem.

- o The shipping companies considered that the service they offered to the shipper--a low price and all frills--was being offered in order to have the refrigerated containers returned as soon as possible to their more profitable operation in the USA.

- o The offer of a complete service "door-to-door," while offered in an effort to generate business, compromised the carriers into having to truck in and out of locations where the access roads were not otherwise acceptable. This, together with the poor state of some of the paved roads, made a high proportion of vehicle breakdowns almost inevitable. The high proportion of down time, taken with the high cost of imported spare parts for the transportation equipment, served to make road transportation particularly expensive. The high cost of diesel, and the low average speeds on the main roads, all contributed to the high cost of road transport in the country.

Sea Freight Tariffs and Service. Users of sea freight who were interviewed had no complaints about the service provided by the steamship companies. They all pointed out that the rates for shipping from Costa Rica to ports in the United States had lowered considerably since the Conference had broken down the previous year, and since such companies as Evergreen had started providing service to the ports of Costa Rica. Conference line vessels were still providing service to these ports, but they were unable to maintain conference line tariffs in the face of the unregulated competition. For this reason most of the users of marine transportation were satisfied with the service provided.

Analysis by the project team showed that the current tariffs for movement of cargo from Costa Rica to US destinations was indeed competitive and was unlikely to be subject to much reduction in the near future. On the contrary, it was to be expected that the main shipping lines would apply for an increase in the freight rates. The study team considered that such an increase was probably justified but that if the other measures mentioned above were implemented, the total cost of shipping could be maintained at approximately the current level.

Coordinating the Use of Containers.

**Table 4.14
COSTA RICA
Container Movements
Atlantic Ports
1985**

	<u>Imported</u>	<u>Exported</u>
Full	1,969	21,815
Empty	<u>14,552</u>	<u>4,752</u>
TOTAL	26,521	26,567

Source: JAPDEVA

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The table of container movements (Table 4.14) demonstrates that about 12,000 containers are needed for imports, and 22,000 containers are needed for exports. Thus there is nearly a 2:1 imbalance, and approximately 10,000 containers would need to be imported empty to make up the difference. Since the containers that are imported empty would be refrigerated containers, because the bulk of the non-traditional exports requires reefers, and because imports come in dry containers, approximately 5,000 containers per year are exported empty because of a lack of suitable cargo. Thus, to balance the equation, 5,000 additional empty containers have to be imported. The cost of loading and unloading a container and the cost of carriage by sea to Puerto Limón could--very conservatively--be about \$750. There is thus an annual cost to the nation of approximately \$15 million in the compensating charge for container imbalance.

There were no complaints by buyers of marine transportation services of any shortages of either dry or refrigerated containers, even though the shipping companies complained of the difficulties in meeting demand. At the moment a reasonable balance exists between the import and export of dry containers and so the user of refrigerated containers has to pay for the import of the empty containers. This situation could be revised with some organization and could reduce the cost to the shipping lines of refrigerated containers if Costa Rican exporters and importers were to coordinate the use of their containers. This has taken place satisfactorily in other countries where, rather than bring back containers completely empty, incentives were given to importers to containerize their cargo, rather than use other forms of handling. In this way the importers could pay for the cost of the container at no additional cost to themselves, merely by revision of their cargo unitization.

In more positive terms, a center should be set up in San José to coordinate the container requirements of importers and exporters. Initially it may take some work to persuade importers that there is some benefit to using containers for their cargo when they have been used to using sacks or pallets. If the negotiated rates with the shipping companies were adequate, it could be arranged that the changeover from unitized cargo to containerized cargo for the importer was achieved without any major cost. Basically if the importer could be encouraged to use containers because of a lower sea freight rate, it would help offset his cost of changing over from one packing system to another.

In a fairly open and competitive market, such as is the case of transportation in Costa Rica, there is very little in the way of profits. Truckers were adamant that rate-cutting should be stopped and that the government should step in and fix rates. Only in this way was it felt that the trucking industry could provide a secure living for its operators. It had to be pointed out that transportation was a service that was provided to exporters, and that the trucking industry would only be healthy for as long as exports were healthy. Rate-fixing inevitably established prices that enabled the least efficient operator to make a profit, and thus reduced any incentive for increased efficiency by those who were enjoying the benefits of the fixed rates. With a secured income, there would also be no incentive to provide the shipper with any quality of service, and so the shipper would end up paying for more losses and delays. (It should be remembered that shippers in Costa Rica considered that the service provided was good.)

The individual carriers in Costa Rica had in their own hands the means to increase the demand for their services. They could:

- o Cooperate with the shipper. It was found that carriers did not take any hand in assisting shippers to consolidate or rationalize their shipments. There was no system of offering bulk discounts if several exporters collaborated, and there was no discount offered for delaying harvest until after the peak demand.

- o Introduce training schools for drivers and mechanics. The team was informed that the major shipping companies that used local transport services kept a list of acceptable and proven drivers. They did not consider that the general level of ability of drivers was sufficient to entrust their consignments to just any driver. Exporters complained that drivers had no concept of care for the cargo, and they had been known to turn down thermostats on refrigerated containers to conserve fuel. The modern truck is a complicated and expensive piece of equipment, and becomes more complicated each year. To entrust such equipment into the hands of someone who does not understand the complexities leads to expensive problems. It is now accepted practice in other countries that truck drivers should receive basic instruction in care and maintenance of the equipment and in care of the cargo. With better drivers, operating and maintenance costs can be reduced, and damage to cargo can also be reduced.

- o Introduce management seminars for operators. There is a great deal that managers of trucking companies could learn from experience gained in other countries and from a systematic and formal analysis of the trucking business. We would not want to give the impression that operators in Costa Rica do not understand their business, since they are clearly the experts on the subject, but where the environment is competitive it has been found invaluable to supply managers with the tools to analyze their industry and to plan their activities.

It is recognized that these comments apply for the most part to the trucking industry, apart from the recommendation for more shipper/carrier cooperation. The rationale behind this is that maritime shipping companies and airfreight carriers are highly sensitive to costs, with the result that the most effective way to effect a change in the service provided is by the indirect means described elsewhere in this section.

COSTA RICA

CHAPTER 5

CONCLUSIONS & RECOMMENDATIONS

CONCLUSIONS

- o There is an absence in Costa Rica of the business environment of cooperation for common interests that in other countries achieves the best use of the available transportation services.
- o There is an incomplete implementation of the concept of liability and responsibility. Government-operated transport services particularly operate in an environment of immunity from liability. This is entirely antithetical to the interests of commerce.
- o The costs of transportation is a major factor inhibiting increased exports of non-traditional products. The real cost of transportation is the sum of the direct freight charges for each link in the transportation chain plus the indirect cost of the shipper's risk.
- o The level of service demanded by shippers is in conflict with the carrier's ability to provide a cheap service. A significant part of the cost of transportation results directly from decision of the shipper, and the remedy for lowering the cost also lies in the hands of the shippers.

- o Geography, demographics, and trade profile all serve to make Costa Rican exports basically expensive. The price of these exports can be made competitive in world markets by a continuing process of analysis and optimization.
- o There was not an appreciation of the role of trade in the economy of the country. It was concluded that trade would not be optimized in the absence of relevant national plans. These include a national transportation plan and a national export promotion plan.

RECOMMENDATIONS

The recommendations contained in the previous sections are listed here under the headings of "physical" recommendations and "institutional" recommendations. The first group requires the use of funds to construct or improve items of infrastructure, while the second requires a program to bring about changes in operation, environment, or legislation to effect an improvement in the use of transportation.

Only those items that could be considered on a national basis are considered. Those matters that are best handled at the regional level are taken up in the regional report.

Institutional Recommendations

Contract Law Amendments. It is recommended that legal environment for business in Costa Rica be made more amenable for entering into and settlement of contracts. In practical terms, it is not recommended that the legal system be overhauled, but rather that some small programs be introduced in a piecemeal fashion. The recommended programs are:

o The introduction of contracts of carriage. A simple form should be introduced that would enable a shipper and a carrier to enter into agreement regarding date, quantity, and cost. The penalties for default should be unambiguous and should be easily collectable. The benefit would be that the carrier could plan his operations well ahead of time to provide the most economical service. As a long-term goal, since such a measure would benefit both truckers and steamship companies, a reduction of up to 10 percent in total transportation costs could be achieved (This estimate was based on discounts already given to the larger and more regular exporters). The costs of the program were not estimated, but it was determined that the most significant part would be in the promotion of the system.

Implementation of this program would involve the establishment of a branch of the judiciary specifically empowered to deal with contractual issues. The issues could be solved by tribunal, arbitration or appropriately qualified judges. The selection of the judiciary would not be as important as the establishment of a system that was speedy, fair, binding, and predictable. Similar objectives are behind the establishment in other countries of small claim courts and arbitration panels.

It is recommended that, in the first instance, opinions on change be solicited from the Costa Rican exporting organizations, chambers of commerce, transportation companies, the various private sector business promotion bodies, and the judiciary itself. Any one of these bodies could be given the change of convening the discussions and recording the points made, while USAID would act in an assisting capacity for funding and assessing progress.

Analysis of the comments received would require a separate project group, as would formulation of the required legislative changes. In all this it is clear that USAID would be required to maintain momentum and progress.

- o The formation of exporters' groups. It is intended that a negotiating team be set up to acquire preferential rates for members of the groups. While the organization of such groups can be easily thought out, a weakness always lies in the contractual arrangement between the group and the members: without commitment on the part of the exporters, the negotiators would find themselves looking for tariff deals without any assurances of volume. Again, it is recommended that a program be followed to determine the best legal structure that would permit a management group to bargain on behalf of prospective exporters. Given the volume, the potential for freight negotiations is quite considerable, and could reduce the transport cost by up to 25 percent, part of which would have been obtained from the previous program.

- o The formation of an exporters' representative group based in Miami. Part of the weakness in the average exporter's agreements lay in his contract with his broker in the USA. It is therefore recommended that a program be instituted to establish a legal framework for responsible representation of the Costa Rican exporter in the USA. The possible benefits are large if the group is able to secure better prices for Costa Rican exports, particularly fresh fruit and vegetables. The nature of the representation could be a Costa Rican Exporters' Association office in Miami, with three or four permanent employees, whose function would be to verify condition of cargo arriving at the port and to seek potential buyers. These employees would spend a year or two in Miami learning the details of the import/export

business, before returning to Costa Rica to assist one of the exporters' associations. Once the legal formalities had been established, a budget of approximately \$300,000 per year would be adequate for the program. An average 5 percent improvement on the price obtained for the \$84 million in basic agricultural exports would return \$4.2 million to margin and increase exports by \$16.8 million.

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 Costa Rican truck drivers be set up in San José. This should be a collaborative project between the Costa Rican 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.

Costa Rica already has an established trade school with an excellent reputation: Instituto Nacional de Aprendizaje (INA). While it does run courses in the mechanical aspects of transportation equipment, there are no facilities offered for driving skills. It is therefore suggested that INA be considered as a logical candidate for the administration of this program.

- o A training program for mechanics. It is recommended that the existing school for Costa Rican mechanics in San José be expanded to offer in-depth courses for heavy commercial vehicles. 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 cost of buying equipment for and setting up such a school would easily reach \$2 million, but as with the drivers' school, assistance is available from equipment manufacturers.

- o A training program for managers of trucking companies. It is recommended that a series of seminars be arranged for the managers or would-be managers of trucking companies. The purpose of the seminars would be to introduce ideas for improving efficiency of operations. In the long term it is expected that such a class, correctly conceived and executed, could end up in eliminating empty back-hauls, and thus cut the cost of trucking by half. A more realistic estimate would be a 15 percent reduction in trucking costs through generally improved managerial practices. The speakers would have to be recognized experts in the field, and should clearly be able to deliver the seminar in Spanish. An annual budget of \$75,000 would be sufficient for six speakers per year. If the speakers could visit more than one country, then the per country cost would be less.

The more formal aspects of business and professional education in the area of San José fall under the jurisdiction of INCAE (Instituto Centroamericano de Administracion de Empresas), while INA has the responsibility for more practical skills. The management training program would be an excellent opportunity for INA and INCAE to collaborate on providing this essentially practical management course. In the longer term, it is suggested that this cooperative venture be turned into a continuous course in transportation logistics--a wish expressed by several interviewees.

- o Classes in group problem-solving techniques. It is recommended that a firm of consultants who are experts in group dynamics and problem-solving be hired to instruct a seed group of selected individuals. It was the overwhelming opinion of the study team that there was no shortage of individuals in Costa Rica who were highly qualified to solve the problems of exports and transportation, and there was also no shortage of meetings at which these individuals discussed the problems. What was notably lacking was the ability to take a problem and to solve it by coming up with a realistic plan or program. The function of the seed group of Costa Ricans who had been trained in group problem-solving would be to attend the meeting at which the problems were to be discussed, and to take the attendees through a logical problem-solving sequence to arrive at solutions. The benefits of such a program would not be limited to the field of non-traditional exports, and the effective cost reduction or volume increase that might result is impossible to

determine. The program would, however, have the incalculable benefit of putting into the hands of the Costa Rican people a tool for assisting them to solve their own problems. INCAE would be well placed for organizing this program, with assistance from CINDE in assembling the problem-solving task forces.

The Cost Distortions. There are three cost distortions present in the system that will need to be corrected. These are:

- o The port charges. It is imperative that an alternative be found for raising development funds for the region, and that port charges be reduced to reflect port operations only. Port charges currently account for 15 percent of the c.i.f. cost of a typical export, or about \$550 per container. Removing the development obligation from the port would be the equivalent of reducing the cost to about \$350, or about \$26 million reduction in total transportation cost. This would effectively encourage increased export of the whole range of non-traditional goods, by as much as \$80 million a year.

- o The port tariff structure. While an entirely self-sufficient port would be an ideal situation, most ports receive some form of assistance from government revenues in recognition that the ports are major contributors to the national economy. As a combined measure of removing development obligations and of reducing self-financing obligations, the exporters of

non-traditional products should be charged at about 50 percent of the current charges to be compatible with other ports in the region. The average exports could thus be increased by as much as \$110 million dollars per year, or 20 percent.

- o The exchange earnings tax rebate (CAT). This measure was introduced to give exporters the benefit of a tax credit in compensation for foreign earnings. The study finding was that this was not working as an incentive. It is therefore recommended that the CAT be re-worked so that it becomes a certainty in the computations of the exporter, and not just a lottery. If CAT works with certainty it will have the effect of stimulating non-traditional exports--which was its original intention.

It should be noted that the purpose of the proposed changes in the port tariff structure is to benefit those products that are sensitive to the cost of transport and which could be exported in greater quantity if the costs were reduced. Most non-traditional products fall into this category. Many traditional products, however, do not, and so it is recommended that the tariff structure be made to correspond with the National Export Plan to give preference to those products with the best potential and the best return for the country.

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, including a review of the design of Puerto Caldera and the expansion of the container-

handling facilities at Puerto Limón. 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 these exports are such a small part of the whole, the specific recommendations focus on those items that will have more direct benefits.

- o The government of Costa Rica has acted in an exemplary fashion in promoting the San José to Limón highway. As a medium to long-term measure this construction will undoubtedly serve to reduce the cost of land transport. The group would also endorse the construction of the San José to Caldera highway. However, the immediate benefit of the connection to Caldera would not be to the export of non-traditional products, so no estimate was made of the cost. The connection to Limón is on-going, and nearly complete.

- o Of great importance would be an energetic program of rural road rehabilitation and maintenance. The new highways will reduce costs by permitting better use of the existing trucking fleet, but where there is a surplus in the fleet, new highways create additional surplus. 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--since he already has more than he needs--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 Costa Rica already has experience with road rehabilitation and maintenance programs, and it is recommended that this work be continued. The long-term effect of this could be a reduction in transport cost of 2 to 3 percent.

The current stumbling block to improved road maintenance is the woeful inability of the Department of Workshops 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 Construct a network of container freight stations for less than containerload shipments. These would permit the consolidation of cargo for export and the unpacking of containers for distribution. The net effect would be a more efficient use of containers and a reduction in peak demands. As a start, a container freight station should be constructed in each of the seven locations that correspond with the locations of the national refrigerated storage network. The program would involve design of the structures, location, construction, operation and promotion. The analysis for the determination of dimensions would require some investigation into the potential demand at each location. It is recommended that a budget of \$500,000 be allocated to each station. Costs

of operation would come from user charges, but a promotion budget is included in the \$500,000. Benefits would arise mostly in the trucking sector, and would reduce the cost of transport. It should be pointed out that container freight stations are also used by domestic shippers, so that the total benefit would be greater.

Non-Priority Recommendations

While the needs of Costa Rica 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 a program of monthly notification to carriers for air cargo space, follow-up on schedule timekeeping, and a concerted campaign on the part of exporters to obtain improvements in service. The Civil Aviation Authority, for its part was undertaking much-needed improvements in the physical facilities at Juan Santamaria Airport.

At the ports, JAPDEVA were soliciting bids from German consultants for designs and studies for implementation of the next stage in the master plan. The network of refrigerated warehouses had been completed, and the government was looking for private-sector groups to operate them. The San José Limón highway was officially inaugurated.

These recommendations have been the result of an in-depth look at the problems being faced by the exporters of non-traditional products in Costa Rica. It is clear that these recommendations have a more profound goal than would result from a more traditional approach of recommending that funds be allocated to capital investments and improvements. On a closer analysis of such proposals during the course of the study it was realized that the problems of transportation and exports were more deep-seated, and that cosmetic adjustments would have no long-term benefits. It is confidently expected that the implementation of the programs outlined will achieve long-term and lasting improvements in the competitiveness of Costa Rican products in overseas markets.

As a final note it should be stated that what is recommended here is the establishment of reasonable business security and predictability. The study revealed that it was this inability to plan for the future that made the export business so difficult in Costa Rica. Trade, however, involves two parties, and while these proposals may serve to stabilize the business environment in Costa Rica, it is recognized that major uncertainties are generated by the main trading partner: the United States. A number of recent resolutions taken by US-based institutions have served to devastate sectors of the economy in countries where official US policy encourages growth and cooperation. A major fear in every sector is that quotas will be introduced for any export that looks successful; agricultural exporters are concerned over the impasse regarding the medfly restrictions limiting a whole range of products; and sugar growers and cattlemen in the region are looking for ways to recover from the massive quota cuts that were recently introduced. There is in the region a cynicism that the introduction of any incentive measure in Central America will be viewed as a subsidy or unfair competition in the USA. Clearly, a consistent policy in this field would serve as much as anything else to encourage the healthy climate of competition and cooperation.

APPENDICES

APPENDIX A

ECONOMY AND TRADE OF COSTA RICA

ECONOMIC OVERVIEW

The Record of the 1970s and 1980s. Looking back over the last two decades, the 1970s were in general a growth period for the Costa Rican economy, followed by difficult times in the late 1970s and early 1980s, with the situation much improved in recent years. In the period 1974 to 1979, real gross domestic product (GDP) grew at an average annual rate of 5.5 percent. From 1978 onwards, following the easing of coffee prices after the boom, economic growth began to decline. This decline was attributable to a shortage of foreign exchange earnings, to a heavy debt burden resulting from poorly structured external borrowing, and to the political and economic situation within the region. In 1983 the economy made a small recovery, boosted by a strong growth in agricultural output, but the industrial sector continued its decline, fueled by foreign exchange shortages.

The Role of Agriculture. Traditionally, Costa Rica has been an agricultural country, and most of its production and exports are agricultural commodities. Agriculture accounts for between 20 and 25 percent of GDP. About half of all agricultural production is exported, generating about 70 percent of total export earnings, with coffee and bananas as the two leading foreign exchange earners. Other products exported include beef and sugar. Low international prices and depressed world markets have affected export earnings in recent years. The share of GDP contributed by

Costa Rica's manufacturing industries fell from 28 percent in 1980 to 24 percent in 1983, with a shortage of foreign exchange as the leading cause of reduced manufacturing production.

Recent Economic Progress. In 1984 Costa Rica continued to make economic progress, with real GDP expected to have increased by about 3 percent, following a modest 0.8 percent growth in 1983. The administration has had considerable success with its anti-inflation policies, and consumer prices are estimated to have risen by only 12 percent in 1984, less than half the 32.6 percent rise recorded for 1983, and well below the 90.1% inflation rate of 1982.

The industrial sector, which suffered a setback in 1983 due to a shortage of foreign exchange, responded well in 1984 to the increased internal and external demand and the fiscal incentives that it has obtained under the Economic Emergency Law. Industrial output, including construction, is projected to have grown by 3 percent in 1984. Agricultural growth is estimated to have slowed to 2 percent in 1984, due to the impact of a strike that reduced banana production and the continued effect of the 1983 drought on meat production. On the positive side, production of the principal export, coffee, expanded by 19 percent in 1984 in response to an increased quota and higher coffee prices.

AGGREGATE ECONOMIC ACTIVITY

Employment

Employment rates have improved in Costa Rica in recent years, and are now comparable to rates in many nations regarded as having

basically healthy economies. According to the figures released by the Ministry of Labor and Social Security for 1983, of the 2.378 million population, 843,813 were estimated as being economically active. Of these, 767,596 were registered as in employment, giving an average unemployment rate of 9.0 percent for the year. The estimated unemployment rate for 1984 is 7.6 percent, a rate somewhat higher than one might like, but a manageable figure in the sense that new export initiatives of the type envisioned in the present study could draw on this pool of available labor and perhaps reduce it, yet without being overwhelmed by the problems that truly massive unemployment would bring. The breakdown of employment by sector, as of March 1984, was (Table A-1):

Table A-1
Employment in Costa Rica, by Industrial Sector

<u>Industrial Sector</u>	<u>Number Employed</u>	<u>Percent of Total</u>
agriculture, forestry, fishing	224,064	27%
mining and manufacturing	131,954	16%
construction	46,267	6%
utilities, transport, storage, comms	48,267	6%
commerce	155,875	19%
other services	208,441	25%
others, not specified	5,170	0%

While between 1963 and 1983 the percentage of the economically active population employed in agriculture, forestry, and fishing fell from 50 percent to 27 percent, from 1980 to 1983 there was an approximately 18 percent increase in the people employed in this sector, reflecting an increased demand for labor in the agricultural sector.

Inflation

After the high inflation rates of the early 1980s, the more modest inflation rate that Costa Rica has recently achieved is a reassuring economic sign, as it means that exporters can make reasonable predictions for the next year and that potential investors can be fairly confident that their investments will not be eaten away rapidly. The average annual variation (% increase) in consumer and wholesale price indices (CPI, WPI) from 1981 to 1984 has been as follows (Table A-2):

Table A-2
Costa Rica
Percent Increase in Price Indices

	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
CPI	37.06	90.12	32.62	11.9
WPI	65.29	108.24	26.19	7.7

Marked increases in both consumer and wholesale prices were registered in the early 1980s, largely as a result of the government financing its fiscal inflation program through money creation and a substantial increase in the fiscal deficit. The latter required large amounts of foreign debt, which in turn resulted in a balance of payments crisis and a rapidly depreciating currency. Austerity measures since 1982 brought the annual rate of consumer price inflation down to 12% in 1984.

Economic Growth

Costa Rica's total gross domestic product is again rising, after the setbacks of 1981 and 1982; the somewhat faster rise in population, however, means that the average person's share of this gross domestic product was still declining as of the 1983 data.

The total GDP for Costa Rica (in colones of 1980) has exhibited the following movements in the period 1980 to 1983 (Table A-3):

Table A-3
Total Gross Domestic Product for Costa Rica
(colones of 1980)

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
GDP	41,406	39,518	36,792	37,070
%change	0.7	-4.6	-6.9	0.8

GDP per capita over the same period changed as follows (Table A-4):

Table A-4
Per Capita Gross Domestic Product for Costa Rica
(colones of 1980)

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
GDP/cap	18,403	17,409	15,859	15,576
%change	-2.8	-5.4	-8.9	-1.8

As can be seen from the tables, Costa Rica has staged a slow but steady recovery from the economic crises of 1981-82, when GDP fell by more than 11 percent. While estimates for growth in 1984 have been as high as 6.5 percent, this would still mean the GDP in 1984 was less than it was in 1981. As for GDP per capita, with the population growth at around 2.6 percent, the national product would have to increase at a rate greater than this for the average person not to be worse off with each passing year.

Industrial Origin of Gross Domestic Product

According to figures of the Banco Central of Costa Rica, the following was the percentage breakdown by industrial origin of the gross domestic product for 1984 (Table A-5):

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Table A-5
Costa Rican Gross Domestic Product, by Industrial Sector

<u>Industrial Sector</u>	<u>1984 % contribution to GDP</u>
agriculture, forestry, fishing	21%
mining & manufacturing	21%
electricity, gas, water	4%
construction	3%
transport & communications	4%
wholesale & retail trade	20%
banking, insurance	6%
real estate	3%
central government	13%
other services	5%
TOTAL	100%

Over the period from 1980 to 1984, the overall distribution by industrial origin has remained fairly constant, with two sectors, agriculture, forestry, and fishing; and mining and manufacturing accounting for around 40 percent of the gross domestic product. These large sectors are the main hope for greater future private-sector exports. Similarly, central government has accounted for a fairly constant 10 to 11 percent each year. Only construction has shown any significant movement, having fallen from more than 6 percent to less than 3 percent over the period. This decline in construction activity is a sign of a generally sluggish economy, yet the greater activity of a few years back indicates that the industry probably still has the capacity to take a larger role in the economy, once conditions make it profitable to reactivate this spare capacity. With recent government initiatives to promote housing construction, this construction sector may generate a greater proportion in the near future.

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MAJOR ECONOMIC SECTORS

Agriculture, Forestry And Fishing

This section will serve to give a brief summary of the role that agriculture plays in the economy of Costa Rica. A more detailed analysis of agricultural production is contained in Chapter 4 of this report.

Of the total surface area of 51,000 square kilometers, in 1982 approximately 12.5 percent was in arable land and permanent crops. Approximately 43 percent was in permanent pasture, a figure which had almost doubled since the early 1960's. Forest and woodlands accounted for 32 percent of the land area, the proportion having declined from 39 percent in 1978.

The population economically active in agriculture was 233,700 in 1983, or 28 percent of the total workforce. In the period 1973 to 1977, net job creation in agriculture was 6.9 percent of all new jobs in Costa Rica, but in the period 1977 to 1980 there was a net loss of jobs equivalent to 18.9 percent of new employment in the country.

Agricultural GDP expanded by about 2 percent in 1984, following its growth of 3 percent in 1983. This was a marked improvement on the decline in 1982 of 5.5 percent. Since 1980, agriculture has performed better than GDP as a whole, and its share of GDP has risen from 18 percent in 1980 to 21 percent in 1983.

Agriculture in Costa Rica has become dependent on certain export crops--notably coffee, bananas, sugar, and cattle. Partly as a consequence of this, the distribution of land in the country has become such that the 11,500 largest farms occupy 2 million hectares of land, while the 44,300 smallest farms occupy 124,000 hectares.

The Food and Agriculture Organization (FAO) gives the following production volumes for the main agricultural products, in thousands of tons per year (Table A-6):

Table A-6
Agricultural Production in Costa Rica
(thousands of tons per year)

<u>Product</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Coffee	115	123	124
Bananas	1136	1021	950
Cocoa	5	2	3
Sugar Cane	182	200	250
Dry Beans	16	14	20
Rice	146	241	127
Maize	85	95	104
Beef & Veal	68	56	62

The world market for bananas is extremely competitive, and for the most part is subject to an over-supply, which has served to keep down the prices worldwide. Infrequently the supply and the demand have been in relative equilibrium. Unfortunately, this precarious equilibrium has only come about as the result of one form of natural disaster or another: hurricane Fifi, the El Nino current, damage by wind, infestation, and so on. The "normal" years have been those of low market prices, particularly in those months when the banana has to compete with other exotic or tropical fruit as a result of their growing cycles.

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In the years 1982, 1983 and 1984 the market price for bananas was driven so low that Costa Rica's main producer was brought close to bankruptcy. Only through extensive cost-cutting exercises and assistance from various government and other institutions was total collapse avoided. The government of Costa Rica responded to the situation by putting into operation a mechanism that allowed the company to meet its cash flow needs during the worst months of the crisis.

As a direct consequence of the 1982 to 1984 experience, in September 1985 the government of Costa Rica announced the details of a new Banana Promotion Plan. The plan contained the conditions for the development of new areas of cultivation, and set out new rules for the operation of the banana industry. About US\$ 10 million was allocated in 1986 by the Central Bank to finance planting 800 hectares of bananas, to replace an equivalent area abandoned since 1980. Costa Rica was seeking US\$ 10 million from USAID and US\$ 2.5 million from the IDB to help with the project.

While there is much optimism regarding the outcome of the new plan, the dictates of the world market discourage excessive expansion in the short term. At the national level, there are some modifications that need to be made if the insecurity of the sector is to be reduced.

The cattle industry has grown in importance over recent years. Stocks have grown from 1.79 million head in 1974/76 to 2.55 million in 1984. Exports of fresh meat reached 33,614 tons in 1980, worth US\$ 74.3 million. In 1982 they fell to 29,210 tons, worth US\$ 61.9 million. The future of this sector, however, has become bleak since the USA drastically reduced its meat import quota. Cattlemen in Costa Rica are desperately seeking new markets for their herds, and the outcome of the industry will depend heavily on the results of their efforts.

Forestry in Costa Rica is still a small industry. Commercially exploitable stocks of rosewood, cedar, mahogany, and other tropical hardwood are known to exist. There is national concern, however, at the depletion of the forest area: in 1950 the forest cover accounted for 53 percent of the country's surface area; since then, and with exploitation rising from 35,000 to 60,000 hectares per year, the current forest cover is approximately 32 percent. The government has recently introduced legislation to encourage reforestation.

Production of roundwood expanded rapidly in the 1970s and reached a peak of 687,000 cubic meters in 1980. Production fell by 19.9 percent in 1981 and a further 7.3 percent in 1982.

There is also a growing fishing industry, particularly for shrimp, sardines and tuna. The total fish catch was 15,000 tons in 1982, up from 12,800 tons in 1976, but the total has remained at about 14,000 tons over the period 1983 to 1986. Part of the government's development funds for fishing has been channelled into helping a fishing cooperative buy new boats. Only about a quarter of the total catch goes to export; the rest is consumed locally.

Mining

There are small deposits of manganese, mercury, gold, and silver, but only the last two are worked. Deposits of iron ore are estimated at 400 million tons. Sulfur deposits estimated at 11 million tons have been discovered, and were to have been developed by Codesa--the Costa Rica Development Corporation--and two private companies working as a joint venture. Gold exports in 1984 were estimated to be worth US\$ 21.6 million.

The Aluminum Company of America terminated its contract for the development of bauxite deposits at San Isidro el General in May 1976. The government now intends to develop the deposits itself, and at the end of 1980 an agreement was signed with Rumania for the exploitation of bauxite deposits in the south of the country. The government holding company--Codesa--responsible for these projects has, however, been wound up and its assets sold off. The future of the mining industry is thus very uncertain, though Mallon Minerals Corp. has signed a letter of intent for private placement of up to \$3.5 million of 7-year Euro-dollar bonds, to be used largely to finance construction of a mine and mill at its Rio Chiquito gold and silver project.

Energy

Studies suggest that there are small oil reserves in Costa Rica, but oil production is not yet considered a viable economic proposition. As a result, commercial energy consumption continues to be heavily dependent on imports of crude oil and petroleum products. Imports accounted for 50.6 percent of energy supply in 1982.

The proportion of commercial energy supply covered by hydroelectric production has grown rapidly in the last ten years, and accounted for 49.4 percent in 1982. The recent completion of the Lake Arenal hydroelectric power project has boosted capacity, although production was held up by a crack in one of the tunnels in 1984.

Installed electricity generating capacity in 1982 was 657 megawatts, of which 195 megawatts were produced by thermal plants and 462 megawatts were produced by hydroelectric stations. Production in 1982 totalled 2,500 million kilowatt hours.

A public investment program is currently under way that involves capital expenditure on geothermal as well as hydroelectric power stations. The Miravalles geothermal station will have a 50-megawatt capacity, and should come on stream in 1986. The Palomo and Angostura hydroelectric power stations will have capacities of 30 megawatts and 180 megawatts, respectively, and both are expected to be completed by 1990.

Manufacturing

The main manufacturing industries of Costa Rica are food processing, beverage production, chemicals, textiles, plastics, wood, and leather products.

Manufacturing output advanced rapidly in the 1960s on the basis of sales to the Central American Common Market (CACM). In the 1970s, the sale of industrial goods to the rest of the world was promoted on the basis of free trade zones, and such exports reached US\$ 112 million in 1981, about half the value of exports to CACM in the same year.

Since 1980, the net output of the manufacturing sector has declined sharply as a consequence of the crisis in CACM, the shortage of foreign exchange, and the world recession. In 1981 the sector contracted by 0.5 percent before falling by 11.4 percent in 1982. A mild recovery in 1983, when manufacturing grew by 1.2 percent, still did not allow the sector to regain 1980 levels of output. Even the strong 10 percent growth estimated for 1983 did not regain the losses of the previous years. In 1984 fiscal incentives for manufactured exports were substantially increased in order to allow industrialists to take advantage of the Caribbean Basin Initiative (CBI).

Tourism

Tourism remains Costa Rica's third largest industry, bringing in \$131 million in 1983--the third highest amount of foreign exchange (behind only the traditional coffee and bananas)--even though the country has been affected by the political turmoil throughout Central America following the 1979 revolution in Nicaragua. The number of visitors to Costa Rica declined steadily from 1981 to 1984, when President Luis Alberto Monge declared tourism a "national priority" and the government launched an all-out effort to reverse the trend through more active promotion in cooperation with the private sector (Table A.7). Just how successful that effort will prove to be remains to be seen.

Table A.7
Tourism in Costa Rica
Income by Area

<u>Areas of Origin</u>	<u>1980</u>	<u>1982</u>	<u>1984*</u>
North America	22.72	35.00	78.30
Canada	1.65	2.23	5.40
U.S.A.	18.29	29.76	66.77
Mexico	2.77	3.00	6.12
Central America	32.41	43.64	68.54
Guatemala	3.24	4.82	9.47
El Salvador	6.04	5.39	7.59
Honduras	2.53	4.53	10.76
Nicaragua	20.60	28.88	40.71
Panama	6.36	21.71	47.29
The Carribean	2.11	2.61	4.62
South America	7.54	12.63	18.04
Europe	8.04	12.94	25.65
Other areas	<u>1.70</u>	<u>2.59</u>	<u>19.37</u>
TOTAL	80.93	131.14	261.83

* to November

CURRENCY AND FOREIGN DEBT

Currency. The domestic currency of Costa Rica, the colon, was allowed to float in December 1980, and this resulted in considerable depreciation. Although the official rate of exchange is 20 colons to the US dollar, most foreign exchange transactions are carried out at the interbank rate, which as of the end of 1987 was approaching 58 colons to the US\$. The exchange rate is now subject to frequent minidevaluations.

Foreign Debt. Costa Rica's total public external debt was estimated at US\$ 4.5 billion at the end of 1984. Debt service payments in 1984 were estimated at US\$ 475 million (equivalent to over 50 percent of exports). With projected debt service payments in 1985-87 equal to nearly US\$ 700 million per year, debt rescheduling became essential. This was achieved in March 1985 at the same time as an agreement with the IMF.

Private creditors agreed in principle to extend maturities on US\$ 344 million due in 1985 and 1986, and to provide fresh credits of US\$ 75 million. This is expected to lower debt service payments to around US\$ 400 million in 1985. Rising coffee prices and falling costs of imported petroleum in the 1985/86 period may have led to an additional \$200 million in unexpected reserves that could be used to ease the credit burden.

FOREIGN TRADE

As with the previous sections of this appendix, the following is provided to serve as a summary of the overall foreign trade situation in Costa Rica. More detailed analyses of selected export products are contained in Chapter 3.

Foreign Trade Patterns

The major exports of Costa Rica are coffee and bananas, which account for slightly more than 50 percent of total exports in an average year. Consumer goods, capital goods, and energy are the major imports. The pattern of trade is highly dependent on the USA, which took 47 percent of Costa Rica's exports in 1983, while supplying 40 percent of Costa Rica's imports. The second most important trading partner for Costa Rica is the Central American Common Market (CACM), which typically runs a trade deficit with Costa Rica.

Table A.8 shows the trade balance of Costa Rica in millions of colones each year:

Table A.8
Trade Balance of Costa Rica
(in million of colones each year)

	<u>1982</u>	<u>1983</u>	<u>1984</u>
Exports fob	32,559	36,261	43,054
Imports cif	33,255	40,593	48,407
Balance	<u>-696</u>	<u>-4,332</u>	<u>-5,353</u>

Main Commodities Traded

Table A.9 lists the main imports (CIF) into Costa Rica in 1983 in US\$ thousands:

Table A.9
Main Imports to Costa Rica
(US\$ thousands)

<u>Item</u>	<u>1983</u>
Raw Materials/Inputs	
industrial	428,000
agricultural	50,300
construction	37,200
fuels/lubs	100,000
Consumer Goods	
durable	48,100
non-durable	167,700
Capital Goods	
industrial	53,400
agricultural	15,700
construction	18,100
transportation	31,100
others	34,100
Total Imports	<hr/> US\$ 988,500

Preliminary data from the Central Bank of Costa Rica indicate an estimated 11.8 percent increase in total imports in 1984, with raw material imports increasing by 4.3 percent, consumer goods increasing by 12.7 percent, and capital goods increasing by 39.9 percent.

Table A.10 lists the main exports of Costa Rica in 1983, in thousands of US dollars:

Table A.10
Main Exports from Costa Rica
(US\$ thousands)

<u>Item</u>	<u>1983</u>
Coffee	230,000
Bananas	234,100
Fresh meat	30,000
Sugar	23,900
Others to Central America	187,200
Others to Rest of World	<u>166,000</u>
TOTAL EXPORTS	US\$ 871,100

Preliminary figures from the Central Bank of Costa Rica show that exports increased by an estimated 10.8 percent in 1984. This would result in the trade gap going from US\$ 117.4 million in 1983 to US\$ 140.0 million in 1984.

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Main Trading Partners

In 1983 the main distribution of Costa Rica's trade was as follows (Table A.11):

Table A.11
Costa Rica's Main Trading Partners (1983)

<u>Geographic Zone</u>	<u>Export</u>	<u>Import</u>
North America	31	44
Europe	29	13
Central America	22	11
Caribbean	5	5
Panama & Free Zone	4	2
South America	1	9
Asia	3	7
Africa	1	0
Oceania	0	0
Special Provisions	<u>4</u>	<u>9</u>
TOTAL	100	100

The majority of Costa Rica's trading partners are in North America, Europe, and Central America. The main trading countries, with their import and export values in 1983, are given in the following table (Table A.12). Also given is the ratio of exports to imports--less than 1.00 signifies more imports than exports, more than 1.00 signifies more exports than imports. The countries are arrayed in order of total trade value--export value plus import value.

Table A.12
Costa Rica
1983 Imports & Exports
National Distribution
(US\$ millions)

<u>Country</u>	<u>1983 Exports US\$ m</u>	<u>1983 Import US\$ m</u>	<u>Export/ Import Ratio</u>
USA	274.53	372.891	0.74
West Germany	110.58	46.70	2.4
Guatemala	88.54	59.37	1.49
Mexico	0.10	81.60	0.01
El Salvador	41.63	29.69	1.4
Nicaragua	40.86	20.15	2.03
Panama & Free Zones	317.17	20.65	1.8
Japan	4.85	52.81	0.09
Italy	31.88	17.09	1.87
Honduras	27.16	11.01	2.47
Great Britain	22.04	12.60	1.75
Netherlands	20.96	6.13	3.42
Canada	6.47	18.65	0.35
France	11.13	10.57	1.05
Spain	4.39	15.96	0.28
Belgium/Luxemburg	9.62	4.67	2.06
Taiwan	1.06	10.92	0.10
Ireland	0.75	6.69	0.11

Quite clearly, the United States is Costa Rica's main trading partner, accounting for 38 percent of the imports to the country and 31 percent of the exports from the country. The next in line, West Germany, takes 13 percent of Costa Rica's exports in exchange for 5 percent of Costa Rica's imports.

With the United States, Mexico, Japan, Canada, Spain, Taiwan, and Ireland, Costa Rica has a negative trade balance--more is imported by Costa Rica from these countries than is exported to them. With the rest of the countries listed, Costa Rica exports to them more than it imports from them. Only with France does Costa Rica manage to balance its trade.

APPENDIX B

ECONOMIC MODEL FOR ESTIMATING BENEFITS

In order to prioritize recommendations it is necessary to arrive at some estimate of benefits. Such a computation in the case of Costa Rica, to be entirely valid, would require a degree of analysis that is beyond the scope of this study. Therefore a simplified model was adopted which, if used consistently, would at least enable the prioritization to be achieved. The assumptions that are basic to the model involve a great deal of aggregation and broad treatment, but the general results were found to be consistent with observations and experience within the region.

Since the focus of the study is on non-traditional products it was first necessary to abstract the value of non-traditional products for Costa Rica. Table B.1 shows that, of the \$930 million exported in 1985, approximately 63 percent could be classified as traditional and 37 percent as non-traditional. Thus the recommended improvements will be required to increase non-traditional exports over the \$343 million exported in 1985.

Table B.1
Costa Rica
Traditional/Non-Traditional Exports
1985
(\$ million f.o.b.)

<u>Total Export</u>	<u>Traditional Exports</u>	<u>Non-Traditional Exports</u>	
930	Bananas	212	
	Coffee	310	
	Sugar	9	
	Beef	<u>56</u>	
930		587	343
100%		63%	37%

Source: Economist Intelligence Unit Quarterly Reports
Additional estimates by PBI.

The next assumption answered the question: if the 1985 non-traditional exports could be represented by a single product, what would be the cost breakdown associated with its exportation? It is clearly not sensible to consider that transport equipment and bananas would have the same cost profile, but since this report shows that the typical non-traditional export was agricultural, it was felt that the breakdown contained in Table B.2 was sufficiently representative.

Of significance in the table is the fact that transportation can account for between 35 and 40 percent of the c.i.f. price of the product, and margins are typically 20 to 25 percent.

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**Table B.2
Costa Rica
Typical Export
Cost Allocation
1986**

	<u>% of total</u>
Production cost	33-48%
Transport cost	35-40%
Admin. costs	2-4%
Margin	20-25%
 Sale price c.i.f.	 100%

Based on figures obtained for typical non-traditional agricultural export.

To determine the benefit of programs directed at improving the various transportation modes, it was necessary to assess the contribution of the modes to the total cost of transportation. Again, this process involved a considerable amount of aggregation of dissimilar items, but for comparative purposes the breakdown shown in Table B.3 was found to give results that were acceptable.

**Table B.3
Costa Rica
Typical Export
Transport Profile
1986**

<u>Mode</u>	<u>% of total</u>
Land to port 1	18-22%
Port charges 2	35-40%
Sea freight 3	20-25%
Port charges USA	<u>20-25%</u>
 Total transportation	 100%

Notes:

- 1 Includes collection from main production area and delivery to dockside
- 2 Includes all charges payable to port authority, stevedores etc., allocated to cargo loaded
- 3 Includes vessel operating costs from CA port to USA port

Table B.4 gives a cost profile of the typical export from Costa Rica. It shows the approximate amount spent on each cost category in 1985.

The total value of transportation for non-traditional exports from Costa Rica is of the order of \$189 million, with about \$40 million being spent on sea freight and about \$71 million being collected by the ports. The trucking industry accounted for about \$40 million.

About \$113 million was returned to the producers to pay for overheads and profit. This sum went to make interest payments, pay for depreciation, management, general equipment and so on, and what was left was profit.

If a recommended program manages to reduce transportation costs by 1 percent, or \$1.9 million, the margin is increased from \$113 million to \$114.9 million, or 1.7 percent. If the same cost profile is maintained overall, then a margin of \$114.9 million should support a total value of exports of about \$512 million, or an increase of \$8 million. On this basis there is about a 4 to 1 benefit to be obtained in non-traditional product exports for each percentage point decrease in the cost of transport.

Clearly, for the model to work accurately all other factors would have to remain equal: there would have to be no change in production cost, and rates of interest--a large component of margin--would also have to be unchanged. Throughout Central America forces are at work to reduce both these factors, in the face of which there is probably some small capacity to absorb increases in the cost of transportation. The report shows, however, that non-traditional exports are extremely sensitive to both economic conditions and cost of transportation, and factors that have served to reduce the amount available for margin have also served to reduce the total value of non-traditional exports.

Table B.4
Costa Rica
Typical Export
Total Cost Profile

	<u>Percent</u>	<u>Value</u> <u>US\$ million</u>
Production cost	33-48%	204
Transport cost	35-40%	189
Land	6-10%	40
Port C.A.	12-16%	71
Freight	6-10%	40
Port USA	8-10%	45
Admin. Costs	2-4%	15
Margin	<u>20-25%</u>	<u>113</u>
Total c.i.f.	100%	\$504

Note: Individual cost breakdown items do not necessarily add to export total due to the fact that they represent high or low ends of the percentage ranges shown.

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