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IMPACT OF TRANSPORT AND LOGISTICS ON NICARAGUA'S TRADE COMPETITIVENESS

JANUARY 2004

This publication was produced for review by the United States Agency for International Development as part of the Trade Enhancement for the Services Sector (TESS) Project. It was prepared by CARANA Corporation.

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January 2004

Prepared by

CARANA Corporation

Delivering Global Development Solutions

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Preface:

This preliminary report is part of a research effort conducted under the Trade Enhancement Service Sector (TESS) project, under contract for the United States Agency for International Development (USAID) in Washington, DC. (Contract No. PCE-I-07-97-00014).

The TESS Project is intended to encourage and support enhancement of the trade and service sectors to promote economic development and country competitiveness. Specifically, the project provides technical support in advancing the understanding of constraints and competition in services sectors, such as transportation, and in developing and disseminating best practices for liberalization and enhancing systematic efficiency. More information can be found at www.tessproject.com.

The Nicaragua case study is the first of four case studies to be conducted throughout the course of the project. It was completed by Santiago Sedaca, Team Leader; Nimish Jhaveri, International Logistics Management Consultant; and Karen Adair, International Transport and Customs Consultant. Amanda Fonseca, a local research economist, and the Nicaragua-based transportation-consulting firm, CONSULMAR, provided support.

Section 1: The Role of Transportation and Logistics in International Trade and Country Competitiveness

Why Transport and Logistics?

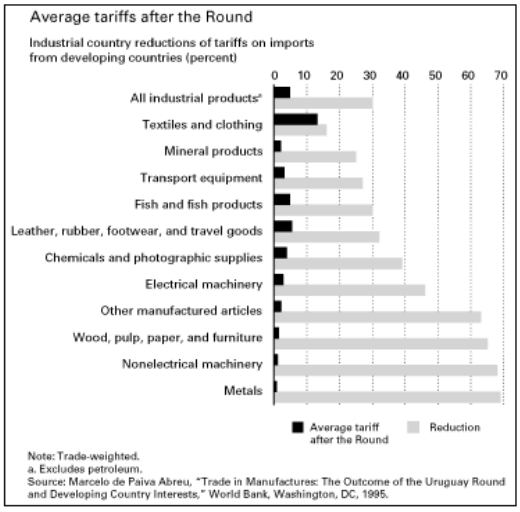
The dramatic integration of the international economy provides tremendous opportunities for developing countries to achieve economic development through international trade and investment. Not only can countries benefit from the trade of traditional exports—the increasingly global nature of manufacturing, agricultural and service networks allows poorer countries to become integral components of international supply chains. In addition, international efforts to reduce and remove rule-based tariff and non-tariff barriers to trade have increased developing countries' access to key industrial country markets by increasing the relative competitiveness of their goods.

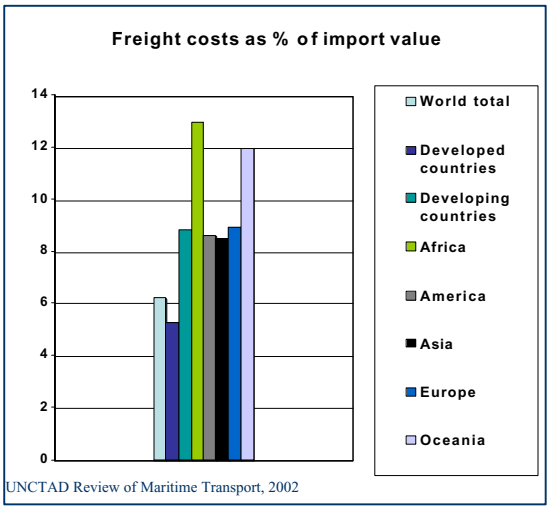
While reductions in rules-based barriers to trade have contributed to dynamic export expansion in many countries, recent changes in the international trade regime only level the playing field, and increase the importance of non-rules-based drivers of trade competitiveness in developing countries. One such key determinant of trade competitiveness is the extent to which goods can be shipped from a factory, warehouse or port in the country of origin to destination markets throughout the world in a timely and cost-effective manner. Unfortunately, many developing countries have weak and inefficient transport and logistics that lead to longer transit times, problems with predictability and reliability and higher trade transaction costs that in turn undermine competitiveness. Without serious efforts to enhance these transport and logistic systems, and the provision of trade support services tied to these systems, these developing countries will be unable to take advantage of opportunities provided by global manufacturing networks and lower rules-based barriers to trade.

The signing and expected implementation of the CAFTA trade accord provides Nicaragua with an excellent opportunity to profit from an advantaged position from which to export to the United States, the most important market in the world and Nicaragua's largest trading partner. Significant deficiencies in the country's transportation and logistics practices and infrastructure may, however, result in an inability to take advantage of these opportunities. Even if CAFTA were not to be signed, the prospective benefits that could be accrued by Nicaraguan exporters from improvements in transportation and logistics might be more economically significant than those from CAFTA itself. As the picture below illustrates, for most developing countries the cost of transportation and logistics services can account for as much, or more than, three times the cost of tariff rates.[1] This is certainly the case for Nicaragua.

[1] Molnar, Eva, and Ojala, Lauri, "Transport and Trade Facilitation Issues in the CIS 7, Kazakhstan and Turkmenistan," World Bank (2003).

Lower Tariffs, Higher Transaction Costs Facing Developing Countries

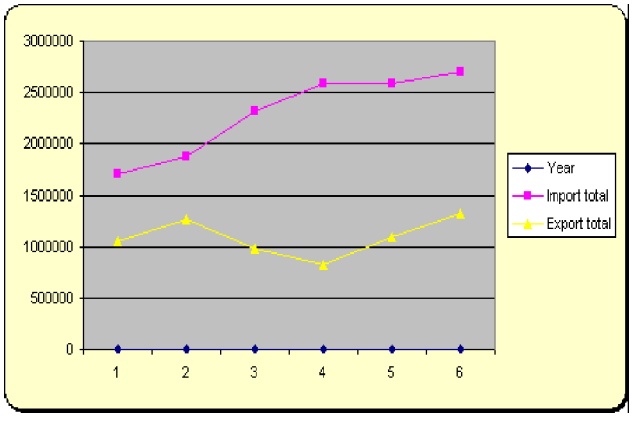




The Role of Transport and Logistics in Nicaragua

The Nicaraguan economy, like that of most Latin American and Caribbean countries, is deeply dependent on international trade. The value of total exports and imports represent about 59% of the country's GDP, characteristic of small, open economies. Imports tend to be characterized by a preponderance of manufactured goods, while exports are predominantly traditional agricultural commodities (sugar, banana and coffee) and apparel.

Graph 1: Imports & Exports of Nicaragua 1996-2001 Metric Tons



Source: Adapted from Empresa Porturia Nacional, Carga Manejada Interacional Po Los Puertos

Significant differences exist between import patterns (volume, value) and those of exports (import/export gap) as indicated by Graph 1. The import/export gap suggests that import tonnage exceeds that of export by 3.5 times, and export value per unit exceeds that of import.

i) Trade Trends

Graph 1 indicates that import volumes over the six-year period (1996-2001) are trending upward, while those of exports are more cyclical with periods of two to three years of upswings and down swings.

Exports, although they remain significantly smaller than imports, have been trending upwards (Table1) since the mid-1990s.

Table 1: Trends in Export Trading 1995-2000

REGIONS	1995	1996	1997	1998	1999	2000
North America	185	194	252.2	234.3	227.1	297
Central America	82.4	100.8	125.1	123	147.7	170.5
Latin America & Caribbean	36.3	27.7	37.8	29	23.2	25.2
European Union	143.4	136.9	134.8	156	119	126.6
Rest of Europe	4.1	2.1	4.8	17.5	18.2	10.8
Asia	8.5	2.8	5.4	5	4.4	5.5
Rest of the World	6.3	2.1	16.6	8.4	5.6	9.5
TOTAL	**466**	**466.4**	**576.7**	**573.2**	**545.2**	**645.1**

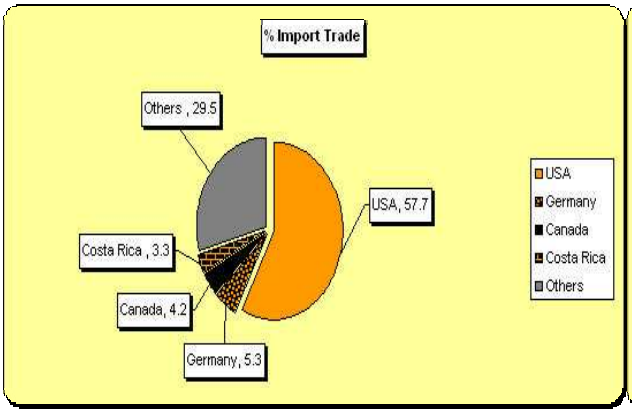
Source: Nicaragua Central Bank

ii)Trade Direction

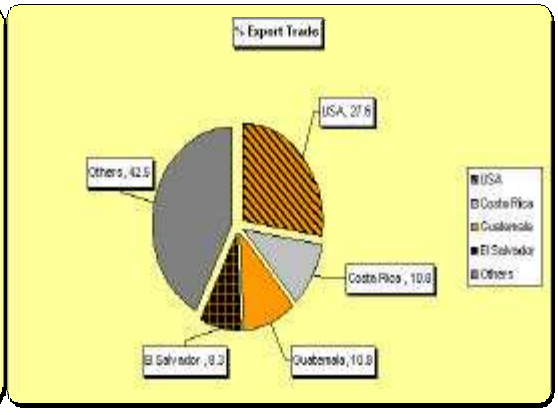
Trading patterns and directions have remained consistent with North American trade, and remains significantly larger than that of the rest of the world. Trade with North and Central America has shown major increases since the mid-1990s when compared with the European Union, Latin America and the Caribbean, and Asia.

Graphs 3a and 3b indicate that the US continues to be Nicaragua's largest trading partner. Two-way trade in 2001 with the US totaled $975 million, of which $609 million were Nicaraguan exports and $366 million were US exports. The charts also indicate that whereas the major direction in the import trade is with the developed world (with that from North America accounting for approximately 62%), export trade with Central American countries is approximately equal to that of the US.

Graph 3a : Import Trade Direction 2001



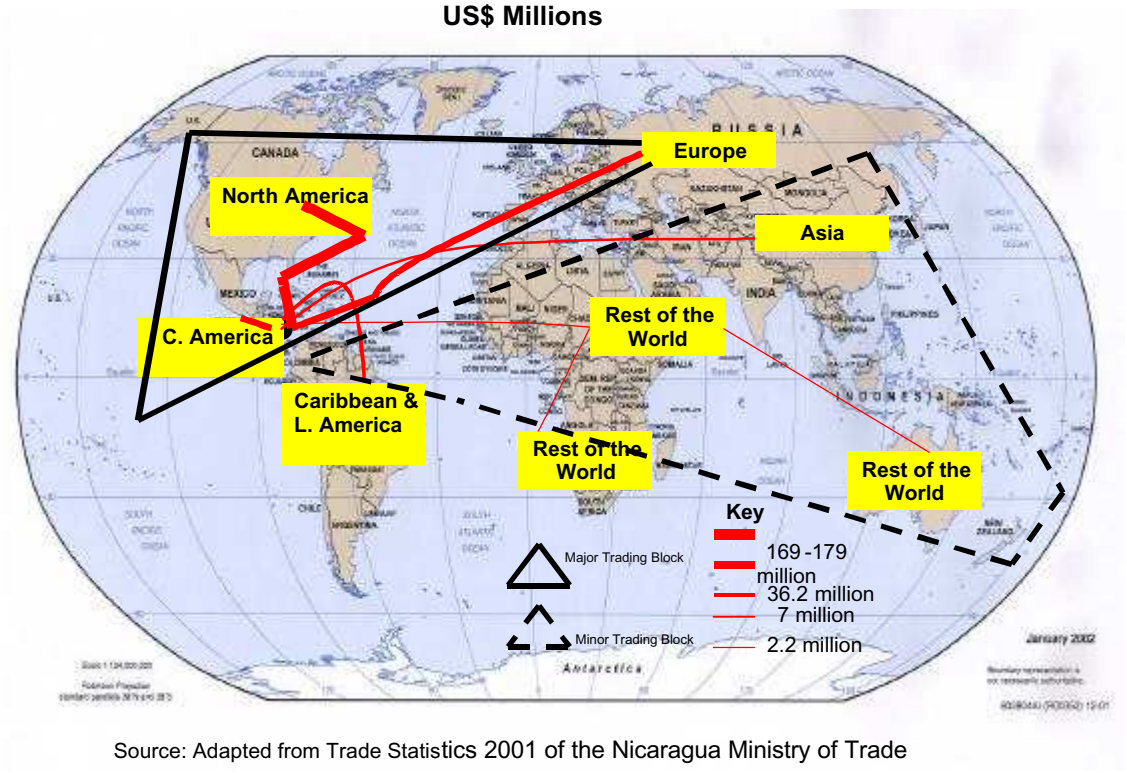
Graph 3b: Export Trade Direction 2001



Export trading trends since the mid 1990s can be illustrated by Value Trade Maps. The Value Trade Map indicates the existence of two trading blocs. First, is the major trading bloc which consists of North America, Central America and North Western Europe, and second, the minor trading bloc that is the rest of the world

Trade Direction by Value of Nicaraguan Exports 2001

US$ Millions



Source: Adapted from Trade Statistics 2001 of the Nicaragua Ministry of Trade

iii) Physical Movement of Goods

The size and direction of trade are important for understanding the context for the physical movement of goods that occur in and out of Nicaragua. The following are important characteristics of this trade:

- ***Production:*** Major areas of production for traditional and non-traditional exports (excluding lumber, shrimp and lobster) are confined to the Western and Central belts of the country.

MAP4: PORT LOCATIONS OF NICARAGUA

- ***Infrastructure:*** Major ports (see Map 4) are on the western coast (Corinto, Sindino and San Juan de Sur), and are aligned with centers of production and are best suited for bulk and break bulk trade. Non-bulk goods, however, are shipped on Atlantic trade routes (Miami is a major destination). Nicaraguan Atlantic ports (Cabazas, El Bluff and El Rama) have severe capacity restrictions, and there is virtually no road network connecting the eastern and western parts of the country.

- ***Transport Modes:*** International trade is carried out by land, sea or air, depending on the type of trade and the destination. Trade with neighboring and regional countries (Honduras, Costa Rica, El Salvador, Guatemala, some parts of Mexico and Panama) is carried out via land routes. Much of bulk trade is transported by land to Nicaraguan ports where they are shipped. However, for every 2 tons of cargo that goes directly by sea from a Nicaraguan port, an additional 1.2 tons of cargo moves by road, either to Puerto Cortez (Honduras) or Limon (Costa Rica) and includes apparel. Much of this traffic is of packaged goods. Currently approximately 32,000FEU annually moves through Cortez and Limon. Air commerce flows through the Managua International Airport. Most of this commerce consists of fresh goods (produce) or higher value added goods. There are no rail links. (Please see Section 3 for a more detailed description).

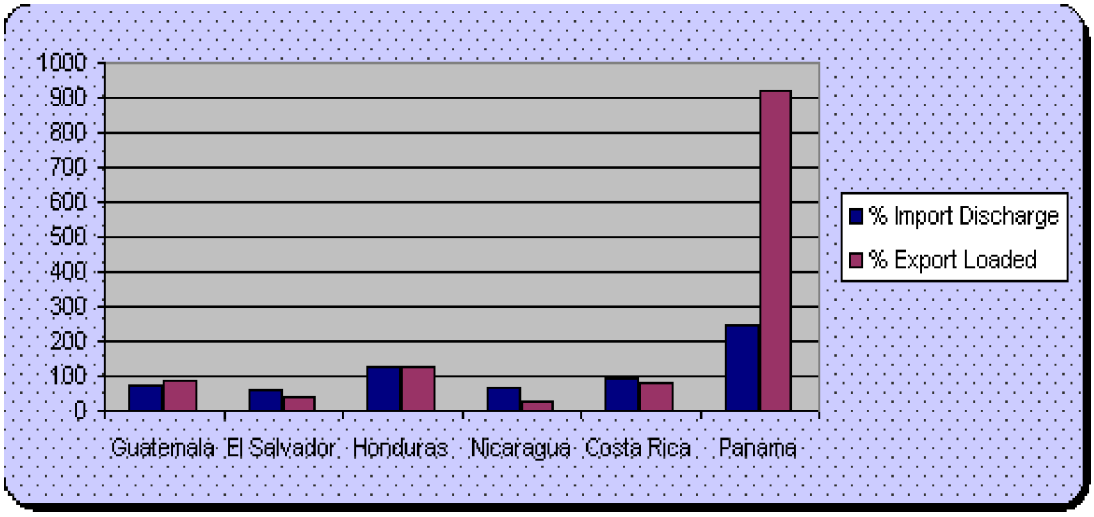
Map 5: Current & Planned Road Network of Nicaragua

- ***Internal Transportation:*** The internal transportation network in Nicaragua is poor, but is improving. High cost of road construction, and in particular transit infrastructure (e.g. Pan American Highway), has kept the East and West unconnected, although roads between Managua and the Western secondary cities are improving. Given the high cost of road construction estimated in Nicaragua (US$ 250,000.00 per km according to the Ministry of Transport and Infrastructure), major improvements would require expensive commitments and significant amounts of time (see Map 5).

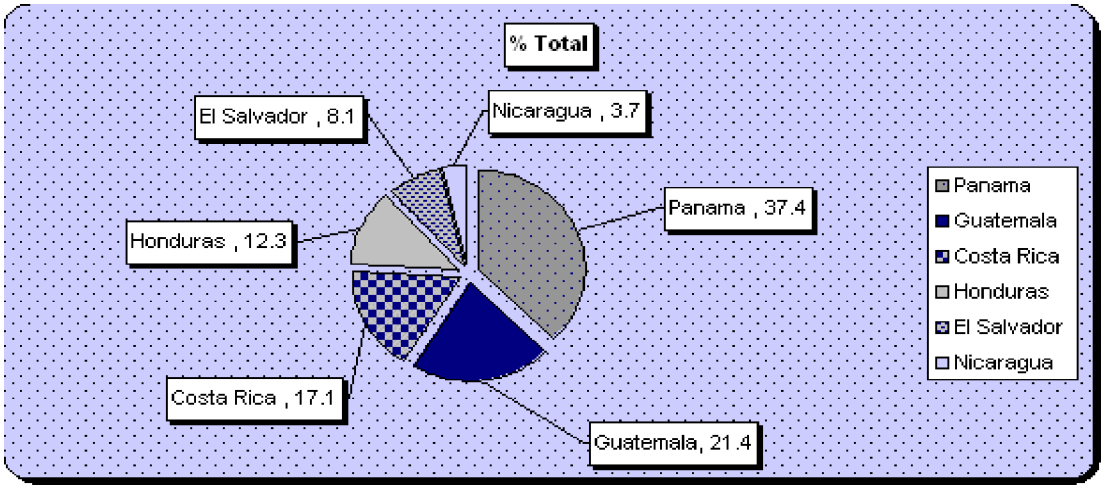
- ***Connecting with Neighboring Countries:*** Transit infrastructure to Honduras and Costa Rica is good. However, the absence of transit customs agreement and frequent delays (as much as one day) at the frontier posts of El Guasaule, Las Mano, El Espino on the Honduran border and Penas Balancas on the Costa Rican borders, serve to worsen the transport burden by adding downtime to dead freight. The total cost of road haulage across the border add US$1,000-$1,200 per container.

- ***Integration of Nicaragua with Regional and International Transport Network:*** Ports can generally be described as either international port-hubs or as domestic feeder ports. Graph 5a and Graph 5b indicate that ports in Panama and Honduras are international hub ports. At these ports, quantities discharged and loaded far exceed tonnage imported and exported for domestic requirements, (i.e. transshipment port activities) and exceed that of the domestic trade. Graph 5a indicates that ports of Nicaragua only serve a portion of its domestic trading requirement, and thus these ports (Graph 5b) are of low regional rank. Map 2 summarizes the average number of ship calls per week among leading Central American Ports. Atlantic Ports of Limon, Cortez and Manzanillo (Panama) are the most frequently used ports on that route. The port of Corinto, which is the highest ranking Nicaraguan port, ranks lowest among leading Central American ports with an average of five ship calls per week.

Graph 5a: Percent of Imports & Exports Handled by Central American Ports 2002



Graph 5b: Port Ranking Amongst Central American Port 2002



Map 2: Shipping Service Frequency (calls per week)

Section 2: Nicaragua's Transportation and Logistics Map

1) Transportation and Logistics Map Gaps Assessment

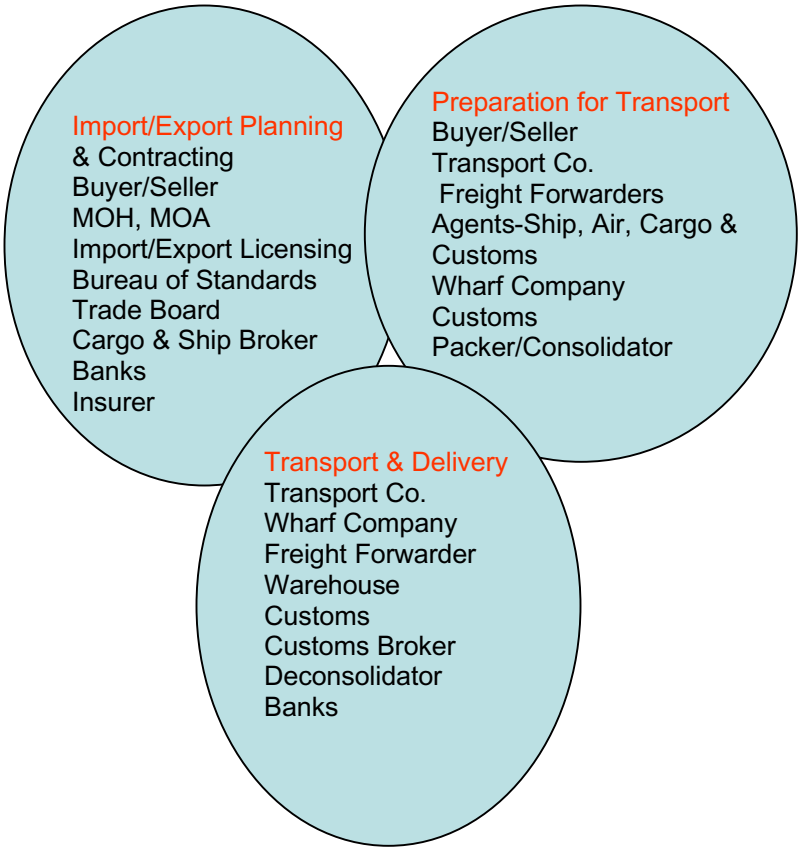
A well developed international commerce transportation and logistics chain can be divided into five major groups of related activities, as detailed below:

Table 1: International Transportation and Logistics Chain

Classification of Service	Activity	Type of Service Provider
Transportation	Movement from cargo	• Shipping Line • Airline • Railway • Road Hauler • Intermodal
Transport Intermediary	Representation of cargo and carrier interest at or between specified locations Storage, packaging, consolidation and deconsolidation cargo	• Shipping Agent • Airline Agent • Cargo Agent Ship Brokers • Freight Forwarder • Customs Broker • Bonded Warehouse • Cargo Mover
Port Operations	Receival, storage and delivery of cargo from carrier to consignee	• Wharf Company • Stevedores • Equipment Hireage • Equipment Repair
Financial	Payment for cargo	• Buyers Bank • Sellers Bank
Insurance	Risk coverage	• General Insurer • Marines Insurers
Regulatory	Protection of Custom territory from health risk, standard conformity and protection of revenue	• Ministry of Health • Ministry of Agriculture • Import Licensing Authority • Export Licensing Authority • Trade Board • Bureau of Standards • Department of Customs & Excise

In a well-developed trading market, the activities of individual players (20-25) are seamlessly linked in a continuum of services as depicted in Diagram 1 (see page 11).

Diagram 1: Functional Links in the Supply Chain



The Nicaraguan chain can be characterized as underdeveloped, but generally conforming to the stylized international model.

Table 2: Sectors and Players in the Nicaraguan Supply Chain

Classification of Service	
Transportation	Shipping Line, Airline, Road Hauler and Multimodal Carrier
Transport Intermediary	Shipping Agent, Airline Agent, Customs Broker and Bonded Warehouse
Port Operations	Port Authority, Port Management and Stevedoring
Financial	Buyers and Sellers Banks
Insurance	General Insurers and Agents of Marine Insurers

When comparing Nicaragua's transportation and logistics chain with that of more developed chains, the following are found to be missing:

- Railway: There is no railway service in Nicaragua
- Cargo and Ship Brokerage: There does not seem to be enough volume for a demand for these services.

- Warehousing, Consolidation and Equipment Hireage: It is speculated that an unsophisticated internal market is the reason for these gaps. However, it would seem that consolidation services might be helpful for the many SMEs that export.

The international trade process (import and export) that is conducted by these players is presented in Diagram 2 (see page 12) and provides a more detailed analysis of the export process through the presentation of three selected products.

The export supply chain, illustrated in Diagram 2 (see page 12), indicates that the number of players in the chain varies with the type of commodity and the direction of trade. The diagram also indicates an increased number of participants for exports transiting through Honduras and Costa Rica since an additional three organizations (regional trade organizations, port authority and customs) are added to the supply chain. Note that the sugar supply chain is shortest since it is sold free alongside ships in Nicaraguan ports (mainly Corinto).

Diagram 1: Supply Chain of Nicaragua/International Shipment Process

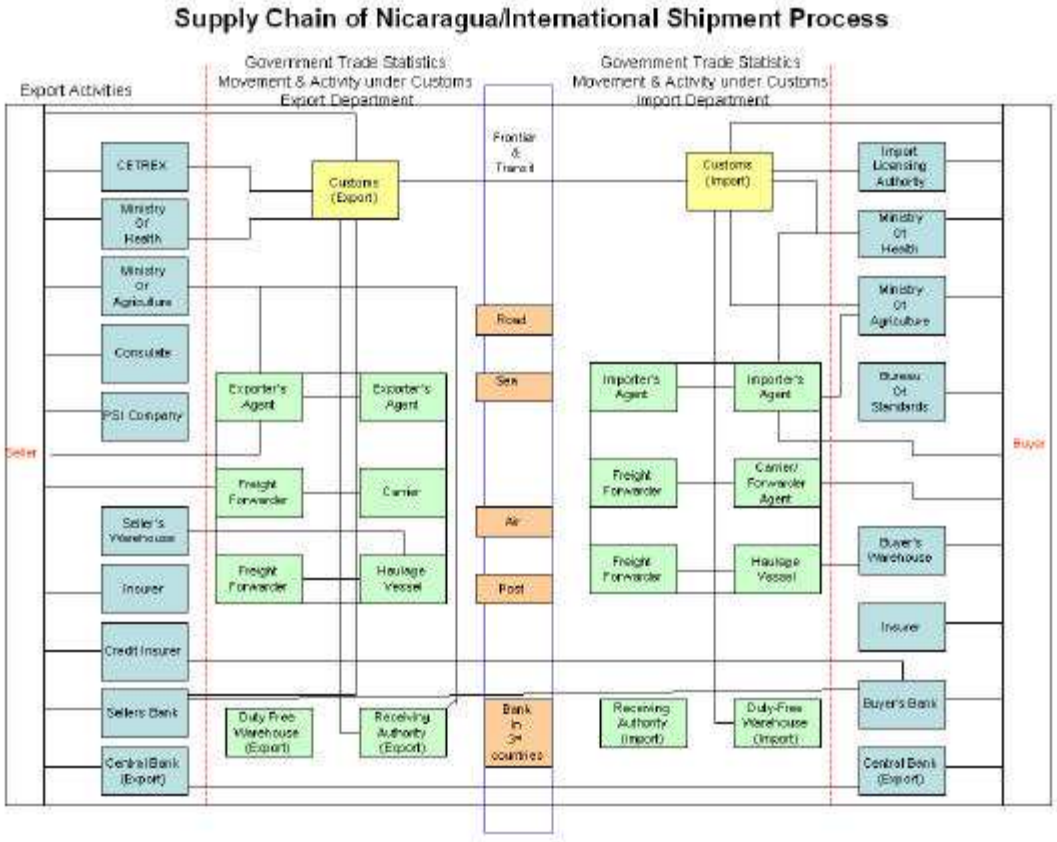
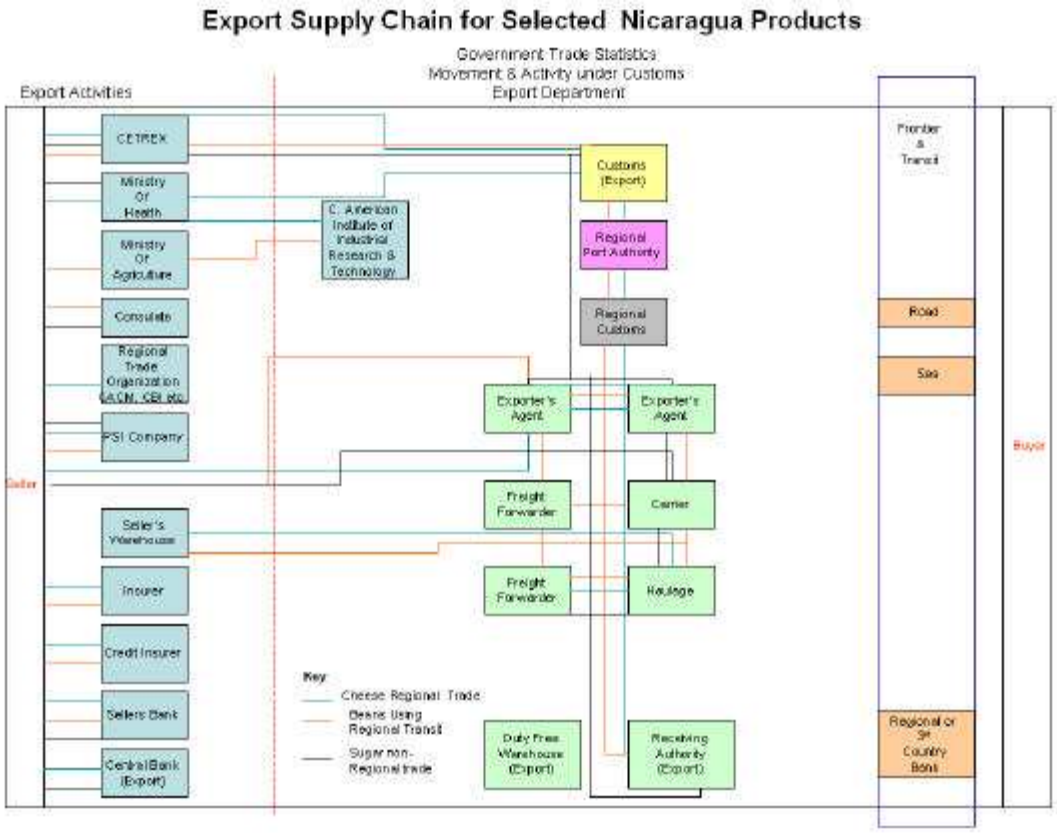


Diagram 2: Export Supply Chain for Selected Nicaraguan Products



2) Qualitative Assessment

As characteristic of small, commodity-based and underdeveloped economies, Nicaragua's transport and logistics industry is experiencing several problems that affect the competitiveness of Nicaraguan exporters. These include:

- ***Shallowness:*** Limited demand for services requires only a few operators per segment. While this is economically natural, it creates the potential for monopolistic or oligopolistic behavior on the part of service providers.
- ***"Dualism:"*** Dualism characterizes the co-existence of a modern and a traditional sector logistics sector. Some foreign entrants into the logistics marketplace (DHL, etc.) understand the modern requirements of just-in-time delivery. These companies are able to offer door-to-door services, and other services characteristic of such intermediaries. However, these services are expensive, and generally specialize on high value goods where Nicaragua is likely to continue being a net importer. Sectors where Nicaraguan exports are competitive are served by local operators who provide fragmented and disjointed services that do not help companies in managing their international commerce.
- ***Poor Public Services:*** The port of Corinto is capable of 15-2 container moves per hour and 200-250 tons per hour for sugar. This is significantly below international productivity norms, and results in delays that equal high company inventory costs. The same can be said of Customs, where insufficient equipment, personnel and manual documentation processes produce poor levels of business facilitation, which in turn result in delays.

The following Table 3 summarizes the major features of the Nicaraguan transportation and logistics industry.

Table 3: Assessment of Segments of Transport Logistics Industry

Service Provider	International Links	Equipment Availability	Competitive Practices	General Comments
Shipping Lines	Links vary according to type of service/ tramp or liner and spread of markets.	Satisfactory (both own and leased)	Varies; Larger international carriers more modern than tramp	Few modern liner services operate outside of Corinto. Remaining tramps have a low level of productivity. Corinto needs a marketing program to attract more liner services.
Airline	Many links, with most used in Miami.	Satisfactory	Satisfactory	Only three cargo carriers. Available volume per trip is small. Cost is internationally competitive.
Trucking Co.	Some truckers associated with international companies (e.g. Dole) have links internationally, while other companies have regional links.	Satisfactory	Those associated with international transport carriers have modern practices. Those for the local and regional trade are less modern.	Quality varies due to problems of funding, credit and intense competition from international transport carrier.
Shipping Agents	Many links for both for liner and tramp connections. Tramp connections predominately for USA and NW Europe. Liner agents have both local and regional offices (Costa Rica and Honduras).	Satisfactory	Mainly those attached to liner service. Tramp agency operations are plagued by low levels of productivity and double handling of cargo due to poor quality of port equipment.	Both liner and tramp shipping service operations are few (i.e. agents represent few lines).
Airline Agent	Only three links.	Satisfactory on the West Coast. East Cost facilities are insufficient, hence the need	Modern international standards compliance.	Insufficient numbers linked with the number of airlines serving the country.

		for two hauls so to avoid storage.		
Ship Brokers	No links.	N/A	N/A	Chartering performed by buyers. Export contract usually FOB. Market is so undeveloped that shipping agents do not have much knowledge.
Port Authority	International marketing links are underdeveloped.	Suitable for volumes, except for bulk shipments.	Significantly below regional port leaders.	Marketing and port developmental work is weak.
Port Operators	International links weak, hence underdeveloped states of port. Heavy reliance on port authority for international marketing.	Packaged activity suitable at Gantry Crane. Bulk activity insufficient.	Below the standards of regional port leaders (e.g. container moves per hour and bulk cargo per hour).	Standard of equipment and productivity makes port unsuitable as regional hub ports.
Customs	WCO, CLEC Free Trade Area Requirements. WCO	Insufficient modern systems and equipment. Limited use of ASCUYDA or other automated systems.	Procedures still predominately manual with no clear dates for automation.	Number of regional agreements for reduction of Customs barriers, but proceeding slowly due to the lack of a comprehensive Customs modernization program with a strong automation imperatitive. Non-standardization of Customs border practices between Honduras and Costa Rica. Management training is a serious area of weakness (technical and management).
Ministry of Health (MOH)	Suitable for zoosanitary	Insufficient, hence testing of	Standards modern but	Personnel, capacity, and

	and other safety requirements (from WTO, WHO, etc.).	sample and approval process is slow.	equipment and facilities limited.	equipment limitation
Ministry of Agriculture (MOA)	Suitable for phytosanitary and other safety requirements (WTO, FAO, etc.).	Insufficient, hence testing of sample and approval process is slow.	Standards modern but equipment and facilities limited.	Personnel, capacity, and equipment limitation
CETREX	Satisfactory WTO and regional links.	Sufficient One-stop-shop Concept. Approval process and documentation completed within a day.	Simplification of export process and standardization of documentation requirements.	Weakness of process because it is still manual, and thus registration and processing requires exporter to visit premises.
Freight Forwarders	Few large players have considerable linkage and market knowledge.	Satisfactory	Few big operators operate as logistics service provider; majority in service enclave and move few products.	Sector of market is undeveloped (most large exporters do not use freight forwarders).
Customs Brokers	Brokers attached to shipping agency have considerable international linkages. Limited knowledge of ASYCUDA or other International customs automated management systems.	Sufficient but predominately manual.	Below WCO's current standard.	Market characterized by a few large players linked with important transport company that several large exporters; rest of market undeveloped with insufficient product and industrial knowledge.
Consolidators	No links.	N/A	N/A	Severe area of weakness given non-traditional export thrust.
Logistics and Distribution	No links.	N/A	N/A	Severe area of weakness given non-traditional export thrust.
Cargo Broker	No links.	N/A	N/A	Severe area of weakness given non-traditional export thrust.
Warehousing	Little connection	Below standards	Operates as a	Numbers

	with international market players.	of large warehousing and distribution systems in Central America.	service enclave with logistical links undeveloped.	insufficient, low productivity
Port Equipment Service Provider	No links.	N/A	N/A	Severe weakness, hence low standards of port productivity .
Stevedoring	Some international links through membership in association and overseas training.	Insufficient, hence port productivity issues.	Insufficient	Major weakness; although privatized in late 1990s monopoly status continues.
Container Leasing	No links.	N/A	N/A	Absence is a major logistical weakness, hence exporters problem of insufficient supply of containers in the peak, cost of containers, and charges of shipping lines.
Surveyor (Cargo and Vessel)	No links.	N/A	N/A	Activity is demand driven, market still underdeveloped.
Insurer (Cargo and Vessel)	Links are mainly as agents or representatives of international insurers or re-insurers.	Satisfactory	Satisfactory as guided by the company that they represent.	Little activity as activity is demand driven—most export is FOB.

Priority Areas

The delineation and assessment of Nicaragua's transportation and logistics chain serves to pinpoint priority areas where private investments or public interventions could result in significant benefits to Nicaraguan exporters. Transportation and logistics can provide positive differentiation, as well as become a competitive challenge. Potential advantages from well-developed and efficient transportation and logistics can include:

- Creating cost advantages over competitors that can result in increased sales.
- Speed in cargo delivery, allowing for participation in fast-paced industries that require just-in-time requirements.
- Reduced inventory costs.
- Addition of value to the product (e.g. packaging and labeling) or any other activity that prepares the product for the consumer.

While Nicaragua's regional position near the world's largest market provides a valued comparative advantage over other world exporters, focused attention on a number of issues, which are listed below, are necessary to turn this comparative advantage into a true competitive advantage. The table below details and prioritizes areas for development.

Table 4: Priority Transportation and Logistics Development Issues

Sector & Priority	Significance	Focus Areas and Level of Priority
High Priority Area		
Shipping Lines	Volume of cargo moving by sea transport approximately 90%. Relative importance of TNC shipping services in moving major exports.	• Oligopolistic practices - High • Insufficiency of ship calls - High • Insufficiency of international markets coverage - High • Portion of logistical cost (approximately 40%) - High • Low priority assigned to Nicaraguan market - High
Road Haulage	Importance of road haulage in moving regional exports, as well as transit cargo, to neighboring ports.	• Unnecessarily long time for inland transport - High • Cost of inland transport - Medium • Low and inconsistent operational standards - Low
Port Operations	High impact on carrier service and cost, international competitiveness, and marketability of the country.	• Low levels of port productivity – High • Capacity limitation (i.e. severe restriction on vessels size LOA, dwt etc.) - High • Little international market presence • Insufficient vessel call - High • Poor operational practices, especially for bulk shipments - Medium • Poor developmental planning - Medium
Customs and Border Crossing	Importance on trade facilitation, which is a significant factor for corruption and is important for revenue collection.	• Poor and inconsistent operational standards - High • All manual cargo process system - High • Insufficiency of trained personnel -High
Medium Level Priority		
Consolidation	Potential for expanding export opportunities and leverage of Nicaraguan exporters.	• Absence of facility, hence limited ability to handle LCL cargo - High
Freight Forwarding	Potential for augmenting door-to-door export and movement away from FOB contracting, providing more control and profit opportunities to Nicaraguan firms.	• Insufficient numbers - High • Insufficient international linkage - High
Logistics and Distribution Management Companies	Potential for companies to add value to export and improve foreign exchange earnings.	• Inability to deliver door-to-door service - Medium • Inability to perform parcel and small

		consignment shipments - Medium
Low Level Priority		
CETREX	Provide important business facilitation services.	• Provision of an automated one-stop shop for exporters - Medium
Ministry of Health	Some interaction with exporters.	• Conversion of permits and certification system from manual to automated - Medium
Ministry of Agriculture	Some interaction with exporters.	• Conversion of permits and certification system from manual to automated - Medium
Port Authority	Bad management can result in poor services to exporters.	• Continue privatization program - Low
Shipping and Airline Agents	Dwindling importance due to rise of Online services.	• No significant problems - Low

Section 3: Trade Logistics and Transportation Costs

Through the collection of data for the relative cost of trade services, it is possible to pinpoint specific problem areas, and prioritize opportunities for action. The following section explains the methodology and findings of a benchmarking cost study performed to analyze the relative competitiveness of Nicaraguan transportation and logistics services for key export products.

1) Methodology

The following steps were performed:

I. The scope of analysis was defined: International trade transactions that represented the commodities, routes, and transactions were defined;

II. Sources of data and conducted interviews were identified;

III. Actual costs and transaction details were captured through interviews, document research, site-visits and follow-up; and

IV. Data analysis and findings recorded.

i) Define Scope Of Analysis

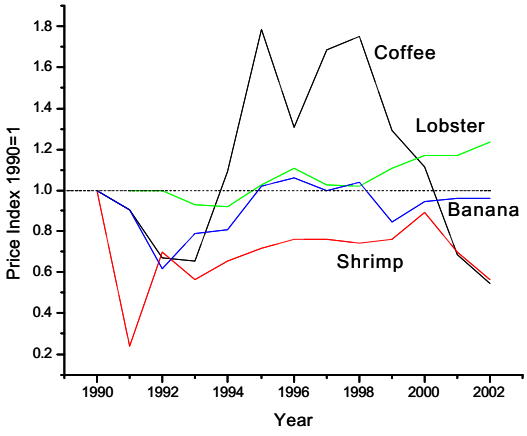
Commodities Selected:

Commodities were selected based on the following criteria:

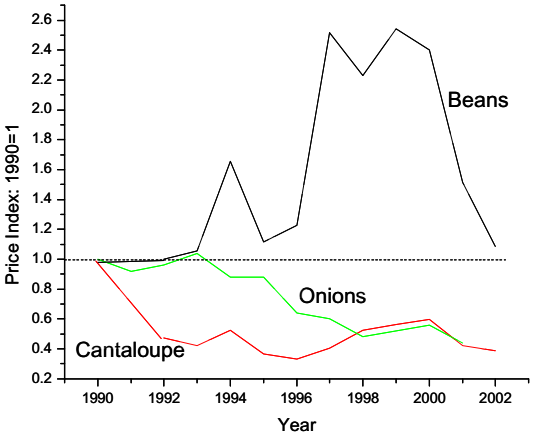
- A history of exportation, or evidence of a growing interest in exporting that commodity. For instance, traditional exports (such as coffee, banana, shrimp, lobster, etc.) and non-traditional exports (such as apparel, beans, onions and cantaloupe) were included.
- Heavy volumes of trade.
- Coverage of the most popular modes of transport.
- Reasonable coverage of the most popular trade lanes and trading blocks.

In addition to these criteria, export volumes were examined to identify where prolonged price pressure was evident. This was expected to explain if, and how, suppliers improved profitability by driving innovation in post-production processes—such as transportation, logistics, packaging and marketing.

PRICE PRESSURE EVIDENT



Traditional Exports



Non-traditional Exports

Data: Central Bank Of Nicaragua

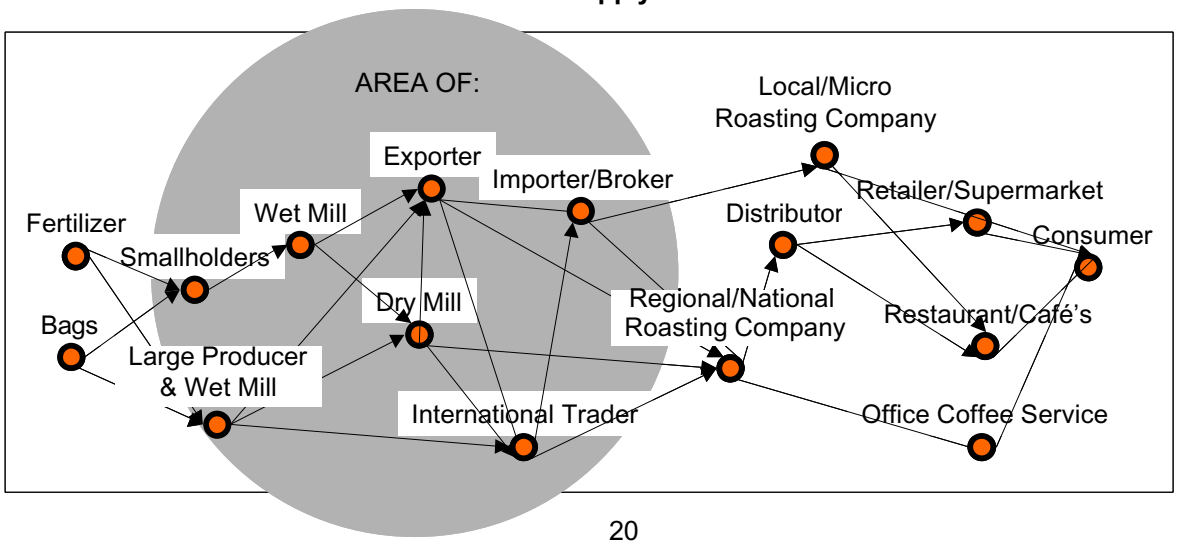
Scope of Supply Chain Activities Selected:

The analysis has focused on transportation and logistics costs from the producer to the first landed point, in the country of consumption. The extended supply chain was not considered beyond that point to reduce the inherent complexity of analysis. Supply chain flows across various commodities vary greatly, and make them unsuited for comparison. Even with a single commodity, product flows travel numerous paths in transit from importers to their customers with multiple value added steps, which makes comparison difficult.

Transportation and logistics costs upstream from the producer (e.g. costs incurred by the original supplier of packaging and fertilizer) are included in the importers' landed cost, and are not isolated specifically for this study.

By focusing on the producer and their international customers, it is possible to adopt a framework more suited to the objectives of this study.

The Extended Supply Chain for Coffee



Within the defined area of focus, landed costs for different export commodities was examined from the view of the overseas importer. Although this method provides a convenient and common tool for measurement, commodities being delivered FOB required an additional step to identify the prevailing rates for international carriage.

Trade Routes and Transportation Modes Selected:

The most widely traveled trade routes were selected for analysis. As indicated in the table below, approximately half of Nicaraguan exports are destined for North America, about one-fourth for regional partners (Honduras, Costa Rica, El Salvador, and Guatemala) and about one-fifth for the European Union. The analysis reflects coverage of these trading patterns.

Destination / Mode	North America	Central America	European Union
Air	◆		
Land		◆	
Multi-modal (Land + Ocean)	◆		◆

In addition, coverage of the modes used for moving the goods was recognized. In most cases, a preferred route for a commodity moving to a particular destination was discovered, which defined the required modalities. For example, inland transport is necessary to move goods to several international ports. The preferred transportation modes for particular trading partners are provided in the table below. Goods moving to North America travel by air, or a combination of inland and ocean transportation, whereas regional exports travel primarily by land.

Wherever feasible, the costs of logistics and transportation alternatives were examined. This includes alternative routes to the same destination, or the use of alternative transportation modes or providers. Observations regarding alternatives are discussed more fully in section 4.

Candidates Selected for Analysis:

The final selected candidates reflect the route, commodity and mode considerations outlined in the selection criteria provided above.

<u>Manufactured Goods Traveling by Ocean</u>

Apparel-3	Managua, Nicaragua – Puerto Quetzal, Guatemala – Los Angeles, USA
Apparel-4	Masaya, Nicaragua – Puerto Corinto, Nicaragua - Los Angeles, USA

<u>Bulk Goods Traveling by Ocean</u>

Coffee-1	Matagalpa –Puerto Cortes, Honduras – Bordeaux, France
Coffee-2	Matagalpa – Puerto Cortes, Honduras – Kingston, Jamaica – Felixstowe, UK
Coffee-3	Puerto Corinto, Nicaragua – Mazalilla, Mexico – San Francisco, USA
Coffee-4	Puerto Corinto, Nicaragua – Yokahama, Japan
Beans-1	Managua – Puerto Quetzal, Guatemala - Miami, USA

<u>Fresh Goods Traveling by Ocean</u>

Hard Cheese-1	Managua – Puerto Cortes, Honduras - Miami, USA
Sweet Onions	Managua – Puerto Quetzal, Guatemala – NY, USA
Banana	Chinandega – Puerto Cortes, Honduras - New Orleans, USA

<u>Air Cargo Exports</u>

Cheese	Air Managua, Nicaragua - Miami, USA
Fresh Fruit	Air Managua, Nicaragua - Miami, USA

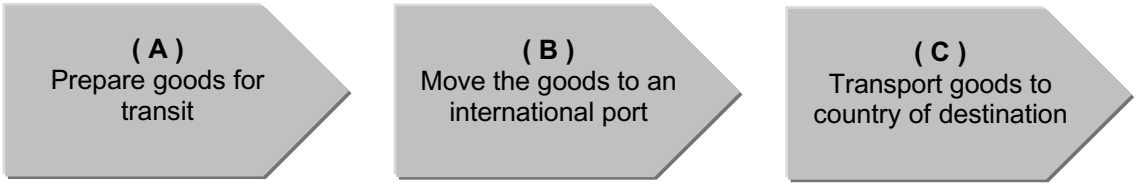
Regional Exports
Beans-2 Managua, Nicaragua - San Salvador, El Salvador
Hard Cheese-2 Managua, Nicaragua - San Salvador, El Salvador

ii) Cost Definitions and Categories

A comprehensive framework of cost analysis used to capture information was developed. The expectation was that costs would not always be known, available or shared in the field, so a variety of methods to pinpoint or estimate only the most relevant information was applied. For instance, cost data was sometimes provided so that to breakdown the sub-components of cost was impossible. The overall objective was to develop an accurate picture of international trade and logistics issues for Nicaragua, and this was the guide for data analysis.

An activity-based approach to examining transportation and logistics costs was applied. Activities in the export process were broken down into three primary steps, which demonstrate the process of goods moving from the producer to the buyer:

Export Process



These costs are discussed in greater detail below.

A) Prepare goods for transit: The following activities and their costs in this step was provided.

1. Package export
2. Store in producer warehouse
3. Transport to exporter
4. Warehouse producer shipments
5. Consolidate producer shipments
6. Book cargo and prepare documents

Pre-shipment activities are an important determinant of logistics cost. For instance, poor shipment planning can add numerous avoidable costs to a shipment. Similarly, packaging can be an important aspect of the freight cost in this step, and is frequently a requirement of transportation provided by the buyer. Packaging can reduce waste that would otherwise occur, especially for certain commodities in transit, such as fresh fruit. Goods can be packaged on-site, or in many cases, can be moved to an off-site packaging plant prior to entering the exporter's warehouse for shipment. The costs of packaging may be reduced or eliminated to certain destinations (such as regional exports).

Steps 2 through 5 occur if the exporter is involved in consolidating goods from multiple producers. In the case of many of the larger producers who deal directly with the importing buyer, these steps are eliminated.

B) Move goods to an international port: Moving goods to an international port involves transporting the goods to the terminal where the goods will make their final transit. Sometimes, regional international borders (to Costa Rica and Honduras) may be crossed before this port is reached. Costs of preparing documentation and trucking make up the bulk of the cost in this category. The following activities and their costs in this step were included.

1. Load Truck
2. Inland transport to International Port
3. Cargo Inspection
4. Insurance for Inland truck
5. Central American Customs Clearance
    a. Broker's Fee
    b. Certificate (Phyto- or Zoo-sanitary Certificate, CETREX Export License) Processing Fee
    c. Photocopy Documents
    d. Health Testing if Required
    e. Corrections to BOL if Required
    f. Documentation Expediting Charges
6. Fee to Enter the Port Terminal
7. Cost to Store and Retrieve Materials From the Port Container Yard

C) Transport goods to country of destination: The last step involves costs for completing a port-to-port move, including unloading and port charges. Costs associated with this move include:

Load cargo on carrier at origin
1. Transport cargo to destination
2. Freight Charge
3. Bunker Surcharge
4. Theft Surcharge, Security Charge
5. Chassis usage
6. Discharge Handling Charges
7. Taxes
8. Container cleaning
9. Freight Insurance
10. Air- Handling fees
11. Air - Terminal Fees; Ocean - Port Dues
12. Air- Disbursement fee (only certain carriers)
13. Air - Collection Fee (if prepaid)
14. Unload Cargo at Destination

These 15 steps take into account the majority of the direct costs associated with a typical international trade transaction. In addition, there may be additional costs associated with indirect factors, such as with waste. These additional items are addressed more completely in Section 4.

iii) Sources Of Data

Data was gathered during face-to-face interviews with numerous entities in Nicaragua. Interviews were typically 1-2 hours long and frequently involved e-mail or telephone follow-up.

The following agencies and entities formed part of the interview mix:

- Manufacturers and Producers
- Shipping Agents
- Port Authority

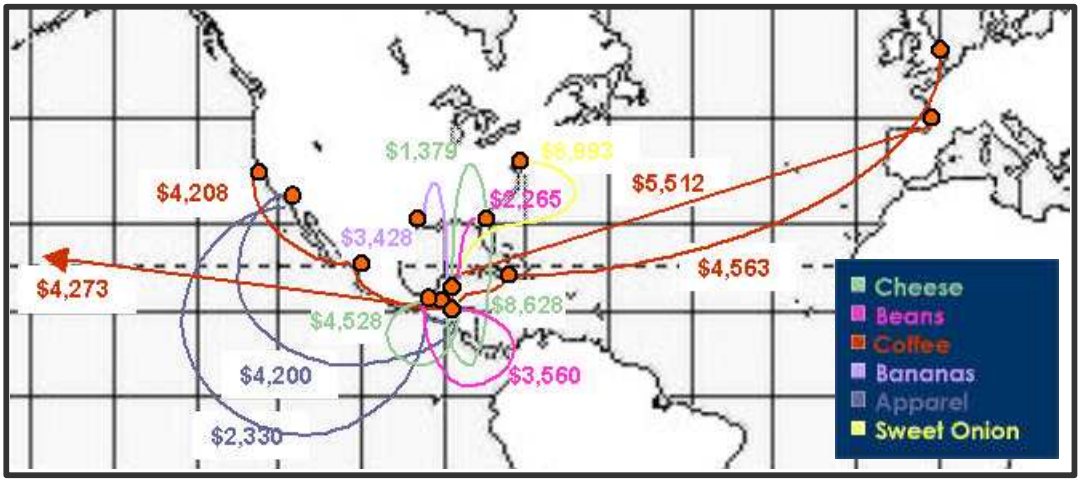
- Trucking Companies
- Freight Consolidators
- Freight Forwarders
- Air Cargo Operators
- Investment Agencies
- Government Ministries
- Regional Development Authorities
- Regional Agricultural Advisors

A complete list of these participants is provided in the Appendix.

2) Findings

i) Transportation and Logistics Costs

The overall costs of transportation and logistics for the basket of commodities varied widely. The differences are apparent in the commodity being exported, the destination, modes of transportation used, size of shipment, and route.



Costs for the selected basket of commodities are provided in Table 3.2. Note that shipment sizes are not comparable across goods.

TABLE 3.2
EXPORT COSTS FOR SELECTED COMMODITIES

		Manufactured Goods		Bulk Cargo					Air Cargo		Fresh Cargo			Regional Goods	
	PROCESS	Apparel- 3	Apparel- 4	Coffee-1	Coffee-2	Coffee-3	Coffee-4	Beans-1	Cheese	Fresh Produce (Fruit)	Banana-1	Sweet Onion-1	Hard Cheese-1	Hard Cheese-2	Beans-2
		Key: (1) Does not apply, (2) Included in another category, (3) Estimated as negligible, (4) Paid by customer and not known. .													
1	Package export	(4)	Packaging provided by customer	$ 323.00	$ 323.00	$ 323.00	$ 323.00	$1,215.00	$ 393.75	$ 600.00	$384.00 per Container	$ 1,600.00	$ 3,562.50	$ 3,562.50	$ 1,215.00
2	Store in producer warehouse	(1)	(1)	(3)	(3)	(3)	(3)	(2)	(1)	$ 30.00	(3)	(3)	(2)	(2)	(2)
3	Transport to exporter	(1)	(1)	(1)	(1)	(1)	(1)	$1,530	$ 175.00	(1)	(1)	(1)	$ 150.00	$ 150.00	$ 1,530.00
4	Warehouse producer shipments	(1)	(1)	(1)	(1)	(1)	(1)	(2)	$ 1.50	(3)	(1)	(2)	(1)	(2)	(2)
5	Consolidate producer shipments	(1)	(1)	(1)	(1)	(1)	(1)	(2)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
6	Book cargo & prepare documents	(1)	(1)	$ 940.00	$ 940.00	$ 940.00	$ 940.00	(2)	FOB deliver to cold storage warehouse	$ 136.36	(2)	(2)	(2)	(3)	(3)
7	Load truck	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	$ 1,550.00	(2)	(2)	(2)
8	Inland transport to international port	Managua to Quetzal (2)	$360 Masaya to Corinto (2)	Truck to Cortez $1200	Truck to Cortez $1200	Truck to Corinto $250	Truck to Corinto $250	$1,000.00	$ 175.00	$ 175.00	$604.8 per container	$ 1,200.00	$400-700 El Salvador	$400-700 El Salvador	$400-700 El Salvador
9	Cargo inspection	(2)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	$76.80 per container	$ 268.00	(2)	(1)	(1)
10	Insurance for inland truck	(1)	(1)	$ 200.00	$ 200.00	(1)	(1)	$200.00	(1)	(1)	$200.00	$ 200.00	$ 250.00	$ 250.00	$ 250.00
11	Regional customs clearance										$163.20 per container	$150-200			
	Phyto or zoo-sanitary certificate	(1)	(1)	$0.65 (2)	0.65 (2)	0.65 (2)	0.65 (2)	$ 0.65	0.65 (2)	0.65 (2)	(2)	(2)	$ 0.65	$ 0.65	$ 0.65

		Manufactured Goods		Bulk Cargo					Air Cargo		Fresh Cargo			Regional Goods	
	PROCESS	Apparel- 3	Apparel- 4	Coffee-1	Coffee-2	Coffee-3	Coffee-4	Beans-1	Cheese	Fresh Produce (Fruit)	Banana-1	Sweet Onion-1	Hard Cheese-1	Hard Cheese-2	Beans-2
		Key: (1) Does not apply, (2) Included in another category, (3) Estimated as negligible, (4) Paid by customer and not known. .													
	CETREX export license & processing	(1)	(1)	12.65 (2)	12.65 (2)	12.65 (2)	12.65 (2)	$ 12.51	12.65 (2)	12.65 (2)	(2)	(2)	$ 12.51	$ 12.51	$ 12.51
	Health testing	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	$0	$0
	Photocopy documents	(1)	(1)	(2)	(2)	(2)	(2)	$ 1.89	(1)	(1)	(1)	(1)	$ 1.89	$ 1.89	$0
	Corrections to BOL	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	$0	$0
	Broker's fee	$350-500 (4)	$350-500 (4)	(4)	(4)	(4)	(4)	(2)	(4)	(4)	(2)	(2)	(2)	$0	$0
	Documentation expediting charge	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
12	Enter port (gating)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(1)	(1)	(2)	(2)	(2)	(1)	(1)
13	Store & retrieve container @ yard	(1)	(1)	(2)	(2)	(1)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(1)	(1)
14	Load cargo on ship at origin	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(1)	(1)
15	Transport cargo to destination			Source: (b)	Source: (f)	Source: (f)	Source: (f)								
	Equipment	40' dry container	40' high cube	20' dry container	3x 20' dry container	20' dry container	20' dry container	20' dry container	3x3000 lb shipments a week	3x3000 lb shipments a week	40ft. Reefer	40 ft. Reefer	40' Reefer	40' dry van/container	TEU or less than container
	Origin	Free zone - Managua	Corinto	Malagalpa to Puero Cortez	Puerto Cortez	Corinto	Corinto	From Managua via Puerto Cortez	Mangua	Mangua	Chinandega	Managua	Managua	Managua	Managua
	Destination	Long Beach, CA	Long Beach, CA	France	Felixstowe via Kingston Jamaica	San Francisco via Manzanillo	Yokahama, Japan	Miami	Miami	Miami	US Gulf	New York - New Jersey	Miami	San Salvador, El Salvador	San Salvador, El Salvador
	Freight	$4,200	$2,030	$2,450	$1,900	$1,800	$1,389	$1,700	$ 681.82	$ 695.45	About $2000.00 (Chiquita uses own fleet)	$ 3,800.00	$ 3,000.00	(1)	(1)

		Manufactured Goods		Bulk Cargo					Air Cargo		Fresh Cargo			Regional Goods	
	PROCESS	Apparel- 3	Apparel- 4	Coffee-1	Coffee-2	Coffee-3	Coffee-4	Beans-1	Cheese	Fresh Produce (Fruit)	Banana-1	Sweet Onion-1	Hard Cheese-1	Hard Cheese-2	Beans-2
		Key: (1) Does not apply, (2) Included in another category, (3) Estimated as negligible, (4) Paid by customer and not known. .													
	Bunker surcharge	(2)	(2)	$135	(2)	$285	$378	$330	(2)	(2)	(2)	(2)	$ 500.00	(1)	(1)
	Chasis usage	(1)	(1)	(2)	(2)	60	(2)	$60	(1)	(1)	(2)	(2)	(2)	(1)	(1)
	Security/theft surcharge	(2)	(2)	0	0	0	0	$50	(1)	(1)	(2)	(2)	(2)	(1)	(1)
	Discharge handling charge	(2)	(2)	$264.50	(2)	$450.00	(2)	(2)	(1)	(1)	(2)	(1)	(2)	(1)	(1)
	Port dues	(2)	(2)	$0.00	$0.00	$100.00	$0.00	(2)	(1)	(1)	(2)	(1)	$ 150.00	(1)	(1)
	Container cleaning	(1)	(1)	(2)	(2)	(2)	(2)	(2)	(1)	(1)	(2)	(1)	$ -	(1)	(1)
	Insurance	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(1)	(1)	(2)	$ 200.00	$ 300.00	(1)	(1)
	Documentation	(2)	(2)	(2)	(2)	(2)	$993.00	(2)	(1)	(1)	(2)	$ 20.00	$ 150.00	(1)	(1)
	US customs broker	(1)	(1)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	$ 200.00	(4)	(1)	(1)
	US port security	(1)	(1)	(4)	(4)	(4)	(4)	$100	(4)	(4)	(4)	(1)	(4)	(1)	(1)
	US customs	(1)	(1)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	$ 131.30	(4)	(1)	(1)
	US cargo declaration	(1)	(1)	(4)	(4)	(4)	(4)	$25	(4)	(4)	(4)	$ 70.00	(4)	(1)	(1)
	USDA	(1)	(1)	(1)	(1)	(1)	(1)	(4)	(4)	(4)	(4)	$90.00 - $300.00	(4)	(1)	(1)
	Air-Handling fees	(1)	(1)	(1)	(1)	(1)	(1)	(1)	$ 68.18	$ 68.18	(1)	(1)	(1)	(1)	(1)
	Air - Terminal fees	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	Air - Security Fee	(1)	(1)	(1)	(1)	(1)	(1)	(1)	$ 68.18	$ 68.18	(1)	(1)	(1)	(1)	(1)
	Air- UPS Disbursement fee	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
	Air - Collection Fee (if prepaid)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
16	Unload cargo at destination	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	$200.00 (4)	(4)	(1)	(1)

ii) Costs of Manufactured Goods

Selected Cases

Costs for manufactured goods were examined for apparel assembly, which is a growing industry in Nicaragua. Selected cases are goods manufactured in the free trade zone, and are shipped to the same overseas destination.

Selected Case	Mode	Route	Shipment
1. Apparel-3	- Land Ocean	Managua, Nicaragua → Puerto Quetzal, Guatemala → Los Angeles, CA, USA (customer warehouse)	40 ft container
2. Apparel-4	- Land Ocean	Masaya, Nicaragua → Puerto Corinto, Nicaragua → Los Angeles, CA, USA	40 ft high cube container

Producers are tightly integrated into the supply chains of the buyers, and rely on them for substantially all inbound and outbound logistics and transportation planning. Buyers supply the manufacturer with a container with a complete kit of components that are assembled into finished garments, and are then transported to the buyer's facilities overseas.

Overall Costs

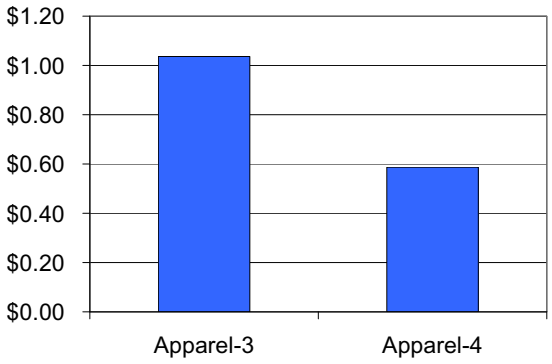
Selected Case	Total Cost	Aggregate Process Costs		
		Prepare goods for transit	Transport to international port	Transport to destination
1. Apparel-3	$4,200	--	inclusive	inclusive
2. Apparel-4	$2,390	--	$360	$2,030

- The transportation cost provided for Apparel-3 is for door-to-door delivery. Goods are picked up from the manufacturer and are delivered to the buyer's warehouse. In contrast, Apparel-4 delivers goods to the port of Long Beach, Los Angeles and are picked up there by the customer, who pays inland haulage to their warehouse.
- Though there appears to be a high premium (75%) for door-to-door service, it includes port clearance into Los Angeles and inland truck service, which can be expensive in congested metropolitan areas.
- Apparel-3 moves goods across a regional border to Guatemala by truck, and requires a total transit time of 18 days. In contrast, transit for Apparel-4 (via Corinto) is 7 days.
- The Free Trade Zone does not require documentation or customs charges from manufacturers of inbound or outbound goods. In addition, warehousing costs are avoided because the work is performed on a just-in-time basis.

Costs per Kilometer:

Costs reflect the differences in the fully integrated door-to-door service to Los Angeles from Nicaragua.

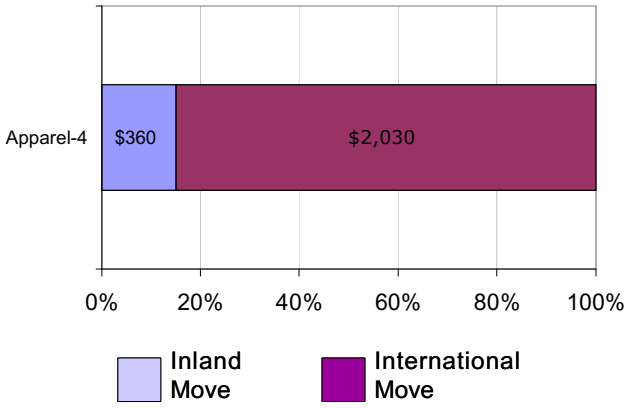
Though transit times are longer, buyers are willing to pay for a more frequent shipping service out of Quetzal in Guatemala.



Process Costs for "Apparel-4"

As depicted in the adjoining table, costs for inland transportation are less than 20% of the total cost.

The Free Trade Zone operations examined are simpler than other international trade transactions analyzed. Tight integration with the buyer's supply chain eliminates all shipment preparation cost.



iii) Costs Of Bulk Goods

Selected Cases

The five cases examined for bulk goods included coffee and beans to US, France, UK and Japan. All shipments were in 20-foot containers.

Selected Case	Mode	Route	Shipment
1. Coffee-1	- Land Ocean	Matagalpa, Nicaragua → Puerto Cortes, Honduras → Bordeaux, France	20 ft container
2. Coffee-2	- Land Ocean Ocean	Matagalpa, Nicaragua → Puerto Cortes, Honduras → Kingston, Jamaica → Felixstowe, UK	20 ft container
3. Coffee-3	- Ocean Ocean	Puerto Corinto, Nicaragua → Mazanilla, Mexico → San Francisco, USA	20 ft container
4. Coffee-4	- Ocean	Puerto Corinto, Nicaragua → Yokohama, Japan	20 ft container

5. Beans	- Ocean Ocean	Managua, Nicaragua → Puerto Cortes, Honduras → Miami, USA	20 ft container

Coffee and beans are produced primarily in Western Nicaragua, where all the above shipments originate. From there, most are transported to another country (Honduras or Mexico) before reaching the country of final destination. Only in Case 4 does the shipment travel directly from Nicaragua to its destination country.

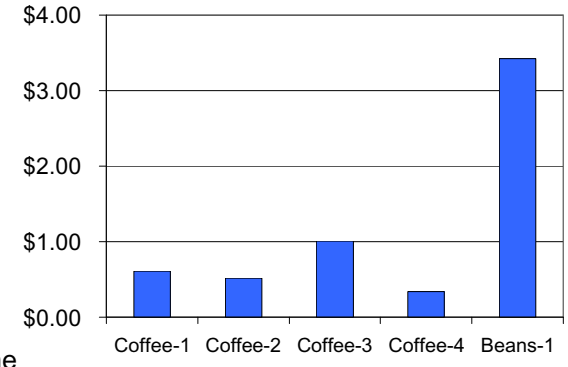
Overall Costs

Selected case	Total cost	Aggregate Process Costs		
		Prepare goods for transit	Transport to international port	Transport to destination
1. Coffee-1	$5,512	$1,263	$1,400	$2,850
2. Coffee-2	$4,563	$1,263	$1,400	$1,900
3. Coffee-3	$4,208	$1,263	$250	$2,695
4. Coffee-4	$4,273	$1,263	$250	$2,760
5. Beans	$6,210	$2,745	$1,200	$2,265

- Packaging is a major consideration for coffee exports.
    - Buyers are concerned about beans absorbing aroma from other cargo, and require bulk coffee to be transported in 20-foot dry containers. Coffee is bagged in 100-pound bags and loaded into containers for shipment.
    - Bags made from synthetic fibers are not as strong as bags made from natural fibers, which must be imported. When bags tear or burst in transit, product is wasted and additional costs are incurred for clean up.
- Nicaraguan coffee is not permitted to enter Costa Rica. Shipments must leave the country from Puerto Corinto or move North through Honduras, possibly adding to the logistics cost for certain destinations.
- Intermodal shipment (integrated trucking and shipping) is commonplace. Major shipping lines have container yards in and around Managua, and move containers to the shipper's point of origin on demand. Agents operating trucks are linked to the shipping lines via computers, which allow them to view bookings and shipment status.
- Some shippers who do not wish to pay the container repositioning charge from the container yard to their warehouse must load their own vans, move the goods to the port, and transfer the goods from their vans to the container at the port. They believe they are reducing their costs by half from ($400 to $200) through this approach.
- Coffee transportation costs are tightly banded between $4,200 and $5,500 for destinations as diverse as Bordeaux and Yokahama

Costs per Kilometer:

Within the cases considered, coffee is the most cost efficient delivery to Japan from the local port of Corinto. Inland transportation to Corinto is low, and the trade imbalance reduces ocean transportation costs for westbound cargo to Japan.

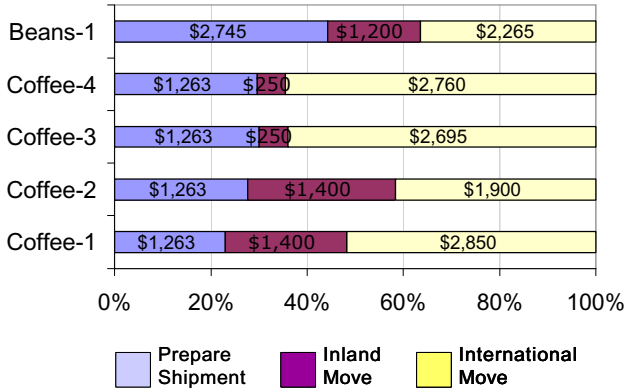


The most expensive coffee export, on a per kilometer basis, was to San Francisco. While this shipment also originated at Corinto, it is transshipped via Manzanilla, adding additional handling and cost. Despite this, it is still the lowest cost coffee export in the cases that were selected.

While coffee is delivered for between $0.35 and $1.00 per kilometer, beans cost over three times as much.

Process Costs:

1. Shipment Preparation Costs:
   - Over 40% of the landed cost for beans was incurred before the beans were shipped. For the case we examined, 55% of this cost was due to the number of times the beans were handled prior to shipment. On average, beans are sold approximately three times prior to their international shipment, each time adding loading/unloading, and warehousing costs. The remaining 45% of costs were added by the cost of packing in sacks.



   - Packing costs for coffee are 25% of the costs to prepare a shipment. The remainder is for shipment documents, cupping charges, and personnel costs for the time required to ensure shipment readiness.

2. Moving Goods to an International Port:
   - Inland transport varies widely for coffee shipments, ranging from 5% for Corinto to 30% for shipment via Honduras.
   - For shipment via Honduras, 15% of the cost is for shipper's insurance. Trucking companies provide integrated services that include freight carriage, chassis usage, container cleaning, loading and unloading for $1200, or approximately 25% of the total cost of the move.

3. Moving Goods to the Country of Destination:
   - Coffee moving to Yokahama takes advantage of the container imbalance for westbound cargo. Coffee to the UK takes advantage of the shipping service and trans-shipment capabilities of the Port of Kingston, along with the container imbalances for eastbound cargo at that port.

iv) Costs Of Fresh Goods

Selected Cases

The cases selected use 40 foot refrigerated containers to move contents to the US.

Selected Case	Mode	Route	Shipment
1. Hard Cheese - 1	- Land Ocean	Managua, Nicaragua → Puerto Cortes, Honduras → Miami, USA	40 ft refrigerated container
2. Sweet Onion	- Land Ocean	Managua, Nicaragua → Puerto Quetzal, Guatemala → New York, USA	40 ft refrigerated container
3. Banana	- Land Ocean	Chinandega, Nicaragua → Puerto Cortes, Honduras → New Orleans, USA	40 ft refrigerated container

Fresh goods are, by their very nature, perishable and require additional infrastructure for international movement. Environmentally regulated containers are necessary, and these may require an external power source that travels along with the container. If not internally powered, these containers may require plugging into an external power source while waiting for pickup. For these reasons, port infrastructure, availability of cold store, and other special requirements play a larger role in the transport and logistics of fresh produce.

Overall Costs

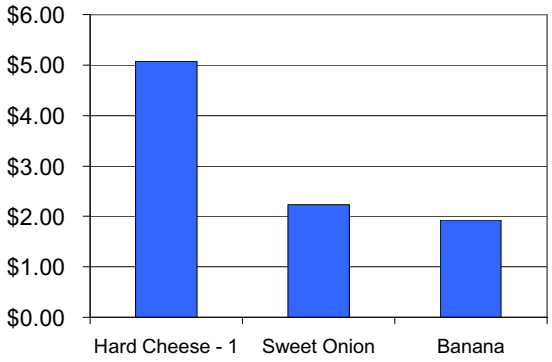
Selected Case	Total Cost	Aggregate Process Costs		
		Prepare goods for transit	Transport to international port	Transport to destination
1. Hard Cheese-1	$9,213	$3,713	$1,400	$4,100
2. Sweet Onion	$8,618	$1,600	$3,218	$3,800
3. Banana	$3,929	$384	$1,045	$2,500 (E)

- The cost of banana appears to be significantly lower than the other two commodities moving to the US. Several factors contribute to this.
    - This shipment was under contract to be delivered FOB to a buyer who provides the captive producer with containers without charge, and operates their own shipping service to the US. As a result, transportation costs do not reflect generally prevailing market prices.
    - The cost of international shipment to the buyer has been estimated at $2,500, after discussions with several competing agencies in the banana trade. While this number may seem low in comparison to other rates listed, total cost for this shipment ($3929) is still extremely high in relation to the market value of the contents ($5,000). For this reason, we believe that logistics providers, whose prevailing prices would make banana exports unfeasible, cannot provide ocean transport.

- Sweet onions and cheese are packed densely into a container, and the higher market value of these containers can sustain higher transportation costs.

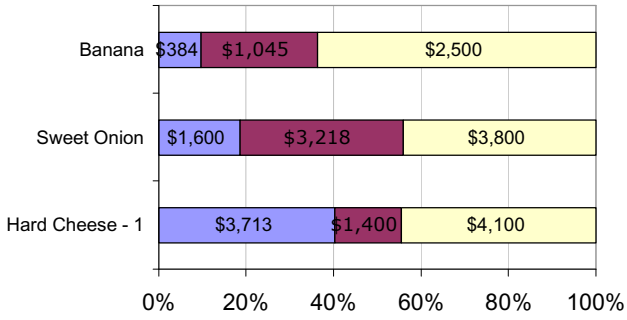
Costs per Kilometer:

Cheese to Miami costs $5/km, whereas sweet onion and banana cost less than half that per kilometer.
Over 40% of this cost comes from the need to protectively package bulk cheese for ocean transit.



Process Costs:

Cheese packaging costs ($6.25 per 70 lb. box) contribute over $3,500 of the shipment preparation cost. In contrast, sweet onion and banana have less than half that cost.



v) Costs Of Air Cargo

Selected Cases

Goods being exported by air are moved in boxes, and rates are based primarily on the weight of cargo. Two shipments were examined, both moving 3,000lbs of cargo to Miami.

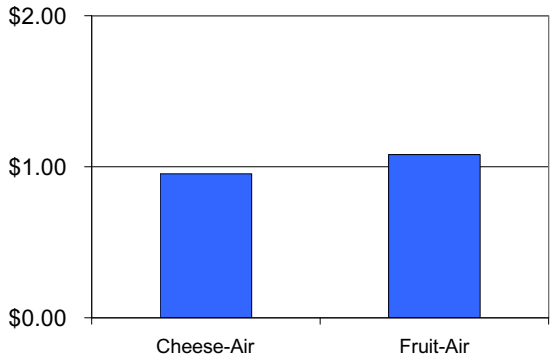
Selected Case	Mode	Route	Shipment
1. Cheese	- Land Air	Chinendega, Nicaragua → Managua, Nicaragua Miami, USA	3,000 lb packed in boxes
2. Fresh Fruit	- Land Air	Masaya, Nicaragua → Managua, Nicaragua → Miami, CA, USA	3,000 lb packed in boxes

Overall Costs

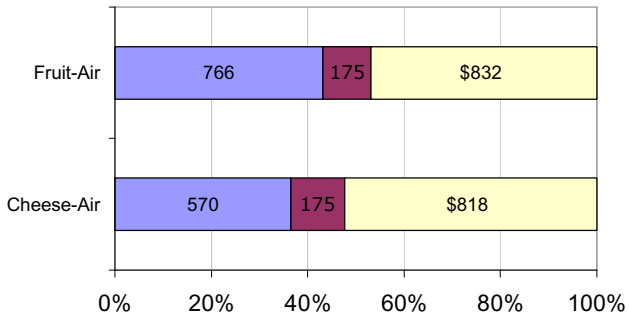
- Overall costs for the two shipments are anticipated to be the same.
- Service failures (for example, the truck misses the aircraft) have significant impact to costs because of the perishability of the product. Without frequent air service, cold store charges can accrue quickly.

Selected case	Total cost	Aggregate Process Costs		
		Prepare goods for transit	Transport to international port	Transport to destination
1. Cheese	$1,563	$570	$175	$818
2. Fresh Fruit	$1,773	$766	$175	$832

Costs per Kilometer



Process Costs



vi) Costs Of Regional Exports

Selected Cases

Since there is no rail or barge system available for regional shipments in Nicaragua, shippers use trucking companies exclusively.

Selected Case	Mode	Route	Shipment
1. Beans-2	- Land	Managua, Nicaragua → San Salvador, El Salvador)	40 ft container
2 Hard Cheese-2	Land Ocean	Managua, Nicaragua → San Salvador, El Salvador	40 ft container

Regional shipments are more dependent on the effectiveness of the shipper (or buyer) to plan and manage the logistics of a transaction. This involves organizing the logistics assets (truck, warehouse, and other elements of the logistics infrastructure) to move goods to the buyer.

Factors that restrict regional trade include:

- Weight restrictions on Honduran roads require 10% dead space in trucks moving North
- Curfew for night travel in Honduras

- Drivers entering Mexico have nationality restrictions
- Absence of widely available consolidation services in the region
- Storm damaged road infrastructure needs to be rebuilt
- Lack of cooperation between regional customs adds 2-4 hours on each border

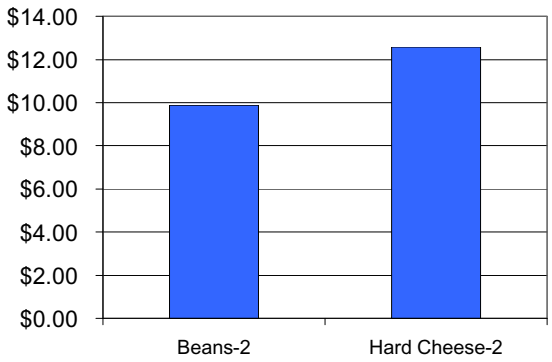
Overall Costs

Selected Case	Total Cost	Aggregate Process Costs		
		Prepare goods for transit	Transport to international port	Transport to destination
1. Beans-2	$4,528	$3,713	$0	$815
2 Hard Cheese-2	$3,560	$2,745	$0	$815

- Transportation represents only 20% of the total cost of conducting regional business. The cost of transportation is driven by the ability of truckers to obtain an adequate backhaul. A number of informal regional freight exchanges have appeared in recent years to meet this need.
- The majority of regional trade costs are pre-shipment costs

Costs per Kilometer:

The cost of regional trade is higher per kilometer due to the factors noted above. In addition, costs are expected to be higher per kilometer because distances are shorter and cargo is not as heavily consolidated.

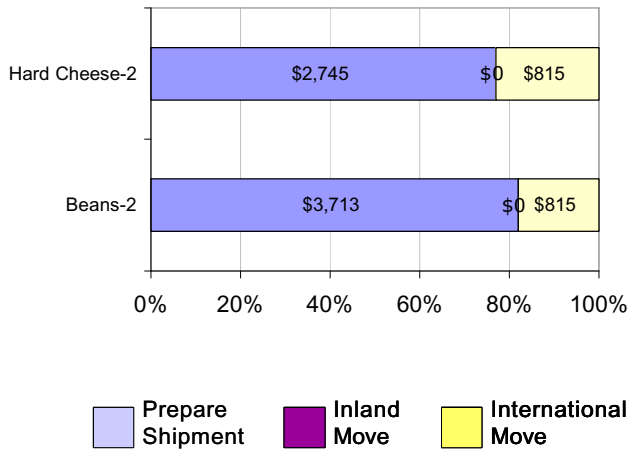


Process Costs:

Pre-shipment costs continue to be the primary cost associated with regional business.

In the examined, 80% of the pre-shipment costs could be attributed to several related factors:

- Use of vans instead of containers
- Packaging, which provides a measure of security and quality control since many moves are in non-containerized carriages
- Loading and unloading of the trucks, which is manual and frequent



3) Key Observations

Transportation is a significant contributor to export cost

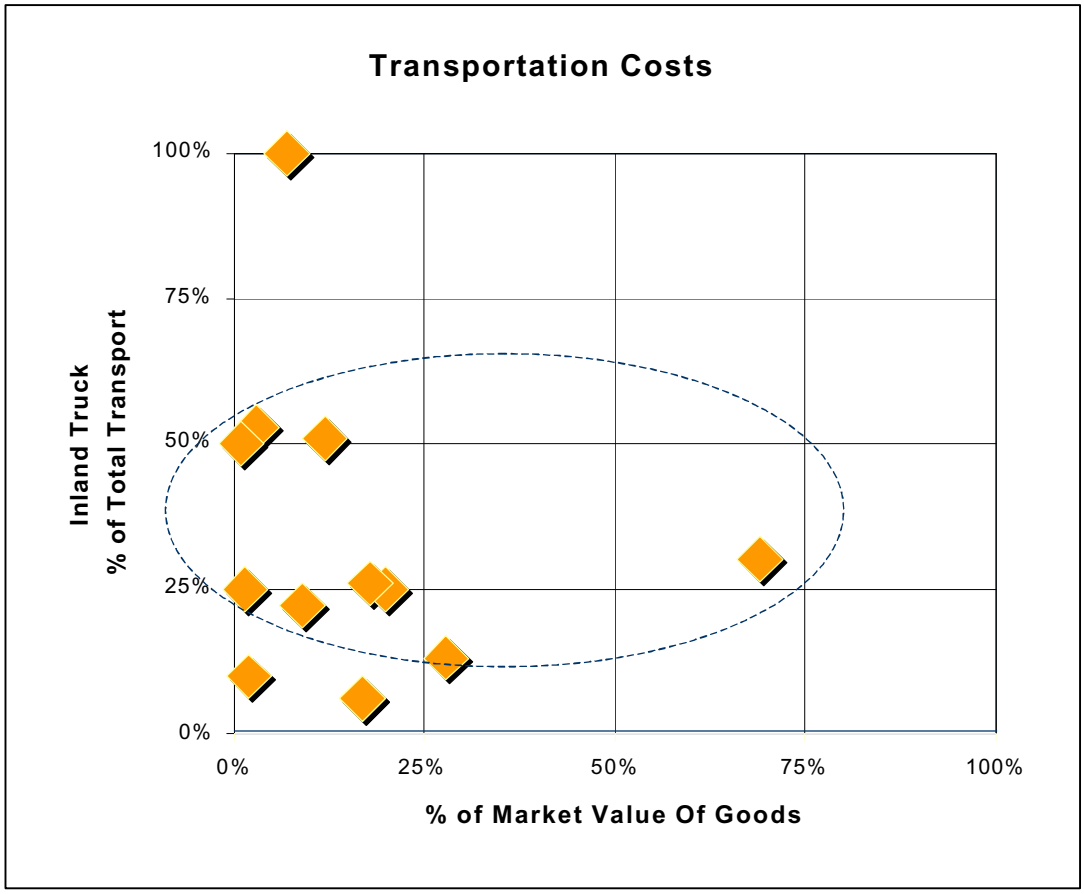
- For the cases examined, international transportation costs (both air and sea) exceed any other category of cost.
- Packaging and internal transport to the exporter's station is almost as costly as international delivery.
- Inland transport is most burdensome for container load movements in which goods must leave the country via regional ports (coffee beans and banana, see below) .
- Inland transport cost movement contributes less to the logistics cost burden than packaging and transport to exporter's station for all commodities, excluding banana.
- Inland transport cost is negligible for cargo moved by air (i.e. distance is within a 20 kilometer radius) from the Managua airport.

Cost Drivers for Selected Exports (% Of Logistics Cost)

Commodity & Mode of Transport	Pack & Transport to Exporter	Documentation Insurance & Inspection	Inland Transport	International/ Regional Transport	International Cargo Clearance
Containerized -- Sea					
Coffee - 1	6.36	22.72	23.64	47.28	N/A
Beans - 1	43.76	3.43	15.94	36.87	N/A
Banana	11.19	8.13	17.63	58.3	N/A
Sweet Onions	36.48	5.69	included in freight	46.33	11.5
Hard Cheese - 1	42.3	3.02	7.9	5.13	5.13
Boxes/Pallets/ lb -- Air					
Hard Cheese	39.22	0.91	12.04	47.83	N/A
Fresh Fruit	38.18	10.61	9.07	42.15	N/A
Regional FCL/LCL -- Road					
Hard Cheese -2	79.11	5.97	N/A	14.92	N/A
Beans	79.11	0.72	N/A	20.17	N/A

Inland transport adds a significant burden

Ocean liner service to local ports is not frequent or reliable, and forces exporters to move goods to neighboring countries for export. Costs associated with this procedure come from the need for additional transit time, cargo insurance, cost to reposition empty containers from the port, and the high cost of inland transportation. These costs are generally 25% to 50% of total transport costs, and 5% to 30% of the market value of the goods.

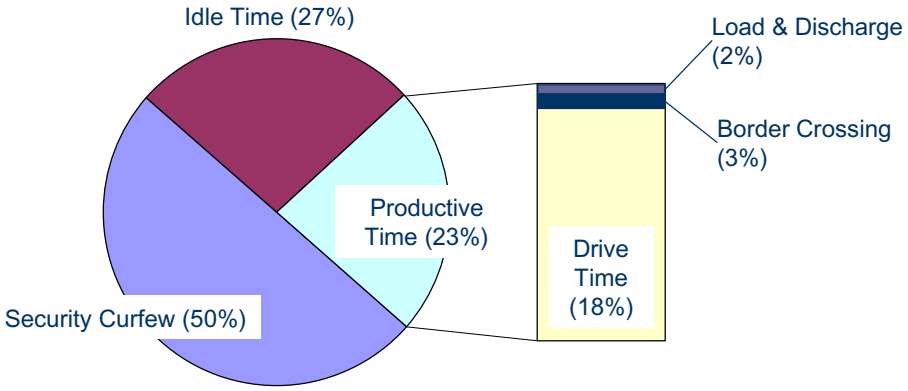


Road transportation costs are driven by multiple infrastructure issues, which include:

- Poor conditions – Many roads are not functional year-round and shipments suffer from increased uncertainty in wet weather.
- Poor network – The primary road artery is North South, adding cost and expense (and possibly international borders) to East West traffic.
- Poor port infrastructure at local ports, and an absence of alternative transportation modes (such as barge, rail, etc.).
- Security and curfew requirements in Honduras add time and cost to shipments

Transport to Honduras is inefficient

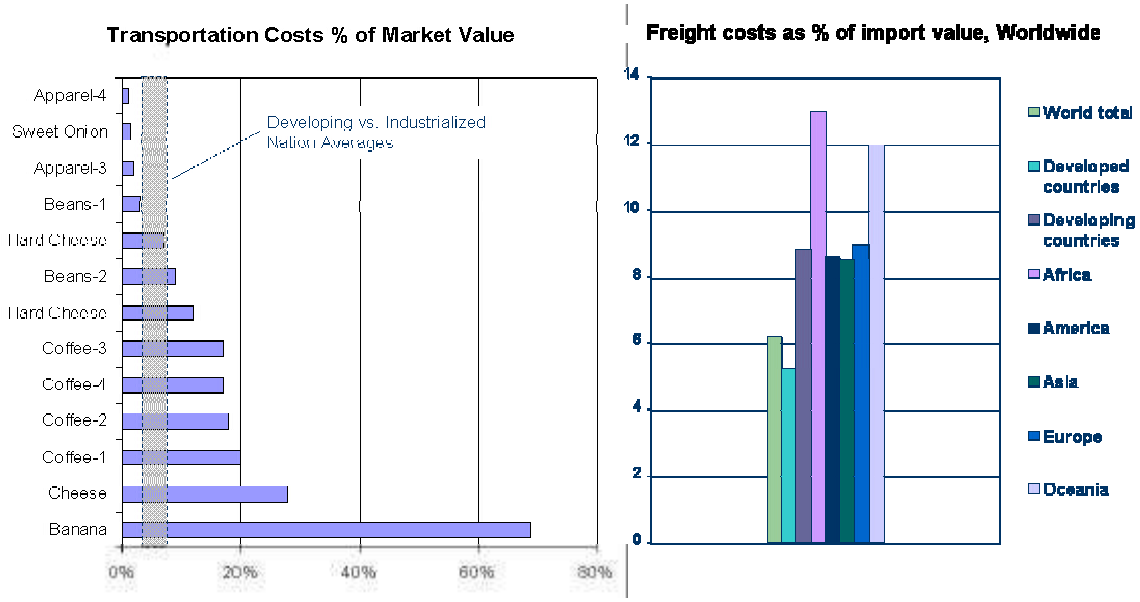
Goods moving to Puerto Cortes are generally forced into 70% -80% non-value added time. Most of these inefficiencies are the result of mandatory curfews at nightfall.



Given the trade imbalance, it is likely that a truck moving from Puerto Cortes and back will be unproductive over 85% of the time. These inefficiencies translate to higher costs for buyers and producers using Puerto Cortes as a gateway.

Bulk Goods cost disadvantaged

When the value of goods being moved was examined, transportation and logistics costs ranged from less than 2% to over 60% of the total market value of the goods. As depicted in the charts below, these findings are dispersed on either side of the 5% to 13% world average.



All coffee shipments analyzed exceed the transportation cost benchmark of 5% to 13% of market value. This is notable because transportation for bulk commodities needs to be more efficient and cost-effective than other goods.

Air Infrastructure is viable

For commodities that can ship less frequently than truckload quantities, air is a viable mode of transportation that does not suffer from the same disadvantages as road travel. Managua International Airport has good service and provides connectivity to the country's eastern shoreline, which is otherwise logistically isolated from the West.

The terms of trade reduce control

Steady declines in market values for traditional export commodities have increased the relative share and importance of transportation and logistics costs for getting goods to market. However, exporters tend to select trade terms that give overseas buyers greater control over these costs in their transactions. Contract terms are most frequently FOB (freight on board) though we did also encounter freight-on-truck for coffee and freight-to-warehouse for air. Two drivers are evident:

- Exporters do not view transportation and logistics management as a particular source of savings or as a competitive advantage.
- Exporters get paid faster, which reduces their cash outlay for each transaction.

Integrated operations are more efficient

The lowest transportation costs were achieved by Free Trade Zone operations, Apparel-3 and Apparel-4:

- As a percent of value of goods
- As dollars per kilometer

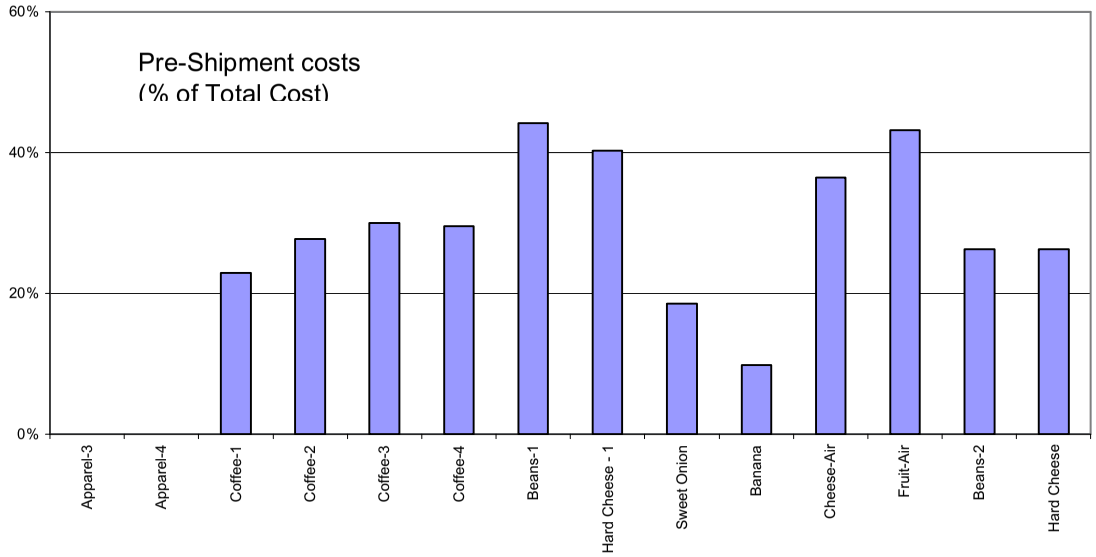
Clearly, being in the Free Trade Zone, which reduces costs of documentation and licenses, advantaged the costs of imported materials used for packing. But in addition, these shipments also benefit from being tightly integrated into the buyer's supply chain. Costs of logistics and transportation can be reduced because:

- Steady vs. highly seasonal volumes permit relatively lower fixed costs (trucks, warehouse space, fork lifts, and other fixed assets);
- Guaranteed volumes allow buyers to negotiate better contract rates; and
- Routine flows allow logistics service providers to plan the use of their assets better.

Pre-shipment costs are high

Pre-shipment costs for the commodities selected are 20%-40% of total transportation costs.

- Packaging is a crucial requirement from buyers to control in-transit waste and quality. However, much of this is not available locally, and must be imported in small quantities by individual producers, which drives up costs.
- Aggregation techniques are not widespread. Most cargo moves in full containers, which requires smaller producers to sell to resellers, and commodities may be handled numerous times prior to export, which adds cost and time. In addition, there are opportunity costs because large customer orders cannot be rapidly serviced.
- Lack of adequate warehousing for certain commodities results in high peak demand for transportation, and adds unnecessary cost.


Pre-Shipment costs
(% of Total Cost)
60%
40%
20%
0%
Apparel-3
Apparel-4
Coffee-1
Coffee-2
Coffee-3
Coffee-4
Beans-1
Hard Cheese - 1
Sweet Onion
Banana
Cheese-Air
Fruit-Air
Beans-2
Hard Cheese

Section 4: Issues & Policy Objectives

1) Actionable Issues

Nicaragua has a number of intractable issues that have a direct impact on the country's transportation and logistics capability. Despite this, there are also several areas of genuine opportunity for policy makers, public administrators and commercial enterprises. The most influential of these concern cargo aggregation, road transport and the prevalent producer mind-set.

i) Cargo Aggregation

Currently, the country's ports are not competitive. They have failed to attract frequent and competitive liner services to the country's primary trading partners, and consequently, they fail to attract the requisite cargo volumes for efficient operations. Bulk commodities, which rely on efficient transportation and handling, are particularly affected by this situation. Nicaraguan banana, coffee and melon industries spend more for transportation than products from countries with the necessary maritime services and infrastructure.

Often cited is the lack of a Nicaraguan port on the Atlantic coast. If such a port existed, proponents claim that cargo could move relatively inexpensively to target markets in North America and Europe. However, port infrastructure can be costly, requires supporting roadway and warehousing, and does not guarantee competitive and efficient maritime service. Market forces determine the frequency and quality of maritime service. Given Nicaragua's relatively low volumes of cargo, it is unlikely to be viewed as an attractive market by service providers. In other words, Nicaragua may experience poor maritime service and high cost *even with* a new Atlantic port.

The real challenge of improving maritime service is not just a new Atlantic port, but also the aggregation of cargo volumes that would be attractive to providers of maritime service. Large volumes of cargo attract transportation providers and providers of ancillary services, and by forcing them to compete for business—improve the efficiency, cost and quality of service offered.

Short of building a new Nicaraguan port, cargo aggregation strategies can still benefit Nicaragua. Regional ports in Honduras, Costa Rica or Guatemala may serve the purpose for North and Eastbound cargo. And, Nicaragua has an opportunity to be a regional powerhouse on the Pacific Coast. Properly equipped and marketed, Puerto Corinto could attract regional cargo for the Pacific trade lanes.

With a Corinto centered maritime strategy, new cargo aggregation strategies can become possible. For example, a vessel could aggregate cargo from the region's Pacific ports and by crossing the Panama Canal to efficient transshipment terminals like Kingston, make deliveries to North America or Europe.

ii) Road Transport

The state of the road network in Nicaragua adds cost, time, and uncertainty to transportation. The size and capacity of the network is limited, at best of times, and degrades substantially in wet weather. All trade is affected by the road network, whether its destination is a regional city or ultimately international.

Network expansion priorities should focus on the high volume corridors for import and export trade. Investments for network expansion need to support the broader strategy for transportation of international trade. If trade corridors are to regional ports, policy makers need to work cooperatively to adopt regional strategies for efficiency and improvement. Where road transport is clearly inefficient, policy makers need to pursue aggressive policies to get more from their investments.

For instance, a truck making a round-trip from Puerto Cortes to Managua may spend up to 85% of its time unproductively due to customs processes and curfew requirements. If this cost can be reduced by interventions to improve security and accelerate border crossings, the savings will directly benefit Nicaraguan shippers.

If goods are moving overseas, the cost of truck service is also influenced by the exclusive relationship that shipping agents have with their principals—the shipping lines. Shipping lines furnish containers for their customers, but require customers to use their agents for inland trucking. Agents operate trucking fleets that are tightly integrated into liner operations, which most shippers are encouraged to use. Though shippers have the option of transporting their own cargo and re-stuffing it into the liner's container portside, they rarely elect to because of additional handling costs, lack of facilities portside, and concerns about cargo security and damage. Shippers therefore feel compelled to accept the terms offered by the shipping agent's trucking service.

Policy makers have an opportunity to introduce free market elements to increase the choices available to shippers and reduce their cost of transport. These interventions could include port-side facilities for shippers who elect to use independent trucking companies, companies that lease and provision containers and other cargo aggregators who can negotiate better terms with the shipping lines.

iii) Producer Mind-set

In their search for global competitiveness, buyers are seeking relationships with producers who can contribute additional competitive advantage to their supply chains. Increasingly, product cost and quality are becoming the minimum pre-requisite qualifications to getting the buyer's order. Whereas producers once just concerned themselves with quantity and quality delivered, they must now also understand demand—where preferences for packaging, mix, variation, delivery options and timing are the most important factors driving buyers.

At present, producers have low visibility of the final destination of their products. Visibility to demand can provide important avenues to improve competitiveness and profits—through improved differentiation, responsiveness, or better meeting the customer's need. Producers who are unable to fulfill these requirements will face reduced margins as knowledgeable intermediaries step in. For instance, cheese exports from Nicaragua are repackaged in El Salvador and exported at a profit.

Policy makers have an opportunity to improve the competitiveness of key industries by identifying and educating producers of potential strategies to meet the challenge. Producers may be able to offer viable, cost effective solutions for buyer needs, if they knew how. For instance, frequent air shipments may serve the needs of a cheese buyer in Mexico better than a full-refrigerated truckload because of the cost of cold storage in Mexico City. Or, a melon producer selling to a buyer in Miami may be able to offer cheaper, faster service if it were determined that the buyer ultimately moves the melons to supermarkets in Kansas City, which may be served by Los Angeles via Corinto.

2) Trade Support Services & Policy Objectives

Issues identified with particular trade support services are identified below.

Maritime Transport

Issues	Priority	Policy Objectives
Nicaraguan ports have been unable to attract competitive and frequent liner service to the country's primary markets, and volumes are steadily declining.	High	• Marketing and business development program for the Port Authority. • Ocean cargo aggregation strategies that can favorably compete with the high cost of low volume trucks traveling to regional ports. • Shipping lines could be encouraged to develop regional hub services and cargo transshipment via suitably equipped ports such as Balboa or Kingston.
600 kilometers of roadway and a border crossing to regional ports distorts the cost of available maritime transportation.	High	• Improve access to the most popular regional maritime gateways: improve roads, facilities and cross-border agreements. • Address inefficiencies associated with cargo security, curfew, customs coordination, and warehousing.
Local ports need supporting infrastructure and services to be cost effective.	High	• Port development priorities for the East and West Coasts. • Off-port infrastructure such as access (better roads) and warehousing, and on-port infrastructure to reduce vessel dwell time and handling costs. For example, automated discharge equipment and specialized storage near the ports would circumvent the need to use a fleet of rotating trucks to deliver cargo to directly the customer's storage facilities from the ship, reducing vessel dwell time and handling costs.
Bulk loading processes antiquated and costly.	Medium	• Specialized bulk processing facilities to reduce handling costs and attract cargo that may be otherwise moving via other routes.

Air Cargo

Issues	Priority	Policy Objectives
Air provides East West connectivity, but Managua terminal is not set up as a transshipment point.	Medium	• Air is a critical internal link for Nicaragua: goods moving by air from the East must transit Managua. Strengthen Managua's ability to act as a transshipment hub for air cargo to attract regional cargo for international shipments.

Road Transport

Issues	Priority	Policy Objectives
Inadequate network; limited size and capacity of roads; high cost of road construction.	High	• Prioritize network expansion based on trade volumes and transit costs. • Public and private sector cooperation—policy, construction and maintenance. • Involve regional partners. • Develop a method to evaluate and monitor road surfaces for condition, maintenance and usability.
Transportation to some neighboring ports, such as in Honduras can sometimes achieve only 15% efficiency, and lead inevitably to higher costs and bloated trucking fleets.	High	• Develop a coordinated customs clearance program for cargo moving from Nicaragua to Puerto Cortes. • Invite insurance providers, shipping lines, trucking companies and bilateral government officials to develop a comprehensive security approach that enables 24/7 operations. Possible solutions include scheduled convoys, reusable electronic security mechanisms, and GIS tracking technology.

Intermodal Transport

Issues	Priority	Policy Objectives
Shipping agents enjoy a virtual monopoly in certain trade-lanes due the visibility shipping lines provide to bookings and backhauls. Private trucking fleets cannot compete for international shipments because shipping line containers are booked and moved exclusively by shipping agents.	Medium	• Invite and encourage container leasing companies to provide and reposition leased containers. • Invite and encourage NVOCC's (non vessel operating common carriers) to provide competitive services.

Cargo Handling & Storage Services

Issues	Priority	Policy Objectives
Few consolidators. Goods either travel less than truckload or by full container load from origin to destination.	Medium	• Regional trade can benefit significantly from consolidation services. Provide local producers with access to regional trade leads. Provide training and education for small producers who interact directly with buyers. Assist large buyers establish consolidated services inbound from multiple suppliers.

The absence of bonded warehousing and specialized storage facilities requires regional truckers to time their deliveries to vessel arrival, causing congestion, waiting and unnecessary cost.	Low	• Assist transportation providers and shippers gain financing for required storage and handling facilities based on the cost savings generated by improving throughput and reducing asset requirements.

Customs and Border Activities

Issues	Priority	Policy Objectives
Centralized customs facility still retains a lengthy process that requires shippers to visit multiple departments.	Low	• Improve customs processes by identifying the needs of individual shippers, recognizing recurring services that are routinely provided, and establishing a simple procedure to deliver those services.
Highly manual processes, with frequent errors in non-traditional commodity documents due to lack of familiarity.	Low	• Implement cross departmental process improvements and automate shared, if not most, processes.
Border crossings characterized by poor coordination across regional authorities, and 2-4 hour delays.	High	• Rapidly implement regional customs consolidation program and establish customs performance measurement processes to assess and improve the level of services being provided.

Banking & Finance Practices

Issues	Priority	Policy Objectives
Export incentives take a long time to recoup; incentives lose their impact if not immediate.	Low	• Provide incentives immediately, up to a certain amount, and recoup corrections later.
Commercial loans are more difficult to get than consumer loans, and rates are as high as 22%.	Medium	• Address development efforts through financial services, including development of new trade finance and other export instruments.
Exporters select FOB or even	Medium	• Institute financial instruments to pay producers for their exports while allowing

shorter payment terms because they want to get paid sooner, even if other terms may lead to lower total cost.		them to capture the additional benefits of negotiating improved contractual terms.

Appendix: Export Competitiveness and the Transformation of the Nicaraguan Economy

1) Background

The globalization of the world economy, and changes in the geopolitical environment of the late 1980s, resulted in a comprehensive review of the prerequisites for the promotion of economic development in emerging economies.

For Nicaragua, the dynamics of the developmental challenge of low levels of economic growth, a narrowly based agrarian economy, heavy debt and chronic external account imbalance were further compounded by the demise of the Communist Bloc of Eastern Europe. The end of communism was particularly threatening through the 1970s and 1980s. The Warsaw Pact was an important political ally and trading partners of Nicaragua. Changes in the international geo-political system, that is, its realignment towards democracy and free trade, resulted in the emergence of democratic institutions to foster economic growth in Nicaragua since 1990. At the center of the new doctrine was the trade policy. The objective of the trade policy is the promotion of economic development through:

- Integration in the international economy
- Diversification of the economy
- Participation in and strengthening of multilateral, regional, sub-regional and bilateral links
- Autonomous liberalization of the economy
- Creation of a stable and modern regulatory environment which are attractive to both domestic and foreign investments
- Strict compliance to the standards and requirements of the WTO

Export promotion and competitiveness are integral parts of the trade policy, and has been singled out for detailed review, strategy and targeted actions.

2) Export Promotion and Competitiveness Issues

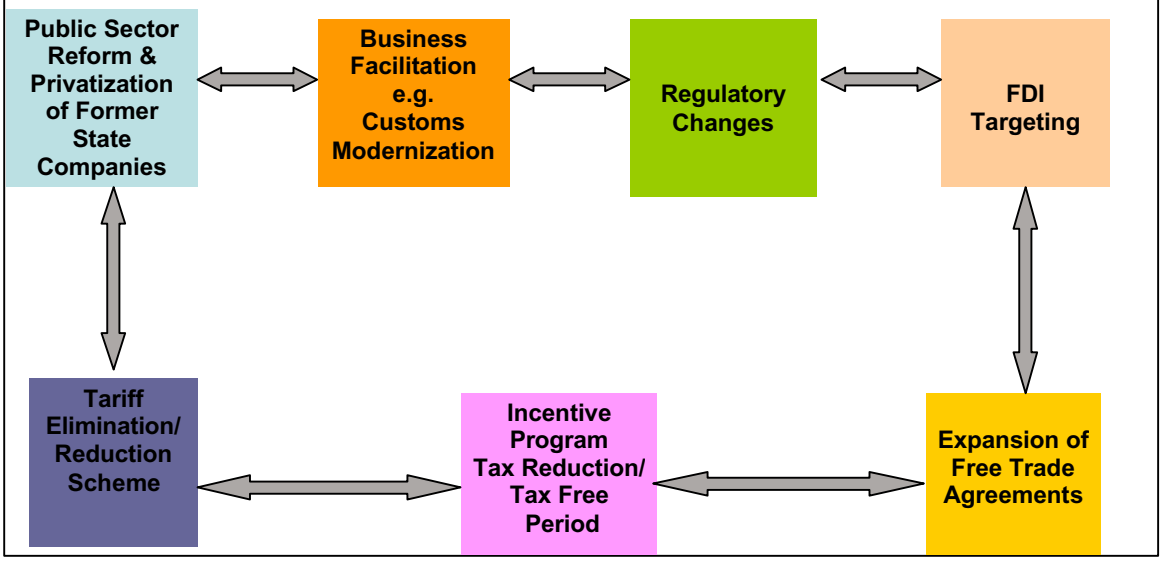
Since 1990, the objectives of the Nicaraguan program of promoting export are to:

- Increase international market share and earn more foreign exchange
- Diversify the export basket (i.e. reduce dependency on a few primary export products)
- Sustain high rates of export growth over time
- Upgrade the technological and skill content of export activity
- Expand the base of domestic firms that are able to compete internationally (i.e. to improve and sustain their international competitiveness)
- Encourage the import of products from which increased foreign exchange earnings can be obtained
- Encourage the development of higher value added export activities
- Create a business environment that will attract Transnational Corporations (TNC) and Foreign Direct Investment (FDI)

i) Model for Export Promotion

The national model for the promotion of export trading and international competitiveness has seven components that are illustrated in Diagram 1.

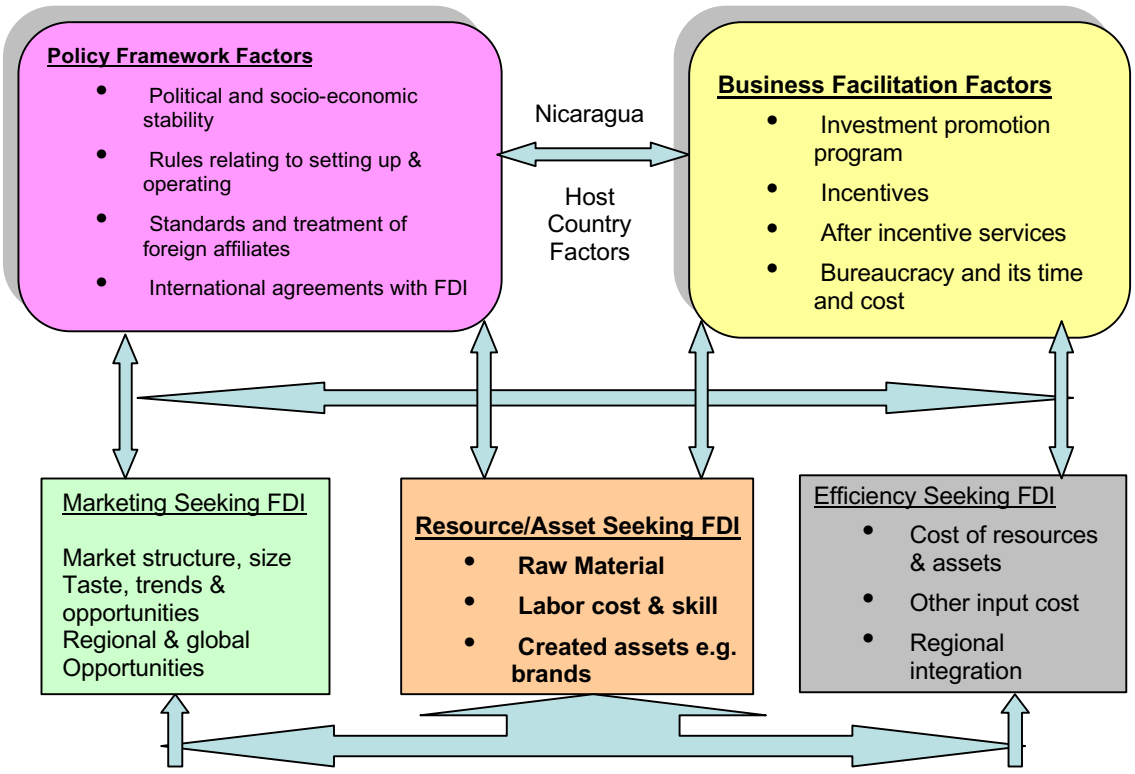
Diagram1: Nicaraguan Model for the Export Promotion & Competitiveness



Achievements of the export promotion program are:

- Public Sector Reform & Privatization of Former State Companies
    a. All state monopolies and virtually all price control have been eliminated, except for public utilities.
    b. State participation in the marketing of agriculture, livestock and industrial sectors has been eliminated.
    c. Foreign bidders with legal status are allowed to participate in sectors of the economy where government procurement still occurs.
- Business Facilitation
    a. Creation of CETREX, a one-stop-shop for export documentation
    b. Adoption of the Harmonized Commodity Description and Coding System
    c. Streamlining of Customs' procedures
    d. Introduction of the Value Method of Customs Valuation in 2000
    e. Alignment of the export subsidy program with that of the WTO
- Regulatory Changes, Such As:
    a. Foreign Investment Law 2000
    b. Law Creating the Superintendence of Banks and Other Financial Institution
    c. General Telecommunication and Postal Service Law
    d. Law of the Supply of Hydrocarbons
    e. Law on the Electricity Industry
    f. Law Reforming the Basic Law on the Nicaraguan Energy Institute and Consumer Protection
- FDI Targeting, which serves as an incentive for the encouragement of Export Processing Zones (EPZ) that is suitable for all types of TNC's based FDI (see Diagram 2).

Diagram 2: Nicaragua Export Competitiveness Factors/ FDI Pull Factors



Source: Adapted from World Investment Report 2002, page 24, UNCTAD

- Expansion of Free Trade Area - to include agreements with countries outside of Central America such as the:
    a. Caribbean Basin Initiative
    b. Association of Caribbean States
    c. Central America and the Dominican Republic
    d. Central America, Chile and Panama
    e. Central America, Columbia and Venezuela
    f. Central America and Mexico
- Incentives Program—e.g. ten year tax exemption from income tax, full or partial exemption from import tax or value added tax for tourism development projects in excess of US$ 30,000.00, the abolition of taxes and fees for administrative services and the abolition of export taxes.
- Tariff Elimination or Reduction—through the Autonomous Tariff Reduction Plan through 1997 to 2004.

ii) Impact of Export Promotion and Competitiveness Program

The impact of the export promotion and competitiveness programs can be measured by the performance of traditional and non-traditional export sectors of the Nicaraguan economy. Important factors in this assessment process are:

- Growth in exported volumes
- Foreign exchange earnings
- Employment generation
- Contribution to the diversification of the economy
- Penetration of new markets

- Increases in TNC/FDI activities
- Reduction in the trade gap
- Impact on the balance of payment deficit and gross national product
- Relative success or failure to meet trade policy and other related objectives

3) Performance of the Traditional Export Sector

Traditional exports are agricultural and mining products. The major contributing products are coffee, banana, sugar, cotton, sesame, shrimp, lobster, fish, silver and other precious metals. Graphs 6 -10 summarize the performance of the sector, excluding the mining industry. These graphs indicate that in the agricultural/plantation sub sector no single trend can be discerned. Performance of this sector varies in accordance to the product to the extent that the sectoral trends are:

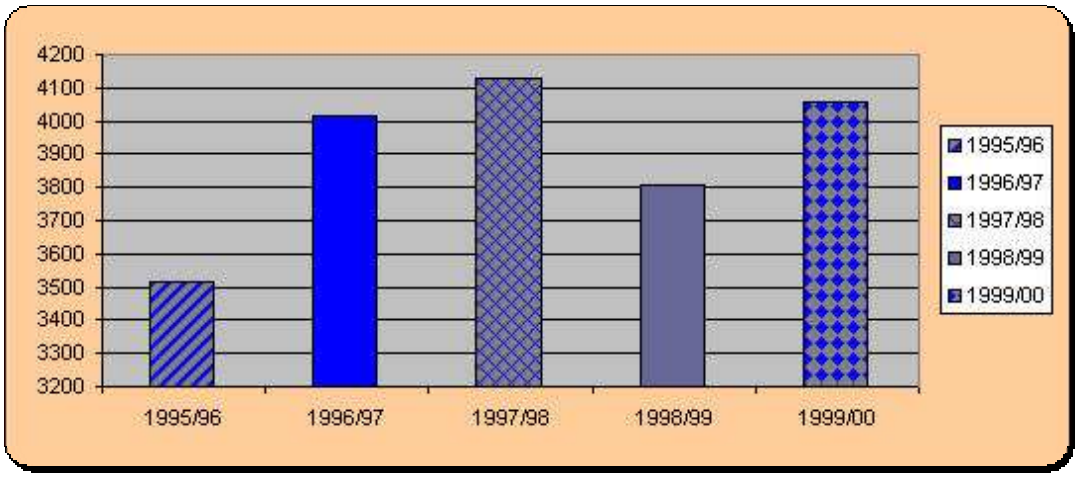
- Significant growth in sugar, except for 1998/1999 when the crop was adversely affected by Hurricane Mitch
- Declining importance of cotton
- Stagnation in coffee
- Cyclical performance of banana, with 2000-2003 being a growth period—albeit lower that that of the peak 1996-1998
- Seafood export production (see Graph 11), unlike that of agriculture, exhibits a clear upward trend over the five-year period with growth rates increasing since 1998.

Graphs 12 and 13 provide a crude perspective of the foreign exchange earnings from the traditional export sector. Graph 12 indicates that the price for shrimp and lobster over the six year period between 1995 to 2000 have been relatively stagnant, with marginal increases since 1998. Export earnings in shrimp have been maintained over the period between 1997-2000 due to significant increases in harvesting. The price in traditional export agriculture has been trending downwards since 1998 (see Graph 13) and this partially explains the stagnant and declining volumes in export. The fall in the price of coffee has been especially hard on Nicaragua as earnings from coffee fell by 42% between 1999 and 2000. World market price trends for traditional products have served to limit the positive impact of current trade policies, while making a positive contributions to economic indicators have not radically altered the structural weaknesses of the Nicaraguan economy.

Traditional Export Production 1995-2000

Graph 6: Sugar Cane (000 short ton)

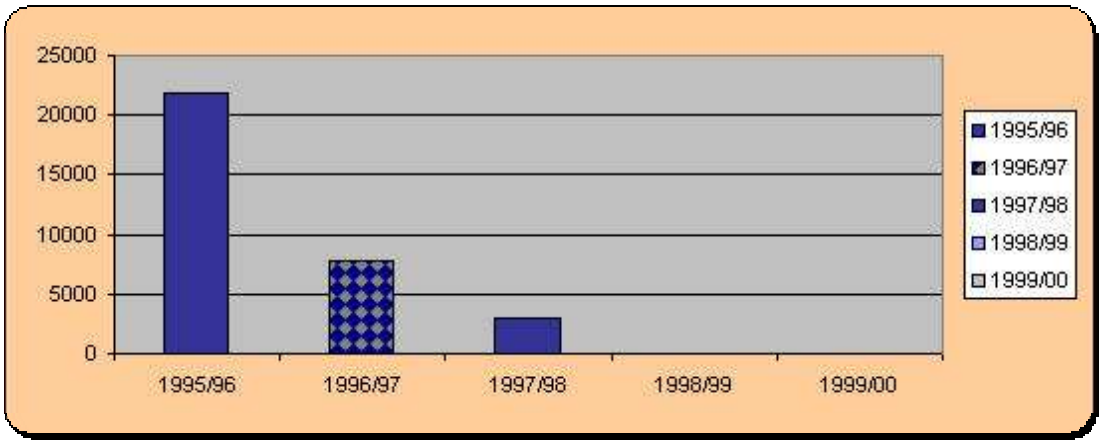
Year	Quantity
1995/96	3517.9
1996/97	4014.9
1997/98	4125.9
1998/99	3805.1
1999/00	4055.8



Source: Central Bank of Nicaragua, Economic Studies, Charts 1-10

Graph7: Cotton (short tons Unginned)

Year	Quantity
1995/96	21823.8
1996/97	7777.2
1997/98	2944.9
1998/99	
1999/00	

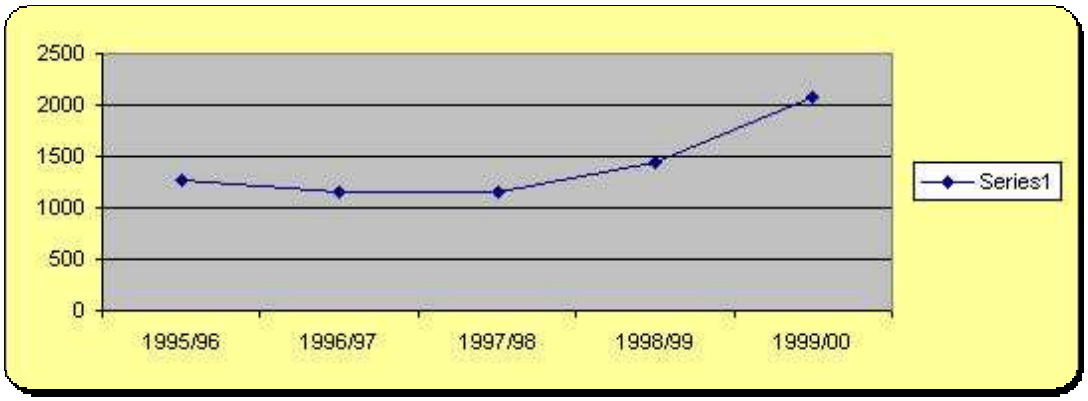


Source: Central Bank of Nicaragua, Economic Studies, Charts 1-10

Traditional Export Agricultural Production 1995-2000

Graph 8: Coffee (Beans unroasted) tons

Year	Quantity
1995/96	1275.4
1996/97	1161.9
1997/98	1159.8
1998/99	1439.3
1999/00	2083.3



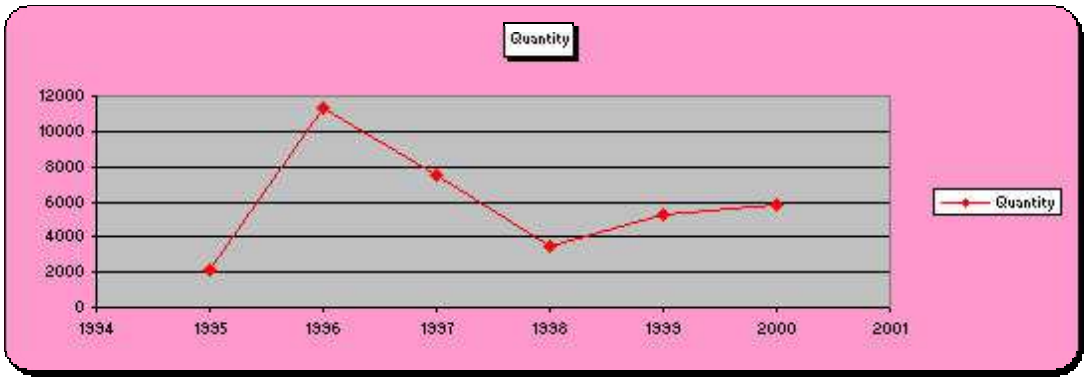
Graph 9: Banana (000 of 42lb boxes)

Year	Quantity
1995	3383.5
1996	4634
1997	4865.9
1998	4602.5
1999	3200
2000	535.9
2001	2179.6
2002	2363.9

Source: Central Bank of Nicaragua, Economic Studies, Charts 1-10 & 1-11

Graph 10: Natural Sesame (short tons)

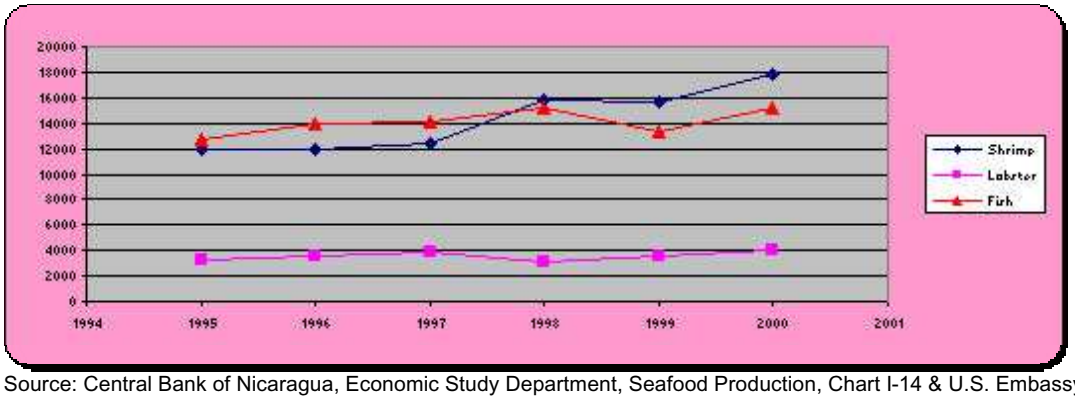
Year	Quantity
1995	2145.74
1996	11273.7
1997	7463.5
1998	3501.5
1999	5216.9
2000	5803.8



Source: Adapted from Central Bank of Nicaragua, Economic Studies Department, Charts 1-10 ,1-11

Graph11: Seafood Production 1995-2000 (000 lbs)

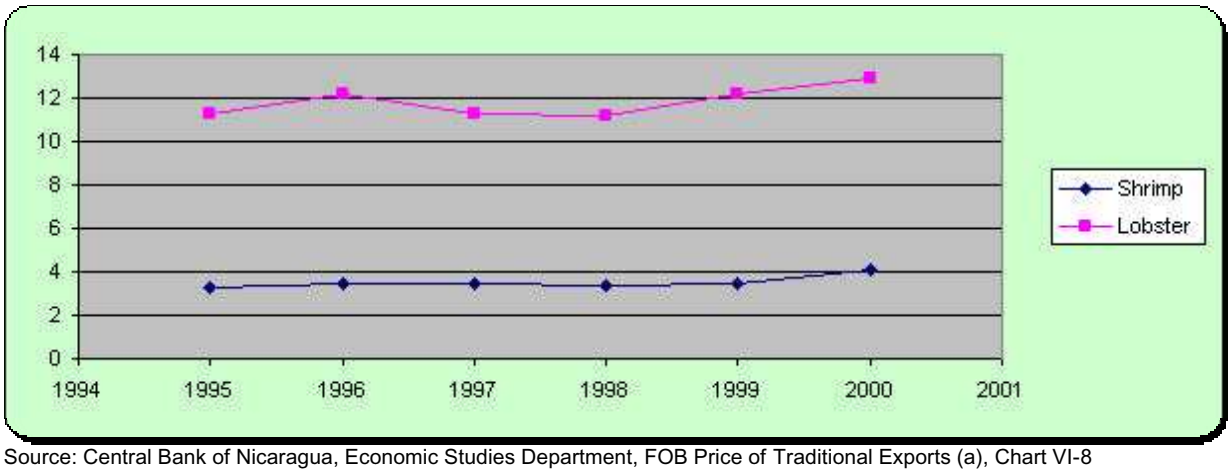
Year	Shrimp	Lobster	Fish
1995	11947.4	3258.8	12661.1
1996	11885.8	3491.5	14001.4
1997	12352.6	3933.9	14185.1
1998	15792	3041.6	15146.8
1999	15660.1	3531.7	13350
2000	17852.5	4026.1	15219



Source: Central Bank of Nicaragua, Economic Study Department, Seafood Production, Chart I-14 & U.S. Embassy in Nicaragua - Economic & Commercial Section

Graph 12: FOB Price for Traditional Export Seafood (US$ per lb)

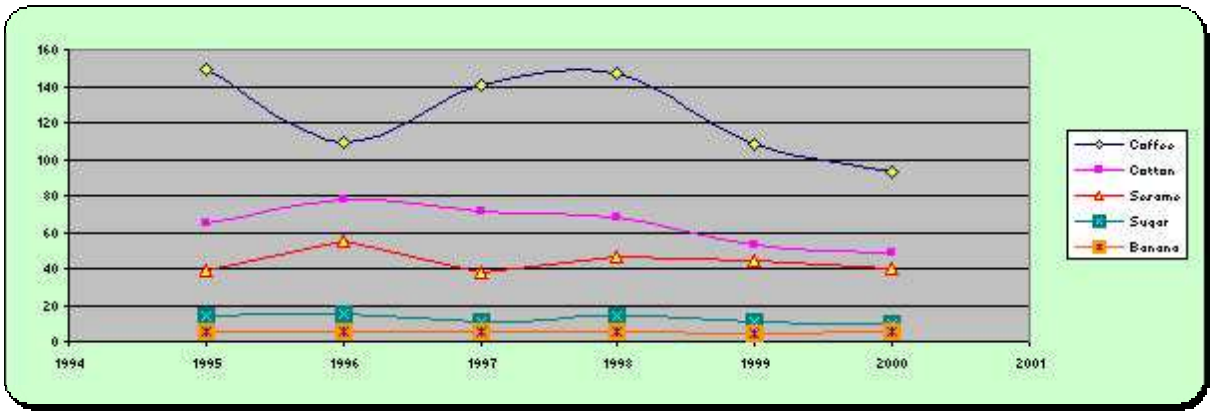
Year	Shrimp	Lobster
1995	3.3	11.3
1996	3.5	12.2
1997	3.5	11.3
1998	3.4	11.2
1999	3.5	12.2
2000	4.1	12.9



Source: Central Bank of Nicaragua, Economic Studies Department, FOB Price of Traditional Exports (a), Chart VI-8

Graph13: FOB Prices for Traditional Agricultural Exports Products 1995-2000 US$ (per export unit)

Year	1995	1996	1997	1998	1999	2000
Coffee	149.3	109.5	141	146.7	107.9	93.2
Cotton	64.6	78.3	71.2	67.9	53.3	48.4
Sesame	38.6	55.2	37.5	46.6	44	40.5
Sugar	14.1	14.6	11.2	13.9	11.1	9.3
Banana	5.3	5.5	5.2	5.4	4.4	4.9



Source: Central Bank of Nicaragua, Economic Studies Department, FOB Prices of Traditional Exports (a), Chart VI-8

4) Performance of the Non-Traditional Export Sector

Nicaragua's non-traditional export sector is divided into two groups. These groups are:

- Non-traditional agricultural exports
- Manufacturing exports

The major non-traditional agricultural export crops are fresh fruits and vegetables, tobacco, beans and peanuts. Manufacturing exports predominately consist of textile and apparel from the Export Processing Zones (EPZ).

i) Non-Traditional Agricultural Exports

Since the 1990s there has been considerable growth in non-traditional agriculture to the extent that this sector is a part of the fastest growing earner of the Nicaraguan economy. Products such as peanuts, melons, cheese and onions, albeit with still relatively small volumes, have performed well with growth rates exceeding that of leading traditional agricultural products. Graphs 14 and 15 summarize the performance of melons and cheese for the four-year period 2000-2003 and suggest that the positive trends since the mid 1990s have continued. Graphs 16 -17 on the FOB export prices for these products further revels that growth in these products have resulted in growth in export earnings. The performance of these two products differ significantly from their counterparts in the traditional sector, which have experience either stagnation in volumes or earnings since 1999.

Graph 14: Melon (kilos)

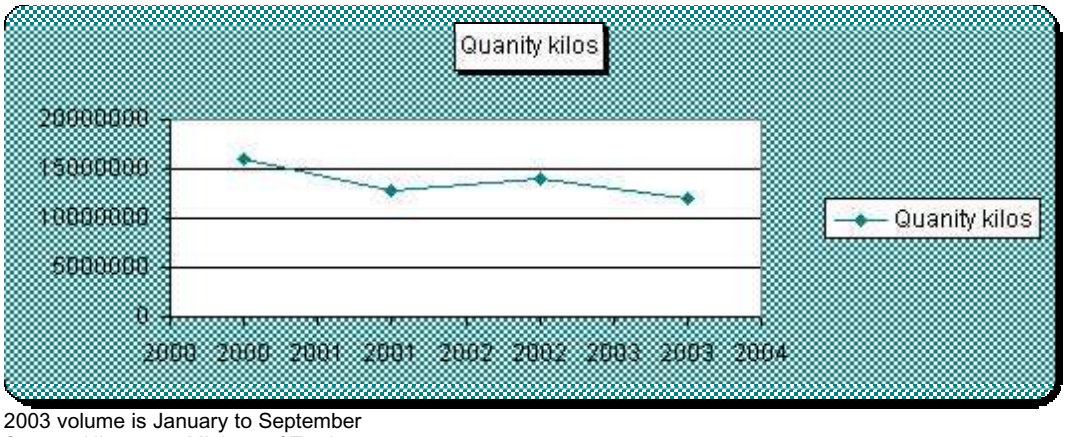
Year	Quantity kilos
2000	4790598.44
2001	41523352.83
2002	45034279.6
2003	36842227.45

2003 volume is January to September
Source: Nicaragua Ministry of Trade

Non-Traditional Export Volume

Graph 15: Cheese (kilos)

Year	Quantity kilos
2000	16048875.78
2001	12873234.72
2002	13976484.48
2003	11961964.78

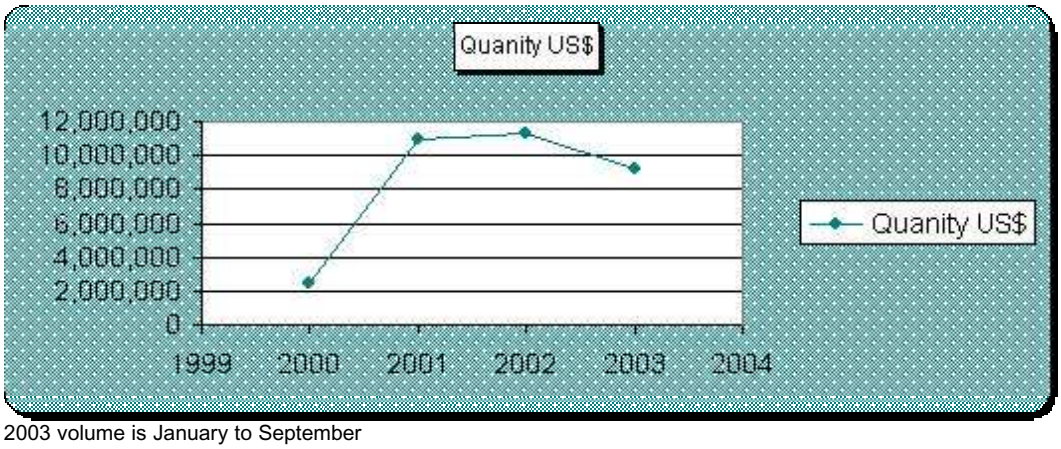


2003 volume is January to September
Source: Nicaragua Ministry of Trade

Value of Non-Traditional Export

Graph 16: Melon FOB Value 2000-2003 (US$)

Year	Quantity US$
2000	2,452,285.40
2001	10,919,812.98
2002	11,260,240.41
2003	9,211,845.25



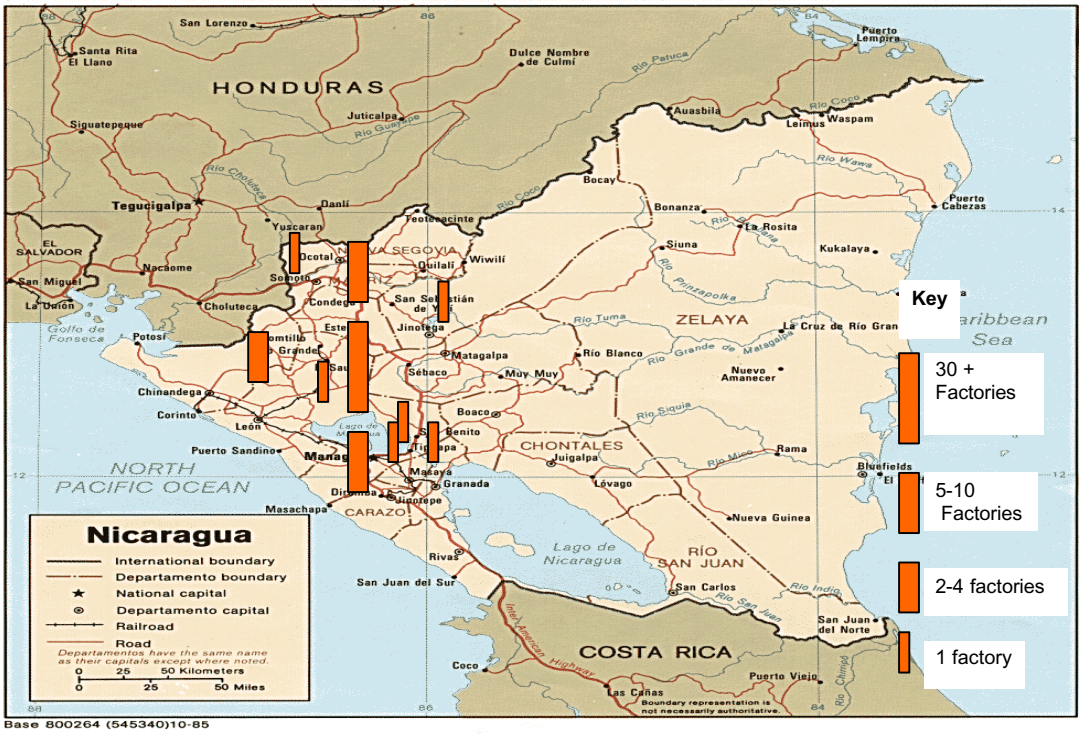
2003 volume is January to September
Source: Nicaragua Ministry of Trade

ii) Non-Traditional Manufacturing Export/Free Zone

One of the key engines of export growth and employment generation in Nicaragua since 1990 is the Export Processing Zones (EPZ). EPZ activities currently employ 2% of the labor force. Growth in the sector is largely the result of Foreign Direct Investment (FDI), which has responded to government policy. Government policy for the promotion of Free Zone activities includes exemptions in income tax, value added tax, tariffs and export tax. Map 6 provides details related to the location and numbers of people directly employed in these enterprises. This map reveals:

- Concentration of factories to the Northwestern section of the country
- Free Zones are located in urban areas
- Proximity of factories to major road network
- Concentration of factories in Managua
- Free Zones with 2-10 factories are in major towns (Esteli, Leon, etc.)

Map 6: Location of Export Processing Zones & Number of Enterprises
September 2003



Source: Nicaragua National Commission of Free Zones

Graphs 18-20 provide analysis of Free Zone activities for the period between 1995-2000 with respect to number of companies, direct employment generation, destination of products and foreign exchange earnings. These graphs indicate that:

- Free Zone manufactured products were exported to two markets (i.e. USA and Central American countries)
- US market accounted for approximately 90% of exports
- Number of factories have increased by 220%
- Twenty seven thousand six hundred and forty six persons were directly employed to EPZ enterprises, and that direct employment in 2000 was 4.5 times larger than that of 1995
- Foreign exchange earnings had increased by 300%

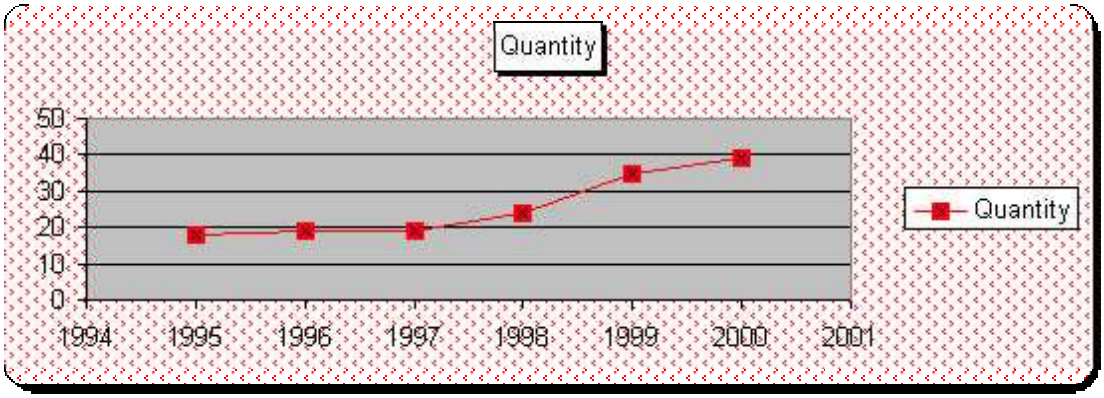
Despite the positive results of EPZ, as indicated by Map 6 and Graphs 18-20, three significant negative factors continue to plague this sector. These factors are:

- Inability to assist in creating new export destination (i.e. further entrenched dependency on US markets)
- Negligible impact on broadening the range of activities in the manufacturing sector, and thus has had little impact on broadening type and depth of skills in the labor force (See table 3 page 14). These graphs indicate that both skills and export earnings are highly skewed and predominately exist in the apparel and tobacco industry.
- Private investment in Nicaragua, and in particular FDI, remains small. Table 2 on page 14 indicates that it is the smallest in Central America.

Graph 18: Export Free Zone Manufacture 1995-2000

Number of Companies

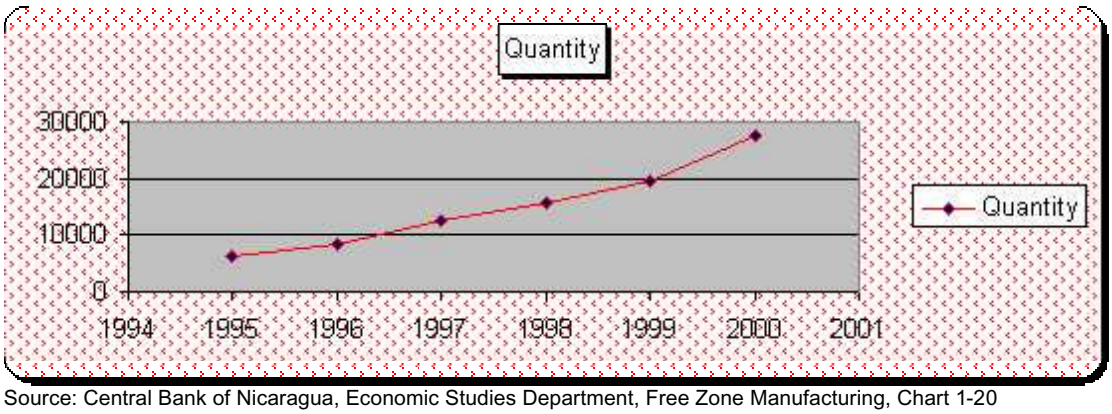
Year	Quantity
1995	18
1996	19
1997	19
1998	24
1999	35
1999	35
2000	39



Source: Central Bank of Nicaragua, Economic Studies Department, Free Zone Manufacturing, Chart 1-20

Graph 19: Direct Employment Generation

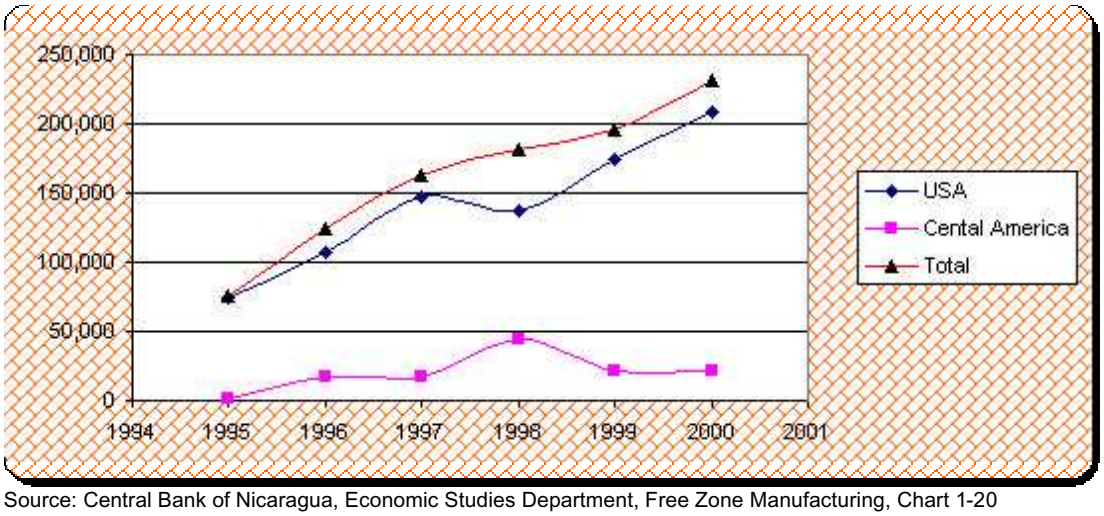
Year	Quantity
1995	6113
1996	8419
1997	12699
1998	15615
1999	19533
2000	27646



Source: Central Bank of Nicaragua, Economic Studies Department, Free Zone Manufacturing, Chart 1-20

Graph 20: Free Zone Export Earnings 1995-2000 (US$ million)

Destination	1995	1996	1997	1998	1999	2000
USA	73,597.40	106,940.60	146,597.40	136,963.40	174,874.50	208,652.10
Central America	1,618	17,334.50	16,474.40	44,609.20	21,448.00	22,063.30
Total	75,215.40	124,275.10	163,071.80	181,572.60	196,322.50	230,715.50



Source: Central Bank of Nicaragua, Economic Studies Department, Free Zone Manufacturing, Chart 1-20

Table: 2 Number of Parent Corporations & Foreign Affiliates in Central American Countries (Year most current year data available)

Country	Year	Parent Co. in Region	Foreign Affiliate in Region
Costa Rica	2001	0	137
El Salvador	1990	0	225
Guatemala	1985	0	287
Honduras	2001	0	45
Nicaragua	2001	0	31
Panama	2001	0	386

Source: Adapted from World Investment Report 2002, page 36, UNCTAD

Table 3: Employment Generation & Value of Export Earnings by Sector in Nicaraguan Free Zones

Activity	Employment	Export Value US$
Car Parts	1860	0
Shoes	126	570,000
Carton Boxes	159	1,528,009
Communication Equipment	12	29,567
Tobacco	3228	15,185,801
Textile	206	5,524,371
Apparel	42064	327,012,043
Others	5920	477,429

Source: Adapted from Nicaragua National Commission of Free Zone, 2003 Statistics

5) Success and Failure of the Export Promotion and Competitiveness Program

There are two methods of assessment that are relevant to the trade policies since 1990. These are:

- Macro-economic factors that indicate structural elements of economic transformation
- Micro-economic factors that indicate winners, losers and changes in export trading patterns and conditions

i) Macro-Economic Factors

The Nicaraguan macro-economic environment has had some positive response to the trade policy changes. These positive responses are:

- Consistent growth in GDP for the period 1993- 2002. Growth rate of 2.5% in 2001 valued at US$ 2.4 billion.
- Significant growth in exports, both in terms of percentage increases in volume (average growth rate 1993-2000 of 20% per annum) and foreign exchange earnings, which have more than triple since 1993(from US$266 million in 1993 to US$640 million in 2001).
- Considerable growth in manufactured exports, which only accounted for 9.3% in 1993, as compared to 25% of total exports in 2002.
- Phenomenal increases in non-traditional exports, which in 2001 accounted for 45% of total exports.
- Introduction of new skills and technology into the economy through the growth of the manufacturing sector.

Despite these positive trends, the trade policy has had little impact on the major problems of the economy. These problems are:

- Chronic deficit in the Balance of Payment Current Account which currently exceeds 40% of GDP.
- Severe trade imbalance with imports value and volume far exceeding that of export as exemplified by the trading pattern with its major trading partner—North America. In 2001, export from Nicaragua to North America was one hundred and sixty one (161) products with a value of US$202.2 million. Imports from North America to Nicaragua (182 products) was valued at US$ 688.1 million.
- Expansion in export has not resulted in any change in the direction of trade.
- Continuation of the reliance on assistance from international lending agencies and donor organizations.

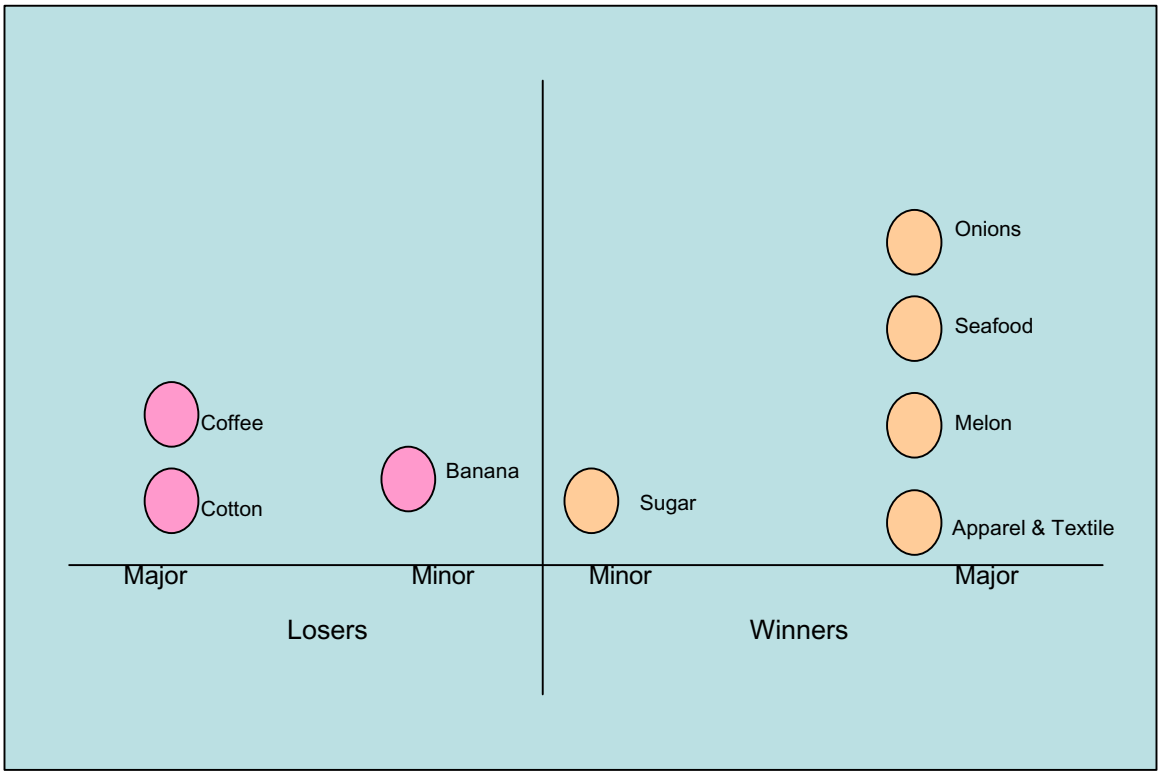
ii) Micro-Economic Factors

Individual export products as well as sub-sectors in the export trading industry responded to the new trading environment to the extent that winners and losers can be identified. Winning products are those that have displayed the characteristics of:

- Generating new employment opportunities
- Diversifying skills and industrial base
- Increasing foreign exchange earnings
- Future pricing of the product on the international market is positive
- Private investment (local and foreign) is attracted to the product
- International market expectation for the product is high and positive
- Comparative advantage for the product
- Responding positively to trade policy and other Nicaraguan governmental initiatives

Diagram 3 identifies some of the winners and losers.

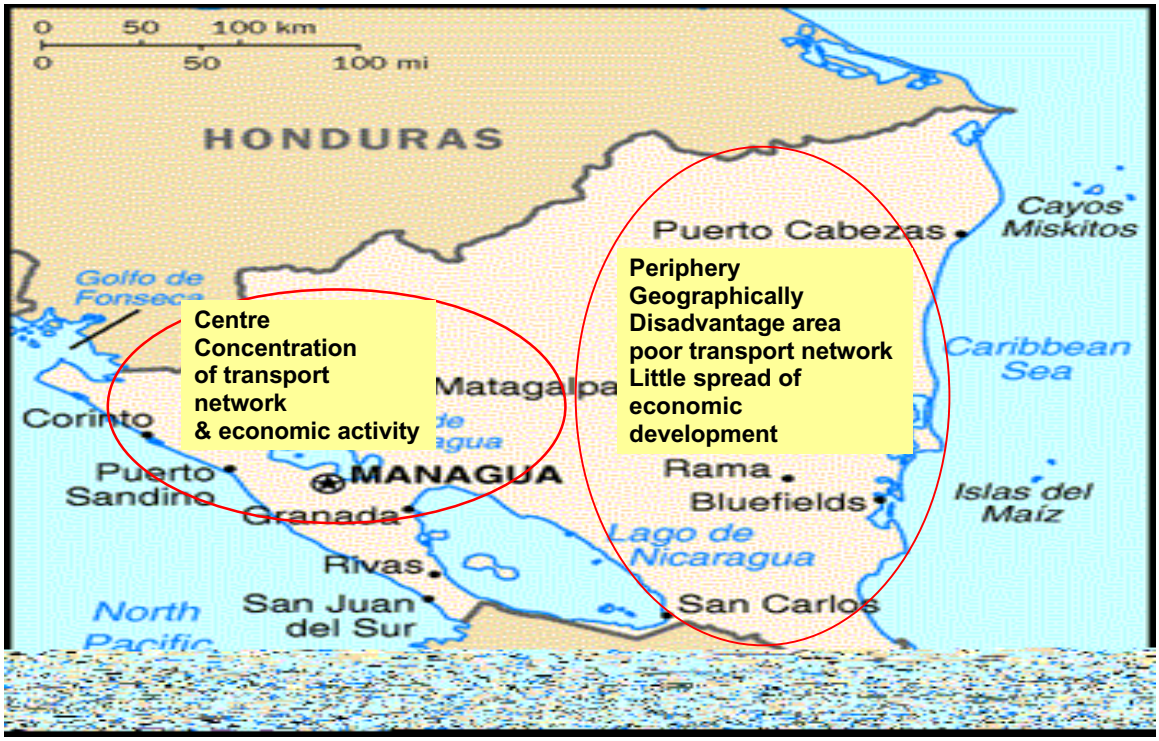
Diagram 3: Winners & Losers in Nicaragua's Export Competitiveness



iii) Bottlenecks in the Export Promotion /Exporters Perspective

The efforts of the Nicaraguan government to enhance economic growth and prosperity through export promotion are being curtailed, as the developmental strategy is piece meal, with slow and insignificant changes occurring in infrastructure. Deficiencies in infrastructure have spiraled and resulted in negative effects on business development and wealth creation. The major infrastructural deficiency that hampers economic transformation and the spread of development is that of transport and logistics. Transport and logistics deficiencies have skewed development by creating geographically advantageous (centre) and disadvantageous (periphery) areas. Map 7 on the next page identifies these areas.

Map 7: Economic Developmental Spread of Nicaragua Centre & Periphery



The transport and logistic deficiencies that have resulted in the "peripherization" of most of the Nicaraguan landscape as identified by exporters is:

- Insufficiency of road and poor road quality throughout most of the country, with significant portions of northern roads being impassable in the raining season.
- Absence of East West connectivity i.e. road, air and rail.
- Poor port facilities especially on the East Coast.
- Nicaraguan reliance on the usage of foreign ports (Port of Cortez and Limon).
- Cost of road haulage from the western and eastern production belts to the Honduran and or Costa Rican borders.
- Additions to cost resulting, from:
    a. Time taken to transport cargo to and across the border
    b. Storage and consolidation facilities
    c. Shipping scheduling
    d. Availability of containers
    e. Absence return haulage (i.e. payment for dead freight)