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BELIZE FREE ZONE FEASIBILITY STUDY
MARKET AND LABOR DEMAND ANALYSIS

Prepared for the Ministry of Economic Development of the Government of Belize

Phase I
Final Report

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ACRONYMS AND ABBREVIATIONS

BABCO	Belize Agribusiness Company
BCCI	Belize Chamber of Commerce and Industry
BEB	Belize Electricity Board
BEIPU	Belize Export and Investment Promotion Unit
BIP	Border Industrialization Program (Mexico)
BTL	Belize Telecommunications, Ltd.
CAD	Computer-Aided Design
CAP	Common Agricultural Policy
CARIBCAN	Caribbean-Canadian Trade Agreement
CARICOM	Caribbean Community and Common Market
CBI	Caribbean Basin Initiative
CDB	Caribbean Development Bank
CINDE	Coalicion Costarricense de Inciativas de Desarollo
CUFT	Cubic Foot
DM	Deutsche Mark
EC	European Community
EPZ	Export Processing Zone
FCOJ	Frozen Concentrated Orange Juice
FIDE	Fundacion para la Investigacion y el Desarrollo Empresarial (Honduras)
GDP	Gross Domestic Product
GOB	Government of Belize
GSP	Generalized System of Preferences
IPC	Investment Promotion Council (Dominican Republic)
JAMPRO	Jamaica Promotions, Ltd.
kw	kilowatt
kwh	kilowatt hour
LDC	Less-Developed Country
MED	Ministry of Economic Development
MFA	Multi-Fiber Arrangement
NIC	Newly Industrializing Country
OCR	Optical Character Recognition
PBX	Private Branch Exchange System
SQFT	Square feet
SFB	Standard Factory Building
SRI	SRI International
TIEA	Tax Information and Exchange Agreement
TSG	The Services Group
TSUS	Tariff Schedules of the United States
USAID	United States Agency for International Development

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EXECUTIVE SUMMARY

Purpose. The purpose of this report is to evaluate the potential of the Santa Elena area for development of a private Export Processing Zone (EPZ). Specific attention is paid to estimating demand for under-roof space in the EPZ, and assessing the availability of requisite labor in the Santa Elena area.

Background. The ability of the Santa Elena location to attract foreign and local investment in export processing depends upon a number of internal and external factors. While external factors such as the overall health of the U.S. economy critically impact potential investment demand, they are largely beyond effective control. Internal variables, on the other hand, such as the Belizean legislative and regulatory incentives, work force training, and infrastructure are within the overall control of the Government and/or the zone's developers, and can be configured to attract maximum interest and investment from the targeted sectors.

Emerging Industry Sectors. The Caribbean Basin is increasingly becoming a preferred offshore location for U.S. producers seeking to reduce production costs, and for other manufacturers seeking preferential access to the U.S. market. Over the past few years, an increasing number of operations in "emerging" sectors -- information processing, apparel, electronics, pharmaceuticals, agro-related processing, and other assembly and manufacturing operations -- have been established in the region, requiring an entirely new set of support services, facilities, and amenities.

In response, new types of free zones have been established under private ownership and management, offering "products" specifically configured for these sectors. The new specialized free zones, located primarily in the Dominican Republic, Jamaica, and Costa Rica, offer users a package of services (e.g. tailored training and labor referrals), facilities (e.g. office buildings and dedicated, low cost satellite links) and amenities (e.g. proximity to resort areas) customized to the needs and preferences of specific sectors.

Identification of Priority Sectors. Although comprehensive targeting of high potential industry sectors is beyond the focus of this engagement, the following targeting methodology was utilized.

The initial approach used in determining target industries was to identify high-growth industry and service sectors in other Caribbean Basin free zones. The major sectors selected for further examination were apparel, information services, agro-processing operations, and other light manufacturing operations.

Following this initial screening, a more detailed examination of the above sectors was undertaken. These tasks focused on:

- assessment of the Santa Elena location to identify comparative economic advantages and disadvantages relative to alternative locations in Belize;
- identification and evaluation of the particular physical facilities and location requirements of target sectors; and,
- a "matching" of target sector requirements with Santa Elena's characteristics to determine sectoral feasibility.

Principal conclusions of this analyses are summarized below.

Advantages and Disadvantages of the Santa Elena location. The following attributes were identified as key assets and liabilities of the Santa Elena free zone project:

Advantages

- Lower cost labor force of adequate supply;
- Abundant raw materials for agro-industry sectors;
- Good location close to support services and low-cost inputs from Mexico;
- The potential for low-cost power; and,
- Relatively low cost land.

Disadvantages

- Relative lack of skilled labor;
- Lack of local sourcing opportunities at world prices;
- High-priced and deficient telecommunications system; and,
- Relatively distant location from air and sea ports.

Characteristics of Priority Products and Processes. Based on consideration of the factors listed above, high priority products and processes suited for location in the zone can be expected to share some or all of the following characteristics:

- High value-to-weight ratios;
- Technologically non-complex products;
- Low capital investment requirements;
- Labor intensive products;
- Subassemblies and intermediate goods;
- Products with high U.S. dutiable value;
- Strong market growth rates; and,
- Raw material-intensive products (especially for wood and agro-related products).

A comparison of the Santa Elena locational attributes with sectoral requirements confirmed the near-term development potential for the following activities:

Apparel. It is clear that TSUS 806.3/807 apparel/garments operations will be the principal driver of free zone development in Belize for the next 2-5 years. There are a

number of factors of the location that will attract apparel investment: the country is one of the few remaining locations in the region that is still quota-free and the country already has significant apparel manufacturing and exporting activity.

Agro-Processing. The zone project appears to be well positioned to assist firms in meeting the growing demand of developed country markets for frozen foods, "exotic" sauces and jellies, and other processed fruit and vegetable products. Firms utilizing a Belize location can take advantage of the local low-cost labor, the proximity to domestic raw materials, and the ability to import duty-free requisite packaging materials, glassware, and other ancillary inputs. All of these factors indicate good growth potentials exist for Belize in this market.

Information Processing. Reflecting moves in developed countries toward information service-oriented economies, a migration of labor-intensive information processing operations is now well under way in the Caribbean Basin. The free zone, with its highly literate English-speaking labor force, can potentially offer U.S. data entry firms cost savings in excess of 50 percent relative to North American industry standards. Nonetheless, near term prospects for this sector are limited due to the prohibitive international voice and data transmission charges and capacity limitations and the lack of trained typists and training courses tailored to industry needs. Moreover, as is true in both the electronics and agro-industrial sectors, the relative infancy of air freight services presently present an obstacle for the near-term development of this industry. Proposed enhancements of the telecommunications infrastructure -- if given priority by GOB -- offer potential for a successful initiation of data entry operations.

Labor Availability Analysis. Because of the relative under-population and the recent upturn in economic activity, considerable doubts existed about the capacity of the country's labor supply (and that of the Santa Elena area specifically) to support the demanding requirements of highly labor-intensive free zone industries. However, project investigations indicated that a sufficient pool of eligible-age labor (i.e., between the ages of 15 to 44 years) was available in and around Santa Elena, given that light manufacturing activities utilize almost an entirely female workforce. Today, an estimated 2,400 women between 15-44 years of age are resident today in the Corozal and Orangewalk districts, easily meeting the immediate needs of an EPZ.

By 1992, the total female labor force between the ages of 15-44 years in the area is forecasted to grow to more than 6,300 given the increasing number of new entrants to the workforce in the coming years.

Market Survey Findings. A direct market survey, involving telephone and in-person interviews with a sample of 70 firms within four targeted industries -- apparel, light manufacturing, agro-processing, and information services -- was undertaken between October 1 and November 4, 1988. The various industry segments firms were further segmented by location, with the majority based primarily in the United States and Belize, and the remaining in selected locations in Mexico and the Far East.

The market survey identified eight firms in the emerging sectors with immediate (within 12 months) demand for space in a Belizean free zone. These firms indicated a "high" level of interest (7 or more on a scale of 1-10) in the zone project for direct investment in plant and equipment. The majority of the companies (5) were Belizean exporters in apparel, light manufacturing, and agro-processing. Their total immediate demand for under-roof free zone space equalled 67,000 sq.ft. Three U.S. firms -- two apparel and one sporting goods manufacturer -- expressed high levels of interest in the project, with immediate demand for 64,000 sq.ft. Firms interviewed in Mexico and the Far East expressed little interest in the Belizean zone or the Caribbean in general, though the segment size was too small to draw any definitive conclusions regarding future investment from these sources.

In aggregate, the greatest degree of interest in further investigating the free zone in Belize was evidenced by garments and other light manufacturing firms; these firms have been the traditional users of free zones in the Caribbean Basin. Agro-processing also appears to hold considerable potential for zone development. By contrast, neither data entry service bureaus nor footwear manufacturers indicated serious interest in the zone.

A significant factor affecting the market survey results was the lack of knowledge about Belize generally. Although nearly 30 percent of the non-Belizean firms contacted for the market survey (including Mexican firms) were aware of Belize overall, their knowledge was extremely limited in comparison to their familiarity with other countries in the region, such as Costa Rica, Jamaica, Haiti, and the Dominican Republic.

In summary, there appears to be ample demand to support development of an export processing zone in Belize oriented primarily to the apparel and light manufacturing sectors.

I. INTRODUCTION

1.01 This report has been prepared by The Services Group (TSG) for the Government of Belize (GOB) under a contract with the U.S. Agency for International Development (USAID). It presents the findings of a free zone market assessment and labor analysis conducted by TSG under the direction of the Belizean Ministry of Economic Development (MED), and is the first report produced as part of what is envisioned as a two-phase investigation into the feasibility of developing a free zone program in Belize. This document has been prepared by TSG, with the assistance of Bechtel Civil, Inc. (Bechtel), and SRI International (SRI) and presents the results of field and office research and analysis conducted.

1.02 The purpose of the Phase I study is to investigate and assess the market conditions for initiating a free zone program in Belize, with a special emphasis on determining the impact of the characteristics of the local labor supply on project viability. In keeping with the contractual terms of reference, TSG research focussed on the Santa Elena area, which earlier study had indicated as a potentially viable site for zone development. The objective of the Phase I analysis is to arrive at a preliminary assessment of zone development potential in Belize, and specifically at Santa Elena. The study's findings will serve as the basis for a decision by the GOB as to whether further technical, institutional and financial analysis, as specified in the Phase II scope of work, is warranted.

1.03 This report was prepared based on office research conducted over a two-month period and data gathered by a TSG field team composed of Cecilia Sager, Kishore Rao, and James Emery, along with Philip Karp of SRI. Concurrent with and subsequent to the in-country investigations, market research and analysis was undertaken by TSG staff member William Haney, under the technical direction of Carl Goderez, and by Ivan Ivanek and James Burke of Bechtel.

1.04 TSG wishes to thank Mrs. Sharmaine Hyde, Permanent Secretary of the MED, and Mr. Fred Mangum, Economic Development Advisor to the MED, for their guidance and assistance in the execution of the project work program. Mr. Art Villanueva, Mr. Pedro Perez, and Ms. Carol Manning of USAID/Belize have been of great help in offering both logistical support and technical guidance in the work conducted. The Belize Export and Investment Promotion Unit (BEIPU), Belize Chamber of Commerce and Industry (BCCI), and other members of the local business community have all been generous in providing information and assistance to the TSG team. The views expressed in this report are those of the project team and do not necessarily reflect those of the Government of Belize or USAID.

II. THE CONTEXT FOR FREE ZONE DEVELOPMENT IN BELIZE

A. GLOBAL FACTORS AFFECTING DEMAND FOR FREE ZONE FACILITIES

1. Production Sharing

2.01 The past four decades have witnessed the fundamental restructuring of the organization and distribution of global production. As the comparative economic advantages of the older, industrialized countries have shifted, an internationalization of production processes has taken place and is continuing. This encompasses a global redistribution of industrial capacity based on the complementarities between factors of production in developed and developing countries. Typically, the segmentable, labor-intensive portions of production processes have moved to lower cost offshore locations, while more highly skilled, capital-intensive operations are conducted in developed countries where skilled labor and technological and scientific resources are plentiful.

2.02 This phenomenon of "co-production" or "production sharing" is a relatively recent development. Although, locating production operations overseas to serve new markets has long been an investment strategy employed by U.S. manufacturers, volume offshore manufacturing for re-export to the home market or other markets is a qualitatively new dimension of foreign manufacturing operations that emerged in the 1960s.

2.03 Production sharing is essentially a reactive strategy of firms based in industrial countries that face competition from low-cost imports. In an attempt to defend domestic markets against international competition (as opposed to an aggressive move against domestic competitors) producers have transferred abroad those production processes in which they have lost their international competitive advantage. Several factors are contributing to this phenomenon:

- Labor costs in developed countries have risen to high levels rendering most labor-intensive processes uneconomical;

- Advances in technology have drastically reduced international communications and transport costs;

- New laws enacted by industrialized countries encourage the offshore assembly of locally made components;

- Firms based in industrialized countries are facing increased competition from Far Eastern imports;

- Rental, purchase, and construction costs for offshore facilities are far lower than those for similar facilities in the traditional production centers.

2.04 In many cases, only certain segments of the production process are displaced. Labor-intensive operations are transferred from high-wage to low-wage areas, while capital-intensive and knowledge-intensive portions of manufacturing operations remain in place. Such shifts are part of an adjustment process whereby firms in industrial countries adapt to the increasing pressures of international competition and changing comparative advantage. The most important determining factors for the success of this type of segmented operation include:

- the relative costs of labor, transportation, and communications;
- the segmentation of production processes;
- the importance of quality;
- the risks associated with the investment;
- the relative economic costs and suitability of automation; and
- the preferential access provided to developed country markets.

All of these factors have combined to influence the direction and composition of international trade in manufactured goods. New opportunities have been created for developing countries to attract investment in manufacturing, providing the stimulus for the growth of the modern sector producing for export in competitive global markets.

2. Sources of Offshore Investment

2.05 While confronted with similar competitive pressures, the reactions of U.S., Japanese and European firms have been markedly different. As domestic labor-intensive production became less and less economical, U.S. firms began to shift production offshore for later re-import to the domestic market. Conversely, the industrially advanced countries of Europe have responded to worldwide competition by importing low-cost labor; or, to a lesser extent, sourcing from Eastern and Southern Europe. Faced with their own rising production costs, Japanese firms initially pursued a third strategy by investing in automation, while at the same time investing heavily in other East Asian countries such as Singapore, South Korea, Malaysia, and Hong Kong. Japanese firms manufacturing offshore, in contrast to their U.S. or Western European counterparts, are more inclined to use their foreign affiliates as low-cost platforms for exports into third country markets. More than 70 percent of the output of Japanese offshore plants in Asian locations goes to local or third country export markets, especially

to the U.S. Japanese investment has also surged in the Mexican "maquiladoras" along the U.S.-Mexican border.

2.06 In addition to large multinationals, increasing numbers of smaller firms have moved offshore. Small firms generally stay closer to home -- U.S. firms often move to Mexico and the Caribbean Basin, Japanese firms to Taiwan and South Korea, and Western European firms to Eastern Europe and the Mediterranean. These firms favor offshore sites near their base of operations because they may be more familiar with the host country; transportation, communication, and overhead costs are lower; and operations are easier to control when closer geographically. Small firms do not have extensive international divisions to manage and coordinate global production as do multinationals. All of these factors typical of nearby locations mitigate against the economies of scale inherent in offshore production, thereby making it an attractive alternative for smaller producers.

3. Types of Products Moving Offshore

2.07 The traditional model of the product life cycle provides a useful conceptual framework for analyzing international patterns in innovation, production, and trade. In the early stages of product development, innovating firms depend for their success on access to the specialized resources required for research and development, the rapid commercialization of new, proprietary technologies and innovative, highly complex production processes. Such resources are normally only found in established industrial centers in the developed country. As products mature and technology diffuses, they become more standardized, and competition places a premium on cost-competitiveness. At this stage, production often moves to lower cost locations abroad, while remaining within the control of integrated firms which still distribute and market products in the home country. At the final stage, technology and product identity are completely diffused, and production operates on a global basis both within vertically integrated networks and through arms-length sourcing relations.

2.08 Under this theory, it is products which are in the second or third stage that lend themselves to offshore production, either totally or partially, providing the fundamentals concerning viability are present. This type of analysis explains much of the shift of production of, for example, consumer electronics and electronic components, to developing countries. Other products, such as apparel and footwear, have been mature with respect to manufacturing technology for some time, and are almost universally found in low-cost offshore manufacturing centers.

2.09 In recent years, however, this notion of a product life cycle in manufacturing has been challenged by both technological change and the internationalization of production phenomenon

itself. The life cycle, to the extent that it exists, has shortened dramatically in length, so that it is essentially simply a theoretical construct. Many new products developed are immediately manufactured in the lowest cost production center, with technology quickly diffusing. Today, the lifetime of manufactured products is much shorter, as is the period in which firms must recover their product development costs over a much shorter period. Additionally, existing networks of producers and manufacturing capacity in developing countries now make this rapid dissemination much more feasible.

2.10 At the same time, automation of many production processes has reduced the labor input and, to a certain extent, revitalized the industrial capacity of developed countries. The impact of automation may have been initially overestimated; its implementation has been slower and less pervasive than originally envisioned. Accompanying automation has also been the increased segmentation of production, with component and sub-assembly production often being undertaken in lower cost areas. Thus, while at the same time automation may have reduced the labor intensity of many manufacturing processes, it has reinforced the role of labor-intensive manufacturing of certain components. The automobile manufacturing industry is perhaps the best example of this phenomenon, where increasingly a large number of parts are produced overseas and utilized in the developed countries in ever more automated plants. Witnessing this, protectionist agitation in the U.S. industry now focuses on mandating "domestic content" as well as limiting imports.

2.11 In sum, although more rapid technological change and automation have challenged the validity of the product life cycle theory, there remain substantial aspects of manufacturing in many products which can be economically accomplished offshore in low cost locations. The range of products, as well as services, now being successfully produced in developing countries is evidence of the variety of factors which influence offshore sourcing decisions, and the potential for even more widespread diffusion of production given the right conditions.

4. Preferential Market Access

2.12 The overall growth of offshore manufacturing, and the geographic and sectoral composition of trade, has been influenced to a great extent by the regimes governing trade between industrial and developing countries, and those applying to specific sectors. Overall, the effect of international trade agreements has probably been positive, due to the impact of a number of preferential regimes for imports from developing countries. At the same time, however, the industrial countries have maintained and even increased protectionist barriers restricting LDC access to their markets for both raw materials and manufactured goods. The

principal trade agreements governing trade between industrial and developing countries are summarized below. Specific agreements as they apply to Belize are noted in Chapter 3.

Generalized System of Preferences. (GSP) The GSP allows beneficiary developing countries to export a wide variety of products (over 3,000 product categories) to the United States free of duty. Originally enacted as part of the Trade Act of 1974, the GSP was modified in 1984 to limit the participation of the most advanced developing countries. Belize, however, still enjoys full access to the U.S. market under the provisions of the GSP. In order to qualify under the program the goods must either be wholly made in the exporting country or the sum of (i) the cost or value of the material produced in the developing country and (ii) the direct costs of processing operations performed there must be at least 35 percent of the appraised value of the merchandise. In 1987, over 2,700 products entered the United States under this provision, worth over US$5 billion.

Lomé III. Under the provisions of the Third Lomé Convention, 66 designated African, Caribbean and Pacific (ACP) countries enjoy duty-free access to the European Community (EC) in a manner similar to GSP. However, the eligible countries are generally limited to ex-colonies of EC member states. Rules of origin stipulations include a limitation on materials sourced outside the EC/ACP states of 5 percent, except for materials originating in "least developed countries," and requirements for substantial transformation.

Tariff Schedule of the U.S. Section 807. (807) Section 807 of the U.S. Tariff Schedule allows for entry into the U.S. of goods using U.S. materials with payment of duty only on the foreign value added. This program has been used extensively in the apparel industry, where U.S. made textiles are cut and shipped abroad for treatment and sewing into apparel goods. In 1986, Section 807A was passed covering apparel goods in which all the materials are sourced in the U.S.; these goods then receive preferential treatment with regard to quota restrictions. Section 806.3, a similar provision to 807, applies to metal products. EC countries also have similar duty provisions for re-importation of materials processed overseas; however these provisions have not functioned to the degree that they have in the U.S. as a basis for offshore assembly.

Caribbean Basin Economic Recovery Act. (CBI) In 1983 the U.S. Government announced the Caribbean Basin Initiative, of which the cornerstone was the duty-free entry of a wide variety of goods from the 27 qualifying nations of the Caribbean and Central America. Excluded from the agreement

were most categories of textiles and footwear, as well as other products covered by separate trade agreements. Other features include access to financing from tax-free funding sources held in Puerto Rico for qualifying projects in CBI nations. A renewal of the original legislation is now under consideration by the Congress, which features certain extensions of duty-free access for previously excluded products.

Multi-Fiber Arrangement. (MFA) This umbrella agreement sets the framework for controlling trade in textiles and apparel goods. Under the MFA, importing countries set quantitative limits on specific product categories on a bilateral basis with exporting countries. The MFA is the principal trade agreement governing market access in this important sector in offshore assembly.

5. The Future of Offshore Industry

2.13 The developing world has traditionally depended on primary products such as agriculture and mining for the bulk of its exports. In 1965, 78 percent of all LDC exports were primary products. By 1986, however, the manufacturing and other industries of these countries had developed to the point that this figure had fallen to 48 percent of total exports. Between 1965 and 1985, the growth rate of LDC manufactured exports averaged 12.2 percent, compared to 4.6 percent for all exports. The industrialization of these countries was fueled by the attractiveness of their production costs relative to the developed world. During this same period, as the LDC community has become increasingly industrialized, the developed nations have likewise evolved into service-based economies.

2.14 For many developing countries, however, the goal of export-led industrialization has remained elusive. Much of the increase in manufactured exports cited above has been generated by a small segment of the more advanced developing countries. Their successes, in turn, have provided a stimulus to the geographic dispersion of manufacturing to other developing countries. The cost competitiveness of the Far Eastern Newly Industrializing Countries (NICs, comprising South Korea, Hong Kong, Singapore, and Taiwan,) which originally received the bulk of offshore investment, has eroded as their domestic wage levels have risen. U.S. manufacturers have increasingly turned to Mexico and the countries of the Caribbean Basin to remain competitive in the face of the rising sophistication of Far East imports and increasing costs of production. Producers in the NICs themselves have also sought to expand in new countries with favorable cost structures and market access. This has led to outward investment in countries such as

Malaysia, Thailand, Mexico, Central America. In the case of Hong Kong, China has proven to be an accessible and inexpensive production site.

2.15 Due to the locational requirements of service industry -- skilled labor, sound infrastructure, reliable support services -- it was at first believed that there would be little opportunity for the development of offshore services. However, the high cost of labor in developed countries, coupled with labor shortages in key areas, has led to some surprising developments in this sector. Free zones in Jamaica, the Dominican Republic, China, and Mexico now have extensive data-entry operations in which computer keyboard operators input corporate mailing lists, survey data, billing records, and other information onto magnetic disks and tapes. The data is then flown or transmitted via satellite to corporate headquarters, at net savings of 30 to 50 percent over data entry operations in the United States. Currently, there are over 40,000 data entry operators employed in offshore service bureaus serving the U.S. and European markets.

2.16 Technological advances and the falling costs of telecommunications and computer equipment have made it possible and profitable to establish service industries in the countries of the developing world. As evidenced by the service activity presently underway in the Caribbean, the potential exists for developing countries to "leapfrog" the traditional development pattern and move from traditional primary production directly to the provision of services for clients in foreign markets.

2.17 In summary, a broad spectrum of industrial and service activities has been productively undertaken in developing country locations worldwide. Opportunities will continue to emerge, and the changing nature of global production and service activities creates attractive possibilities for new entrants. The Caribbean region has been one of the most active in the development of non-traditional export industry and services, and has emerged as a new offshore base for serving the U.S. market.

B. FREE ZONE ACTIVITY IN THE CARIBBEAN/CENTRAL AMERICAN REGION

2.18 The Caribbean/Central American region has developed into a growth center for the offshore industry noted above. Much of the investment in export industry and services has been directed into free zones in the region, as they generally offer the incentives and facilities required in these sectors.

2.19 Since the 1960's, a total of 43 free zones, or export processing zones (EPZs) have been established in 14 of the 31 countries comprising the Caribbean Basin. In 1988, these zones together directly employed over 200,000 people, while generating many additional jobs indirectly. As shown in Table 2-1 below, the

growth of regional EPZs since 1975 has been impressive. In nominal terms, the number of EPZs increased by a compound annual growth rate of 19 percent between 1975-88; total direct employment increased annually by 24 percent; and total "under roof" industrial space absorbed per annum exceeded 20 percent. From 1975 to 1988, a total of about 15 million sq.ft. of free zone space was constructed and fully leased, averaging about 1.2 million sq.ft. annually.

TABLE 2-1
GROWTH OF CARIBBEAN BASIN FREE ZONES (1975-88)

	1975	1987	Compound Annual Growth (%)
Number of EPZs	5	43	19
Total Direct Employment	15,000	200,750	24
Total "under roof" Industrial Space Leased (Sq.Ft.)	1,800,000	16,751,000	20

Source: TSG Data, excluding Mexican Border Zone

2.20 Although impressive in aggregate, the performance of individual countries has varied considerably. The number of jobs created in the region's free zones ranges from over 82,000 in Dominican free zones, to less than 400 in Guatemalan zones. The difference in terms of export earnings is even more substantial. In the Dominican Republic, for instance, free zone exports account for well over 25 percent of total non-traditional export earnings; in Guatemala the US$15 million Santo Tomas de Castillo free zone houses only two firms, and accounts for less than 5 percent of the country's annual exports.

2.21 Manufacturing activity in the region's free zones has traditionally been concentrated in the apparel industry. Historically, as shown in the Far East, garment manufacturing is the first industry to emerge in free zones. As other products begin to take hold -- electronic assemblies, toys, machinery, household goods, etc. -- the importance of the garment sector decreases relatively while its gross export value in absolute terms continues to grow. The experience in the Caribbean Basin has been similar. Apparel firms can quickly establish operations as they require little start-up capital and import nearly all the material

inputs. Today, garment operations account for over 70 percent of all firms located in Caribbean Basin zones.

2.22 The principal immediate economic benefits from the free zone programs of the region have been in job creation and foreign exchange earnings. Unlike many free zones in the Far East, Caribbean and Central American free zones have to date developed very limited backward economic linkages, primarily due to a lack of quality local goods at internationally competitive prices. This inability to purchase locally has adversely affected potential foreign exchange earnings. Although gross foreign exchange earnings exceed US$475 million and net earnings average US$150 million annually in the Dominican Republic, they do not compare to the free zones in Taiwan, where net hard currency earnings account for more than US$900 million annually, and over 40 percent of inputs are manufactured locally. The absence of backward linkages restricts potential net foreign exchange earnings as free zone tenant payments are limited to comparatively low-cost items such as rent, labor, utilities and freight charges.

2.23 This situation, however, is often associated with the early stages of free zone and export manufacturing development. Many countries are now beginning concerted efforts at promoting backward linkages, through such measures as applying export incentive programs to sales to free zone companies, removing constraints from these transactions, and surveying zone industries to identify local sourcing opportunities. Increasing the backward linkages in most Caribbean zones will also require diversification in zone industries, as many of the apparel firms are operating under Section 807 and therefore are tied to U.S. supplies of pre-cut cloth.

2.24 One of the noticeable recent trends in free zone development has been the increasing role played by the private sector in free zone ownership and management. Originally viewed as a development incentive to be undertaken by the government at a loss, the provision of industrial facilities in free zones, due to this rapid growth, has become an attractive financial opportunity for real estate developers, construction firms, and industrial park operators. Many countries which originally undertook free zone development through parastatal organizations are now turning to the private sector to take the leading role in free zone ownership and management. For example, in Jamaica the country's first private free zone is now under development, following years of pent-up demand which the Port Authority's zone program was unable to satisfy. In the Dominican Republic, undoubtedly the regional leader in free zone development, private free zones have existed alongside public-sector projects since the program's beginning, and are now taking the lead with the development of a number of new initiatives.

TABLE 2-2
CARIBBEAN BASIN OPERATIONAL FREE ZONES
(As of mid-1988)

Country	Number of Zones	Under Roof Space (sq.ft.)	Total Direct Employment
Aruba	1	300,000	800
Bahamas	2	1,500,000	8,000
Barbados	11	2,075,000	20,000
Costa Rica	3	575,000	3,200
Curacao	1	800,000	3,000
Dominican Republic	12	4,062,000	82,000
El Salvador	1	450,000	2,850
Guatemala	1	140,000	400
Haiti	2	2,176,000	50,000
Honduras	1	280,000	3,000
Jamaica	2	890,000	14,000
Panama	1	3,323,000	12,000
St. Lucia	3	180,000	1,500
TOTAL:	**41**	**16,751,000**	**200,750**

Source: TSG Data, based on multiple sources; statistics for Barbados and Haiti include industrial estates with EPZ-style incentives; employment figures are estimates; statistics date from early-mid 1988.

2.25 In contrast to public sector zones, private free zone developers have undertaken a number of projects on a for-profit basis, believing zone tenants will pay higher rents if they receive a higher standard of facilities, services and amenities. To date, the San Cristobal and San Isidro zones in the Dominican Republic, the Cartago zone in Costa Rica, and Freeport in The Bahamas have consistently out-performed their publicly subsidized counterparts. Users have readily paid higher rental rates to be assured of responsive property management, higher aesthetic standards, better maintenance of infrastructure, and fewer delays in building construction.

2.26 In a related fashion, the types of facilities and services offered in free zones have changed dramatically. A simple industrial park near a port with standard factory shells for rent is no longer the standard in free zone development. Most now offer a range of services and amenities including business services, shelter plans, options on leasing or purchasing buildings, customized facilities, training programs, employee referral services, and high-quality infrastructure. Governments are

increasingly looking toward private sector financing, management and ownership for the dynamism and responsiveness required to attract the most desirable industrial sectors. These "new generation" free zones display some or all of the following characteristics:

- innovative zone financing techniques;
- orientation toward higher value information services;
- customized buildings and specialized facilities;
- targeting of "up-scale" tenants;
- private provision of telecommunications and power supply;
- specialized services and amenities;
- private ownership and management; and
- charging of economic lease rates.

2.27 A number of zones are now utilizing these techniques; the following is a partial list:

Barbados. The country's 11 industrial estates incorporate many innovations not found elsewhere. Although the estates are government owned, private interests can purchase individual SFBs for re-sale or rent, thus leveraging financial resources. A number of estates have cooperative training arrangements with government institutions; one of the estates hosts a Garments Training Institute for tenants. Barbados has 2,075,000 sq.ft. of under-roof space.

Dominican Republic. The region's most innovative and successful zone program is found in this country. With 12 operating zones, 10 more under construction, and 8 zone-designated sites, the country has over 4 million sq.ft. of factory space, employing some 80,000 workers, and generating upwards of US$400 million in export earnings. Innovative zones include San Cristobal hosting such "blue chip" firms as GTE, Baxter Travenol and others; and San Isidro, a combination office park/free zone offering customized facilities for the information services sector, among others. In early 1987, the country's telephone company CODETEL (a subsidiary of GTE) announced the establishment of the region's first privately owned teleport earth station, to attract telecommunications-intensive operations.

Costa Rica. Costa Rica has eight designated free zones (2 public and 6 private), 3 of which are now operational. The Cartago Free Zone, the nation's most successful, has grown rapidly in the past 2 years, financed partly through the proceeds of a debt/equity conversion. The zone offers users a wide range of support services, and provides on-site training programs in cooperation with the National Training Institute. The SARET free zone, currently under construction, is the first of several new private zones to

be built in the area around San José, as part of the country's plan to allow private developers a leading role in the construction of free zone facilities.

2.28 In response to the growing demand from various non-traditional industrial and service sectors, countries in the Caribbean Basin are rapidly expanding the size and number of existing free zones, as well as removing impediments to the construction of others. Like Belize, El Salvador, Costa Rica, Honduras, Guatemala, and Trinidad & Tobago are each considering free zone options in formulating national strategies to guide future economic development. Reacting to investor waiting lists of two to six years or more, free zones in the more established centers such as the Dominican Republic and Jamaica are now undergoing rapid expansion. Countries are also increasingly tapping new and diverse sources of foreign investment, including the NICs of the Far East, to sustain zone development.

2.29 It is this environment of steady growth, combined with competition among nations in attracting foreign investment, diversification into new sectors of activity, and an upgrading of the infrastructure and services offered in free zones, that Belize must now enter in a manner which will maximize the contribution of its free zone program to the economic development of the country.

C. THE MAQUILADORA PROGRAM OF MEXICO

2.30 In contrast to the relatively recent development of free zones in the Caribbean and Central America, the Border Industrialization Program in Mexico has been in place for over 20 years, and has led to a widespread industrialization of large sections of the border region. In a number of ways, the Mexican experience has differed from that of the Caribbean and Central America, primarily due to the geographic distinction of the long border between the United States and Mexico. Nevertheless, the development of the Mexican maquiladoras is of particular relevance to Belize, given their geographic propinquity, close economic relations, and the potential role for Mexican investment and trade in a Belizean free zone.

2.31 The term maquiladora is derived from the Spanish verb "maquilar" which meant to pay for the grinding of corn; today it has come to be used as a generic term for all types of assembly industry, largely because of the success of the Mexican Border Industrialization Program (BIP). As originally conceived, the BIP was an attempt to promote "twin plants" along the Mexican-U.S. border, in which labor intensive operations would be performed in Mexico, while more capital and technology intensive tasks would be performed in "sister" plants on the U.S. side. To encourage this type of industry, special incentives were offered to maquiladora firms (within 20 kilometers of the border) producing for export

which are not generally available in the Mexican industrial sector. The most important include:

- 100-percent foreign ownership;
- duty-free entry of capital equipment;
- duty-free entry of raw materials and intermediate goods for processing;
- unrestricted entry of foreign managers and technical personnel for work in maquiladora plants.

2.32 Although there has been some form of free trade area in several border provinces since the last century, these incentives formalized the commitment to attracting industries into the border region on a co-production basis. Complementing these incentives on the Mexican side were the relevant provisions of the U.S Tariff Code (806.3 and 807) which fostered this type of production sharing. The actual development of twin plants, however, did not occur as originally envisioned. In general, the facilities on the U.S. side have been devoted largely to receiving shipments of components, forwarding them to Mexico, and inspection, quality control and distribution of completed products -- in short, everything except complementary production.

2.33 The overall expansion in manufactured exports from the border zone has been impressive. The number of firms has grown steadily from 12 in 1965 to over 1,000 in 1987, employing over 300,000 workers. The 1986 level of maquila imports into the U.S. reached $6.7 billion, representing important foreign exchange earnings for Mexico, estimated at $1.6-1.8 billion. This has placed the maquila industries second only to oil as a foreign exchange earner, and their contributions are rapidly increasing compared to oil's absolute and relative decline. The success of the program has encouraged its expansion and elaboration. Maquiladora firms have by and large been exempted from much of the restrictions placed on foreign investment in Mexico in the years since the program's inception. The program was reconfigured in the late 1970's to allow location outside of the border area, and to allow limited sales from maquiladora firms to the local market, without the loss of incentives. Through recently announced debt swap program, investments in maquiladoras are eligible for financing through a debt/equity conversion. This continuing support from the government for the program has helped to ensure its growth.

2.34 Along the way, the character and composition of the border program has changed. Originally dominated by the textiles/apparel, electronics and toy manufacturing sectors, investment has recently diversified to a broad range of products. In 1987, electronics accounted for 27 percent of value added; electrical machinery and

supplies 18 percent; transportation equipment and supplies (chiefly components for the auto industry) 23 percent; furniture and other products 6 percent; and textiles and toys less than 5 percent each. Mexico has also attracted substantial flows of investment from Japanese and European firms active in the U.S. market. Most often through U.S. subsidiaries, these firms have set up assembly operations in Mexico to access the U.S. market, often with a mix of U.S. and other-source components, but with substantial savings and increased competitiveness compared to final assembly either in the United States or the home country.

2.35 The impact of the maquilas on the northern region of Mexico has been substantial. For many years a depressed region within the country, the border region is now one of the most prosperous. Wage rates in the border zone have recently increased to levels 50 percent higher than those prevailing in other regions, and annual turnover among employees is approaching 100 percent. Both of these factors indicate a competitive environment for the recruitment of workers in assembly industries. Much of the new investment is now going to regions outside the border zone, as firms attempt to locate in lower cost areas in the interior where labor is more plentiful. While the interior areas immediately adjacent to the border have been the principal beneficiaries of this gradual geographic dispersion, the Yucatan and even La Paz have also attracted a number of maquiladora firms.

2.36 The BIP has developed in the context of an entire region with individual firms operating under privileged customs status, and not within defined free zones as such. The designation of maquiladora status within the border region id granted to specific companies rather than traditional EPZ's. Nevertheless, industrial estates have played an important role in providing factory space and services for the maquiladora industries. Although public sector industrial estates are to be found, the government has encouraged private sector participation and private groups have taken the lead role in establishing industrial estates. Some of the private developers, such as Grupo Bermudez of Ciudad Juarez, have grown into large, sophisticated industrial development firms, undertaking projects throughout the country and the region. The profit-making potential for private developers has also attracted foreign investment in industrial estates, such as a large project recently inaugurated near Tijuana by Trammel Crow, a U.S. real estate developer. While aggregate data on industrial facilities in the maquiladora industries is not regularly compiled, estimates from 1979 revealed 16 public sector industrial estates with 37,000 employees; in 1986 as many as 70 private industrial estates were in operation serving the maquila sector, with over 230,000 employees, accounting for the vast majority of this sector. This dominance by the private sector is likely to continue, as they have clearly demonstrated the ability to be responsive to investor needs.

2.37 The success of the BIP in Mexico has generated controversy in the U.S., principally from organized labor over the issue of transferring American jobs south of the border. While the issues have been studied extensively in the Congress, it appears unlikely that even a new protectionist fervor can erase the gains made by Mexico. Any new restrictive measures are likely to follow the example of product-specific limitations, such as the voluntary export restraints now in effect in steel products, and the quotas on textiles and apparel negotiated under the MFA. As most of the imports into the U.S. come under Sections 806.3 and 807, and not preferential agreements such as GSP, more encompassing measures to limit imports from Mexico will be difficult to impose without violating GATT principles of non-discrimination. Thus, it appears likely that what originated as a plan for regional development of the depressed northern border regions will continue to expand throughout Mexico as a comprehensive export manufacturing program.

III. COMPARATIVE ASSESSMENT OF BELIZE'S COMPETITIVE POSITION

3.01 In determining the competitive position of a country as it affects the prospects for successful free zone development numerous elements must be taken into consideration. These include both readily quantifiable national and local attributes -- labor conditions, transportation infrastructure, resource endowments, and the like -- and the more subjective assessment of factors such as the political climate, the attractiveness of the regulatory and legal framework, market access, and others.

3.02 The purpose of this chapter is to compare Belize to its regional competitors in terms of its locational, economic, institutional and other attributes. In the discussion which follows, the Belizean investment setting is compared to countries such as Mexico, Costa Rica, and the Dominican Republic, to assess its relative attractiveness.

3.03 It should be noted that notwithstanding the increasingly sophisticated and highly competitive nature of the regional free zone environment, the availability, cost and quality of basic production factors remains of primary importance in industrial site selection, as does the governmental track record for providing support to the local and foreign business community. Free zone projects, no matter how well-designed or attractively packaged, cannot compensate for basic economic deficiencies or, from another perspective, investor perceptions of government instability.

A. THE ECONOMIC SETTING

3.04 Belize is a democratic nation with a long history of political stability which serves it well in promoting private investment activity. With an estimated population of less than 200,000, and a land area of 22,960 sq.km., Belize is one of the most sparsely populated countries in the western hemisphere with the citizenry centered in Belize City, the former capital city on the Caribbean coast. While the open domestic economy is based largely on agriculture, primarily sugar cane production, in recent years the government has made an active effort to diversify agricultural output and expand economic activity to include a more important role for both tourism and industry. The benefits of such efforts are beginning to be realized. Since 1984, the real GDP growth rate has averaged 4.2 percent per annum, exceeded 6 percent in 1987, and is expected to achieve a similar level in 1988.

3.05 The small size of the local market limits the attractiveness of manufacturing for local consumption, accounting for only 11 percent of total GDP in 1986. Export manufacturing operations, however, are beginning to take hold, especially in the garment industry. In 1988, apparel and textiles are expected to account

for a total of 21 percent of total exports, second only to sugar and molasses at 33 percent.

B. INSTITUTIONAL AND REGULATORY FRAMEWORK

3.06 As discussed above, the role assumed by the government in the development of a free zone program varies from country to country. Historically, the public sector has taken the lead in developing zone projects as an attractive and economical means of catalyzing foreign investment and the accompanying employment generation, technology transfer and foreign exchange earnings. While careful planning and businesslike operation has made the public sector free zone programs of some countries hugely successful (e.g., Taiwan, Mauritius, Malaysia) others such as those of Guatemala, Costa Rica, and the African nations have fallen far short of their objectives.

3.07 As discussed in the preceding chapter, there has been a global movement in recent years toward privately developed, owned and operated free zones. Privately developed projects conserve scarce government resources for other more appropriate uses and allow the foreign and domestic business community to take the lead in zone development as a business initiative.

3.08 It is this approach that is favored by the GOB, whereby the role of the government is limited to the regulation of zone development and industrial activity. Such an orientation is in keeping with present government practices. Apart from its role in setting national economic policy objectives and the provision of basic infrastructure and services, the Belizean government has encouraged the private sector to take the lead in local business development. The government is highly supportive of foreign investment and the country has proven especially attractive to U.S. investors drawn by its geographic proximity, English-speaking population and natural resources.

3.09 The following discussion highlights the key elements of the Belizean institutional and regulatory environment relative to overall foreign investment and profiles those institutions that would play a key role in the design and implementation of a Belizean free zone program.

1. Government Policy Objectives

3.10 The Government of Belize has determined general objectives for both local and foreign investment and targeted specific sectors as priorities. Foreign investment is welcome in Belize, especially that which embodies the following characteristics:

- utilizes indigenous raw material resources
- produces for the export market
- produces import substitutes
- contributes to the employment and upgrading of skills of Belizean nationals

Priority sectors include:

- agriculture, livestock and agro-industry
- tourism and related industries
- forestry
- light manufacturing and offshore assembly
- aquaculture
- deep-sea fishing and processing

The development of a national free zone program in Belize is in keeping with these goals and can enhance the attractiveness of the country as an investment location.

2. Regulations Governing Foreign Investment

3.11 The Belize Investment Code outlines the government's policy goals and summarizes the primary legal mechanisms which regulate private business activity in Belize. These include the Central Bank Act, Development Concessions Act, the Fiscal Incentives (Industrial Enterprises) Act, and the Aliens Landholding Act. By and large, domestic and foreign businesses are treated alike under Belizean law.

3.12 Investments can take the form of a sole proprietorship, a partnership, or a corporation. There are no overall limitations on the extent of foreign ownership, although joint venture agreements with local partners are encouraged. Ownership of businesses engaged in specified activities, such as fishing inside the barrier reef, sugar cane cultivation and restaurants and bars is restricted to Belizean nationals.

a. Development Concessions

3.13 While no free zone program is yet in place in Belize, a number of export operations have taken root in manufacturing and agriculture. Most of the industrial enterprises are operating as maquila-type assembly operations. Over the past five years, more

and more foreign companies have expressed an interest in locating in Belize as a basis for export to the United States, both under the Caribbean Basin Initiative and Items 806.3-807.0 of the U.S. Tariff Schedule. As discussed below, these programs, especially when combined with the Belizean development concessions, have made doing business in Belize increasingly attractive.

3.14 Development concessions are available to all Belizean businesses, including wholly owned subsidiaries of foreign companies. Any type of business may apply to the Ministry of Economic Development for concessions, although government policy encourages the establishment of certain types of industries and also seeks to promote investment in the less developed areas of the country. Investment incentives offered by the MED include corporate income tax holiday; duty-free importation of raw materials, machinery and equipment; and guaranteed repatriation of capital. The Ministry of Finance and the Controller of Customs can also provide duty exemptions to investors, while the Ministry of Trade, Commerce, and Industry administers the import licensing program aimed at protecting local industries from unfair competition.

i. Benefits Offered

3.15 As shown in Table 3-1 below, the Belizean incentive package is generally competitive with those offered by other countries in the region to encourage export-oriented investment in general, including those offered in their national free zone programs. All regional incentive programs offer forms of tax, tariff and regulatory relief -- the variances generally are seen in the eligibility requirements, the length of the concessionary periods, the percentage of sales permitted to the local market and other matters of degree. Jamaica, for example, offers an income tax holiday in perpetuity to its free zone users, as does Honduras, while Costa Rica restricts the free repatriation of profits to those firms which have been in operation for at least four years.

TABLE 3-1
COMPARATIVE INVESTMENT INCENTIVES FOR VARIOUS COUNTRIES IN THE CARIBBEAN BASIN/1

	Belize	Costa Rica	Dominican Republic	Jamaica	Honduras	Mexico
Eligibility Requirements for Incentive Regime	Flexible	Product Must Be Transformed	Product Solely for Export	Foreign Firms Only	Flexible	Export Firms Only
Time Limitation of Incentives Regime	In Perpetuity	10 Years	8-20 Years	In Perpetuity	In Perpetuity	Not Available
"One-Stop Shop"	No	No /2	No	No	No	No
Debt/Equity Conversions	No	Yes	No	Yes	No	Yes
Sales to Local Markets	Unlimited	49% of Production	29% of Production	Not Available	Unlimited	Tightly Regulated
Income Tax Treatment	100% Exempt for 10-15 Years	100% Exempt for 6 Years	100% Exempt for 15 Years	100% Exempt in Perpetuity	100% Exempt in Perpetuity	Exempt Only from VAT Tax
Capital/Profits Repatriation	Guaranteed	Guaranteed after 4 Years	Guaranteed	Guaranteed	Guaranteed	Unrestricted
Management of Foreign Currency	Semi-Controlled	Independent	Independent	Independent	Independent	Semi-Controlled (Two-Tier)
Duty Treatment for Imports and Exports	100% Exempt	100% Exempt	100% Exempt	100% Exempt	100% Exempt	100% Exempt
Customs Service	Point of Entry or In-Bond Transit	Expedited on Site	Expedited on Site	Expedited on Site	Expedited on Site	Point of Entry
Market Access	CBI, CaribCan, Caricom, GSP, Lome III	CBI, CACM, GSP	CBI, GSP,	CBI, CaribCan, GSP, Lome III,	CBI, CACM, GSP	GSP

/1 For free zone incentives, except in Belize (for Development Concessions) and Mexico (for Maquiladora Program).
/2 Costa Rica does provide "one-stop shop" service for Export Contract and Temporary Admission programs.

3.16 Tax holidays and duty exemptions granted under the Belizean development concessions program vary both in length and in their comprehensiveness. Tax holidays range from two to ten years for industry and tourism, and up to fifteen years for agricultural operations. The length of the concession is linked to the domestic value-added, the extent to which the firm's production is destined for the extra-regional market, and the capital intensity of the investment. Preference is given to those projects which meet minimum capital investment and employment standards, appear profitable, and have positive foreign exchange earnings. Firms receiving development concessions can also apply to the Belize Central Bank for a currency conversion guarantee ensuring free repatriation of profits, capital or dividends.

3.17 In viewing Table 3-1, it is important to bear in mind that there is a great deal of difference between the drafting of attractive investment incentives and their successful implementation. Experience has demonstrated that the clarity of the application forms and procedures, simplicity of the processing, and the degree to which the concessions are efficiently administered in a company's day-to-day operations are equally important to foreign investors as the incentives themselves.

3.18 In this light, the concept of the "one-stop-shop," borrowed from the Far East, has become an organizing principle for many of the countries of the Caribbean. In practice, it involves the centralization of all paperwork related to investment in a single organization or agency. Foreign investors deal with only one individual or office from the time of their initial enquiry until they begin operations, delays resulting from inter-institutional transfers or authorizations are avoided, and the risk of a firm's application or request for assistance becoming lost in the shuffle is greatly reduced.

ii. Procedural Requirements

3.19 In Belize, the principal development concessions program utilized by foreign investors is administered through the MED, although similar incentives are made available through a number of government institutions. In recent discussions, representatives of both the government and the private sector have noted the difficulties inherent in the present system of reviewing and approving development concessions. MED has expressed an interest in exploring the establishment of a one-stop shop for investors, perhaps within the Ministry, as a means of expediting application processing. As evidenced from Figure 3-1 below, the time required to execute the present procedures is quite extensive relative to investment application process in the free zones of the region.

FIGURE 3-1
Numbers of Days Required For Authorization
Of Export Investment Concessions

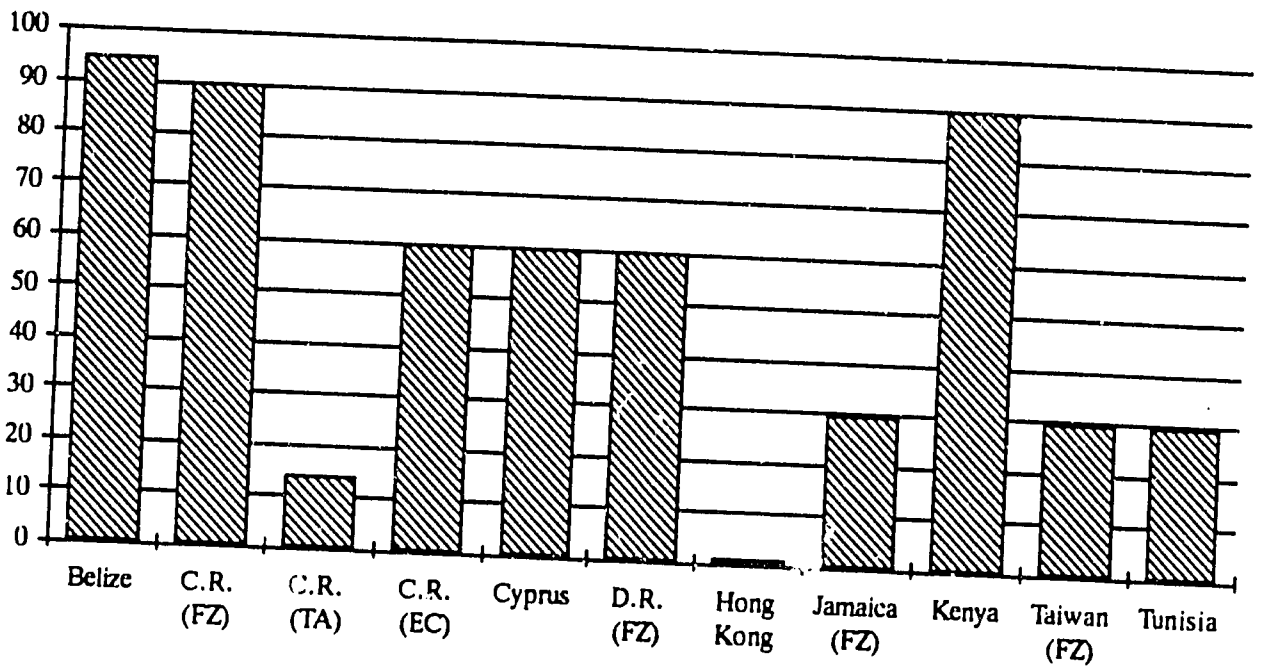
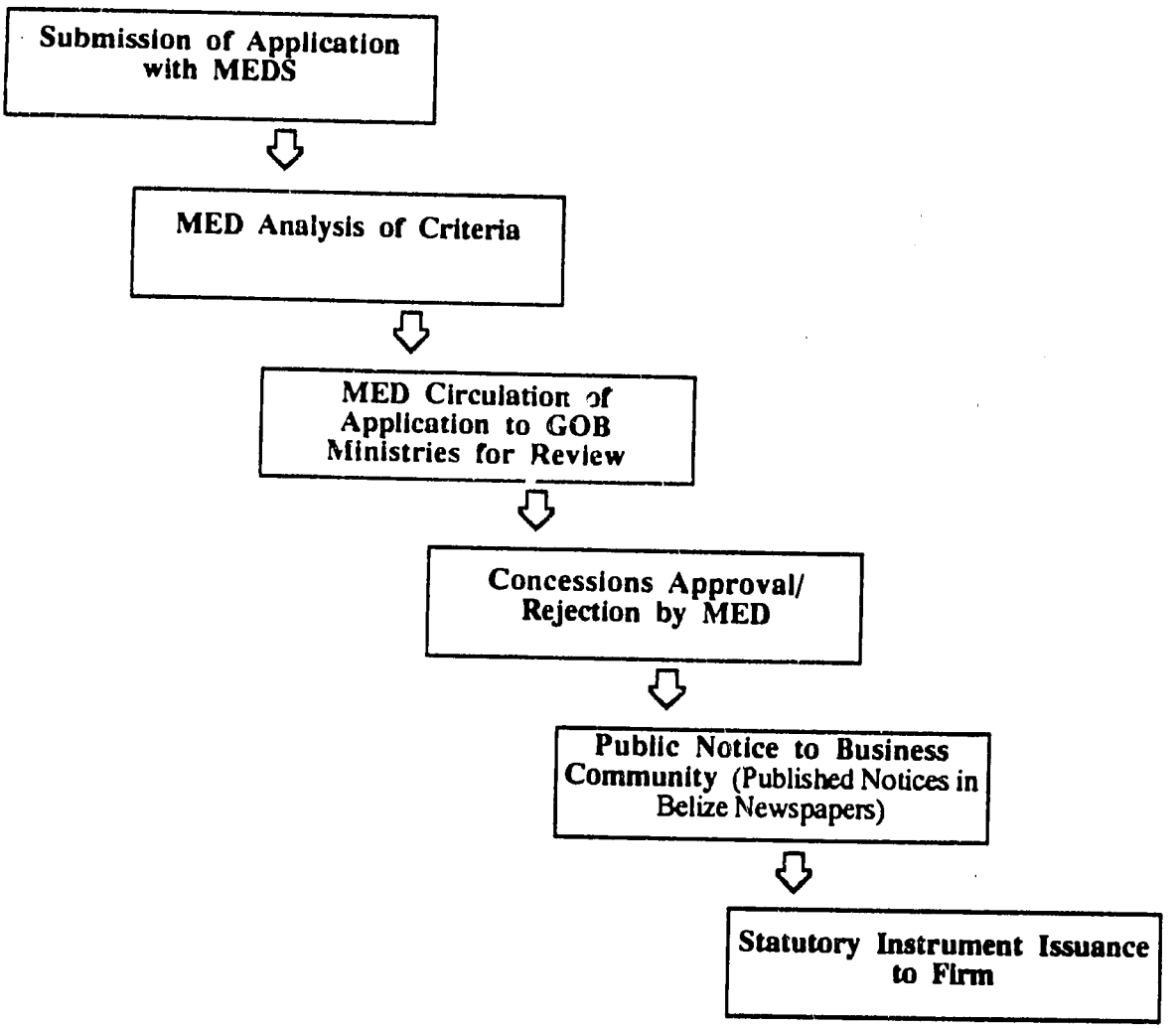


FIGURE 3-2
DEVELOPMENT CONCESSIONS APPROVAL STEPS



3.20 The application procedure for concession administered by the MED is depicted in Figure 3-2. At present, the granting of concessions can take from three to our months from the time the application is submitted. According to a recent study conducted of the MED's development concessions program, delays in processing lie largely outside the MED's direct control. The inter-Ministerial review process, mandated by law, needlessly extends the processing period -- applications are often tied up for weeks yet seldom are any comments received from the other Ministries. The same is true for the legal requirement regarding the period set aside for public comment.

3.21 Discussions with local businesses, foreign and domestic, indicated problems with the present concessions program on two levels, the evaluation of applications is seen to be overly discretionary and there is little effort made by the Government of Belize to ensure the effective and efficient implementation of the benefits. Problems with Customs are frequent, delays are encountered in the processing of requests for the importation of spare parts and equipment and there is a general sentiment that the GOB is more concerned with attracting new investment than in satisfying the firms that are already established within the country.

3.22 In the event that a free zone program is initiated, such problems and delays will have to be minimized if Belize is to compare favorably to its regional competitors. Effort should be directed toward addressing the best ways to streamline zone-related investment procedures and to ensure that the goods imported and exported by firms established in the zone facilities receive expeditious treatment.

b. Monetary Controls

3.23 The Central Bank of Belize is charged with the responsibility for monitoring foreign exchange and regulating the banking industry. Central Bank approval is suggested for foreign investors in order to ensure currency access and repatriation of profits. Once a business is approved by the Central Bank, long established government policy allows for the free repatriation of profits, capital and dividends, and no controls are imposed on currency. Since 1976, the Belize dollar has been pegged to the U.S. dollar at 2:1. As discussed above, under the development concessions programs in place, investors are eligible for currency conversion guarantees that supercede any other obstacles to the free movement of foreign exchange.

c. Land Ownership

3.24 Under the Aliens Landholding Act of 1973, foreign ownership of land is permitted in Belize. Foreign firms and individuals (defined as persons who have not lived in Belize for at least three years without interruption) can purchase up to one half an acre of land in urban locations and up to ten acres of rural property without restriction. For larger pieces of property, non-nationals must apply for a license from the Ministry of Natural Resources, submitting a plan specifying proposed uses and the intended schedule for its development. The grant issued by the Ministry can specify performance requirements, setting forth conditions which if not met can result in the revocation of the license and forfeiture of the property. These conditions are intended only to discourage land speculation, once the developer complies, the Government's claim on the property is nullified.

d. Market Access

3.25 Belize enjoys preferential market access to broad spectrum of bilateral and multilateral trade agreements with the industrialized countries and countries throughout the region. Specifically, Belize is a beneficiary of the US GSP, CBI, TSUS 806.3/807/807A, and Lomé III. (The general provisions of these agreements are discussed in Chapter 2.) Belize is also a member of CARICOM, the Caribbean Common Market, allowing for duty-free access to the 12 English-speaking countries of the Caribbean. Belize is a beneficiary of CaribCan, a one-way duty free agreement between Canada and most Caribbean nations similar to the U.S. CBI. As evidenced in Table 3-1, in this respect Belize is highly competitive with its regional and international neighbors. For exports to the U.S. market, it is also largely free of quota restrictions. This unique combination of trade agreements and market access greatly enhances the countries attractiveness for foreign investors in export industry.

3. Institutional Framework

3.26 The Government of Belize has several executive agencies directly involved in the development and implementation of national economic policies and programs, these include the Ministry of Economic Development and Foreign Affairs, the Ministry of Finance, and the Central Bank (discussed above). In addition, the Belize Export and Investment Promotion Unit (BEIPU) is a private, non-profit operation within the Belize Chamber of Commerce and Industry dedicated to the support and encouragement of both foreign and domestic investment activity in Belize.

a. Ministry of Economic Development

3.27 The MED is the government institution charged with macro-economic planning in Belize. Its responsibilities encompass the design, implementation and oversight of the Public Sector Investment Program, coordination of foreign assistance, and the administration of the GOB's principal development concessions program. Formerly an office within the Ministry of Foreign Affairs and Economic Development, the MED was restructured as a cabinet level division in 1987.

3.28 For the purposes of this discussion, the primary regulatory function performed by the MED is in the administration of the development concessions program. The MED's office serves as the principal contact point for foreign and domestic investors wishing to avail themselves of the investment incentives offered by the GOB. While not engaging in direct investment promotion activities, the MED serves as the governmental liaison with firms interested in investing in Belize and publishes the Belize Investment Code and other basic informational material in this regard. In addition, the Central Statistical Office of the government is housed within the MED which, together with the Computer Center, compiles national demographic, economic and social data which is used in economic planning and published annually for distribution.

3.29 The administration and regulation of a national free zone program in Belize would appear to be a natural addition to the MED's existing portfolio of responsibilities. The regulatory functions inherent in initiating and operating such a program would in many ways resemble the role that the MED now performs in administering development concessions. Moreover, the MED already has experience in coordinating the activities and input of both government and private organizations to facilitate local investment which will serve it well in its oversight of a free zone regime, although as mentioned above, the investment procedures now are somewhat problematic and would need to be streamlined in the configuration of the zone program. The optimal design and management of the free zone regulatory process (the authorization of zone projects, the approval of individual investments, and the operations of the zones once developed) will be addressed in Phase II portion of this study.

b. Ministry of Finance -- Belize Customs Service

3.30 The cooperation of and coordination with the Ministry of Finance and specifically the Belize Customs Service, will also be essential to the smooth functioning of a free zone regime. The Belize Customs Service has expressed its support of the free zone concept and has gone so far as to include a provision for free zone activity in the new Customs law presently being drafted. However, current Customs practices relative to local export activities

indicate that the office's involvement in the monitoring of imports and exports is far from streamlined -- delays in processing of entry and exit documentation are frequent, up to three or four days in some instances. Likewise, the procedural requirements for the movement of goods are problematic, involving substantial amounts of paperwork and redundant filing requirements.

3.31 Interviews with local exporters revealed complaints of a lack of communication between Customs and other government agencies resulting in lengthy delays in the processing of documentation. Moreover, managers of some export operations with duty-free concessions feel that they are treated as "second-class citizens" relegated to the back of the line behind more apparent revenue generators for the government. These types of problems can best be addressed prior to the initiation of a free zone program, through the careful drafting of the zone legislation. Belize Customs officials must be trained in order to ensure that the regulatory relief associated with free zone operations is, in fact, provided to zone firms.

c. Belize Export and Investment Promotion Unit (BEIPU)

3.32 Established in 1984 as a specialized division within the Belize Chamber of Commerce and Industry, the objective of the Belize Export and Investment Promotion Unit (BEIPU) is to increase Belizean exports by encouraging both foreign and domestic investment. Although a private sector organization, the BEIPU Board of Directors has public sector representation as well, including the Permanent Secretary of the MED. Since 1986, BEIPU has benefitted from USAID technical and financial assistance and has taken the lead role in the promotion of Belize as an investment location.

3.33 As with the MED, the organizational structure and operational aspects of BEIPU are discussed in Chapter VII. The office serves as a clearinghouse for information related to local investment conditions, conducts investment analyses, hosts interested firms and individuals visiting the country, and provides assistance in applying to the MED for development concessions. The activities BEIPU has undertaken or is developing are much like those carried out by other investment promotion organizations in the region such as CINDE in Costa Rica, FIDE in Honduras, IPC in the Dominican Republic and JAMPRO in Jamaica. However, BEIPU is relatively new, and due in part to the small size of the staff and limited financial resources available to it, the scope of the programs and activities it has in place are comparatively limited. If Belize is to effectively compete within the region vis a vis free zone activity, a concerted effort will be required by BEIPU to develop targeted promotional materials and a comprehensive program for potential investors.

3.34 **Implications for Free Zone Development.** In summary, the existing institutional and regulatory framework in Belize is essentially competitive, and in some respects superior to, that of other countries in the region. The recent economic growth, sound political structure, long-standing government support for private business activity in general and foreign investment in particular, and investment incentives made available to export operations through the development concessions program together make up an attractive environment for investment. The work of BEIPU in cooperation with the MED to provide support to firms and individuals considering investing in Belize has been an important part of the recent growth in foreign investment in the country. However, the practical realization of government policies and programs to support export development has been problematic, plagued by complicated paperwork requirements, procedural delays, and in some respects a lack of institutional will to expedite the businesslike treatment of these firms.

3.35 If free zone development is to be successfully undertaken in Belize, the respective responsibilities of key institutions as well as the rights and obligations ascribed to free zone users will have to be clearly defined and effectively administered. Inter-institutional cooperation is absolutely essential to ensure that the treatment of business operating under the free zone regime will be that which is dictated by the zone legislation. If Belize is to effectively compete with regional programs and capture a significant portion of the growing offshore industries movement, measures must be taken to streamline the workings of the regime.

C. LAND AND RESOURCES

3.36 As mentioned above, Belize is rich in natural resources and its economy has historically been centered upon the exploitation of its agricultural base and forestry reserves for export. Sugar and its byproducts, bananas, and citrus (oranges and grapefruit), are the leading agricultural exports and rice corn, beans and beef are all produced locally as well. The withdrawal of the Coca Cola company earlier this year, which had purchased 686,000 acres of land in northern Belize to cultivate oranges for export, was a major blow to the citrus industry and to immediate economic prospects in general. Nevertheless, faced with the vagaries of the global market for sugar, citrus and bananas are the highest potential agricultural export earners for Belize over the medium term. There has also recently been growing interest in mariculture, both salt water and freshwater, and a number of shrimp farming operations are now underway in the southern portion of the country.

3.37 With a population density of less than 20 persons per square mile, the vast majority of Belizean land is uninhabited. Land ownership is concentrated in large, often undeveloped holdings; in

1982 only 10 percent of the total arable land was under cultivation. With the influx of illegal immigration in recent years, portions of the forested land in the south of the country has been randomly cleared by refugees for fuel and shelter. The country's hardwood reserves are substantial, however the forestry industry has suffered from poor management, and current production is estimated at 5 percent of the sustainable annual yield.

3.38 Apart from the Belize City area, the prices for land are low by regional standards, ranging from US$75/acre for property in the country's interior to US$1,000/acre on the northern highway near the Mexican border. However, costs for land reclamation, development and construction can be expensive -- much of Belize lies at sea level and the marshy ground makes extensive filling necessary. All-in construction costs are also well above the regional average of US$20/sq.ft. at US$30-35, as most of the materials utilized are imported and skilled labor is expensive.

3.39 At present there is a shortage of available industrial space in Belize. Most manufacturers construct, rather than rent, their facilities. The Development Finance Corporation (DFC) owns and operates the Ladyville Industrial Estate, located on an 8.5 acre plot outside Belize City. With only three standard factory buildings (SFBs) totalling 18,000 sq.ft. of under-roof space the Ladyville is fully occupied. The DFC has been faced with long delays in obtaining a US$2.16 million loan for expansion due to the Caribbean Development Bank's requirements of confirmed demand prior to lending. Construction of an additional 48,000 sq.ft. of SFB space has been planned since 1986 and will only begin in early 1989. It appears as though the expansion will be fully occupied almost immediately. The DFC has received a dozen requests for space, three firms have signed firm letters of agreement and three others are now negotiating with the DFC. During the construction period, improvements will also be made to estate parking, internal roadways, and landscaping. Upon completion of the expansion the Ladyville site will be fully developed. According to the DFC, any future development of industrial facilities it undertakes will take place at its 20-acre site, as yet undeveloped, in Belmopan.

3.40 Factory space and basic services are provided to existing Ladyville tenants at the rental rate of US$1.50/sq.ft./year, below what would be required to recover the costs of land development and construction. For the expansion buildings, as well as any new leases drawn with the current tenants, rental rates will double to US$3.00/sq.ft./year, and for the first time the project will be operating on a cost recovery basis. These rates will be comparable with fully-serviced private free zones in the region. For example, the sophisticated facilities offered by the privately developed Itabo Free Zone in the Dominican Republic have attracted U.S. Fortune 500 companies with a rental rate of US$4.00/sq.ft./year; and private free zones in Costa Rica now rent at around US$3.00. However, in contrast, the Ladyville Estate is not a full-service

industrial complex, offering simple factory shells and little in the way of amenities or services. For firms interested in high-quality industrial space, Belize has nothing to offer at present.

3.41 **Implications for Free Zone Development.** The wealth of resources that Belize possesses present attractive possibilities for firms and individuals with an interest in agricultural investment. However, agricultural processing operations are generally best conducted near the site where cultivation or harvesting takes place, not necessarily the optimal location for other industries such as garments and light manufacturing. In order to attract agro-related investment, the concept of "special free zone" status, whereby individual companies are designated as free zone operations should be included in any Belizean free zone regime. In this manner, zone incentives can be provided to firms in this sector no matter where the dictates of their production process require that they locate their operations.

3.42 It is also evident that there already is a substantial demand for industrial facilities in Belize. Discussions with BEIPU and the BCCI revealed that there have been foreign investors interested enough to visit the country who ultimately went elsewhere due, at least in part, to the lack of readily available factory space. Even after the construction of the Ladyville expansion, given the apparent demand, there will still be no available space in the area. Development of a free zone would be an important contribution to the stock of factory space in the country. A private developer offering a well-designed, attractive facility would appear to be in an excellent position to attract investment from firms now discouraged by the lack of space available and the long waiting period mandated by CDB-financed construction.

D. LABOR

3.43 This discussion first addresses the experience of free zones internationally in terms of their effect on the local labor force. It then turns to an analysis of the general labor situation in Belize, and how it affects free zone development potential. In addition, the composition of the Belize work force as it relates to teh skill qualifications required by specific industries is discussed in Chapter 5, and a regional demographic assessment and accompanying labor projections are presented in Annex A.

1. The Impact of Free Zones on the Labor Force

3.44 One of the primary considerations of firms evaluating a number of potential investment locations is the size of the labor force and the skills which it embodies. Free zone industries tend to be highly labor-intensive operations, employing mostly female workers between 18 and 25 years of age. Typical firms employ a

total of 100 to 300 workers, often on two or more shifts. Because a successful free zone may hold from five to 50 such enterprises, an adequate pool of affordable, trainable, and productive labor is perhaps the most important economic requisite of free zone success.

3.45 In many countries, free zones have proven to be the entry point into the workforce for the female population. Often the women employed by zone industries have no prior work experience outside of domestic labor as residential maids or nurses. In this respect, free zones have played an important social role in providing opportunities for women in developing countries as wage earners, freeing them from the confines of the domestic environment and providing independent access to upward mobility. Moreover, zone employment offers women exposure to a formal work environment and the accompanying "industrial discipline" -- the importance of punctuality, adhering to company policies, being directly accountable for performance. Similarly, it is often their first exposure to the corresponding benefits in terms of regular cash wages, vacation, sick leave and other fringe benefits, and opportunity for advancement.

3.46 On average, free zone industries pay workers 5 to 20 percent higher wages than their counterparts in traditional sectors of the economy. As zone activity grows over time, workers find they have an increasing range of employment alternatives. Employers begin bidding up the price of wages to secure productive and reliable employees. This process has created an "aristocracy of labor" in many Far East free zones relative to workers employed in traditional occupations. It has occurred without the imposition of higher minimum wages, and reflects the natural outcome of the higher productivity of labor in these enterprises -- it is precisely the absence of constraining legislation or regulation which contributes to the higher wage levels.

3.47 Some countries, however, have undercut the effectiveness of free zones in raising living standards for workers. Zone legislation in South Korea and the Philippines abrogated the rights of workers to form unions and strike, leading to short-term benefits for employers but creating deep labor-management rifts. The World Bank and other multilateral institutions have consistently opposed such government policies violating the rights of labor. While in practice unions are not frequently found in free zones, this does not mean that there is any inherent reason for excluding them. The stigma which may be created of two classes of labor -- in contrast to the higher standard often prevailing in free zones -- typically will have counterproductive results.

3.48 As a means of promoting harmonious labor relations and maximizing productivity, free zone developers in other countries -- notably Costa Rica and the Dominican Republic -- have implemented a range of amenities. The Cartago free zone has organized an affordable transportation system for employees,

established a zone-based health clinic, and provided an on-site training center. The San Isidro (Dominican Republic) zone has constructed food canteens as annexes to the standard factory buildings, while the Dominican Itabo zone has provided outdoor recreation areas. Free-zone based companies in some cases also directly offer their workers transportation subsidies and/or low-cost meals, conditional upon low rates of absenteeism. Most free zones have established referral services to assist new firms in identifying well-qualified job seekers. The service typically includes conducting interviews and pre-qualifying a recommended pool of suitable personnel.

3.49 It is no longer accurate to define free zone labor as simply assembly-line employment. Free zones can offer attractive employment for professionals and technicians, as well as the opportunity for vocational growth for male and female workers alike. As more sophisticated industries move to offshore locations, the types of jobs available within free zone projects will continue to expand. The "high-tech" free zones now springing up in the Caribbean are employing computer programmers as well as electronic technicians, architectural draftsmen, engineers and data entry operators. Like its neighbors, Belize may find that a free zone program can be a catalyst in developing its own labor force. The remainder of this section discusses how the Belizean labor situation relates to the country's potential for successful zone development.

2. National Demographic Characteristics/1

3.50 With one of the lowest population densities in the hemisphere, the Belizean population of between 170,000 and 185,000 is concentrated in Belize City, where an estimated 25 percent of all Belizeans reside, and in the northern regions of the country. Gender breakdown is roughly even, 48 percent female and 52 percent male, and remains equally distributed across all age groups.

3.51 The Belizean populace is extremely youthful -- nearly 50 percent of the population is under the age of 15. Between 1970 and 1980, the annual population growth rate was estimated at 1.9 percent, however, more recent USAID statistics indicate that this

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/1 It must be noted that precise population and labor statistics are difficult to obtain in Belize. Population estimates published vary greatly, as do the estimates of growth rate. The figures presented here are derived from those published by the MED's Central Statistical Office, based upon extrapolations from the 1980 census and a labor force survey conducted in 1983-84. The need for an updated national survey of the labor force prior to the next census should be given serious consideration.

rate has risen to 2.2 percent during the mid to late 1980s. Moreover, since 1970, the infant mortality rate has been cut by over 60 percent, increasing the youthfulness of the population.

3.52 The only English-speaking country in Central America, Belize has a mixed ethnic heritage. Traditionally, the Afro-Caribbeans or "creoles" have composed the majority of the population (40 percent) especially in the urban areas, followed closely by the hispanic "mestizo" population (33 percent) with smaller percentages of Maya, European and Garifuna citizens. However, the ongoing conflicts in neighboring countries of Nicaragua, Guatemala, and El Salvador have resulted in a significant increase in the Spanish-speaking population. In 1986 alone, official registrations of Salvadoran and Guatemalan refugees totalled 9,440, and estimates of illegal immigration run far higher.

3.53 At the same time, rising numbers of urban Belizeans, primarily Afro-Caribbeans, are leaving the country -- an estimated 60,000 Belizeans now reside in the United States -- further accentuating the changes in demographic structure. In response, the Government of Belize has begun to tighten controls on illegal immigration to the country, but is faced with the difficult task of monitoring its borders without cutting off one of the primary sources of labor for its sizeable agricultural sector.

3. National Employment Figures

3.54 With a working age population numbering approximately 87,000 persons, Belize is at a distinct labor supply disadvantage vis-a-vis its more populous neighbors. Agriculture has long been the principal generator of employment and remains so today, albeit at a lower level, accounting for some 32 percent of total employment. While the GOB's initiative to promote agricultural diversification and recent new investment in this area, has aided in the generation of agricultural employment outside of the sugar industry, it is still the primary employer. This is an important factor in analyzing the overall composition of the work force, as many of the employment opportunities presented in the sugar industry are occupied by "guest workers" and illegal aliens from neighboring countries. The availability of work in the cane fields at attractive wages is a powerful draw for workers from Guatemala, El Salvador and elsewhere in the region.

3.55 Government services also provides many positions, combining with tourism to supply 31 percent of the total jobs available. The tourism sector has been experiencing a boom, with accompanying increases in jobs available in the construction industry as improvements and additions are made to the existing hotel stock.

In recent years, the industrial sector, primarily export manufacturing operations, has risen in importance, now accounting for over 10 percent of total employment.

3.56 National unemployment has been estimated at over 15 percent, a level maintained in large part because of widespread emigration of the urban populace. While most of these emigrants endeavor to relocate in the United States, Belizeans have also been drawn to Mexico from the northern region of Belize where trans-border ties with Mexico are well-established. The buoyancy of the Chetumal economy and the opportunities for employment in the tourism industry in the Yucatan peninsula have meant that the bilingual residents of the Corozal area are highly employable. Moreover, the relative casualness of the immigration and Customs procedures allows easy passage of the Belizeans working in Mexico to visit their families.

3.57 National figures mask the fact that unemployment is far greater in certain areas of the country, such as Belize City, where unofficial sources place it as high as 25 percent, and Corozal, which has yet to recover fully from the closing of the Libertad sugar mill in 1986. The growing number of women entering the labor force has resulted in an expanding pool of labor in the services, manufacturing and commercial sectors, and in some parts of the country unemployment among women is far higher than for their male counterparts. This is especially true in predominantly agricultural areas, such as the Corozal region, where unemployment among working-age women was generally agreed to be as high as 75-80 percent.

4. Skill Qualifications and Wage Levels

a. Education and Vocational Training

3.58 Literacy levels in Belize surpasses those of its regional neighbors. Education in Belize is accorded high priority and the national literacy rate is 93 percent. Moreover, English is spoken throughout the country and more than half of the population is bilingual, speaking both Spanish and English.

3.59 The national educational system draws heavily upon church administered primary schools. There are 225 primary schools which run through "Standard VI," the U.S. equivalent of 8th grade, and education is compulsory until the age of 14. Total primary school enrollment in 1987 was 39,779; 48 percent female and 52 percent male. A breakdown by region shows that the Belize City district had the largest number of students in 1987 with a total of 12,624 primary school enrollment, followed by Corozal with 7,442 and Orange Walk with 6,100. For each district gender breakdown of the student population was more or less equal.

3.60 Secondary school enrollment totalled 7,326 in 1987, with females accounting for 53 percent of the total. These figures include students attending the Belize Technical College as well as general eduction programs. The Belize Technical College offers programs in construction, engineering, business and home economics. Vocational training such as teacher training programs, and secretarial/business programs, and general eduction coursework is also offered at the junior college level. Students seeking four-year degrees generally attend the University of the West Indies, or educational institutions in the United States or Great Britain, although the recently opened University College of Belize now offers bachelor's programs in business administration, education, and medical technology.

3.61 In 1986, USAID launched the Training for Employment project as a means to provide the training in management and administration skills required to promote the growth of new economic activity in sectors such as export-oriented industry and tourism. The work program is conducted under the Belize Chamber of Commerce and Industry and coordinated with the work of the Belize Institute of Management.

3.62 The high enrollment levels in the school system and the various vocational and technical training efforts have contributed to the enhancement of local labor skills. Semi-skilled and clerical workers are plentiful, nevertheless there remains a shortage of managerial and technical labor, compounded by the emigration of educated Belizeans to the United States and other locations.

b. Salaries and Wages

3.63 For all skill levels, Belizean wages are at the high end of the regional scale. No minimum wage is in force apart from a clause regulating domestic worker wages in the Labor Ordinance and one regulating retail sales positions in the Shops Ordinance. The average wage for factory labor of US$0.90/hour is nevertheless above the regional average. As can be seen from Table 3-2 below, it is over double that of the Dominican Republic and the 17 percent greater than the northern region of Mexico. Field interviews conducted indicate that there is considerable employment of Mexican labor in the Belizean border area at wages considerably lower than the national standard, in some cases as low as US$0.50/hour.

3.64 For skilled and semi-skilled workers, productivity following the initial training of workers has been estimated at 60 percent of U.S. levels, although some employers have placed productivity of their operations as low as 35 percent of the U.S. Turnover rates vary from firm to firm, averaging in the 30 percent range for

manufacturing and maquila operations. However, interviews conducted indicate that for the most part employee turnover is concentrated in the training period.

3.65 Because of the scarcity of skilled workers, technicians, and managers are paid substantial salaries. Factory supervisors earn from US$7,000 to US$8,000 per annum. While lower than in Jamaica and on par with the Costa Rican standard, these salary levels are 80n percent greater than the Dominican Republic and roughly a third higher than in northern Mexico. As is common throughout the region, expatriate labor is generally used for upper-level managerial positions in foreign investments in export industry.

TABLE 3-2
COMPARATIVE LABOR COSTS AND CHARACTERISTICS
(Apparel Operations/U.S. Dollars)

	Belize	Dominican Republic	Jamaica	Mexico
Basic Labor Cost/Year	$1,871	$883	$1,044	$1,544
Skilled Labor Cost/Year	$2,994	$1,500	$2,646	$3,000
Manager Salary/Year	$8,000	$4,000	$12,700	$6,500
Engineer Salary/Year	$7,000	$7,000	$9,000	$5,200
Staff Salary/Year	$1,500	$1,200	$5,400	$3,300
Fringe Benefits Rate	23.8%	27%	28.5%	28%
Productivity	60%	90%	80%	60%
Workweek (Hours)	45	44	40	40

3.66 Fringe benefits add approximately 30 percent to the direct cost of labor and are comprised of social security and employment injury (workmen's compensation) payments, vacation, and sick leave. Overtime is paid at time and a half for work over nine hours in one day or 45 hours in one week. There are 13 public holidays in Belize. Employees working on holidays receive 1.5 times the normal wage (double time for Christmas, Easter and Good Friday) plus a day's wages in "holiday pay," subject to certain qualifications.

3.67 Sixteen days of sick leave is standard for those workers with 60 days of work logged in the preceding year and a minimum of six days vacation is prescribed by law. Termination pay or notice is required, ranging from three days notice (or payment) for persons employed from two weeks to six months, to four weeks notice/payment for persons employed over two years. Workers with more than seven years of service are entitled to severance pay at the rate of one week for each year of completed service./1

3.68 Although not required by law, many export manufacturers in Belize provide or subsidize transportation arrangements for their employees as one of their fringe benefits, thereby ensuring that the workers arrive on time. Williamson-Dickey, with 550 workers by far the largest Belizean garment manufacturer, has purchased 16 used school buses which they use to transport their workers. The Belize Sugar Industry operation at Libertad also provides free worker transport. However, there are some notable exceptions, the manager of a Belmopan apparel operation stated that workers travel as far as 40 miles each way, at their own cost, to arrive at work.

5. Regulatory Considerations

3.69 Taken as a whole, labor laws in Belize are liberal and competitive with those prevailing elsewhere in the region. As mentioned above, there is no minimum wage for private industrial operations, although wages paid by the export industry are generally considerably higher than the minimum in the regulated wage sectors. It should also be noted that Belize has a long-standing policy allowing for the use of foreign "guest workers" to supplement its small labor pool. This has historically been an important factor in the agricultural sector where seasonal variations in labor demands make the use of migrant, temporary workers especially attractive. While the possibility may exist of drawing industrial workers from other low-wage countries such as Mexico and Guatemala, this alternative is, as yet, untested. As is discussed later in this report, GOB policy in this regard could play an important role in the assessment of the optimal location for zone development in Belize.

/1 Description of standard fringes drawn from Labor Guidelines, Belize Ministry of Labor.

3.70 For technical, managerial and professional personnel, expatriate labor permits are comparatively easy to obtain when there is an acknowledged shortage of Belizeans who can meet the job requirements. In general, the government has maintained a policy of non-interference in private sector activities and employee-management relations. With 13 operating unions, an estimated 60 percent of the labor force is unionized, primarily in the public sector, yet strikes are infrequent. There are as yet no unions in the garment sector.

3.71 **Implications for Free Zone Development.** The size of the labor force in Belize is a key factor to consider in the determination of project viability, as the labor situation is one of the most persuasive determinants of the attractiveness of a country as a free zone location. Given the small size of the total labor pool, Belize is at a distinct disadvantage vis-a-vis its regional competitors. Likewise, prevailing Belizean wage levels are considerably higher than in other countries in the region seeking to develop free zone programs or export manufacturing operations in general. For some investors, however, the advantages of an English-speaking (or bilingual) work force alone outweigh the cost disadvantages, providing there are sufficient available workers to staff their operations. It may be, as is discussed in Chapter 4, that the regional variations in labor cost and supply within Belize will be the most important consideration in assessing the project's potential.

3.72 There is also a shortage of technical and managerial personnel in Belize, a deficit which several different institutions are seeking to address through the various vocational and educational training programs in place. However, clearly the growing numbers of Belizean citizens emigrating to the United States and elsewhere are driven in large part by the absence of attractive employment opportunities at home. Should new positions be established in the export sector which utilize their skills, a portion of the "brain drain" from which the country is now suffering might be alleviated.

E. CAPITAL

3.73 Availability of financing for industrial development and export manufacturing can be an important component of the comparative advantage of a location in attracting industry. While sophisticated multinational corporations will often arrange financing for overseas subsidiaries through the resources available in home country or offshore financial markets, this is usually not an option for local firms or smaller foreign firms. Even for subsidiaries of large firms, the availability of local financing is a factor in investment decisions. For a small country, Belize has a reasonably well developed financial structure, although it

suffers from many of the problems concerning the depth of capital markets which are typical of poorer developing countries.

1. Short-Term Finance

3.74 Belize has four principal commercial banks, three of which are affiliates of British or Canadian banks. These commercial banks offer the typical variety of banking services, including lines of credit for short-term transactions. Most readily engage in the short-term credit instruments needed by exporters, such as letters of credit, receivables financing, and other short-term loans. In addition, a number of other small specialized institutions, chiefly credit unions, serve the retail banking sector.

3.75 Belize has maintained high real interest rates, and is able to attract deposits, even from abroad, which has helped ensure a high degree of liquidity in the banking system. The Central Bank of Belize regulates banking and monetary affairs, and sets floor rates for both deposits and loans. The minimum commercial prime rate is now set at 12 percent. The Central Bank sets reserve and liquidity requirements, but otherwise generally refrains from intervention.

3.76 Belize's dependence on imports for basic consumption has developed a certain ease of handling short-term international transactions among the commercial banks, which all maintain correspondent relations through parents or affiliates. However, the banking community has often been criticized as being overly conservative in its lending practices, which has acted as a constraint on business expansion. Some of the manifestations of this conservatism include:

- favored treatment for established clients, or those with well established credit records;
- short-term financing on a secured basis;
- high interest rates of 15-18 percent;
- collateral requirements of 150 percent of the loan amount, often with a lien or pledge on all assets./1

3.77 Export manufacturing operations typically require short-term credit to finance the importation of raw materials and intermediate goods (pre-export finance) and the financing of shipments until payment is received (export finance). Credit decisions on the part of banks rest on their assessment of the ability of the manufacturer to meet shipment deadlines, which always involves a greater degree of risk than simple trade financing for commerce.

/1 Analysis of the Constraints Limiting Access to Investment Credit in Belize, Development Alternatives, Inc., 1987, p.14.

The general conservatism is apt to pose a problem for the operations of new export industries, particularly if they are operating in industries unfamiliar to Belizean banks. While this may be overcome in time through increased familiarity, at this point it may be a disincentive to the export manufacturing sector.

2. Medium- and Long-Term Finance

3.78 The general conservatism noted above becomes an even greater obstacle in the provision of term finance. The commercial banks have exhibited a general aversion for any kind of medium- or long-term finance, even when on-lending funds through a discount facility. The lack of such finance is often a problem in developing countries due to the shallowness of financial markets, the lack of a long-term deposit base, and general financial insecurity owing to unstable macroeconomic conditions. However, these factors are not as severe in Belize as in other countries. Although the newly established Bank of Belize (Belize Bank of Commerce and Industry) has indicated a willingness to entertain project term financing, this bank has yet to establish itself as a funding source in this area. Part of the problem lies in the lack of familiarity and expertise in evaluating longer term projects, particularly in manufacturing, which could be overcome by technical assistance.

3.79 In other settings, these problems of lack of medium-term finance have been addressed through providing a rediscount facility funded by a bilateral or multilateral assistance agency. To this end, USAID established the Commercial Bank Discount Fund in 1983, yet it has not been widely utilized, even with the availability of a guarantee program. This type of mechanism relies on the commercial banks to originate and process loan applications, and its failure can be largely attributed to the lack of interest on the part of the banks.

3.80 The principal source of term finance in Belize has been the Development Finance Corporation, a public sector institution funded primarily by the Caribbean Development Bank. The DFC engages in commercial and residential mortgage finance, industrial equipment financing, and other types of industrial and agricultural medium and long-term finance. Interest rates range from 10-12 percent, with the term dependent on the nature of the loan (up to 10 years for industrial equipment.) The DFC is viewed as the principal source of funds by Belizeans for any type of project requiring term finance. However, the DFC has been hampered in the past by political influence and the quality of its loan portfolio is suspect.

3.81 The Belize Investment Group (BIG) is an USAID-supported finance group which was set up to channel funds from the Belizean private sector and Belizean expatriates into development projects.

It is currently at the stage of raising funds, but could provide a new source of equity as well as medium- and long-term lending, possibly in cooperation with local commercial banks.

3.82 Belize may also soon be eligible for financing mechanisms accessing the pool of "936" funds held in Puerto Rico through the provisions of the CBI./1 This will enable projects in Belize to be financed by commercial banks and the Government Development Bank of Puerto Rico at interest rates typically below the prime rate. Industrial development projects, particularly in export manufacturing, have been approved in other CBI countries for 936 financing. Ensuring that these funds are available to prospective investors will again require that local banks, or conceivably other institutions such as BEIPU, are familiar with the program requirements and can assist in putting together the necessary package, which typically requires some form of co-financing.

3.83 **Implications for Free Zone Development.** The lack of effective medium- and long-term financing mechanisms in Belize constitutes a constraint on the development of the export manufacturing industries associated with free zones. USAID has recognized this problem as it affects the economy overall, and has investigated several approaches, such as setting up an Investment Credit Project, providing funding sources for BIG, etc. At this time however, the lack of effective institutions and programs in place limits Belize's competitiveness in this area. However, Belize is probably not worse than many countries at a similar level of development in the region, and the presence of an otherwise capable banking system and a stable monetary environment should make the gradual development of term financing institutions and mechanisms an achievable objective. This objective will be one which should accompany any program to promote export manufacturing, including the current free zone initiative.

F. INFRASTRUCTURE AND SERVICES

1. Transportation

3.84 The availability of affordable and reliable transportation service is an important factor in the locational decisionmaking process conducted by foreign investors. Regularly scheduled, dependable transportation services are crucial to export manufacturers that rely on rapid delivery of supplies and production inputs or that practice "just in time" methods of inventory control. Not only are the transportation infrastructure and international service capabilities of Belize an important consideration, but also the quality and reliability of internal

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/1 Pending accession to a Tax Information and Exchange Agreement with the U.S. Treasury.

transportation as it affects the efficient transfer of goods from the port of entry to the free zone site.

3.85 Belize benefits from its relative proximity to the United States, the major market for local exports and primary source of imported equipment, materials, and spare parts. Adjacent to Mexico, Belize is also at an advantage relative to other countries in the Caribbean Basin in that the opportunity exists for utilizing competitively priced overland transportation for both inward- and outward-bound goods. Moreover, both cargo and passenger service to Belize has increased in recent years. In other key respects, specifically in terms of the quality and extent of the transportation infrastructure in place, there is considerable room for improvement. The following discussion offers a brief summary of the key elements of Belize's transportation infrastructure and services as they relate to the potential for zone development.

a. Ground Transportation

3.86 Although it has been a major focus of GOB civil works and foreign assistance programs in Belize for some years, there is little doubt that major improvements are still needed to the national road network. Less than 15 percent of Belize's 1,400 miles of roads are paved and problems are especially severe in the southern region of the country where the recent boom in non-traditional agriculture has been constrained by the poor roadway system linking the fields to the port for shipment. The southern highway is subject to flooding and often impassable.

3.87 The northern highway connecting Belize City to the Mexican border region is a well-maintained, paved two-lane road. Trucking time from Belize City to Santa Elena is approximately two hours, and comparatively inexpensive. One local exporter quoted a rate of US$175 for transport of a 40-foot container from the Belize City port to Corozal, only US$50 more than the rate charged for hauling the container to the Ladyville area just outside Belize City.

3.88 As mentioned above, Belize's location opens up the possibility of the overland transfer of goods between the United States and Belize via Mexico. The most prominent of example of the viability of this approach is the Williamson-Dickey apparel manufacturing plant located outside Belize City which up until this year handled the entirety of its cargo transport by trucking overland through Mexico./1

/1 Williamson-Dickey has recently expanded its offshore assembly operations to include factories in Jamaica and Honduras and is presently testing using its own ship to service all its cargo needs in the region.

3.89 From 1979 to 1988, Williamson-Dickey trucked both its production inputs and finished goods to and from Laredo, Texas at a round-trip cost of US$5,500 per 40 foot container. The door-to-door service proffered was highly attractive and economical since hefty port charges and costly delays were avoided. It should be noted, however, that the firm had a special agreement with the GOB allowing for the use of a Mexican trucking firm within Belizean borders. The requirement to use Belizean truckers in Belize (and the Mexican government's corresponding regulation within Mexico) necessitates the changing of tractors and drivers at the border, adding to both the cost and time involved in this mode of transport.

3.90 A second impediment to the development of international trucking is the delays that have been experienced at the Belizean border by truckers waiting for Customs clearance to cross into Mexico. Delays of up to three or four days have been reported by firms due to both the volume of traffic and the lack of adequate facilities -- a truck depot to accommodate the changing of trailers, unloading and inspection of goods.

b. Air Transportation

3.91 Belize has one international airport located some 20 miles outside of Belize City. Flight time to the United States is brief, only two hours direct to Miami, Houston, and New Orleans. Five passenger carriers now provide international airline service to the United States and Central America: TACA, Challenge, TAN/SAHSA, and the recently initiated service by Eastern and Continental Airlines. Construction is underway on improvements to the Belize International Airport, which when completed in 1990 will replace the existing passenger terminal with a modern facility twice its size to accommodate the increasing flow of tourist traffic, Belize has ten municipal air strips and several local firms also furnish regional and domestic air service.

3.92 Most air freight entering and leaving Belize is transported in the cargo hold of the international passenger carriers -- an arrangement which, at present, is sufficient to meet the needs of local export industry. While the current levels of tourist traffic coming to the country allow adequate available space for cargo transport (even on short notice), more problems resulting from the "bumping" of commercial cargo for passenger luggage can be expected to arise as the number of tourists visiting Belize increases. The current freight charges are regionally competitive.

c. Sea Transportation

3.93 The Belize Port Authority is a semi-autonomous government agency responsible for the management and operation of the

country's sea ports. There are two deep water ports at Belize City and Stann Creek (21 ft. depth), the latter being used primarily for the citrus industry in the south. Belize's principal port is located in Belize City and consists of a single-lane, 2,500-ft. trestle, with facilities for both Roll On-Roll Off and Lift-On Lift-Off cargo handling at the 25,800 sq.ft. pierhead. The sea floor at the pierhead was dredged to a depth of 17 ft., but is plagued by silting and often cannot accommodate ships with more than a 15 ft. draft. Ships with deeper draft, which include most coastal freighters, are then forced to rely on lighterage of their cargo.

3.94 The Belize City port has two warehouses located on the 7.5 acre developed portion of its 50-acre site, providing a total of over 41,000 sq.ft. of storage space. There is no refrigerated warehouse space available. Customs officers are on duty around the clock, as are the heavily unionized Belizean stevedores responsible for unloading the cargo for inspection. Port charges are prohibitively high, an estimated US$400 per 40 ft. container and add considerably to the cost of ocean transport, which otherwise would be competitive with alternative locations./1 The GOB also recently increased the transit charge levied on goods passing through the port to 3 percent, a significant disincentive to the growing numbers of commercial firms that had elected to use Belize City for transshipment of goods destined for the southern Mexican states. Five shipping lines provide service to the United States, Caribbean Basin, Europe and the Far East, and an estimated 250-300 containers/week pass through the port at peak volume periods.

2. Power

3.95 At US$0.205/kwh, electricity is extremely expensive in Belize and is a primary deterrent to the expansion of local export industry. Reliability of transmission is also a problem and most firms operating manufacturing operations have installed private on-site generators to back up the electricity provided by the Belize Electricity Board (BEB). The BEB's monopoly position on the generation, transmission, distribution and sale of electricity is firmly entrenched and the prospects of alternative (private) generation of power, at least in the near-term, are limited.

3.96 With no domestic source of petroleum, all fuel is imported to Belize (primarily from Mexico). BEB uses principally oil or diesel generation, and must pass through the tariff on petroleum imports. The small size of total domestic demand, coupled with the

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/1 A 1988 World Bank study recommended that to lower these charges the port management should be strengthened and an estimated US$500,000 in infrastructure improvements and repairs be undertaken to increase its capacity and efficiency.

dispersed population, apart from the Belize City area, makes the improvement of the national power grid problematic and has discouraged the development of new energy sources. According to the BEB, a World Bank study exploring the possibility of developing domestic provision revealed only limited potential for the hydro-generation of power and other alternative energy sources.

3.97 Fuel is not included in the duty-free treatment accorded most standard imported inputs for export-oriented businesses and other firms operating under the development concessions program. Neither the BEB nor spokespersons for other government agencies contacted indicated that such an arrangement might be possible in the future. However, the initiation of an industrial rate for commercial enterprises or free zone firms, should a program be established, as part of the incentives package offered is under consideration by the BEB.

3.98 As is discussed in Chapter IV, one of the most promising solutions to the electricity problems currently constraining industrial development in Belize is the sourcing of electrical power for the Santa Elena area directly from Mexico at lower rates than are presently offered. The current system of electricity provision employed by the BEB results in the payment of the national rate for Santa Elena area residents and businesses, despite the fact that the power is directly transmitted from a Mexican sub-station. The US$0.05/kwh charge paid by the BEB to the Mexican government for the electricity is in no way passed on to the consumer. This situation would appear to present considerable leeway in electricity charges within the area simply by narrowing the profit margin received by the BEB at present, allowing for the associated expenses arising from distribution, maintenance, revenue collection, etc. The attractiveness of reasonably priced and reliable electricity for free zone users in the border area cannot be overestimated, as the charges associated with electricity provision are the most frequently cited complaint of export manufacturers now operating in Belize.

3. Water and Sewerage

3.99 The provision of water within Belize falls under the jurisdiction of the Belize Water and Sewerage Authority and the cost is very high, at US$7.56/1,000 gallons, roughly 60 times greater than that of the Dominican Republic, Jamaica, or the United States. In the face of such prohibitive costs, industrial consumers have elected to dig their own wells for industrial uses and install septic tanks, by far the most cost effective options available.

4. Telecommunications

3.100 Belize Telecommunications Ltd. (BTL), is the quasi-governmental entity which supplies telecommunications infrastructure and service throughout the country. Formerly a wholly owned government monopoly, the company has recently undergone a restructuring intended to increase its efficiency through private sector participation. In fact, this privatization has entailed little more than a redistribution of the company's ownership among several government agencies.

3.101 Telecommunications service in Belize, both domestic and international, is low in quality and high in cost in many parts of the country by regional standards. There are improvements now underway to the national network which will eventually triple the number of lines available and improve the domestic switching system. However, at present, the frustrations in placing calls locally, frequent interruptions and interference on the lines, and long waits for new phone lines are a strong deterrent for an international business considering a number of investment alternatives.

3.102 **Implications for Free Zone Development.** Basic infrastructure and services in Belize have been improved in recent years, but will need further attention if a free zone is to attract a broad spectrum of investors. At present, problems and costs associated with transportation are an impediment to the growth of both agricultural and industrial exports. The high port charges and transit tax constitute a powerful deterrent to these sectors and to international transshipment and distribution activity as well. In addition, while the opportunity to transport goods internationally by land is attractive for some businesses, the condition of the road network in parts of the country makes internal transportation difficult for these firms as well as those relying on other modes of transborder carriage. The GOB is aware of the need for physical improvements to public works and efforts are already underway in some areas and are budgeted for the future in others. Nevertheless, near-term action can also be taken to enhance the investment environment, beginning with a review of the Port Authority's fee structure and GOB tax regime vis-a-vis transnational cargo.

3.103 For the key area of power supply, many companies with offshore operations have learned to live with the operational constraints imposed by blackouts, brownouts and the like, through the use of back-up generators. The cost of power in Belize is far above the regional average and, at a minimum, an industrial or commercial rate should be instituted for free zone users. As mentioned above, the possibility of sourcing an increased volume of electricity from Mexico, and offering a discount to firms at the border region may provide the most attractive solution.

3.104 Finally, the long-standing plans to improve the national telecommunications system should be fast-tracked, and measures undertaken by the BTL to ensure that rates are as low and as equitable as possible throughout the country. Reliable and affordable phone systems are essential in an international marketplace which is relying more and more heavily on computer modems, facsimile machines, electronic data transfer, and other forms of communications technology for its day to day operations. The high cost and long waiting periods associated with phone installation and service outside the population centers of the country will stifle the economic development of these areas.

3.105 While these shortcomings are formidable, they have not stopped the flow of foreign investment to Belize over the past five years, nor will they necessarily deter investment in a free zone project in the country. However, if the initial steps are taken to improve the problems addressed above, the prospects for attracting more established manufacturers, and potentially even service industry, to the free zone will be greatly strengthened.

CHAPTER IV. PRELIMINARY LOCATIONAL ANALYSIS

4.01 This chapter evaluates various possible sites for the establishment of an industrial export processing zone. Particular attention is focused on the existing commercial free zone site at Santa Elena. Santa Elena and alternative locations are assessed on the basis of a number of economic, technical, physical and social factors in order to identify relative locational advantages and constraints.

A. LOCATION EVALUATION FRAMEWORK

1. Overview

4.02 The suitability of a location for industrial development generally, and EPZs in particular, depends greatly on the types of processing activities envisaged. Light manufacturing and assembly activities have different locational requirements than, for example, heavy industry. Much of the variance arises from differences in the manufacturing cost structures of each type of activity.

4.03 At the simplest level, all manufacturing activities involve three stages: (a) procurement of raw or partially processed materials from supply areas; (b) processing or assembly of these materials into a final product or component at some location; and (c) distribution of the product or component to a specified market or set of markets. Associated with each stage is a set of costs. Traditionally, a good location has been one that allows the minimization of these costs. For this reason, free zones have often been located near transportation hubs and ports, however determination of a least-cost location varies greatly by the cost structure of the particular firm and its specific requirements for labor, materials, energy, utilities and other inputs.

4.04 For most firms seeking an offshore production base in an EPZ, the most important factor is the availability and cost of labor. The relative importance of labor in the cost structures for these industries can be seen in Table 4-1. The cost and availability of labor is extremely important for the apparel industry, in which hourly wages for production workers represent about 80 percent of the total payroll, in contrast to the scientific instruments manufacturer who allocates only 41 percent of the payroll to such workers.

4.05 Notwithstanding the disproportionate importance of labor supply in site selection, the assessment of a site for successful EPZ development involves the examination of a large number of complex and interrelated variables. The difficulty of the task is compounded when factors affecting the future availability and cost of critical components is subject to uncertainty.

TABLE 4-1
TOTAL PAYROLL AS A PERCENTAGE OF VALUE OF SHIPMENTS

Industry Group	Total Payroll/ Value of Shipments	Production Wages/ Payroll
Leather	27.5%	77.5%
Apparel	25.9%	79.9%
Furniture	28.3%	72.5%
Scientific Instruments	17.6%	41.3%

Source: Compiled from U.S. Department of Commerce, U.S. Industrial Outlook, 1987.

4.06 Of particular importance in EPZ site selection are the following factors:

Physical Suitability of the Terrain. A preliminary assessment of site suitability must consider the overall topography and general characteristics of the land and its suitability for industrial development. Another set of factors estimates the overall costs of land development and site preparation. The existence of unusable structures on the site will generally raise costs, as will marshy soils requiring extensive fill. The size and shape of the land parcel, the complementarity of adjacent land uses, and the potential for business expansion are important considerations. A final set of variables focus on the location of the site and its distance from end-markets, material inputs sources, population centers and transportation hubs, all of which critically affect zone development potential.

Area Labor Supply. The ready access to a low-cost labor force is perhaps the most important single factor influencing plant location decisions -- and, by extension -- requirement for EPZ location. The evaluation matrix assesses potential area labor supply on the basis of size, cost, productivity, availability, trainability and other dimensions. Particular attention is placed upon the availability and characteristics of entry-level female labor, and the existence and activities of labor unions. Also assessed is the availability and quality of educational, vocational and management training facilities.

Infrastructure and Service Connections. The proximity, quality and cost of external transportation and communications infrastructure are critical to industrial location. The cost, capacity and quality of utilities provision (e.g. electricity, gas, water, sewerage) are also

of importance. A last category relates to the availability of business support services, including such diverse services as equipment maintenance and repair as well as professional services such as accounting, legal advice, engineering and consulting.

Social Amenities. A frequently over-looked category of variables assess area social and recreational facilities, cost and availability of suitable housing for expatriates, schooling and other "quality of life" indicators.

4.06 Although the primary objective of the report is to evaluate the potential of the Santa Elena commercial free zone site for EPZ development, this discussion also examines a number of other possible locations. To provide more concrete information, specific sites within each of the locations were chosen. Four locations are evaluated for establishment of an EPZ:

- the existing Santa Elena commercial free zone site;
- a site near Corozal Town;
- a site adjacent to Belize City port; and
- the Ladyville area.

4.07 Table 4-2 shown on the following pages summarizes the results of the locational evaluation undertaken. The evaluation matrix incorporates the normative factors discussed above. Each potential EPZ location is further examined below.

B. ASSESSMENT OF THE SANTA ELENA LOCATION

1. Physical Characteristics

4.08 The commercial free zone at Santa Elena is located at the border area with Mexico, within Corozal district. Corozal is one of the primary sugar growing areas of the country currently suffering from the twin effects of a downturn in trade with Mexico, and the economic dislocation caused by the closing of the Tate & Lyle sugar mill.

4.09 The parcel of land is irregularly shaped and covers an area of some 40 acres, divided by an internal road. It is bounded by the "Four Mile Lagoon" to the east, and on the north by the Rio Hondo river, the international boundary between Belize and Mexico. The western boundary of the land parcel is the Northern Highway, a major north-south artery. There is significant expansion potential to the west and south on mostly GOB owned property.

4.10 The site currently houses the Belize Customs and Immigration post at the border, and a fenced bonded warehouse area and duty-free shopping facility. There are about 10-20 privately owned structures onsite, some of which have been

BELIZE FREE ZONE SITE COMPARATIVE ANALYSIS

	SANTA ELENA COMMERCIAL FREE ZONE	COROZAL TOWN (SAN ANDRES)	LADYVILLE AREA	BELIZE CITY PORT
DESCRIPTION OF SITE				
A. Site/Expansion Potential	- 40 acres, divided by internal road. - good expansion potential to west and south.	- 560 acres. - Good expansion potential.	- Good expansion potential for general area.	- 50 acre plot, of which 7.5 acres is developed.
B. Ownership/Land Rights	- 10 acres held by multiple private interests (four).	- Entirely privately held.	- Mostly GOB owned land.	- Mostly GOB (Port Authority) owned land.
C. Structures on Site	- 10-20 privately-owned buildings. **-several buildings in disrepair.** - one customs/immigration facility.	- Two SFBs plus miscellaneous buildings on periphery of site.	- Not Applicable.	- None.
D. Land Acquisition Costs	- US$1,000/acre for unimproved land. - Approximately US$2,000/acre for developed land.	- US$375/acre for 50 acre plots of undeveloped land. - US$500/acre for 50 acre plots of cleared cane field	- Not Available.	- Not Available.
E. Topography	- Flat with some marshy areas. - Buildings and trees.	- Flat with brush and trees. - Soil has good load-bearing capacity.	- Uneven land with brush and trees. - Generally poor-adequate load-bearing capacity.	**- Flat, marshy land sparsely covered with brush and trees.**
F. Site/Buildings Preparation Costs/Time	- SFB construction costs are approximately US$25/sq.ft. - Building construction can exceed 18 months.	- SFB construction costs are US$26/sq.ft. - Land preparation costs are lower. - Construction period approximately 12 months.	- Buildings construction costs approx. US$35-45/sq.ft. - Construction period 12-18 months. **- High land preparation costs (fill required).**	**- High building construction and land preparation costs, SFB construction costs are US$40-50/sq ft. (substantial fill required).**

Note: Undesirable characteristics are highlighted in bold face.

TABLE 4-2
BELIZE FREE ZONE SITE COMPARATIVE ANALYSIS
(Continued)

	SANTA ELENA COMMERCIAL FREE ZONE	COROZAL TOWN (SAN ANDRES)	LADYVILLE AREA	BELIZE CITY PORT
G. Adjacent Land Uses	- Unimproved forested land. - Abandoned sugar-cane fields. - Belize/Mexico border check-point with layover area for trucks.	- One papaya processing plant. - One apparel operation. - Adjacent to community college and residential area. - Papaya growing area.	- High level of industrial and commercial activity in area. - Residential areas.	- Adjacent to port and warehouse facilities. - Residential area.
H. Road Distance from Population Centers	- 8 miles to Corozal Town. - 4 miles to Chan Chen. - 15 miles to Libertad.	- 3 miles to Corozal. - Walking distance of San Andres and other villages.	- 10 miles to Belize City.	- Located at periphery of Belize City.
I. Road Distance from Transportation Hubs.	- 90 miles from Belize City Port and Airport. - 26 miles to Chetumal Airport, Mexico. - Adjacent to major over-land route.	- 90 miles from Belize City Port and Airport. - 26 miles to Chetumal Airport. - 5 miles from major over-land route.	- 10 miles to Belize City Port. - 5 miles to Belize City Airport. - Adjacent to major over-land route.	- Adjacent to Belize City Port. - 10 miles to Belize City Airport.
J. Road Distance from Raw Materials Sources	- 40 miles to Orange-Walk area. - 3 miles to Corozal. - 10 miles to Chetumal.	- 40 miles to Orange Walk area. - 3 miles to Corozal. - 10 miles to Chetumal.	- 10 miles to Belize City.	- Raw materials accessible from Stann Creek, Cayo, and other areas.
LABOR FORCE				
A. Size of Labor Force	- Total working age population of Corozal and Orangewalk districts: 28,593 (1988) - Total labor force: 17,573 - Female workforce: 6,291.	- Total working age population of Corozal and Orangewalk districts: 28,593 (1988) - Total labor force: 17,573 - Female workforce: 6,291.		- Working age population: 34,136. - Labor force: 24,604. - Female workforce: 12,302.
B. Availability/ Unemployment	- Unemployment high (50% of females). - Underemployment (75% of females). - Relatively good access to labor.	- Unemployment high (50% of females). - Underemployment (75% of females). - Relatively good access to labor.	- Unemployment: 15% male, 25% female. - Good access to labor	- Primary advantage is location within country's largest labor pool. - Good access to labor

Note: Undesirable characteristics are highlighted in bold face.

(Continued)

	SANTA ELENA COMMERCIAL FREE ZONE	COROZAL TOWN (SAN ANDRES)	LADYVILLE AREA	BELIZE CITY PORT
C. Average Wage for Entry-Level Labor	- US$0.55 to $0.70/hr.	- US$0.55 to $0.70/hr.	- US$0.90 to $1.50/hr.	- US$0.90 to $1.50/hr.
D. Trainability/ Productivity of Labor	- High trainability. - Good productivity. - Low turnover.	- High trainability. - Good productivity. - Low turnover.	**- Adequate trainability.** **- Low productivity: 60% of U.S. levels.** **- High turnover: 50%.**	- Not Available.
E. Area Union Activities	- None.	- Some union type activity in agricultural sector.	- No unions in garment industry. - Some area union activities.	**- Port workers, stevedors and others are unionized.** **- Strong union activity.**
INFRASTRUCTURE AND SERVICE CONNECTIONS				
A. Transport Modes Availability	- Good trucking services to the United States. - Adequate connections to airport and sea port in both Belize and Mexico .	- Good trucking services to the United States. - Adequate connections to airport and sea port in both Belize and Mexico.	- Good trucking services to the United States. - Excellent connections to airport and sea port in Belize City.	- Good trucking services to the United States. - Good connections to airport - Located at Belize City Port.
B. Cost/Duration of Over-Land/Sea Freight Services	- Excellent trucking services to the United States, 40 hours. - US$2,000 for 20ft. container to Houston.	- US$175 for delivery of 40ft. container from Belize City Port.	- US$2,800 for 40ft. container to Miami by ocean freight. - US$125 for delivery from Belize City Port.	- US$2,400 for 40ft. container to Miami by ocean freight.
C. Frequency/Cost of Bus Service to Site	- Adequate bus connections: one bus per hour. - US$1 for one-way fare from Orange Walk.	- Service to Chetumal and Orange Walk: one per day. - US$0.50 for one-way fare from Corozal.		- Not Applicable.

Note: Undesirable characteristics are highlighted in bold face.

	SANTA ELENA COMMERCIAL FREE ZONE	COROZAL TOWN (SAN ANDRES)	LADYVILLE AREA	BELIZE CITY PORT
D. Cost/Capacity/ Expansion Plans of Electrical Supply	- Power supplied by 6-mile line from Chetumal, Mexico. - 500kw capacity (only 125kw is available). - BEB buys power from Mexico for US$0.05/kwh and sells at US$0.20/kwh. - Increased demand would require expensive improvements.	- Sub-station approx. one mile away. - US$0.205/kwh (expensive).	- Adequate access to 220v, three phase electricity.	- 50kw electrical generator available at Belize City Port. - Adequate access to 220v, three phase electricity.
E. Cost/Quality/ Expansion Plans of Telecommunication Facilities	**- Existing facilities and services inadequate.** **- High costs.** **- US$130 month rental for receiver (vs. US$10 elsewhere in Belize).** - New digital exchange installed in Corozal which doubled the number of lines in the area.	- Existing facilities and services inadequate. - New digital exchange installed in Corozal which doubled the number of lines in the area.	- Adequate telecommunications facilities available. - Expanded capacity of local exchange.	- Adequate telecommunications facilities available. - Expanded capacity of local exchange.
F. Cost/Capacity/ Expansion Plans of Water/Sewerage Services	-Water provision is good; site is near fresh water lagoon and river. - Lack of sewerage treatment facility.	- Good water provision. - Lack of sewerage treatment facility.	- Lack of central sewerage treatment facility. - High water costs.	- Lack of central sewerage treatment facility. - High water costs.
G. Availability/ Distance/Access to Business Support Services	- Inadequate access to technical support services. - Good access to services from Mexico.	- Inadequate access to technical support services. - Good access to services from Mexico.	- Good services available in Belize City.	- Good access in Belize City.

Note: Undesirable characteristics are highlighted in bold face.

BELIZE FREE ZONE SITE COMPARATIVE ANALYSIS
(Continued)

	SANTA ELENA COMMERCIAL FREE ZONE	COROZAL TOWN (SAN ANDRES)	LADYVILLE AREA	BELIZE CITY PORT
OTHER				
A. Community Living Conditions and Amenities.	- Low cost of living. - Adequate facilities in Corozal Town. - Excellent amenities available in Chetumal, Mexico.	- Low cost of living. - Adequate facilities. - Excellent amenities available in Chetumal, Mexico.	- Good living conditions and amenities in Belize City. - Relatively higher cost of living.	- Good living conditions and amenities in Belize City. - Relatively higher cost of living.
B. Local Business and Government Attitudes to Free Zone Development.	- Very positive and supportive local government.	- Very positive and supportive local government.	- No strong interest evident.	- Port Authority interested in free zone development.
C. Vocational/ Training/Educational Institutions.	- Adequate vocational training institutions in Corozal Town.	- Secondary school nearby. - Community College with enrollment of 475 students adjacent to zone.	- Secondary school and vocational training facilities available at University of Belize and Belize Institute of Management.	- Secondary school and vocational training facilities available at University of Belize and Belize Vocational Training Institute among others.

Note: Undesirable characteristics are highlighted in bold face.

abandoned and are partially deteriorated. The site is covered with vegetation; overall topography is favorable, with only slight elevation. Based upon simple visual examination, the soil appears to be of good load-bearing capacity overall, with some marshy patches. Because of proximity to the Northern Highway, raw land values around the site are higher than most other areas, averaging about US$1,000/acre.

4.11 **Implications for Zone Development.** The Santa Elena site appears to be suitable for EPZ development. The size of the property -- reportedly about 40 acres -- may be somewhat restrictive, though significant expansion potential exists. The soil appears overall to be of sufficient bearing capacity, and no costly land improvement or filling should be required before construction. Further investigations will have to assess the impact of the existing structures onsite and its impact on project development costs.

2. Assessment of Basic Factors of Production

a. Economic Activity

4.12 The sugar industry has historically played a major role in the regional economy. The Santa Elena zone itself catered to a highly prosperous and successful trading and duty-free merchandising center serving Mexicans, which ended with the devaluation of the Mexican peso in 1982. Since then the area economy has been characterized by emigration and increasing unemployment. Of late, however, investment in the free zone has accelerated. A Mexican manufacturer of carpet tacks and a Korean garments manufacturer have begun to establish operations.

b. Labor

4.13 As discussed in Chapter III and Annex A, a fundamental concern for free zone development is the easy availability of labor. The principal finding of the analysis is that sufficient labor exists for development of an EPZ in the Santa Elena area. Primary findings include the following:

- population and labor force growth have been the most rapid in the northern districts of Corozal and Orangewalk relative to the primary population center of Belize City.

- the high fertility rate of Belize has resulted in a very young population. In 1980, about 40 percent of the population was in the 15-44 year age group. In 1988 this has been estimated to increase to 65 percent; it is forecasted to further grow to 78 percent by 1992.

- participation by women in formal economic activities is accelerating at an annual average rate of 9.6 percent. By 1992, female labor force participation is expected to reach 60 percent.

- underemployment is widespread in Belize. Estimates of underemployment in the female labor force are about 50 percent in urban areas and more than 80 percent in rural areas. The female population of Corozal and Orangewalk are particularly underemployed. This will certainly increase if economic activity slows.

4.14 Our estimates indicate that the size of the female labor force in Corozal and Orangewalk today is sizable, exceeding 6,000. In 1992, this number is forecasted to increase to over 9,000. The number of females estimated to be within the 15-44 year age group (the primary target population) is expected to increase from 2,400 to 6,300 by 1992. The existence of a potentially large pool of female labor is shown by degree of "underemployment" that labor force statistics do not capture. In 1980, the population census indicated that over 85 percent of the female labor force were engaged as domestic workers, outside of the formal economy. This fact, combined with the very low female labor force participation rates point to the good availability of female labor.

4.15 The relevant time frame for project development should be kept in mind when evaluating the labor situation. At the very best, an EPZ could be established in Belize within a period of 12-24 months. Given the relative youthfulness of the population, and the decreasing opportunities to emigrate to the United States and elsewhere, the number of new entrants to the labor force is likely to accelerate. The Corozal area is also the recipient of much of the immigration from neighboring countries -- El Salvador, Guatemala and Honduras. This will certainly increase the pool of labor in and around the Santa Elena area.

4.16 The effects of competing demands for female labor are not very significant. Although tourism development constitutes the biggest employment alternative, near term investment in the accommodations sector in Corozal is distant. Most investment in tourism infrastructure is currently taking place in the outer cays and in Belize City. Agricultural activities, in contrast, utilize a primarily male labor force. As such, a significant rise in these activities will not greatly affect the labor pool for an EPZ hosting light manufacturing firms which typically utilize female labor.

4.17 The final labor issue to be addressed is the potential that a successful project will have in attracting labor from Mexico and other countries. There are some concerns that the importation of such labor will deprive the Belizean workforce of employment opportunities. The decision to allow Mexican and other groups to work at an EPZ in Santa Elena is strictly a decision of the GOB. However, the principal finding of this

analysis is that the viability of the project will not depend on the importation of labor; the Belizean labor force should be adequate to support free zone development.

4.18 **Implications for Free Zone Development.** An important requirement of successful free zone development in developing countries is the ready availability of plentiful, inexpensive and appropriately qualified labor. Given that the Santa Elena site is within commuting distance of both Orangewalk and Corozal, as well as a number of other small- to medium-size towns, future users of the zone should not experience problems attracting their required labor force. During the first years of zone development, the scarcity of skilled labor may not be too great a problem as the high-potential industries, such as garment manufacturing, will utilize generally low-skill labor. In the medium-term, Belizean managers and other technicians that have moved elsewhere can be expected to return.

c. Transportation Infrastructure and Services

4.19 The Corozal District is 100 miles from the nearest Belizean airport and deep-water port, and, it would appear that all raw and intermediate materials processed in the zone and resultant finished goods would by necessity be trucked to and from the area. The marginal transportation costs incurred for the Santa Elena location are minimal: an apparel manufacturer estimated that it would cost US$100 more per 40 foot container to ship goods to Corozal rather than the Ladyville area from Belize City.

4.20 There is no commercial airport in Corozal, but the modern Chetumal airport in Mexico, 14 miles away, is presently underutilized. For the near-term however, the potential for using the facility is limited and air-freighted materials will have to be through the international airport near Belize City.

4.21 The 2-lane hard-top highway connecting Santa Elena to Belize City is new and in good condition; trucking service is available from Belize City to the area and onward to all points in Mexico and the southwestern United States. Mexican truckers currently offer guaranteed delivery to Brownsville, Texas in 40 hours.

4.22 While the attraction of overland trucking through Mexico is that it is both more rapid and more convenient than ocean shipping, it is also somewhat more expensive. Transport of a 20 foot container of clothing to Houston is about $2,000, for example. Some problems and delays have also been experienced at Mexican Customs authorities, but have been surmountable.

4.23 **Implications for Free Zone Development.** Successful free zones are generally located near air and sea ports and other transportation hubs as their operations are highly dependent on the efficient movement of goods. From this perspective, the Santa Elena location is not as favorable as a location at Belize City port. However, it should be kept in mind that most light

manufacturing operations (such as garments assembly) that will be prime tenants of the EPZ are non-time-sensitive, and the extra distance is not an onerous obstacle. This is especially true given that the location is only about 100 miles away from the principal air and sea ports, adding very little to the marginal cost of transportation.

d. Electricity

4.24 The provision of reliable and affordable electricity is one of the primary factors in favor of Santa Elena for free zone development. At present, there is a power line entering Belize from a power station in Chetumal, Mexico, approximately 6 miles from the border. This line services the border inspection station, several small commercial operations and the residences of the customs personnel, as well as the Mexican towns between the two points. The capacity of the existing line serving Santa Elena is 500 kilowatts, with a peak demand of 300 kilowatts. Of the remaining 200 kilowatts, 125 kilowatts of the excess capacity could potentially be available for the free zone.

4.25 Currently the power is purchased by the Belize Electricity Board (BEB) at the Mexican consumer rate, or US$0.05/kwh, and BEB resells the electricity to Belizean consumers at the national rate of US$0.205/kwh. There has been a series of negotiations between GOB and the Mexican Government to expand this service: a proposal has been submitted by the Mexican government to provide electricity for the entire northern region of Belize, encompassing the Corozal and Orange Walk districts; and a more ambitious plan has also been discussed to install a higher capacity line, which although originally servicing the northern region, could be extended in the future to Belize City. Clearly, if either of the two alternatives were accepted and were viable, and if the resulting s vings were passed on to free zone industries, a strong comparative advantage for a free zone in Santa Elena would exist.

4.26 However, there is a great deal of skepticism that the BEB will be willing or able to to reduce the overall national power rates under the existing sourcing arrangements. The BEB is trying recover the costs of its past inefficiencies. Because it costs the BEB US$.11 per kwh to generate electricity, the most that it could pay for Mexican electricity is US$0.05/kwh; anything more would be uneconomical. As such a mere 2 to 3 cent reduction in costs would not be enough to motivate the BEB to undertake the proposed changes, and it is not clear that the Mexican government will be willing to provide the power at these costs.

4.27 In addition, it is doubtful that the existing line can be upgraded to service the zone site, necessitating the construction of a new 2.5 mile, 34.5 kilovolt line from the Mexican substation. The cost for a new line to the Belize border has been estimated at US$ 70,000, with an additional US$ 30,000 expense for the installation of the on-site system. The BEB has

suggested that this cost be assumed by the developer of the project. It is the opinion of the project team that if the ownership of the line will revert to the BEB at some future date, a suitable amortization of the developer's original investment must be arranged. BEB would then provide maintenance on the line and handle collections for energy charges; and electricity could be supplied to the EPZ occupants at concessional terms.

4.28 **Implications for Free Zone Development.** The provision of a reliable power supply at competitive rates is a critical requirement for most free zone industries. From this perspective, the potential to access power at Santa Elena for only US$0.05/kwh while other Belizean locations pay US$0.205/kwh is clearly a strong incentive for project development. While a comprehensive agreement regarding the price and terms of the electricity between the governments of Belize and Mexico is a necessary first step, alternative measures should be examined. Among the primary alternatives includes the formulation of a lower rate for industrial users; or perhaps a special rate for free zone occupants, both of which the BEB is willing to consider. Another alternative is to allow the private EPZ developer to install his own generation system, with added incentives which could include a lower duty on fuel.

e. Water and Sewerage

4.29 There is no sewage treatment facility in the Santa Elena area. This poses a problem to heavy water consuming industries as well as industries generating toxic effluent, and should be taken into consideration in the design of the zone. For sanitary waste disposal, septic tanks of 4,500 gallon capacity may be necessary for each zone building. For future development, the establishment of a sewage treatment facility may become necessary. Depending on the type of industries that locate in the EPZ, it may be necessary to adopt an alternative and more costly approach -- a central treatment plant and collection system with the final effluent discharged to the river.

4.30 The site is located near a major river and a fresh water lagoon and water provision is reportedly reliable. This should be ample enough to accommodate the requirements of a free zone.

4.32 **Implications for Free Zone Development.** The requirements for water and sewerage depend largely on the types of industries in the free zone. Light manufacturing activities are not substantial water users and waste generators. On the other hand, if heavy water use industries such as dying (textiles) and some agro-processing operations locate at the zone, additional water storage and sewage treatment facilities may be required.

f. Telecommunications

4.33 The sparse population in the northern area of Belize and the low level of demand for telephone service has resulted in extremely high charges for telephone services. A manufacturer

currently located in the Santa Elena zone pays an onerous US$130/month in contrast to about US$5/month elsewhere in Belize. Since 1986, the BTL has installed a Private Branch Exchange System (PBX) serving the Corozal area. With this facility, fixed capacity has been expanded to 1,300 lines. It is not clear whether the rates for telephone services will be lowered in the near-term. The BTL is interested in the EPZ concept and expressed willingness to consider offering both special services and rates for free zone occupants on a cost recovery basis.

4.34 **Implications for Free Zone Development.** Free zones in developing countries have typically exerted maximum efforts to provide telecommunications linkages and services to adequately meet the requirements of foreign investors. The requirements for telecommunications lines vary drastically depending on the industry. The requirements of data services industries are much higher than those of light manufacturing industries such as apparel. Even though data entry operations are still in their infancy in Belize, it is clear that the telecommunications situation in Belize will have to be improved, in terms of transmission speed, breadth of services, and in prices charged, to attract investor interest in this sector.

C. SUMMARY OF SITE ASSESSMENT

4.35 Based upon our findings, it is quite clear that Santa Elena can be considered a potentially viable location for free zone development in Belize. Typically, when a developing country is considering the establishment of a "pilot" export processing zone, location near a major urban center near and air or sea port is the desired alternative. As the report investigations have shown, however, there are a number of compelling reasons which support the idea of zone development in the Santa Elena area:

- labor is cheaper, more reliable and more productive. Despite having a larger population center in Belize City, problems with labor productivity and availability have been experienced. Report findings also indicate a sufficient supply of eligible age female labor, typically required by light manufacturing industries.

- proximity to Mexico means an excellent for low cost-inputs and services. A strong advantage of Santa Elena is its shared heritage with Mexico, and the strong trading ties that have existed between the two countries for a number of years. The recent signing of the US$5 million credit line is likely to generate Mexican investor interest.

- reliable, low cost electricity. The attractive electricity option is a primary reason for the consideration of Santa Elena for free zone development.

- very supportive local private and public sector interest.

Free zones have succeeded in many countries primarily because of the entrepreneurship and dedication of local groups. In this respect, the situation in Santa Elena is exemplary. Not only is the EPZ concept actively supported by the local government, but a private development group has been formed to develop an EPZ on a profit-making basis.

4.36 Based upon the available labor supply, attractive electricity options, and established land transport system, a zone in Santa Elena has the potential to attract selected industrial sub-sectors, as well as from a number of agro-processing operations. However, the constraints inherent in the location -- primarily, distance from the port and airport, the added cost of land transport, and an expensive and inadequate telecommunications system will inhibit the attractiveness of the zone for some industries. Similarly, the lack of skilled and technical labor may detract from the location.

D. EVALUATION OF ALTERNATIVE LOCATIONS

4.37 There are a number of other areas within Belize that can be considered for the development of an EPZ. As shown in Table 4-2, they offer distinct advantages and disadvantages relative to Santa Elena.

1. Corozal Town

4.38 A site near Corozal Township itself offsets some of the disadvantages that the Santa Elena zone currently experiences, while still enjoying the principal locational advantages. For the sake of simplicity, a site near San Andres village (less than 3 miles from Corozal Town) was assessed. The principal advantage of the this location is that it is within walking distance of a major population pool and source of labor. This factor results in a number of advantages:

- unlike the Santa Elena location, the need for expensive worker transportation services (or subsidy) is not required;

- being adjacent to a residential area means that inexpensive housing is readily available, assuring good access to labor.

4.39 The San Andres site examined in particular appears to be well-suited for EPZ development. The land is flat and should have good load-bearing capacity. Building construction costs are lower than in the Belize City area, with SFB construction costs averaging about US$25/sq.ft. In addition to being located within easy commuting distance from Corozal Town and other villages, the site is adjacent to a community college. Economic activity in the area is buoyant: BABCO is establishing an agro-processing

plant on one parcel of land, and a local export garment manufacturer is occupying a refurbished building on the property. The site is privately owned and land acquisition costs are very low. In addition, with the installation of a new digital exchange in Corozal, telecommunications capacity and services should improve.

4.40 Clearly, it makes much more economic sense to establish an EPZ near a source of labor than to have workers commute to the source of employment. This is especially true in the case of the San Andres site. It enjoys almost all the comparative advantages of the Santa Elena zone: access to a relatively plentiful, cheaper and reportedly more productive labor force; access to cheap Mexican raw materials and intermediate goods; good trucking services to the Southwestern United States through Mexico, among others.

4.41 The principal disadvantages of the location relate to the provision of electricity and other services. Although the electricity supply in the Corozal area is reportedly adequate, the cost (as elsewhere in Belize) is onerous. Sewerage facilities do not exist. Water supply is reportedly inadequate. Still, this site is a very good alternative to Santa Elena for EPZ development.

2. Belize City Port

4.42 EPZs have been traditionally located near air and sea ports and other transportation hubs as their operations are highly dependent on the efficient movement of goods. For light manufacturing, easy access to a seaport with frequent and reliable connections to major markets is essential. On the other hand, time-sensitive operations such as data entry almost always require locations close to an airport with reliable air freight services.

4.43 From this perspective, a potentially good location for the EPZ would be near the Belize City port. The location offers a number of advantages: expedited access to sea freight services; probably more efficient Customs and other services, and location within Belize's largest pool of labor. Ample land exists adjacent to the port that could be used for EPZ development. The Port Authority is supportive of the concept and has in fact been approached by one group with plans for development of an industrial park adjacent to the Port.

4.44 On the other hand, there are a number of factors that should disqualify the location. Land development is likely to be very expensive relative to other locations as the terrain is very marshy and site preparation would require substantial fill. Construction costs are estimated to be double that of anywhere else in the country, about US$40-50/sq.ft. Another strong negative factor (that is likely to seriously dampen foreign investor interest) is the strong degree of labor union activity in the area. Most of the port workers, stevedores and others are

unionized. This fact may adversely affect the successful development of an EPZ.

3. Ladyville Area

4.45 The third likely location for the establishment of an EPZ is in the Ladyville area about 10 miles out of Belize City. Ladyville is the site of much of the industrial activity in Belize, including three export apparel manufacturing operations. The area is ideally located between Belize City port and airport and near the major population center in the city. It is also the area which houses the Ladyville Industrial Estate, which is being expanded to accommodate increased investor demand for space. All else being equal, Ladyville would perhaps be the best first choice for the establishment of an EPZ.

4.46 Project investigations have revealed a number of factors that may affect the viability of an EPZ in the area. Labor availability appears to be a problem. One garment manufacturer indicated that he had been trying to hire 200 additional operators but had been unsuccessful for several months. Another apparel manufacturer also reported difficulties in labor procurement. Anecdotal reports indicate that the area suffers very poor labor productivity. One manufacturer estimated that labor productivity was less than 60 percent of U.S. levels, despite a generous productivity-based incentive scheme. Another firm reported a 50 percent labor turnover rate, which had resulted in high and persistent training costs. The low productivity, high attrition and high absenteeism of the labor force was attributed mainly to the fact that most workers had alternative sources of income, especially from overseas remittances.

4.47 Other problems were reported with building construction practices. One manufacturer reported that the construction of an SFB took over 18 months and resulted in a law suit. SFB construction costs are reportedly high, averaging about US$35-45/sq.ft., although still less than in Belize City due to more stable terrain.

4. Summary

4.48 The discussion above presented the advantages and disadvantages of establishing an industrial park EPZ in several alternative locations other than Santa Elena. As indicated, there appear to be a number of factors -- relating primarily to labor and infrastructure costs -- that adversely affect location of an EPZ near Belize City. On the other hand, a location closer to Corozal Town appears to be a good second alternative to Santa Elena.

V. MARKET ASSESSMENT

5.01 The following identification of investment patterns and targeted "high potential" industry sectors is presented to assess those industries most viable for free zones generally in the Caribbean Basin and, more specifically, Belize. First, the chapter examines historic investment trends in Belize as evidenced by the issuance of development concessions during the last four years and pattern of investment inquiries to BEIPU. It then turns to determining those industries that are viable for development in a Belizean zone with respect to their specific locational, operational, facilities, and service requirements. A preliminary assessment of each industry's market potential is given in the Belize free zone context. The resulting analysis provides a preliminary basis for evaluating the project's market potential and defining the sectors contacted in the direct market survey as presented in Chapter VII.

A. INVESTMENT TRENDS IN THE BELIZEAN EXPORT SECTOR

5.02 Belize's production capabilities since independence have been primarily dependent upon the country's traditional economic endowments, such as abundant, fertile land, ample water, and proximity to North America, combined with an attractive investment code, a stable democratic democracy, and language compatibility. Initially, these attributes encouraged a focus on agricultural and basic commodities. While agriculture remains the economic foundation, there has also been activity in other sectors, such as tourism and light manufacturing. The recent Caribbean export boom is beginning to affect the economic structure of Belize, especially with regard to agro-processing and export manufacturing. This regional trend away from commodity exports towards labor-intensive processing and manufacturing has been recognized and supported by the MED's official development strategy for 1985-1989, calling for export-led economic growth in agriculture, tourism, and light manufacturing. As sugar still represents almost half of Belize's export earnings, diversified economic expansion with a focus on non-traditional exports and services could indeed counteract the decline in exports earnings of traditional Belizean primary agricultural products.

1. Analysis of Development Concessions Issued

5.03 An investigation of the issuance of development concessions by the MED evidences the national trend toward diversified agricultural commodities and processed goods -- fresh and processed fruits and vegetables, cocoa, shrimp, and oil seeds -- and light manufacturing and assembly. Table 5-1 shows the distribution of development concessions by sector from 1985 - 1988. As shown, over 65 percent of development concessions (excluding tourism) have been granted in agro-industry sectors

over the four-year period, especially in products such as bananas, citrus, fruits and vegetables, and shrimp farming. Furthermore, four agro-industry firms have submitted applications for development concessions to the MED and final approval is pending.

5.04 Investment in the agricultural sector has been undertaken by both large individual investors, farmers who have recently become established in Belize (mostly from the United States and Europe), and various other producers assisted by the USAID-funded project to introduce and commercialize alternative crops. Investment in agro-processing activities comprises a significant portion of total agricultural activity, despite the Belizean industry's relative lack of sophistication, lack of economies of scale, high cost of materials, and infrastructure deficiencies.

5.05 Other agriculture-related activities have also been active in seeking development concessions. High levels of U.S. demand have prompted extensive projects in shrimp farming and fishing, despite the relatively high capital costs for hatcheries and processing facilities. In total, five shrimp projects have been

TABLE 5-1
DISTRIBUTION OF DEVELOPMENT CONCESSIONS BY SECTOR AND ORIGIN OF INVESTMENT, 1985-1988 (Excluding Tourism)

Sector \ Country	Belize	United States	EC	Far East	Mex.	Belize/ U.S.	Belize/ EC	Other Joint	Other/ Unkn.	Total
Fresh and Processed Fruits and Vegetables	4	8	2	0	0	0	0	1	11	**26**
Wood Products	0	6	0	0	0	1	0	0	0	**7**
Mariculture	0	5	0	0	0	0	0	0	1	**6**
Livestock	2	1	1	0	0	0	0	0	0	**4**
Other Agriculture Products	0	7	0	0	0	0	0	0	3	**10**
Apparel	2	3	0	0	1	0	0	1	0	**7**
Other Manufactures	9	1	0	0	0	1	1	0	1	**13**
Other	3	0	1	0	0	1	0	0	3	**8**
Total	**20**	**31**	**4**	**0**	**1**	**3**	**1**	**2**	**19**	**81**

granted concessions. Eight firms producing wood products have also been granted concessions, though none in 1988. The majority of investment in this sector has originated from the United States as well. Production of plants and decorative foliage, soybeans, sesames, and cocoa has also increased, prompted by new U.S. investment.

5.06 The dominant industry sector outside of agriculture has been apparel, with seven firms receiving development concessions between 1985 and 1988, including two Belizean firms, three American firms, one Mexican firm, and a Taiwanese/U.S. joint venture. These firms are all exporting production, with limited sales to the local market. In addition, one Far Eastern apparel firm is currently awaiting approval of development concessions. The growing presence of these firms can greatly affect the development prospects for the light manufacturing sector in the near and medium-term future, especially when combined with the investor interest in other manufacturing activities expressed in 1988, such as plastic bags, soap, and matches.

5.07 U.S. investment is the largest, comprising 38 percent of those firms receiving non-tourism development concessions over the past four years. Overall, the number of U.S. firms granted concessions each year has remained relatively consistent, ranging from a high of ten in 1986 to a low of six in 1985 and 1987. These firms have applied for concessions primarily in agro-processing, wood products, mariculture (shrimp), and apparel. Three firms currently await the approval of concessions for agro-related and manufacturing activities.

TABLE 5-2
DISTRIBUTION OF DEVELOPMENT CONCESSIONS ISSUED AND PENDING BY ORIGIN OF INVESTMENT AND YEAR, 1985-1988
(Excluding Tourism)

Country / Year	Belize	United States	EC	Far East	Mex.	Belize/ U.S.	Belize/ EC	Other Joint	Other/ Unkn.	Total
1985	11	6	0	0	0	0	1	0	5	23
1986	4	10	1	0	0	2	0	0	3	20
1987	1	6	2	0	1	0	0	2	6	18
1988	4	9	1	0	0	1	0	0	5	20
Pending	6	3	0	1	0	0	0	0	0	10
Total*	**20**	**31**	**4**	**0**	**1**	**3**	**1**	**2**	**19**	**81**

* Excluding pending development concessions.

5.08 The second largest group of investors seeking development concessions has been Belizean nationals, comprising 23 percent of the total number of non-tourism concessions, primarily in various light manufacturing sectors (including apparel), fresh and processed fruits and vegetables, and livestock. Involvement in the development concession program by Belizean firms has been largely concentrated in 1985 and 1986 (75 percent of concessions granted); however, MED has yet to grant Statutory Instruments to six Belizean firms this year, which could bring the total for 1988 to 10 firms locally. Several joint ventures between the U.S. and Belizean interests have developed over the past three years, with three firms applying for and receiving concessions.

5.09 As both the light manufacturing and diversified agro-industry sectors in Belize have expanded, initiated primarily by U.S. and Belize investors, interest from firms in Europe, the Far East, and Mexico, has been awakened. Investors from the United Kingdom, Germany, Denmark, and Sweden are involved in cattle ranching, and mango and citrus production and processing. A German firm expects to manufacture and refurbish boats. Interest from the Far East and Mexico has been relatively recent, and has been concentrated in the apparel sector.

2. Analysis of BEIPU Records

a. Past and Current Trends

5.10 Table 5-3, Table 5-4, and Figure 5-1 depict past investment patterns in Belize based on an analysis of prospective investor inquiries, the number of prospective investor visits to Belize, the number of investments realized, and the capture rate (Table 5-3), delineated by corresponding economic sectors (Table 5-4 and Figure 5-1). Table 5-3 shows that the number of investment inquiries received by BEIPU between 1985 and 1988 (figures for 1988 are estimates based on 431 actual inquiries recorded up to September 30, 1988) has increased steadily , reaching a total of 1,504 inquiries in four years. BEIPU officials estimate that approximately 50 to 70 percent of those inquiries actually undertake a site visit (Table 5-3 assumes 60 percent), with, on average, approximately 3.3 percent of those prospective investments realized. In addition, 40 percent of realized investments apply for and receive development concessions from the MED. Clearly, BEIPU records indicate a substantial increase in the number of investment inquiries over the past three years, and correspondingly the number of realized investments.

5.11 The most active industry sector according to the number of BEIPU investment inquiries has been agro-industry, excluding the "other" column in Table 5-4 (this column includes light manufacturing and other miscellaneous activities), with 37 percent of total inquiries and 50 percent of realized investments. The majority of inquiries were for ventures in fresh fruit and vegetables, processed agricultural goods, and wood products. However, estimates of inquiries for 1988 in

TABLE 5-3
BELIZE EXPORT INVESTMENT PROMOTION UNIT: PAST INVESTMENT PATTERNS, 1985-1988

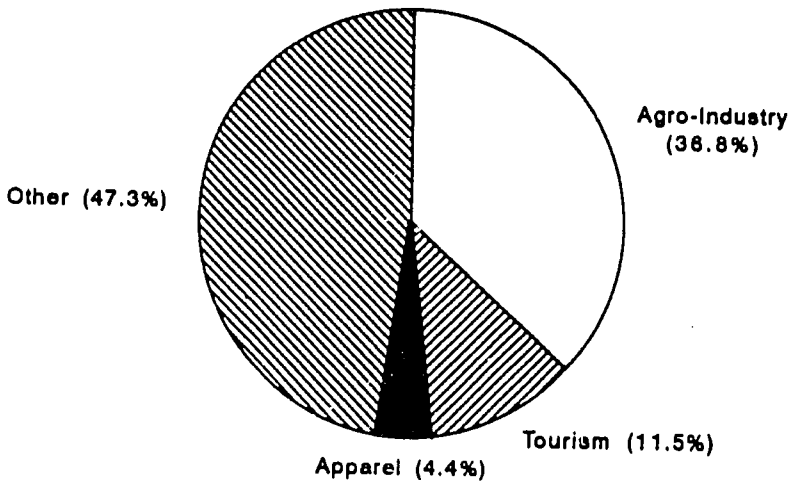
	1985	1986	1987	1988	Total
Total Investment Inquiries	55	329	545	575 /1	**1504**
Prospective Investor Visits /2	33	197	327	345	**902**
Investors Captured	2	6	13	9	**30**
Capture Rate (Percent) /3	6%	3%	4%	2.6%	**3.3%**

/1 Figure for 1988 based on 431 enquiries and 7 captured as of September 30, 1988.
/2 Based on 60 percent (BEIPU estimate) of total enquiries undertaking visit to Belize.
/3 Capture rate equal to realized investments as a percentage of visits to Belize.

TABLE 5-4
BELIZE EXPORT INVESTMENT PROMOTION UNIT: INQUIRIES AND CAPTURED INVESTMENTS BY SECTOR, 1986-1988

Sector	Year	1986	1987	1988	Total
Agro-Processing	Inquiries	120	241	164	**553**
	Captured	1	10	3	**14**
Apparel	Inquiries	10	26	28	**67**
	Captured	1	0	3	**4**
Tourism	Inquiries	31	65	76	**173**
	Captured	0	0	1	**1**
Other	Inquiries	168	213	307	**711**
	Captured	4	3	2	**9**
Total	**Inquiries**	**329**	**545**	**575**	**1504**
	Captured	**6**	**13**	**9**	**28**

FIGURE 5-1
Sectoral Distribution of BEIPU Investment inquiries (Total 1986-1988)



agro-industry are down 32 percent from the previous year, reaching a total of 164. This recent downward trend is also reflected in the number of captured agro-industry investments, with estimates for 1988 down by 70 percent over 1987, led by dramatic drops in inquiries in wood products and agro-processing.

5.12 The past trends in the apparel sector reflect more positive growth in investment interest. Inquiries for investment in apparel ventures climbed to 28 in 1988, with the total number of realized investments for the period totaling four.

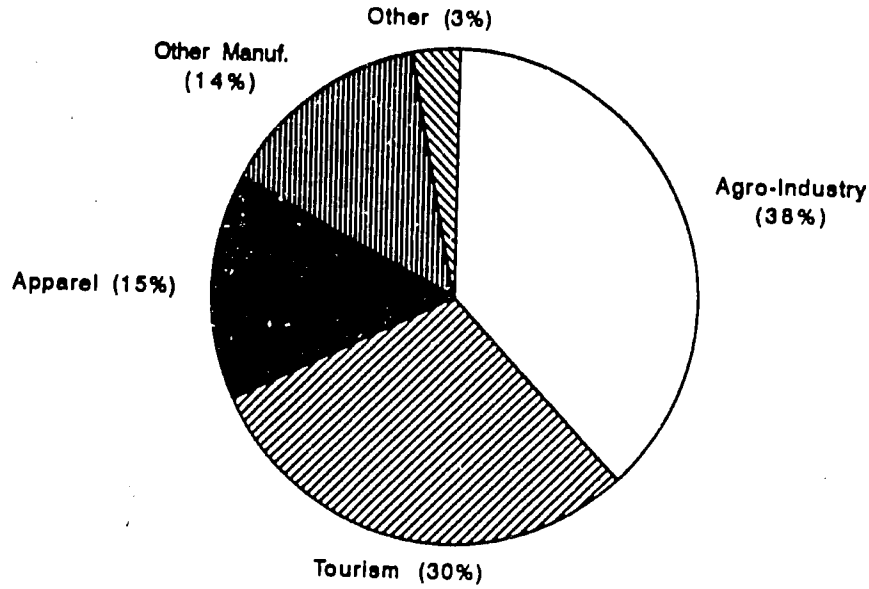
5.13 Aggregate interest in tourism has grown fastest, exhibiting a compound annual rate of growth above 136 percent. However, the number of captured investments recorded has been the lowest, with only one investment realized for the entire period.

5.14 In aggregate, inquiries and realized investments have grown substantially, with each recording 32 and 23 percent compound annual rates of growth, respectively, for the three year period. However, the higher rate of growth in the number of inquiries to BEIPU has corresponded with a lower capture rate over time, as investments realized have lagged behind growth in inquiries.

b. Future Investment Trends

5.15 An examination of the composition of pending or "live" inquiries to BEIPU lends the analysis an indication of the types and origin of near-term investment ventures that can be expected in the future. Figure 5-2 depicts the sectoral distribution of

FIGURE 5-2
Sectoral Distribution of Live BEIPU
Inquiries (November 1988)



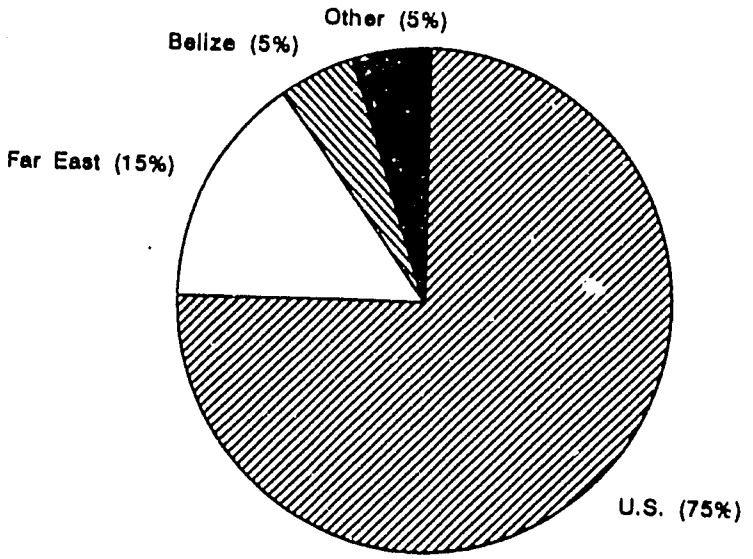
the 170 live investment inquiries pending with BEIPU as of November 1988. As with past trends, agro-industry continues to draw the most inquiries, with strong interest in wood products, fresh fruits and vegetables, mariculture, and citrus.

5.16 The number of tourism inquiries outstanding is also significant, comprising approximately 30 percent of the total, and numbering over 50 prospective investors. Interest in the apparel sector is clearly on the rise in comparison to past inquiry patterns, comprising 15 percent of the total.

5.17 As shown in Figure 5-3 (next page), the origin of the live investment interests is overwhelmingly from the United States, which BEIPU estimates to account for 75 percent of current inquiries. Although BEIPU data indicating the national origin of past investment inquiries and captured investments is not available for this analysis, such a level corresponds to the trends evidenced by firms seeking development concessions from MED. Undoubtedly, a large portion of firms interested in the proposed free zone will be from the United States, and will be involved in a range of export activities.

5.18 BEIPU data also depicts a recent sectoral trend concerning investment inquiries from the Far East, from which approximately 15 percent of current interest originates. Although data is not presently available on the sectoral distribution of Far Eastern interests, preliminary estimates place the majority of inquiries in light manufacturing and apparel, two industry sectors of particular relevance to free zone development.

FIGURE 5-3
Distribution of Live BEIPU Inquiries
by Origin of Investment (November 1988)



3. Combined Results

5.19 In aggregate, both the MED and BEIPU data evidence a clear trend toward increased investment in export-related agro-processing and manufacturing activities. In particular, steady demand for apparel and light manufacturing operations has been recorded, with the majority of interest from the U.S. and Belizean firms. Although the primary industry sector attracting export investment interest continues to be agro-processing, these activities are only marginally relevant to free zone development, as will be discussed later in the chapter. The small but established levels of interest in assembly and light manufacturing are important indications of potential demand for free zone facilities and incentives.

B. IDENTIFICATION OF TARGET SECTORS

5.20 The identification of "high potential" industries for the Belize free zone project involves the consideration of a large number of factors. The process used to determine feasible manufacturing and services activities for a Belizean free zone examines two sets of factors: the comparative advantages and disadvantages of the location; and an identification of locational, infrastructure, services, facilities, and other requirements for target industry sectors. Utilizing these factors, the various requirements of the target industries are then matched with the locational characteristics of the Belize investment environment. This allows a logical identification of

those sectors with the highest potential for investment and establishment in a Belize free zone.

1. Comparative Advantages and Disadvantages of the Belize Free Zone Location

5.21 Based upon preliminary site analysis, the Belize free zone project appears to offer a number of comparative advantages relative to other regional locations:

- Competitive, and in some cases superior, economic policy framework, offering economic growth, government support for private business activity, sound political structure, and investment incentives for export operations;
- Abundant natural resources, especially for investment in agriculture;
- English-speaking (or bilingual) labor force; and,
- Preferential market access to the United States, Canada, Europe, and the Caribbean.

5.22 In contrast, the Belize free zone project is constrained by several factors that could hinder zone development:

- Small labor force in comparison to regional competitors;
- High wage levels relative to the region;
- Shortage of managerial and technical personnel;
- Lack of effective medium- and long-term financing mechanisms, though Belize is probable not worse than many other Caribbean Basin countries;
- Inadequate and costly transportation infrastructure, including high port and transit tax charges, poor road network, and lack of a deep-water port;
- Constrained electrical provision plagued by blackouts, brownouts, and the need for back-up generators; and,
- Expensive and limited telecommunications provision.

2. Target Industry Sector Requirements

5.23 There are a number of labor-intensive industries that have historically been attracted to free zone locations. These include apparel, textiles, simple electronics manufacturing and assembly, agro-processing, and light manufacturing (such as sporting goods, footwear, jewelry, etc.). Furthermore, a group of non-traditional industries has begun to successfully utilize free zones in Caribbean locations, including sophisticated electronics and electrical manufacturing, data entry services, computer programming, translation services, and the manufacture and processing of pharmaceuticals.

5.24 The thread which joins the two groups of zone users is a set of characteristics inherent in the products manufactured or services provided, and the production processes employed. While the degree to which each of these characteristics is present will

vary from sector to sector, as a group they can be used to identify an industry's ability to effectively benefit from the locational advantages inherent in Belize. The following factors can be used as a guide in identifying the most viable free zone operations in the Belize setting.

Labor-Intensive Products and Production Processes. High ratios of labor cost-to-value and labor cost-to-weight favor locations such as Belize. Overall reductions in manufacturing costs due to wage bill savings can be as high as 60 percent in some industries.

Non-Technologically Complex Products and Production Processes. Free zones located in countries just beginning the process of industrialization will most likely attract manufacturers utilizing simple, traditional product design and stable production parameters, without frequent design changes. This will certainly be the case in Belize, which lacks significant presence of light manufacturing ventures relative to the established export manufacturing locations in the Caribbean Basin. Technologically advanced products generally have higher capital investment needs and demand a technically trained labor force, requirements which will prove difficult in Belize.

Products with Easily Segmentable Production Stages. The ability of a U.S. or Far Eastern manufacturer to separate labor-intensive operations and sub-production stages greatly increases the advantages to offshore manufacturing in Belize. This enables producers to minimize costs based on relative factor inputs, such as labor, capital, and raw materials.

Low Capital Investment Requirements. Many firms are reluctant to undertake major capital investments in unfamiliar, foreign locations, preferring to limit their financial exposure in their operations offshore. Given that Belize is only beginning to receive international recognition, this point proves especially important. For small- and medium-sized companies, capital-intensive operations will be retained near the base office where they can be more easily monitored and the security of the investment location is assured.

High Value-to-Weight Ratios. The manufacture of high-price items generally allows firms to capitalize on production advantages without being unduly penalized by higher transportation costs from locating at a distance from markets, such as in the Far East. In Belize's case, proximity to the end-user market discounts this general consideration. The manufacture and assembly of even relatively light-weight products will prove cost effective, given reduced transportation costs in comparison to other offshore locations.

Products that Benefit from Preferential Market Access. A primary concern in siting production in offshore locations is to avoid restrictive tariffs and quotas placed on established production locations. By moving significant segments of production to a location enjoying preferential access to developed country markets, companies can effectively reduce the "delivered cost" of their products and expand their market share. With its preferential access to both U.S. and European markets, Belize possesses a strong advantage over other CBI locations. In apparel, Belize manufacturers do not currently face any quotas in the United States.

Industries Undergoing Strong Price Competition. Mature industries with standardized production processes are typically characterized by a high degree of price competition and subsequently seek manufacturing sites which offer reduced costs.

Products Utilizing Local Sources of Raw Materials and Intermediate Goods. Free zones located near abundant sources of raw materials and intermediate goods can further attract manufacturers by offering a local sourcing alternative, as opposed to imported raw materials and intermediate goods. Belize's endowments of agricultural commodities (such as fruits and vegetables), tropical hardwoods, and emerging mariculture activities could prove a significant drawing card for U.S., European, and Far Eastern investors.

5.25 In evaluating and analyzing these criteria for potential free zone industries, it is important to remember that the criteria apply principally to those sectors and products which could most benefit from the establishment of a free zone in Belize. However, these characteristics are not applicable to all high potential export industries and products: free zones possess unique characteristics and configurations that are ideally suited for certain manufacturing and processing operations.

5.26 Given the above analysis of investment patterns in the Caribbean and Belize, and the general set of industry requirements in viable offshore manufacturing and processing, several industries have been identified and evaluated with specific reference to their suitability in a free zone in Belize: apparel manufacturing and assembly; toys, footwear, and sporting goods; fruit and vegetable processing; and information services such as data entry. The profiles below provide an overview of each sector's manufacturing trends, market characteristics, facilities and service requirements, and a preliminary assessment of market potential for establishment in a free zone in Belize. They are meant as general discussions of high-potential sector identification, and not as specific investigations of certain products or production processes.

3. Target Sector Labor Requirements

5.27 As has been mentioned throughout this report, labor is a crucial dimension of free zone development. The industries that are listed above have varying labor requirements in terms of the size of their workforce and the skills required for production. As part of the labor analysis undertaken for this report, the labor requisites for the targeted industries were assessed. As an overview, Table 5-5 provides a comparative picture of the labor needs for three of the targeted sectors. (Apparel manufacturing is considered representative of the labor demands for light manufacturing in general.) As can be seen from this table, the labor requirements for both apparel manufacturing and agro-processing are roughly 80 percent unskilled workers. Skilled worker needs are 16-17 percent of the total, and technical and managerial personnel comprise less than four percent. In contrast, data entry operations employ no unskilled labor at all. In addition to the managerial and technical positions, typing ability and literacy are required for all of the production workforce in this industry.

5.28 While the percentages presented in Table 5-5 will certainly vary somewhat from firm to firm, the implications are clear -- for three (including light manufacturing) of the four targeted sectors, the skilled labor requirements are minimal. Apparel manufacturing for export has already taken hold in Belize and the local labor force has proven capable of meeting the demands of the sector, albeit at lower levels of productivity than elsewhere in the region. The skill requirements for light manufacturing operations -- footwear, toys, sporting goods and the like --are virtually identical to those in the apparel sector. In terms of availability of an adequate labor supply, 72 percent of the workforce of a typical apparel operation is made up of women. Our research has indicated that unemployment and underemployment in Belize among women is much higher than for their male counterparts and consequently firms in this industry would have a larger pool to draw from. Data entry may be supported on a small scale in Belize as well, given the presence of several training programs in business skills, clerical and secretarial work that are already in place.

5.29 In terms of the technical and managerial staff, any shortages in the local labor supply can be augmented through expatriate work visas, at least initially. Most free zone businesses prefer to train local staff to assume supervisory and mid-level positions as their production gets fully underway. Issues such as these are addressed in each of the sector profiles below, which include examinations of labor requirements as well as the facilities and services requirements relevant to free zone development.

TABLE 5-5
AVERAGE LABOR REQUIREMENTS FOR TARGETED INDUSTRIES
(Percentage of Total Employed)

Skill Level /1	Apparel Manuacturing			Agro-Processing			Data Entry		
	Males	Fem.	Total	Males	Fem.	Total	Males	Fem.	Total
Unskilled	8.0	72.4	80.4	26.3	52.6	78.9	0.0	0.0	0.0
Skilled	10.7	5.4	16.1	14.7	2.6	17.3	8.8	78.9	87.7
Supervisory	2.4	0.5	2.9	2.1	0.5	2.6	1.8	7.0	8.8
Managerial/ Technical /2	0.6	0.0	0.6	1.2	0.0	1.2	2.6	0.9	3.5
Total	**21.7**	**78.3**	**100.0**	**44.3**	**55.7**	**100.0**	**13.2**	**86.8**	**100.0**

/1 Basic labor for data processing operations is considered skilled since high school degrees and reading ability are required.
/2 Excluding expatriate personnel.

C. APPAREL MANUFACTURING AND ASSEMBLY: SECTOR PROFILE

5.30 Apparel manufacturing and assembly firms are among the leading users of free zones in LDC's, especially in the CBI region. The size and growth trends of the industry, coupled with the internationalization of production and assembly, have made the apparel sector an important contributor to the development of export manufacturing in LDC locations. Free zone developers can better focus their facilities development and marketing efforts by gaining a familiarity with apparel products, production processes, and market trends.

5.31 Apparel is generally classified by a description of the garment (e.g. men's suits, women's dresses, ties, etc.). The product groups are further defined by fiber content, such as cotton, wool, and man-made materials. Furthermore, apparel goods can be categorized as finished or unfinished. Finished goods comprise all end-product garments ready for wholesale or retail delivery, while unfinished garments comprise apparel pieces and cuts ready to be assembled or attached. Important in the classification of apparel products is the distinction between "low-end" and "high-end." LDC manufacturers are typically engaged in the production and assembly of low-end goods such as T-shirts, children's and infant's wear, and casual clothes characterized by traditional design, inexpensive textile materials, and simple assembly requirements. At present, most apparel exports from Belize and the CBI region are low-end products. On the other hand, developed country apparel and textile industries generally concentrate on fashion and quality items containing a relatively high value-added component.

1. Worldwide Trends in Apparel Production

a. Development of Offshore Apparel Production

5.32 As different countries' economic advantages and resource endowments have evolved, the number of "offshore" export apparel and textile manufacturers has grown. Twenty years ago, the industrializing countries of the Far East -- notably Hong Kong, Taiwan, South Korea, and Japan -- dominated apparel exports. Japan has since declined in importance as an exporter, and new competitors in the export apparel market have emerged, such as other Far Eastern countries and Caribbean Basin nations. Production of apparel is now globally disseminated, and the production strategies of established apparel manufacturers have been adapted to reflect the industry's growing mobility. Within free zones throughout the world, manufacturing is dominated by the apparel and textile industries.

b. Production Sharing

5.33 The increasing number of producers establishing apparel manufacturing and assembly facilities offshore is the result of

several economic and technical factors. The movement has been encouraged, on the one hand, by the advent of manufacturing processes which have permitted separation of the production process in time and location without affecting end-product quality. On the other hand, manufacturing and assembly by offshore producers is a natural outgrowth of the dramatic increase in the unit cost of developed country labor, materials, and overhead, thereby reducing the competitiveness of facilities in these locations. The combination of rapidly rising production costs in the industrialized countries and sophisticated competition from low-cost LDC producers has forced apparel manufacturers around the world to seek alternative lower-cost production sites.

5.34 Apparel manufacturing, a highly labor-intensive activity, generally involves little automation and capital investment for low-end products. Low-end apparel products are characterized by the simple assembly of piece goods on continuous production lines. Producers of these products place a premium on production flexibility as product styles and design trends change. This calls for versatility in operator skills and flexibility in manufacturing response. Typical apparel production involves the utilization of a number of work stations dedicated to fabric design, bleaching and dyeing, pattern printing, fabric layout and cutting, assembly, inspection, and packaging. The most labor-intensive processes (cutting and assembly) are usually performed in low labor cost locations. Conversely, steps that involve close contact with the market, such as design and production of high-end apparel products, as well as more complex operations like the printing of patterns, usually remain in developed country markets or traditional industry centers.

5.35 In general, apparel products best suited for offshore production share the following characteristics: high labor content-to-weight ratio; simple design; low line diversity; smaller production runs; low brand name identification; decentralized cutting and parts preparation; minimal capital investment requirements; stable production parameters; and infrequent in-season reorders. The most important factor, arguably, is the labor cost-to-weight ratio. If a product's labor content is relatively high, and its shipping weight relatively low, that ratio will generally favor offshore production regardless of other factors. As a rule, a product with a high labor component can be made in an offshore location at a cost savings too great to be offset by lower transportation costs or higher productivity in developed country markets paying higher wages.

c. The Role of the Caribbean Basin

5.36 The Caribbean Basin is rapidly gaining importance as a supplier of U.S. apparel imports. In 1972, the region accounted for only 4.5 percent of total U.S. imports: today, imports from the CBI region account for over 7 percent of total imports,

reaching a value of US$853 million in 1986. The principal supplier in the region is the Dominican Republic, accounting for 36 percent of the region's total exports. Other notable producers are Haiti, 20 percent; Costa Rica, 16 percent; Jamaica, 13 percent; and Honduras, 5 percent.

5.37 In 1986, 89 percent of all apparel exports from the region fell under the U.S. Tariff Schedule 807 import program. This trade program allows imported articles assembled in foreign countries with components and fabric that have been cut in the United States to be levied duties only on the value-added in the offshore location; however, the appraised value of the product must consist of at least 35 percent value-added in one or more beneficiary country. In 1986, the U.S. passed the 807A program, which provides new levels of importation, including guaranteed levels of access to goods with 80 percent value originating in the United States. U.S. Tariff Schedule 807 apparel manufacturing accounts for more than 70 percent of free zone exports from the Dominican Republic, Costa Rica, Jamaica, and other CBI locations. In contrast, less than two percent of U.S. imports from the Far East falls under the program.

Table 5-6
Caribbean Basin Apparel Exports, 1986
(in millions of U.S. dollars)

	Total Apparel Exports	US 807 Program Exports	807 Percentage of Apparel Exports
Antigua	4.8	4.7	99%
Bahamas	12.9	12.0	93%
Barbados	19.4	19.2	99%
Belize	**13.8**	**13.7**	**99%**
Dominica	1.0	1.0	99%
Grenada	0.2	0.2	99%
Guyana	0.6	0.5	90%
Jamaica	92.1	67.2	73%
Montserrat	0.1	0.1	99%
Netherlands Ant.	0.2	0.2	99%
St. Kitts & Nev.	8.6	8.3	97%
St. Lucia	6.3	6.0	95%
St. Vincent	1.8	1.8	99%
Costa Rica	131.7	119.8	91%
Dominican Rep.	280.0	257.6	92%
Guatemala	16.8	13.4	80%
Honduras	31.4	28.6	91%
Panama	14.4	3.6	25%
Haiti	113.1	108.6	96%
TOTAL	**749.2**	**666.5**	**89%**

Source: Bobbin Magazine

5.38 The comparative advantage of the CBI countries lies in their physical proximity to the United States and their relative lack of quota restrictions. Only the Dominican Republic, Costa Rica, Panama, Haiti, and Guatemala have bilateral quota agreements with the United States. The recent 807A guaranteed access program has also boosted apparel exports. The one percent ceiling placed on the Far Eastern exports, coupled with the loosening of quota restrictions on Caribbean 807 and 807A apparel exports, is likely to increase regional production.

2. Current Market Structure and Primary Trade Patterns

a. Overview of World Trade

5.39 Growth in the value of world trade in textiles and apparel accelerated an estimated 27 percent in 1986, fueled by increased consumer demand in the United States (6.5 percent) and in the EC (3 percent); a recovery in the growth of exports from the Far East; and the effect of exchange rate fluctuations on the unit values expressed in (depreciating) dollars. Total worldwide imports equalled US$62 billion in 1986. As evidenced by the figures in the chart below, import value growth, on average, outpaced export growth in the two largest markets in the world -- North America and Western Europe, which together consume 80 percent of apparel goods exported globally. World trade in clothing not only expanded twice as fast as total merchandise trade, but also faster than the 20 percent increase in world exports of manufactures.

5.40 In value terms, over three quarters of world apparel exports originate in Western Europe, China, Hong Kong, South Korea, and Taiwan. Despite year-to-year fluctuations during the 1980's, the four leading East Asian economies have captured increasingly larger market shares, with corresponding declines in the shares held by Western Europe and North America.

Table 5-7
Value Growth in Apparel Exports and Imports, 1986
(Average annual growth rate and nominal value in US$ billions)

	Imports	Exports
North America	15% (20.2)	20% (1.2)
Western Europe	45% (32.3)	35% (26.2)
Far East	29% (0.9)	22% (19.4)

5.41 The most notable development in world apparel imports during the 1980's was the sharp increase in the relative importance of North America, with counterpart declines in the

import shares of other significant markets. In contrast to earlier years, more than 90 percent of the increase in the 1986 clothing exports of West European countries came from intra-regional trade of medium and high-end products, rather than exports outside the region.

5.42 China proved to be the fastest growing Far Eastern apparel supplier in 1986, with Hong Kong, Korea, and Taiwan also recording healthy export growth. Throughout the past decade, these countries have repeatedly demonstrated their ability to adapt apparel production to worldwide economic trends. In North America, the dollar's depreciation in 1986 helped to increase clothing exports for the first time since 1980, while increased consumer demand fueled imports. Appreciating EC national currencies and increased market access also contributed to the rise in West European imports.

5.43 The principal markets for apparel exports from LDC's are North America and Western Europe. By 1986, the market share held by LDC's had expanded to 23.5 percent of total imports into North America and 11.5 percent of total West European apparel imports. In contrast, LDC imports of clothing (including the oil-exporting nations in the Middle East) have declined since 1983, due in most part to the decline in demand from Middle Eastern markets suffering from an oil-based recession.

b. The U.S. Market

5.44 The United States is the largest importer of apparel in the world. The value of apparel industry shipments (both imports and domestically produced goods) in the United States in 1987 totalled over US$60.9 billion. Apparel imports exceeded US$19 billion, while only US$1 billion were exported. Since the 1970's, total domestic consumption of apparel has grown modestly, at less than 1.2 percent annually, during which time the market share of domestically produced goods declined rapidly relative to imports. Since 1979, apparel imports have risen an average of 14 percent annually. The tremendous inroads made by imported apparel products over the last fifteen years have stimulated structural changes in the U.S. apparel industry to remain competitive, such as:

- U.S. quotas governed by the Multifiber Arrangement (MFA) have been tightened. Today, the United States has 21 bilateral agreements covering over 90 percent of its annual apparel imports. In 1987, the United States placed a 1 percent ceiling on the annual value growth of apparel imports originating from Far Eastern suppliers.

- U.S. apparel manufacturers have begun to source, import, and manufacture both apparel components and finished goods from low-cost locations offshore with excess quota availability.

- Far Eastern manufacturers facing the imposition of highly restrictive quotas have moved to other low-cost locations with access to the U.S. market. The immediate beneficiaries of this trend have been the countries of South Asia (Sri Lanka, India, Bangladesh, Indonesia, Thailand, and Mauritius).

- The Caribbean Basin region has become a very important element of both U.S. and Far East sourcing and manufacturing strategies, especially with regard to U.S. 807 and 807A program imports.

- There has been a strong trend in Far Eastern exports away from low-end, low profit margin apparel goods towards higher quality, better styled adult wear in response to quotas on man-made fiber apparel.

5.45 Despite the increase in U.S. domestic production in 1987, apparel imports again captured a larger share of the total U.S. market, rising 22 percent over 1986 levels to reach a value of US$22.1 billion. Behind both the increases in production and imports were rising personal consumption of apparel products and a corresponding 22 percent rise in the value of exports brought on by increased worldwide demand for U.S. exports. The rise in the volume of imports in 1987 was much more moderate, about 10 percent, compared with 15 percent in 1986. Restrictive bilateral apparel agreements with some of the largest Far Eastern suppliers -- Hong Kong, Japan, Taiwan, and South Korea -- is partly responsible for the slowdown in growth.

5.46 Four Far Eastern suppliers control over 50 percent of the U.S. market currently: Hong Kong, with 17.9 percent of the total import market share (apparel imports valued at US$3.3 billion); Taiwan, with 13.8 percent (imports valued at US$2.3 billion); South Korea, with 13.4 percent (valued at US$2.3 billion); and the People's Republic of China, with 7 percent (valued at US$0.95 billion). Unlike the apparel manufacturers in the Caribbean, Far Eastern exporters with significant U.S. market share utilize little U.S. textile or apparel raw materials and intermediate goods. The largest Caribbean Basin producer, the Dominican Republic, was responsible for supplying 1.5 percent of U.S. apparel imports (US$257.6) in 1986 under the U.S. 807 program, utilizing U.S. components.

5.47 Throughout the 1980's, the U.S. apparel industry has faced severe competition from imported goods, particularly from the the Far East. While rising imports have eroded growth in domestic production, they have also stimulated the U.S. industry to investigate ways to become more competitive and technologically advanced. Although quantifiable results have been mixed, U.S. manufacturers have succeeded in creating more durable supply relationships with key customers, improving production technologies to increase productivity and reduce production "turn around" times, and made the industry more responsive to market

demands. Furthermore, U.S. manufacturers have joined the global sourcing trend, achieving cost savings by sourcing piece goods and assembly processes from a host of domestic and foreign subcontractors and offshore manufacturing sites.

5.48 The intensely competitive environment which surrounds U.S. apparel production is likely to remain. In addition, anticipated demographic changes in the United States bode well for consumption levels, as the most coveted age group of apparel consumers (ages 35-54) increases in size and affluence. Other trends that should boost U.S. demand include the rising number of women in the workforce, greater levels of fashion-consciousness, more active lifestyles, and increased demand for specialized clothing, such as sportswear. U.S. consumers are more often selecting products on the basis of quality and style, rather than price. Because of U.S. quotas, the fall of the dollar, and changes in consumer tastes, Far Eastern manufacturers are beginning to produce high-end products with a higher value-added component and lower production volume to secure their position in the U.S. market.

c. The European Community (EC)

5.49 The EC has preferential trade agreements with a host of developing countries throughout the world, primarily the former colonies of its members, such as Belize. Over the years, a significant number of trade barriers have been lowered, especially with respect to member nations of the Lome I, II, and III Conventions. The Lome Conventions seek to support LDC development efforts through a combination of trade and foreign aid programs. However, Lome III apparel agreements are subject to the overall parameters established by the MFA agreements.

5.50 Western Europe, and in particular the nations comprising the EC, are large and expanding markets in apparel. In 1986, imports of apparel products totalled US$25 billion, an increase of 43 percent over the 1985 level. Imports were heavily dominated by intra-regional trade, comprising two thirds of the total import bill, with the remaining one-third of imports originating from the Far East. The principal apparel trading nations within the EC have experienced moderate real growth in imports of apparel in the 1980's. This was due to several factors: the accelerating reliance on imported apparel and textiles due to decreasing competitiveness and currency appreciation; an opposing decline in domestic production; and decreasing domestic demand resulting from a general economic slowdown.

5.51 In general, apparel manufacturing in the EC concentrates on medium or high-end products which exhibit world-class quality and design, while imports comprise more traditional products embodying a low value-added component. In individual cases, these generalities dissolve; for instance, France and Italy are renowned fashion centers specializing in the export of upscale

designer wear, whereas Spain and Portugal, newly emerging apparel exporters, are focusing on established low-end markets in the EC.

5.52 West Germany is the largest overall trader in the EC, having imported US$10.4 billion and exported US$4.2 billion worth of apparel products in 1986. From 1980 between 1985, annual growth in volume imports averaged 2 percent, while in 1986 the growth in volume imports jumped to over 12 percent. The rate of growth in dollar value in 1986 exceeded 33 percent, after experiencing negative growth of almost 6 percent in 1980 to 1985. As evidenced by the figures, currency appreciation had a significant impact on the dollar values of export and imports. At the same time, real growth in imports was positive and significant. The key exporters of low-end apparel products to the West German market continues to be the leading Asian NIC's -- Hong Kong, South Korea, Taiwan -- and China, although their market share in dollar value terms has declined every year since 1980.

5.53 The DM's appreciation in relation to the dollar has continued into 1987, and West German exports are expected to become increasingly uncompetitive relative to Far Eastern products. Furthermore, West German apparel imports have already been accelerating. On the other hand, a shrinking German population, increasing unemployment (currently 9 percent), and declining consumer spending in the apparel sector could constrict apparel import growth in the near future. Nevertheless, the opportunity exists to capture market share in West Germany as a step toward future penetration into other EC countries in the supply of apparel products. As West Germany raises its quota restrictions on Far Eastern exporters, other low-cost nations with preferential access will be in a unique position to competitively attack the apparel market.

5.54 The United Kingdom represents a large national market in apparel, with apparel imports in 1986 totaling US$3.5 billion. Import growth rates in terms of volume from 1980 to 1985 were modest at 4 percent annually, leaping to over 16 percent in 1986, while import growth rates in dollar value exceeded 30 percent. Much of the growth in demand for apparel products was met by imports from West European suppliers, rather than domestic production. In all, the U.K.'s total consumption of apparel has increased recently, due in part to rising standards of living and subsequent increases in consumer spending.

d. Outlook for the Future

5.55 The highly competitive environment in which apparel manufacturers are operating is not expected to diminish over the medium term. In the United States and Europe, anticipated demographic changes are expected to fuel growth in demand for all types of apparel products. Furthermore, many U.S. manufacturers are reportedly experiencing substantial cost increases from their Far Eastern sourcing operations due to the declining dollar and

more expensive fabric and labor, and are subsequently devising strategies to protect their market share. Such strategies generally include: investigating the CBI region and other low-cost labor locations for expansion or relocation; introduction of more sophisticated technology to reduce labor component of production; and increasing reliance on subcontractors as an alternative to direct investment.

3. Locational Requirements

5.56 Apparel manufacturers are drawn to offshore supply and manufacturing facilities for two basic reasons: to take advantage of low-cost manufacturing and assembly and thus remain competitive; and to secure access to developed country markets, especially the United States, and escape quota restrictions. Any free zone that can satisfy these two requirements is in an excellent position to draw investment from U.S. and Far Eastern apparel companies, regardless of its relative resource endowment in other areas.

5.57 The needs of the apparel industry are far different from industrial operations which employ sophisticated labor and facility requirements such as high technology manufacturing or heavy industry. Garment manufacturing can easily be established in most low-wage locations and the facilities requirements are minimal. For the most part, standard factory buildings, an abundant, competitive labor pool, reliable, affordable ocean cargo service, and market access are all an exporter needs to establish successful operations.

5.58 Wages are the most important cost consideration for the industry. Apparel manufacturing is extremely sensitive to labor costs, and apparel products are highly price sensitive at the wholesale level. The labor component of total unit production cost of a (typical low-end) apparel product varies widely by region. Labor costs as a ratio of local value-added (total cost minus material cost) ranges from about 19 percent (Philippines) to 79 percent (United States). In addition, the labor force should be easily trainable and able to adapt to alterations in the production process arising from changes in the often volatile consumer market. The availability of competent mid-level managers and operations advisors is also important.

5.59 Apparel manufacturers generally prefer to locate plants close to urban centers with an abundant female workforce. For more remote locations, adequate transportation for workers is critical. As most offshore apparel production lines are multi-shift operations, companies are increasingly providing childcare facilities for both day and night shifts.

5.60 Apparel manufacturers require only the most basic industrial buildings, generally preferring single-story structures of 20,000-30,000 sq. ft., with 15-20 feet of clear height. In planning the construction of facilities, at least 100

sq. ft. and up to 150 sq. ft. of under-roof space per worker should be allowed. Although some firms will pay a premium to be assured of responsive property management, the typical apparel assembly firm faces strong competitive pressures to keep fixed costs, such as rent, to a minimum.

5.61 Most garments are shipped by sea. Thus, the cost, frequency, and reliability of ocean freight services, and land access to the port are a crucial concern for the industry. For the less than 10 percent of items shipped by air -- principally the more expensive, fashion-sensitive items -- reliable air service is a necessity.

5.62 Good telecommunications service is important to certain types of apparel manufacture. The ability of some manufacturers to easily and cheaply transmit computer-generated designs and patterns by facsimile, electronic mail, and other high-speed systems speeds the offshore facility's response time, especially important for firms specializing in short production runs. In general, the utility requirements of the industry are basic, however, and any shortcomings in the electricity supply must be supported through on-site back-up generators.

5.63 Finally, government regulations and market access can be an important consideration within the industry. Excessive bureaucratic interference, sudden shifts in policy, or corrupt and inefficient customs services can all frustrate investors and discourage investment. Local incentive programs are less important to apparel firms than in other industrial sectors, but, as discussed above, market access is crucial. The ability to sell a small portion of production in local markets, normally surplus or off-quality goods, allows manufacturers to rationalize their production in that area, and removes the necessity to export off-price merchandise.

4. Preliminary Assessment of Market Potential

5.64 The analysis above points out several factors which make apparel assembly operations a high potential market for location in Belize. The apparel industry is highly mobile and continues to seek new developing country locations. The principal factors driving this dispersion in apparel include:

- quota restrictions in major developing country markets on all established producers,
- sensitivity to labor costs,
- price competition at wholesale levels,
- wide range of products suitable for manufacture in different locations,
- segmentable labor-intensive production processes, and
- simple equipment requirements.

5.65 These factors augur well for the ability of Belize to develop an export manufacturing sector with a strong base in apparel, producing for developed country markets, principally the United States. The size of the overall market, the relative stability of demand for basic clothing items, and the ease with which apparel operations can set up in free zones also make apparel assembly operations a strong candidate for CBI countries such as Belize, despite their presently limited industrial bases.

5.66 Belize is well positioned to attract an increasing share of apparel operations bound for the Caribbean Basin. It has already succeeded in attracting a number of export-oriented apparel firms, both from the U.S. and the Far East. Apparel firms migrate more readily to locations where other apparel firms have taken hold.

5.67 Other substantial advantages include unimpeded market access and the English-speaking character of the country. In contrast to other Caribbean Basin countries, apparel exports from Belize have not triggered quota calls by the United States. As a Lome beneficiary, Belize also enjoys access to the European market at par with countries such as Jamaica. In addition, the apparel industry in Belize has yet to experience problems with unionization such as have affected Jamaica.

5.68 On the other hand, Belize has significant disadvantages as well. Its labor costs are higher than in Jamaica, a problem in the highly cost-sensitive apparel sector. Although transportation has proven adequate, problems have been experienced in Customs processing (delays of up to three days for firms operating under development concessions). These will have to be corrected under a free zone program if Belize is to compete more effectively. Transportation and Customs clearance delays are especially important for firms that hold a small inventory on site.

5.69 Considering both the positive and the negative factors, apparel assembly and manufacturing operations is likely to be the most important sector during the initial stages of free zone development.

D. FRUIT AND VEGETABLE PROCESSING: SECTOR PROFILE

5.70 Fruit and vegetable processing is a sub-sector of agro-processing, the term used to describe the commercial processing and distribution of agricultural products. The spectrum of activities encompassed in agro-processing is extremely broad, ranging from the simple packaging and sale of primary food products for local cash markets to the large-scale, complex processing and international trade of high value-added products. These activities encompass various methods of canning, freezing, cooking, drying, blending, packaging, and other means of transforming agricultural products. Given the immense scope of this sector, this profile does not attempt a comprehensive examination, but instead focuses on one type of processing

activity: the production of processed fruits and vegetables, including such products as juices, frozen concentrate, and canned products.

5.71 The processing of fruits and vegetables is one of many agro-processing activities that can benefit from locating in a free zone, capitalizing on the availability of local raw materials in the production of goods for export. Several other agro-industrial activities can also benefit, and will be briefly discussed after the fruits and vegetables processing profile, such as hardwood product manufacturing, shrimp processing, and beef processing.

1. Industry Structure

5.72 Fruits and vegetables is a very large sub-sector which includes those businesses engaged in the substantial transformation of fruits and vegetables into food products such as canned fruit and vegetables, frozen food, packaged dinners and snacks, concentrates, etc. The successful development of this processing activity provides an effective means to capture increased value-added from the natural resource endowment of a production location, and expand markets for local agricultural goods.

a. Changes in the Production Process

5.73 In the past, processed food production was dominated by a few industry giants, primarily the same firms which controlled the fresh food industry. For example, U.S. corporations such as Castle & Cooke, General Foods, Beatrice, and Del Monte, would cultivate, process, package and then distribute food products to wholesalers and retailers. This vertically integrated approach to production, however, is now changing.

5.74 Agricultural production, as in other industries, is evolving in response to technological advances. Historically, the difficulties inherent in food preservation necessitated the production and consumption of agro-products within the same geographic region. Consequently, in commercial agricultural production, markets were defined by local geographic conditions and transportation networks.

5.75 With the advent of low-cost refrigeration and increasingly sophisticated food processing and handling techniques, the principles of "least-cost" production have become applicable to the agricultural sector. Locations possessing comparative advantages in the production of certain food products are now actively trading both semi-processed foods and finished products internationally. Generally, this has accompanied a trend towards increased product specialization, narrowing the variety of goods marketed by any one supplier, and resulting in increased productivity, lower production costs, and a concomitant increase in the volume of processed agricultural goods traded worldwide.

Fresh products which are expensive and difficult to transport have been transformed or "processed" into export commodities.

5.76 Internationalization of food distribution and consumption has had an affect on the production cycle. There has been a growing trend among industry leaders away from the vertical integration of supply channels toward the use of multiple sourcing for both production and processing. Multinational firms are increasingly concentrating in final processing, marketing, and distribution of bulk foods products and rely on brokers and distributors (rather than their own croplands) for their supply of raw and semi-processed goods. (This trend is evident on a local basis as evidenced by the Hershey Foods project.) These products often originate from small- and medium-sized commercial farms where preliminary on-site transformation is undertaken to bring bulk quantities of the product to a transportable (semi-processed) state. The bulk goods are then broken down or blended with other inputs, processed further and packaged in retail- or institutional-sized containers in locations near the end-market -- grocery stores, restaurants, cafeterias, etc.

b. Changes in Market Demand

5.77 The evolution of the production and distribution process has taken place alongside certain changes in the demand for food products in expanding developed country markets. In the United States, Western Europe, Japan and the Newly Industrialized Countries (NICs) of the Far East, rising incomes have enhanced consumer purchasing power. Advances in communications and increased individual mobility have allowed the consumer to be exposed to a broader range of food choices. As a result, there has been a substantial increase in the variety of products that can be marketed internationally and the demand for new products is on the rise. Tropical produce, exotic spices, sauces and jellies, and ethnic specialty foods are now widely available in stores and restaurants.

5.78 In addition to the growing diversity of the demand for food products worldwide, consumers are becoming increasingly reliant on convenience in food preparation. As two-income households have become commonplace in the major market areas, far less time is being spent at home in food preparation by working couples and their families. Consequently, sales of convenience foods, such as processed and frozen vegetables, aseptically packaged juices, and prepared sauces are accounting for a rising share of the total market. Technological innovations such as heat processed packaging and quick-freeze techniques are making prepared meals and dishes available to affluent customers worldwide.

5.79 As an example, in 1984, total consumption of food products in the United States exceeded US$300 billion, and fully 50 percent of all food sales were frozen foods. In 1950, processed fruit accounted for 42.8 percent of the total U.S. fruit consumption; in 1982, this figure had risen to 60.2 percent.

Corresponding data for processed vegetable consumption in the United States shows an increase from 42.2 percent in 1950 to 50.4 percent in 1982.

5.80 Finally, another notable trend in the industry, again an outgrowth of the move toward convenience, is the rise in the number of meals that are eaten in restaurants -- the average U.S. household eats one out of every three meals away from home. A separate wholesale distribution channel has evolved within the food and beverage industry to supply gourmet restaurants, cafeterias, and fast food businesses.

2. Market Structure

a. The U.S. Market

5.81 The United States is the second largest consumer of agricultural products after the EC; the U.S. is also one of the largest agro-producers in the world. Within the processed fruit and vegetables sector, consumption of most canned fruit and vegetables has declined during the 1980s, while consumption of frozen fruit and vegetable products has steadily risen. These changes largely reflect the adjustments in lifestyles discussed earlier.

5.82 As shown in Table 5-8, canned vegetables remain the dominant form of processed vegetable consumption, but growth in the product sector has been stagnant since 1975. On the other hand, fresh and frozen vegetable use increased 2 and 3 percent annually, respectively, between 1970 and 1985.

Table 5-8
U.S. Per Capita Use of Vegetables by Type, 1970-1985
(Kilograms)

	Fresh	Canned	Frozen	Total
1970	32.35	33.23	5.06	70.64
1975	33.40	41.99	6.26	81.65
1980	36.56	39.26	6.61	82.42
1985	40.24	40.83	7.99	89.06

Source: U.S. Dept. of Agriculture, Economic Research Service

Table 5-9
U.S. Per Capita Use of Non-Citrus Fruit, 1970-1985
(Kilograms, Fresh Weight Equivalent)

	Fresh	Canned	Frozen	Other	Total
1970	23.5	7.2	1.7	5.9	38.2
1975	25.1	5.9	1.6	6.2	38.8
1980	27.5	5.3	1.5	5.3	39.6
1985	31.2	4.2	1.7	6.1	43.2

Source: U.S. Dept. of Agriculture, Economic Research Service

5.83 Fruits exhibited a more prominent decline with regard to the consumption of canned goods, which has dropped 3.6 percent annually since 1970. As shown in Table 5-9, between 1970 and 1985, total use of non-citrus fruits grew 0.8 percent annually. The growth was principally led by increased demand for fresh non-citrus fruit, which increased at an average annual compound rate of more than 5.5 percent.

5.84 On the whole, most canned fruit and vegetables products are experiencing declines in demand. However, several categories within the sector are evidencing growth, such as ethnic foods, sauces, dressings, soups, and aseptically packaged juices.

5.85 A strong component of the processed fruit and vegetable sector has been citrus products. Table 5-10 shows that total use of citrus items has experienced moderate growth over the fifteen year period relative to other processed fruit and vegetable categories. However, demand for frozen citrus items was substantially higher, increasing almost 100 percent over the period. Frozen concentrate orange juice (FCOJ) grew 4.6 percent

Table 5-10
U.S. Per Capita Use of Citrus Fruit, 1970-1985
(Kilograms, Fresh Weight Equivalent)

	Fresh Citrus	Canned Juice	Frozen Juice	Other	Total
1970	13.3	4.7	18.7	4.3	41.4
1975	13.3	4.8	30.9	5.2	54.2
1980	13.1	4.7	28.1	5.4	51.3
1985	10.2	2.1	37.1	3.0	52.3

Source: U.S. Dept. of Agriculture, Economic Research Service

annually between 1970 and 1985. Included in the other category shown in Table 5-10 is aseptically packaged chilled juice, which has also experienced a significant increase in demand during the past few years.

5.86 The share of the market held by imported processed fruits and vegetables and citrus in the United States is growing. U.S. imported canned foods and frozen foods reached over US$2 billion in 1987, up 3.5 percent over 1986. In 1987, six products were responsible for 50 percent of the fresh and processed fruit and vegetable imports: orange juice (20 percent), apple juice (9 percent), mushrooms (7 percent), pineapples (7 percent), olives (4 percent), and tomato products (3 percent). Imports are becoming an increasingly larger share of U.S. consumption of processed fruits and vegetables, though at a moderate rate. U.S. imports of citrus products have been aided in the 1980s by several freezes in the citrus groves of Florida which have not only diminished U.S. exports, but increased its reliance on imports for domestic consumption.

b. The European Community

5.87 Taken as a whole, the EC is the world's largest consumer of processed fruit and vegetable products. However, as the majority of agricultural products are produced within the region and traded internally, the market for imported goods is actually much smaller than statistics indicate. Intra-regional transfers, for instance, account for fully 70 percent of EC member nation exports. In 1982, the EC was the destination for an estimated 16 percent of non-EC member world exports, and in 1986, it imported nearly US$5.4 billion in fruits and vegetables outside the EC.

5.88 The principal reason behind the self-contained nature of EC agricultural trade is the regional trade barriers that have been erected to protect agro-producers in member nations. Under the Common Agricultural Policy (CAP), the EC regulates agricultural prices, structural improvements to agriculture, and internal and external agricultural trade. In 1986 (and as an historical average), agricultural subsidies and support mechanisms account for approximately 70 percent of total EC budget outlays; this is equivalent to nearly half the total revenue of EC agricultural producers.

5.89 In an effort to cut costs, the EC has recently made moves toward reducing the level of subsidy offered to its agricultural producers by implementing production quotas to stem the surplus production of basic commodities such as grain and dairy goods. However,the EC is a net exporter of agricultural products, based almost entirely upon the provision of export subsidies.

5.90 The primary importer of fruits and vegetables within the EC is West Germany with imports of over US$6.11 billion in 1986, a 23 percent rise in value over 1985 levels; followed by France (US$3.22 billion), the United Kingdom (US$3.20 billion), and the

Netherlands (US$2.09 billion). On an individual basis, and for the EC in aggregate, imports of fruits and vegetables are increasing, growing from US$13.52 billion in 1984 to US$17.91 billion in 1986, an increase of 25 percent. West Germany is also the largest EC market for fruit juices with nearly 15 percent of the world total in 1981, followed by the U.K. with 10 percent.

5.91 In similar fashion to U.S. consumers, West European consumers are showing increasing interest in aseptic "carton-packed" fruit juices, which offer the benefits of a long shelf life without refrigeration and the metallic taste which often characterizes many canned products. Over half of the fruit juice sold in several major European markets today is packed in these cartons, and the product's convenience has is credited with contributing to the growth in consumption.

3. Hardwood Products

5.92 The manufacture of hardwood products is a moderately developed export industry in Belize, and maybe suitable for operation in a free zone. Processors and manufacturers can increase profitability through the efficient and duty-free importing of raw materials and intermediate goods -- nails, wood screws, cloth and upholstery, packing material, finishes, etc. -- and expedient exporting of finished goods. The Belize furniture and wood product industry is bolstered by the fact that many products utilize local high-value, high-quality hardwoods, such as mahagony and rosewood, which are not commonly available and generally command premium prices. High prices for hardwoods also makes veneer production attractive and many logs are now processed for veneer as opposed to solid lumber. All these products could be extensively used throughout the Caribbean Basin and in the United States primarily in building supplies, furniture construction, and crafts products.

5.93 In the United States, furniture parts and frames account for approximately 60 percent of hardwood use, with imports reaching a level of US$175 million in 1987. Growth in imports between 1980 and 1985 equalled 21.4 percent annually, but imports have decline by 14.3 percent and 2.8 percent in 1986 and 1987, respectively. Total demand for hardwood and hardwood products has been on the rise, despite a slump in the early 1980s, due in part to both a strong demand for housing and an increase in repair and renovation of residential and commercial properties over the past eight years. U.S. imports of hardwood and hardwood products can be expected to increase in the future due to depletion of domestic sources. In particular, the hardwood mahagony growth in Belize has appreciated in value to the point of becoming a rare, exotic wood.

4. Locational Requirements

5.94 As mentioned above, there is a great diversity in the production processes and technologies employed within the agro-processing sector, including the processing of fruits and vegetables. It is therefore difficult to specify the locational requirements for the industry beyond a general level without first determining the process to be utilized, which can range from simple packaging to complex transformation.

5.95 For example, increasing competition in the global market has prompted multinational leaders within the industry to turn to new biotechnologies (such as the production of "scentless" sugar) and irradiation techniques to preserve and purify raw produce. Clearly, such sophisticated production and processing programs require equally sophisticated services and facilities and are not the focus of the following discussion.

5.96 For the production of most fruit juices, jams, jellies and processed vegetables by means of standard techniques, the following guidelines can serve as an accurate indication of the types of facilities and services required.

5.97 Proximity to, and coordination with sources of production is essential to successful agro-processing operations. This can be viewed from two perspectives. For locally produced agricultural products, the processing operations should be linked to the harvests of the domestic suppliers. For larger scale, regional agricultural transshipment and processing facilities, production requirements and economies of scale necessitate reliable, steady supply of the raw materials and semi-processed goods to be utilized in the processing operation.

5.98 Building requirements vary within the sector, depending on the precise nature of the processing activity involved. As a rule, refrigerated warehouses should be included in the project master plan as a standard facility available to firms within the industry. For some simple packaging businesses, standard factory buildings will suffice for their operations. However, for those firms engaged in more complex processing activities, especially those which utilize advanced technology such as heat-sealed or vacuum processing, irradiation and the like, customized facilities are required. Often, the best strategy in such cases is for the firm to construct facilities at its own expense, within pre-determined structural guidelines, as the specialized buildings may be of little use to any other firm.

5.99 Access to an abundant labor supply is less crucial than for other types of free zone industries. For most basic processing activities, manpower skill requirements are minimal and can be satisfied by unskilled labor. However, the growing sophistication of the processes and equipment involved in vacuum-processing, "individual quick frozen" technology, irradiation treatment, and other state-of-the-art technologies, gives an advantage to those

locations which can supply skilled managers, service technicians, agricultural specialists.

5.100 Reliable and affordable power is essential for agro-processing. Local power supply should be augmented by back-up generators if necessary to ensure a constant supply. Many processing operations also require large amounts of water for industrial use and special waste-water treatment. Management should determine the special needs of individual users prior to leasing or constructing facilities to ensure that the demand their operations will place on the system will not overload its capacity.

5.101 As in other sectors, good telephone and telex service is important to firms engaged in international agricultural processing and distribution activities. Long delays in installation, intermittent service and problems in overseas dialing can deter investment and frustrate clients who are arranging sales and require frequent contact with suppliers, brokers, and distributors.

5.102 Reliable inland transportation services and infrastructure are crucial. In this industry, much more so than in other sectors, it is imperative that there be regularly scheduled and rapidly delivered shipments of the unprocessed goods to the processing facility. Refrigerated trucking, warehousing and shipping services between the source of the goods and the production center is essential. Once the goods are processed, transport time becomes less crucial; however, easy access to a frequently serviced port facility is a must. This differs markedly from the transport requirements of fresh produce, such as the need for air cargo shipments for vegetables.

5.103 Agricultural training and research centers can serve as attractions for agro-processing businesses. In order to remain competitive with large-scale producers in the United States and Europe in the future, firms must look toward improved crop yields, which translates to increased technical skills for their production specialists. In this manner, not only will the overall quality of the product improve (thus facilitating entry to the tightly regulated U.S. and EC markets) but the workforce will benefit from increased linkages between the schools, the fields and the industrial workplace.

5.104 It should also be noted that due to the customized facilities requirements of many of these firms and the benefits to be gained from locating their operations close to the source of their raw materials, many will prefer locations outside of any designated general purpose free zone. Many agro-industrial firms operating under free zone regimes do so in separate facilities they themselves construct and finance to maximize their individual production efficiencies.

5. Preliminary Assessment of Market Potential

5.105 Given the country's resource endowments and constraints, it appears that Belize has a promising potential base in agro-industry exports. The leading candidates for free zone development in this sector would be in food processing, primarily in citrus and other fruits and vegetables. Although food processing relies critically on supplies of raw materials, the economies of shipping in bulk at present would tend to limit the operations which can be profitably done in Belize to the initial processing of bulk, semi-processed goods.

5.106 Free zone incentives would provide a significant benefit to export firms engaged in food processing. Because processing operations are often import dependent for critical supplies, (notably for packaging and sometimes for raw materials), companies in this sector stand to benefit from the Customs duty abatement and regulatory relief inherent in a free zone regime. Present difficulties facing some domestic producers might be overcome by their qualification for free zone status, opening opportunities for Belizean manufacturers in meeting global market demand for value-added processing.

5.107 To fully realize the potential of food processing industries in a Belize free zone program, however, it will be useful for the Government to authorize special free zone status when needed by the investor. Specific companies may need to be located adjacent to ports or to sources of raw material to be competitive; forcing them to locate instead within a free zone-designated industrial park would be likely to prompt them to choose another country.

5.108 In summary, a free zone program would be likely to appeal primarily to operations such as fruits and vegetables processing, although certain other types of agro-industries could find Belize a profitable base of operations given appropriate geographical flexibility. Most agro-related activities currently found in the country -- or of high potential for Belize -- are not in need of traditional free zone facilities, but could find decentralized application of the incentives to be of benefit.

E. OTHER LIGHT MANUFACTURING: SECTOR PROFILE

5.109 "Other light manufacturing" covers a wide range of labor-intensive processes that are generally suitable for installation in free zones. Typical light industry products include: footwear, gloves and leather goods, handbags, umbrellas, pottery and ceramics, and plastic products. This analysis will focus on sporting goods, toys, and non-rubber footwear to demonstrate the export potential of light industry products from Belize.

1. Light Industry Sectors

a. Sporting Goods

5.110 The sporting goods industry is an active offshore production sector in the Caribbean Basin and the Far East. In 1987, consumption of sporting goods in the United States totalled US$3.9 billion, including sporting equipment used for fishing, golf, tennis, bowling, team sports, skiing, scuba diving, surfing, skating, and track and field. (The industry does not encompass footwear, apparel, camping and hunting equipment, or leisure vehicles.)

5.111 The U.S. sporting goods industry has become decentralized in recent years. In the early 1970s, five conglomerates controlled 70 percent of the market; today, there are 1,500 sporting goods manufacturers in the United States employing approximately 35,000 workers. Of these U.S. firms, two-thirds have fewer than 20 employees. The decentralization of the U.S. sporting goods industry has occurred for two basic reasons:

- large manufacturers have not been able to match the flexibility and market responsiveness of smaller firms; and,
- significant inroads have been made in the industry by low-cost offshore sporting goods producers.

5.112 To remain competitive, U.S. and Western European sporting goods manufacturers have turned to overseas sourcing of goods which they sell under their own label. Twenty-eight percent of sporting goods sales are imported under this type of arrangement. The practice has contributed to the increasing share of imported sporting goods in total U.S. consumption: nearly one half of all sporting goods purchased in the United States are produced overseas, two thirds originating from just three sources -- Taiwan, South Korea, and Hong Kong.

5.113 The Western European market is quite similar. In West Germany for example, nearly 75 percent of all sporting goods are imported. For the EC overall, imports account for over 60 percent of all sporting goods sold.

5.114 The long-term outlook for offshore production of sporting goods is positive provided that developed country markets remain open. Higher household incomes, increased interest in physical fitness, and greater participation by women in sports will stimulate further industry growth. Furthermore, the 25-44 year age group is projected to comprise one third of the total U.S. population by 1992, an age group which has historically been the major purchaser of sporting equipment. The growing sophistication of Far Eastern producers will further encroach on the market share held by producers in developed nations, prompting them to shift the production of less complex sporting goods to lower cost locations. However, the recent graduation of Taiwan, Hong Kong, and South Korea from the U.S. GSP program and

the accompanying rise in their production costs is certain to prompt these countries to search for new lower-cost manufacturing locations as well.

b. Footwear (Non-Rubber)

5.115 Although the footwear industry in the Caribbean Basin is relatively small in comparison to other manufacturing sectors such as apparel and electronics, the industry has been growing at a rapid rate. The Caribbean region exported US$13 million in footwear products to the United States in 1986, up from US$7 million in 1981. Over 46 percent of Caribbean Basin footwear exports fell under the U.S. Tariff Schedule 806.3/807 program, the two largest Caribbean exporters being the Dominican Republic and Haiti. The Dominican Republic is currently experiencing triple digit annual growth in footwear exports, while the industry in Haiti has suffered severely from economic and political turmoil. Several of the largest U.S. manufacturers, such as Stride Rite, Timberland, Kenney, Rockport, and Lowell have either secured sourcing arrangements with Dominican subcontractors or have directly invested in their own facilities in Dominican free zones.

5.116 Production of non-rubber footwear in the United States fell seven percent in 1987 to 226 million pairs, much of the drop occurring during the first five months of the year. Imports, which comprise 62 percent of the total U.S. market in value terms and 81 percent of the market in volume terms, increased only 3.6 percent in 1987, the smallest increase since 1981. The largest footwear suppliers to the U.S. market are Taiwan (47 percent of the U.S. import share), Korea (19 percent), Brazil (11 percent), and Italy (6 percent).

5.117 The declining dollar against currencies of the major footwear suppliers in 1987 had a significant impact on import prices, but imports remain relatively cheaper than U.S.-produced footwear. Nonetheless, the gap between domestic footwear prices and import prices has continued to increase during the last eight years, primarily as a result of a shift toward the increased manufacture of higher-end footwear products by U.S. manufacturers. Furthermore, a sharp rise in the price of leather has also boosted footwear prices. Despite the rise in price, the use of leather has increased, with approximately 94 percent of men's and 63 percent of women's footwear utilizing leather uppers.

5.118 Demand for footwear in the United States increased by two percent in 1987 to reach a level of just under 1.2 billion pairs. Per capita consumption of footwear products in the U.S. has been steadily rising, from 3.3 pairs in 1981 to 4.9 in 1986. The strongest demand in the industry was recorded for leisure shoes and boots for all occasions.

5.119 The outlook for 1988 suggests that domestic production will increase by three percent, with import penetration dropping by one percent to hold at 80 percent of the total market share in volume terms. Demand is expected to be strong, especially for men's and women's non-rubber footwear. For the long-term, the industry is expected to record only fair rates of overall demand growth. U.S. manufacturers will continue in their consolidation efforts, and are expected to increasingly utilize capital-intensive production technologies to compete with Far Eastern suppliers in the higher-end market. However, manufacturers of medium and low-end products will continue to utilize offshore production locations.

c. Toys

5.120 The value of goods sold by the toy industry in the United States in 1987 totalled US$3.4 billion, representing an increase of 3.7 percent over 1986 in real terms. The toy industry is comprised of dolls, toys, games, and children's vehicles. Like the sporting goods industry, the U.S. toy industry has been steadily moving its production facilities offshore to take advantage of less expensive labor for products that, in general, are labor-intensive. However, in contrast to the decentralization of the sporting goods industry, the toy industry has recently experienced a wave of acquisitions and mergers as toy manufacturers seek to solidify their market position and obtain greater market share.

5.121 The U.S. toy industry is dominated by large U.S.-owned multinational corporations with production facilities primarily located outside the United States. In 1986, five U.S.-owned multinational toy companies controlled 32 percent of all sales in the United States. These top five firms averaged nearly US$800 million in sales. Most of their direct investment is concentrated in Hong Kong, South Korea, and Taiwan. These three nations together accounted for 60 percent of U.S. toy imports in 1987. Toy manufacturing within the United States is primarily done by small firms with a combined total employment of less than 23,000. (Only 32 percent of the U.S. domestic manufacturing plants employ over 20 workers.) The average earnings for U.S. toy production workers is approximately US$7.00/hour.

5.122 Hong Kong, South Korea, and Taiwan have not, as yet, developed the same market penetration in the EC. While imports comprise 65 percent of the EC's US$5.8 billion toy market, approximately a third of this figure was intra-EEC imports. West Germany, and France each consume over US$1 billion annually in toys, with the United Kingdom reaching US$1.8 billion. The United Kingdom is also the most important EC toy manufacturer with production of US$720 million.

5.123 The short-term outlook for the toy industry, as always, is overall stable, considering specific product instability due to susceptibility to fads. As in the fashion industry, certain

categories of toy products can be extremely popular one day and virtually unsellable the next. The cyclical instability in the industry is exacerbated by the seasonal nature of the market -- the highest volume of sales are usually recorded just before Christmas. Thus, successful toy companies must be extremely flexible in production capabilities and highly sensitive to market trends. Production is often maximized to take advantage of "hot" products while conversely, the introduction of a new toy line in the wake of a poor selling product requires quick production response.

5.124 The long term future for the toy industry will depend on a number of factors. The increasing disposable income evidenced in developed country markets such as the United States is somewhat negated by the decreasing number of children per U.S. family. Toy producers in the developed nations, faced with uncompetitive domestic wages, will be increasingly targeting the upscale, higher-value toy market. At the same time, long-established toymakers in the Far East will penetrate the upscale market as their wages steadily increase. As the largest exporters of toys to the United States (Taiwan, South Korea, and Hong Kong) are no longer eligible under the U.S. GSP, lower-cost locations such as China, Thailand, and the Caribbean Basin will become increasingly attractive in comparison.

2. Locational Requirements

5.125 As in the apparel industry, the predominant reason for locating light industry production facilities offshore is to reduce labor costs. Light industry generally requires only simple industrial facilities. As non-perishable items, rapid delivery transportation services are not generally a requirement for sporting goods, footwear, or toys, except when subject to seasonal fluctuations in demand (such as Christmas). Access to a well-equipped seaport (with roll-on/roll-off and load-on/load-off facilities) with regular international service, however, is essential.

3. Preliminary Assessment of Market Potential

5.126 Although the products found within the light industry sector are diverse, their manufacturing processes share many characteristics. Light industry tends to be labor-intensive with limited capital requirements; thus, the most important locational factor in this mobile industry is the presence of a competitively-priced labor supply. This factor bodes well for Belize given the rising wage levels and manufacturing costs now found in the traditional light industrial centers, including Taiwan, South Korea, and Hong Kong.

5.127 A second crucial factor is unimpeded access to the affluent U.S. and Western European markets. In the highly competitive light industry sector, preferential market access

agreements are becoming an increasingly important aspect of location decisions. The recent graduation of South Korea, Hong Kong, Taiwan, and Singapore from the U.S. GSP trade program is now prompting a number of Asian companies to relocate their production facilities to locations with GSP status. Belize, with preferential access to both the United States and the EC, can be expected to receive serious consideration as a potential site in part for this reason.

5.128 In summary, the relatively simple equipment requirements and the highly segmented production processes typical of most light industries make this sector a promising target for a free zone in Belize. Although the first firms established in this sector would likely concentrate upon relatively simple operations, the tendency over time would be for more advanced and high value added operations to be performed.

F. INFORMATION SERVICES: SECTOR PROFILE

5.129 Over the last twenty years the transformation of the record-keeping process from the written word to digitized data has become widespread in the countries of the industrialized world, notably the United States and Japan. No longer just a high-technology novelty, data entry and other information services have become an important component of the services sector. In the United States, the majority of information handled by the private and public sectors is now computer processed. Moreover, the advent of low-cost computers has brought modern technology within the financial reach of even the smallest business.

5.130 The offshore information services industry covers a wide spectrum of labor-intensive operations, including simple keyboarding or data entry, media services, voice center operations, secretarial services, electronic database, management, computer-aided design (CAD), and programming/software development. The first and largest segment to shift to offshore production is data entry, which has moved increasingly to such locations as India, Mexico, Jamaica and other Caribbean islands, and Korea over the past twenty years. Data entry, because of its relative mobility and basic skill requirements, is the most relevant for Belize, where most of the labor force lacks sophisticated computer skills and technical training.

1. Offshore Sourcing

5.131 The simplest form of data entry, "batch processing" (also referred to as "keying," "keypunching," or "keyboarding") was the first segment of the data services market to move offshore, and involves the manual inputting of hard copy documents. In most cases, bulk material is air freighted to the offshore location where it is processed and then returned to the contracting firm on computer disk or magnetic tape, again by air freight. Cost

savings can be as high as 90 percent, including air freight and other costs. Typical turnaround times can range from five days to two weeks; however, contracting firms are increasingly demanding improved transmission methods, via telecommunications lines or overnight courier, and reduced turnaround times of two to four days.

2. The Role of the Caribbean Basin

a. Data Entry Service Bureaus

5.132 The Caribbean has increasingly become a center for offshore data entry by U.S. companies due in part to its proximity to end-user markets and low-cost supplies of labor. U.S. direct costs for data entry workers average US$6-10 per hour while comparable direct labor costs in the Caribbean average US$0.73-0.96 per hour. Conservative estimate indicate that approximately 10,000 offshore data entry jobs are located in Mexico, 3,000 in Jamaica, 1,000 in Haiti, and 800 in Barbados.

5.133 Traditional offshore data entry operations -- although growing more than 600 percent in employment in the Caribbean Basin since 1980 -- have been somewhat constrained by delays in air-freighting of source documents and of disks and tapes. In recent years, however, the declining costs of international communications have begun to make possible "fast-turnaround" data entry operations. Rather than use air freight services to send magnetic tapes or disks to developed countries, offshore service bureaus are increasingly using modem links to quickly transfer files to the end user by satellite. Such systems enable data entry service bureaus to process work in less than 24 hours, rather than the more traditional four to ten days.

5.134 The growth of fast-turnaround data entry capabilities among offshore service bureaus in the coming decade should more than offset potentially adverse effects arising from improved Optical Character Recognition (OCR) technologies upon batch processing operations. Optical Character Readers--computerized scanning devices--automatically translate printed words into digital form for electronic storage and manipulation. OCR systems do poorly with handwritten and folded/torn source documents characteristic of coupons and forms sent to low-wage service bureaus offshore. Within the United States, however, service bureaus dependent upon higher-wage data entry operators are more likely to substitute OCR equipment for employees.

b. Other Emerging Activities

5.135 Remote Secretarial Services. Offshore secretarial services offer word processing, telephone answering, data tabulation, transcribing and dictation operations especially tailored to the routine functioning of a particular unit of a firm. At present, tens of thousands of small firms in North

America are inadequately supported with staff in such functions, because average secretarial salaries range from $12,000 to $25,000 per year. Offshore secretarial services have the potential to offer services at a net 50 percent savings to clients in developed countries, assuming the availability of cost-effective facsimile services and of high quality international voice/data telephone links.

5.136 Voice Center Operations. In recent years, the Bahamas and the Dominican Republic have taken a lead in establishing incoming "800-number" and outgoing "WATS" services oriented toward the North American market. Until recently, such offshore voice center operations have been severely limited in size by the economics of international telecommunications. To attract voice centers on a significant scale, the monthly costs of dedicated two-way voice/data circuits should be under US$1,000, rather than customary rate levels three or four times higher. The Dominican Republic in coming months will test the extent of voice center demand for its newly-established teleport, which offers direct satellite links for free zone users in the country to points in North America.

5.137 Media Services. Another new market for offshore service bureaus is emerging in the "media services" subsector--a segment that includes services related to electronic publishing, animation, and interactive presentations. Examples include the use of offshore graphic artists and desktop publishing systems for the creation of Yellow Pages, as pioneered by GTE in the Dominican Republic. In the Philippines, hundreds of cartoonists are also employed as animators of television programs.

5.138 Electronic Data Base Management. This subsector includes the production and provision of on-line electronic data bases, information searches, and retrieval and abstracting services. Although labor intensive, this activity requires highly qualified personnel with both excellent data base management skills and technical knowledge. Fluency in the English language is also a virtual requirement for this market segment.

5.139 Computer Aided Design (CAD). CAD services allow a technician to create a design by computer, view it on the terminal, and then store it within the computer memory system. CAD systems are becoming commonplace in mechanical and electronics design, mapping, blueprinting and construction, and chemical and civil engineering. CAD is one of the fastest growing sectors of the information services industry, with the growth rate approaching 30 percent per year and annual revenues estimated at over US$3.5 billion. A pioneer of such offshore digitizing/vectorizing CAD operations is CODETEL, the Dominican Republic's private telephone company, now employing more than 300 operators in their computer graphics subsidiary, with plans to double their workforce in the coming year. Four firms in Jamaica are also engaged in digitizing blueprints, maps, and diagrams for their U.S. customers. Westinghouse, a Fortune 500 firm from the

United States, currently has dozens of employees performing computer assisted design work.

3. The U.S. Data Entry Market

5.140 Data processing in the United States is the most mature of the information services subsectors, and its growth has slowed during the past five years. Nonetheless, growth is still buoyant for the services industry in general, recording 12.8 real growth in 1987 to US$22 billion. Currently, the top purchasers of data entry services in the United States include: business services; finance, banking, and insurance; utilities; printing and publishing; and communications services.

5.141 Facilities management and remote transaction processing, including such clerical applications as payroll, accounts receivable, and hospital processing services, account for the bulk of the data processing work done in the United States. As a whole, the total industry employs some 297,000 workers. The sector has increasingly relied on offshore processing, with an estimated 10 percent of industry revenues remitted from offshore processing subsidiaries. According to the U.S. International Trade Commission, the share of revenues earned through offshore locations would be higher, but poorly developed telecommunications facilities in many offshore locations has suppressed the growth in offshore data entry.

5.142 Increased activity in the financial market is expected to stimulate the data processing industry for the near-term, and growth for 1988 is estimated to reach 13 percent, representing US$24 billion in revenues. For the medium term, growth will average 12 percent per annum until 1992, and more companies will rely on the transfer of data entry operations to low-wage countries as advances in telecommunications are realized.

4. Locational Requirements

5.143 The following elements are recommended for any Belize free zone seeking to attract offshore data processing or other information services.

5.144 Data entry firms utilize standard office facilities. In general, multi-story construction of 30,000-40,000 sq. ft. or more of total floor space is preferred, although single-story construction is acceptable. Air conditioning and adequate natural lighting is highly desirable, as interior climate control is generally required for computer equipment and improves employee productivity. Companies generally choose to locate in free zones for their relative ease of operation, made possible by facilities, infrastructure and services superior to those offered at locations outside the zone, rather than because of the incentives available to export-oriented firms. Due to the

confidential nature of many types of information services, tight security is also desirable.

5.145 A labor pool of literate, trained and/or easily trainable workers is an important factor in the establishment of offshore information services industries. Consequently, high levels of cooperation are essential between the zone developer and the community's educational institutions, both in basic education (primary and secondary) and in technical fields. Excellent results have been achieved in Jamaica, the Dominican Republic, and Costa Rica by free zone developers working with local schools, utilizing such methods as equipment donations, free use of dedicated zone facilities for classrooms, and work-study experiences for students. For data entry firms, an accessible supply of trained typists (able to type at least 40 words/minute) is an absolute necessity.

5.146 Reliable air cargo service is vital for both shipments of source materials for processing, and the return of the processed material in magnetic storage medium. The volume of paper shipped in some data entry operations is substantial, and the freight costs are an important determinant of the overall viability of a project. Equipment is delicate and must be carefully handled, and the high cost of replacement parts also puts a premium on the ability to ship overnight from the U.S.

5.147 Telecommunications is the optimal medium for relaying data and services between home offices and remote processing locations. High quality, low-cost international communications links are vital to the establishment of higher value-added information services. The most advanced free zones in the region are now incorporating "teleports" featuring high quality, lower cost communications services in an effort to attract the burgeoning information services markets. Beyond the cost and quality of international communications, the efficiency of the local service provider in installing and maintaining equipment is also an important factor. In many cases, the telecommunications network is the principal obstacle to development of information services industries--many companies simply will not consider the establishment of facilities in what may be otherwise very attractive locations if such infrastructure is lacking.

5.148 Reliable electric power is also essential to the information services sector. Assured service is generally a more important consideration than cost, as outages and voltage fluctuations cause severe interruptions. Where service is lacking, free zones have taken the initiative in providing backup power supplies, and protection from current surge and voltage fluctuation. Alternatively, firms provide their own backup and protection systems. Both of these alternatives entail added cost to the investor seeking an offshore location.

5. Preliminary Assessment of Market Potential

5.149 Belize has several notable advantages relative to other Caribbean Basin countries in attracting offshore information services. Among the principal attractions from the standpoint of this sector are a 93 percent literacy rate, substantial present unemployment and underemployment among women, and the presence of established business and secretarial training courses.

5.150 Disadvantages are also apparent, although not of prohibitive dimensions. The lack of affordable and reliable telecommunications links--especially in the Santa Elena area--makes it doubtful that Belize at present can compete for lucrative fast-turnaround data entry and secretarial service market segments. Another burgeoning market, for 800-number voice center operations, is also precluded by the existing telecommunications constraints.

5.151 Similarly, the high price of electricity is a deterrent to information processing services, given the importance of air conditioning and (in some cases) minicomputers to operations in this sector. Other countries with similar deficiencies in power generation, however, have offset the problems for information industries through use of backup generators.

5.152 With the recent improvements in airline service (Eastern and Continental now offer daily direct flights to the United States), an important factor for offshore information services is now in place. The advent of reliable and affordable transportation, coupled with the declining costs of satellite communications services via teleports, makes for a promising medium and long term potential for information services in Belize.

VI. COMPARATIVE COST ANALYSIS

6.01 In order to further assess Belize's competitiveness as an investment location in the types of activities identified in the previous chapter, this chapter develops comparative cost analyses for three prospective high potential sectors in five different countries. While it is impossible to capture all the factors affecting the cost of operations in different countries, the following analyses attempts to capture the principal determinants of comparative advantage. The factors which cannot be accurately quantified on the pro-forma operating statements presented here include items such as the impact of restrictive quotas (or their absence), the delays associated with bureaucratic procedures, the increased operating costs and interruptions due to poor infrastructure (except as they are captured in increased service costs), etc.

A. METHODOLOGY

6.02 To perform cost comparisons for Belize operations illustrative plant profiles were prepared for the three targeted sectors:

- a light manufacturing operation, in this case a an apparel plant. The plant is assumed to be a subsidiary of a U.S. firm which ships materials from a Southeastern U.S. operation offshore for labor-intensive finishing operations. The finished products are then shipped to Houston for distribution throughout the U.S.

- an agro-processing plant, in this case an orange juice and preserves operation.

- an information services operation. The information services operation is assumed to be a back office operation of a U.S. firm, where coupons are shipped in paper via air freight to the off-shore location, processed and the data air-freighted back to the U.S. in tape form. The home office is assumed to be in the Southeast U.S. The labor costs in Table 6-9 are estimates based on Belizean wage rates for comparable occupations. (Exact cost information for a Belizean data processing operation is not available, as there is only one existing firm, which did not make their operating cost data available.)

6.03 For purposes of comparison the operating costs in each of four major sites were considered:

- the Southeastern U.S.
- the Ciudad Juarez, Mexico.
- the Kingston, Jamaica Free Zone.
- Santa Elena, Corazol Region, Belize.
- The Dominican Republic.

6.04 These sites were selected in order to give a representative cross-section of established locations competing with Belize for investment in these sectors. For the apparel operation all five sites were used for comparative purposes. In the case of the agro-processing operation Mexico, the Dominican Republic, and the Southeastern U.S. were deemed the prime competitive sites. In the case of data-processing Jamaica, the Dominican Republic and the Southeastern U.S. were taken as the prime competitive sites.

6.05 Data for Ciudad Juarez and Kingston were obtained from telephone interviews with qualified free zone or investment promotion personnel in the respective locations. Data on the Dominican Republic were obtained from previous field visits. Data on Belize were obtained in the course of the field visit for this study.

B. COST FACTORS

6.06 The major cost categories considered in each instance consist of a number of operating cost factors grouped into the direct labor, management overhead, non-manpower overhead, shipping costs, and additional home office expenses; and other cost differentials. The other category is difficult to quantify in a pro-forma operating cost statement, with the exception of productivity differentials.

1. Operating costs

6.07 **Direct Labor Cost.** Direct costs of skilled and unskilled labor consist of:

- Cost of wages, based on the average hourly rate paid to the various categories of labor. The average wage rate is multiplied by the available work time, net of vacations and holidays, to obtain the direct labor wage costs.

- Cost of fringe benefits, which include bonuses, vacation time, employer contributions to employee payroll taxes, etc.

The wage scales for the data-processing operation are different than the apparel and agro-processing operation because the former has somewhat different labor requirements.

6.08 **Management Overhead.** The management overhead figures include all indirect labor in the form of managerial, administrative, and technical personnel. For purposes of comparison it was assumed that all the operations include one U.S. expatriate manager as head of operations. The cost of maintaining an offshore manager include direct salary, as well as housing allowance, home leave and other benefits. Again, the management overhead rates are different in the case of data-processing operations than for apparel and agro-processing operations as the former has a somewhat different management component.

6.09 **Non-Manpower Overhead.** This category of costs include many of the infrastructure, facilities and services associated with a free zone or industrial estate, as well as general factors associated with operating a business in the different locations. They include:

- Building Rental. In the case of the apparel and agro-processing plants it was assumed that the operator leases standard factory buildings. For the data processing operation the cost of office space rental are given.

- Utilities. Utilities include electricity and water costs based on local rates multiplied by the anticipated consumption for each type of operation. For the apparel operation and the data processing operation estimates are based on actual consumption levels at Jamaican free zones. In the case of the agro-industrial plant the estimates were obtained from plant engineering data.

- Spare parts and supplies. It is assumed that spare parts and supplies are imported duty free from international markets, and costs are therefore the same for all locations.

- Telephone and telex. The telephone and telex expenses are based on the average expenses encountered by operations in Jamaica, based on a survey of free zone manufacturers. The data for other countries were adjusted by the ratio of costs of calling the United States from each location.

- Miscellaneous. This includes the costs of outside services, such as legal and accounting fees, security, etc.

6.10 **Shipping costs.** For the apparel operation the shipping cost includes the cost of shipping materials in 20 ft. containers from

the Southeast U.S. to the offshore location, plus the cost of shipping the finished goods back to Houston for distribution throughout the U.S. For the agro-processing operation the finished goods are assumed to be shipped from each site to Houston in 20 ft. containers for distribution. In the case of the data processing operation the main shipping cost is the cost of shipping coupons via airfreight from the Southeast U.S. to the offshore location for processing.

6.11 **Additional home office expenses.** These costs provide an estimate of other incremental expenses for an offshore operation that would be incurred by a U.S. firm. The telephone and telex expenses were assumed to be proportional to the ratio of costs from the U.S. to the offshore location based on a three minute call. Technical assistance costs are based on 12 visits offshore per year at $1500 per visit (travel costs from the a Southeast home office to the offshore location are approximately the same). For inventory expenses the additional in-transit times for each of the compared offshore locations were estimated, and an extra buffer stock of three weeks was added. The carrying cost of inventory was calculated at 10 percent per year.

2. Other Cost Factors

6.12 Other cost factors that need to be considered in comparing various offshore locations are things such as duties, taxes, and productivity.

6.13 **Duties.** For finished products no duties were calculated, as they are assumed to be either the same, as for apparel, or not applicable, as for products qualifying for preferential treatment. The only potential duty differential would occur on Mexican products which do not qualify under GSP but receive duty exemption under CBI. For imported inputs and capital equipment, the free zone or maquiladora regimes permit duty-free entry, and a similar arrangement is assumed to prevail in the Belize free zone. For these reasons duty differentials are not incorporated into the analysis either on finished products entering the U.S. or on imports into the producing country.

6.14 **Profits Taxes.** In Jamaica all companies operating in the Free Zones enjoy 100% exemption from income taxes. The Dominican Republic provides 20 year exemption from taxes for exporters in free zones. Mexico also offers a number of significant tax incentives for maquiladora industries. The value of tax incentives will differ greatly from company to company according to profitability, transfer pricing policies and other company specific factors. In addition the value of tax incentives will also differ depending on the country of origin of the investor. To a U.S. investor the primary benefit of offshore tax benefits is the postponement of U.S. taxes until the time of profit repatriation.

Given the broad variations no explicit calculations of tax incidence were made.

6.15 **Productivity.** Productivity factors will of course also affect the benefits of offshore operation, since lower costs can be eroded by lower productivity rates. Based on direct interviews the relative productivity rate, measured as output per man-hour, in Belize is estimated to be approximately 60 percent that of the U.S. standard; other estimates are based on similar assessments from field research.

3. Measures of relative costs

6.16 Three measures of off-shore costs are included for comparative purposes:

Total value added costs. This includes the sum of all direct labor, manpower overhead, non-manpower overhead, shipping, and incremental home-office expenses.

Total value added per standardized man-hour. This consists of the total value-added costs divided by the total number of direct laborers multiplied by the number of working hours per year, where skilled labor is valued at a wage equivalent multiple of unskilled (standard) labor.

Unit labor costs. This is the equal to the total value-added per standardized man-hour adjusted by productivity ratio. This measure accounts for the lower labor productivity encountered in some of the off-shore location which can offset, in part, the lower cost advantages. It is necessary as the pro-forma comparison is based on the same number of workers, not the same level of output, by each operation.

C. IMPLICATIONS FOR PROJECT DEVELOPMENT

6.17 The cost comparisons are summarized in the tables below. Table 6-1 summarizes the key unit costs for apparel and agro-processing for each location. Tables 6-2 to 6-6 provide detailed breakdowns for the direct labor cost component. Table 6-7 presents the operating cost comparisons for an apparel operation; and Tables 6-8 and 6-9 show the cost comparison for the agro-processing and the data-processing operations.

6.18 The data indicate that Belize can offer substantial savings for all three types of operations compared to a U.S. location, even after the effects of lower anticipated productivity are figured in. The comparative savings, based on unit cost rates, range from 43 percent in the case of apparel operations to 35 percent for agro-processing and 33 percent for data-processing operations.

6.19 Compared to other competing offshore locations, however, Belize fares less well. For all three types of operations the Belizean unit costs are highest. While Belize offers labor and managerial costs, as well as overall productivity comparable to Mexico, the high cost of utilities and transportation make the country less attractive. In particular, the high cost of water, an important cost factor for high water users such as agro-processing and dying operations, should be noted. The water rates in Belize are approximately 60 times higher than in other locations. Similarly, Belizean electricity rates are 2-5 times that of other locations.

6.20 It should be noted that these utility costs are something that is under the control of the Belizean authorities, and can be improved upon with more efficient systems, better pricing policies, etc. One solution for the high water price is for a firm or developer to build wells on their sites. Groundwater is plentiful and this option could cut down considerably the cost.

6.21 The second important cost disadvantage of Belize, high transport costs, are more difficult to control. These are primarily the result of the comparatively low volume of traffic to and from Belize due to the country's small size, as well as higher port charges arising from the extra handling required for lightered cargoes.

6.22 An operator in Belize does, however, have the option of shipping by truck, as well as by sea. However, comparative trucking rates appear to be higher than the waterborne rates to Belize City, plus the additional overland shipping cost to Santa Elena, which are given for comparative purposes.

6.23 Besides the direct cost factors noted above, it is important to note that the reported Belizean productivity rate of 60 percent of U.S. levels has a very strong effect on the unit cost figure. The productivity rate in Jamaica is reported at 80 percent and that of the Dominican Republic at 90 percent, with Mexico at the same level as Belize, giving Jamaica and the Dominican Republic another considerable advantage.

6.24 Finally, it should be noted that Belize cannot compete on labor costs alone against such low cost locations as the Dominican Republic. Therefore, the feasibility of a free zone in Belize is more dependent on other factors such as restrictive quotas in apparel, labor and/or space shortages encountered in competing free zones in the Dominican republic and Mexico, as well as the relative stability of Belize compared to its regional neighbors.

TABLE 6-1
UNIT COST RATES FOR APPAREL AND AGRO-PROCESSING OPERATIONS

	NORTH MEXICO	JAMAICA	SOUTHERN U.S.A.	DOMINICAN REPUBLIC	BELIZE
DIRECT LABOR COST					
BASIC LABOR $/YEAR	$1,544	$1,044	$10,565	$883	$1,871
SKILLED LABOR $/YEAR	$3,000	$2,646	$18,500	$1,500	$2,994
FRINGE BENEFITS %	28.00%	28.52%	31.00%	27.04%	23.80%
MANAGEMENT OVERHEAD					
EXPATRIATE MANAGER SALARY $/YEAR	$100,000	$100,000	$52,000	$100,000	$100,000
ASSISTANT PLANT MANAGER $/YEAR	$6,500	$12,700	$44,000	$4,000	$8,000
ENGINEER $/YEAR	$5,200	$9,000	$34,000	$7,000	$7,000
STAFF SALARIES $/YEAR	$3,300	$5,400	$18,000	$1,200	$1,500
FRINGE BENEFITS %	28.00%	28.52%	33.00%	27.04%	23.80%
NON-MANPOWER OVERHEAD					
LAND RENTAL $/SQFT/YR	$0.08		$0.17	$0.03	$0.00080
BUILDING RENT $/SQFT	$4.00	$4.25	$5.00	$2.65	$2.30
WATER $/1000 CUFT	$1.55	$0.72	$1.00	$1.05	$58.50
ELECTRICITY $/KWH	$0.04	$0.10	$0.07	$0.06	$0.21
SPARE PARTS AND SUPPLIES $/YEAR	$20,000	$20,000	$20,000	$20,000	$20,000
INSURANCE $/YEAR	$25,000	$25,000	$10,000	$25,000	$25,000
TELEPHONE AND TELEX $ /YEAR	$17,978	$20,000	$3,000	$20,000	$7,512
MISCELLANOUS (INCLUDING OUTSIDE SERVICES, ie. LEGAL,ACCOUNTING SECURITY) $ /YEAR	$7,000	$7,000	$15,000	$7,000	$7,000
SHIPPING					
FREIGHT (20 FT CONTAINER TO HOUSTON)	$1,277	$2,040	$1,347	$1,400	$2,600
FREIGHT (20 FT CONTAINER FROM S.E. USA)	$2,817	$2,569		$1,400	$4,000
ADDITIONAL U.S. HOME OFFICE EXPENSE					
TELEPHONE / TELEX $/YR	$7,600	$11,000		$12,100	$20,000
TECHNICAL ASSISTANCE $/YR	$16,000	$18,000		$18,000	$18,000
PRODUCTIVITY	50%	80%	100%	90%	60%

TABLE 6-2
LABOR COST IN BELIZE (US$)

Average Weekly Salary	40.50
Average Daily Salary	8.10
Average Hourly Salary	0.90

Typical Apparel Operation: Direct Labor Cost Analysis

HOURS		totals
Gross Man Hours available (45hrs/week x 52 weeks)	2340	2340
Less Vacation, holidays, sick days (29days x 9hrs/day)	261	2079
Net direct labor hours available	**2079**	
COSTS		
Direct labor (ave. hrly salary X net direct labor hrs)	1871	1871
plus vacation, holidays & paid sick days	235	2106
plus payroll tax ($6.72/week)	349	2455
Total direct labor cost	**2455**	

Total Fringe Benefits as % of Direct labor cost	
Vacation and other leave	9.57%
Payroll taxes	14.23%
Total	**23.80%**

TABLE 6-3
LABOR COST IN SOUTHERN USA (US$)

Average Weekly Salary	219.20
Average Daily Salary	43.84
Average Hourly Salary	5.48

Typical Apparel Operation: Direct Labor Cost Analysis

HOURS OF WORK		totals
Gross Man Hours available (40hrs/week x 52 weeks)	2080	2080
Less Vacation, holidays, paid sick days (19days x 8hrs/day)	152	1928
Net direct labor hours available	**1928**	
COSTS		
Direct labor (average hourly salary X net direct labor hrs)	10565	10565
Total Fringe Benefits as % of Direct labor cost		
Total	**31.0%**	
Total direct labor cost	**13841**	

TABLE 6-4
LABOR COST IN THE DOMINICAN REPUBLIC (US$)

Average Weekly Salary	19.80
Average Daily Salary	39.60
Average Hourly Salary	0.45

Typical Apparel Operation: Direct Labor Cost Analysis

HOURS		totals
Gross Man Hours available (44hrs/week x 52 weeks)	2288	2288
Less Vacation, holidays, sick days (23 days x 8.8hrs/day)	202	2086
Less Absenteeism of 4%	83	2002
Less training time of 2%	40	1962
Net direct labor hours available	**1962**	
COSTS		
Direct labor (average hourly salary X net direct labor hrs)	883	883
plus training	18	901
plus vacation, holidays & paid sick days	91	992
plus year end bonus (one month salary extra)	79	1071
plus payroll tax (7% ofannual salary)	75	1146
plus productivity bonus (1% of annual salary)	10	1156
plus severance pay (15 days accrued or paid out)	54	1210
Total direct labor cost	**1210**	

Total Fringe Benefits as % of Direct labor cost	
Bonus	7.36%
Vacation and other leave	7.53%
Incentives	1.49%
Payroll taxes	6.20%
Severance	4.46%
Total	**27.04%**

TABLE 6-5
LABOR COST IN JAMAICA (US$)

Average Weekly Salary	23.78
Average Daily Salary	4.76
Average Hourly Salary	0.59

Typical Apparel Operation: Direct Labor Cost Analysis

HOURS		totals
Gross Man Hours available (40hrs/week x 52 weeks)	2080	2080
Less Vacation, holidays, paid sick days (29days x 8hrs/day)	232	1848
Less Absenteeism of 3%	55	1793
Less training time of 2%	36	1757
Net direct labor hours available	**1757**	
COSTS		
Direct labor (average hourly salary X net direct labor hrs)	1044	1044
plus training	21	1066
plus vacation, holidays & paid sick days	138	1204
plus year end bonus (1 month salary extra)	95	1299
plus payroll tax (7% ofannual salary)	91	1390
plus severance pay (15 days accrued or paid out)	71	1461
total direct labor cost	**1461**	

Total Fringe Benefits as % of Direct labor cost	
Bonus	6.51%
Vacation and other leave	9.44%
Incentives	1.46%
Payroll taxes	6.22%
Severance	4.88%
total	**28.52%**

TABLE 6-6
LABOR COST IN MEXICO (US$)

Average Weekly Salary	34.93
Average Daily Salary	6.99
Average Hourly Salary	0.87

Typical Apparel Operation: Direct Labor Cost Analysis

HOURS		totals
Gross Man Hours available (40hrs/week x 52 weeks)	2080	2080
Less Vacation, holidays, paid sick days (20days x 8hrs/day)	160	1920
Less Absenteeism of 6%	115	1805
Less training time of 2%	36	1769
Net direct labor hours available	**1769**	
COSTS		
Direct labor (average hourly salary X net direct labor hrs)	1544	1544
plus training	32	1576
plus vacation, holidays & paid sick days (6 days +25% of 6 days X daily rate)	52	1628
plus year end bonus (15 days salary extra)	105	1733
plus payroll tax (15.7% ofannual salary)	272	2005
plus severance pay (20 days accrued or paid out)	140	2145
Total direct labor cost	**2145**	

Total Fringe Benefits as % of Direct labor cost	
Bonus	4.89%
Vacation and other leave	2.44%
Incentives	1.47%
Payroll taxes	12.69%
Severance	6.51%
Total	**28.00%**

TABLE 6-7

ANNUAL OPERATING COST FOR AN APPAREL OPERATION (US$)

	number of units	NORTH MEXICO	JAMAICA	SOUTHERN U.S.A.	DOMINICAN REPUBLIC	BELIZE
DIRECT LABOR COST						
BASIC LABOR (300 WORKERS)	300	$463,290	$313,293	$3,169,632	$264,888	$561,330
SKILLED LABOR (60 WORKERS)	60	$180,000	$158,760	$1,110,000	$90,000	$179,626
FRINGE BENEFITS %		28.00%	28.52%	31.00%	27.04%	23.80%
SUBTOTAL		$823,389	$606,663	$5,606,318	$450,843	$917,287
MANAGEMENT OVERHEAD						
MANAGER SALARY (including fringes)	1	$100,000	$100,000	$68,120	$100,000	$100,000
ASSISTANT PLANT MANAGER	1	$6,500	$12,700	$44,000	$4,000	$8,000
ENGINEER	1	$5,200	$9,000	$34,000	$7,000	$7,000
STAFF SALARIES	11	$36,300	$59,400	$198,000	$13,200	$18,000
FRINGE BENEFITS % (Added to salaries other than Manager)		28.00%	28.52%	31.00%	27.04%	23.80%
SUBTOTAL		$161,438	$204,226	$429,680	$130,743	$140,853
NON-MANPOWER OVERHEAD						
BUILDING RENT(SQFT)	19375	$77,500	$82,344	$96,875	$51,344	$44,563
WATER ($/1000 CUFT)	3771	$5,841	$2,708	$3,771	$3,960	$220,604
ELECTRICITY (kwh/year)	245000	$9,800	$24,549	$17,150	$13,965	$50,225
SPARE PARTS AND SUPPLIES $/YEAR		$20,000	$20,000	$20,000	$20,000	$20,000
TELEPHONE AND TELEX		$5,000	$5,000	$3,000	$3,000	$7,512
MISCELLANOUS (INCLUDING OUTSIDE SERVICES, ie. LEGAL,ACCOUNTING SECURITY)		$7,000	$7,000	$15,000	$7,000	$7,000
SUBTOTAL		$125,141	$141,601	$155,796	$99,268	$349,903
SHIPPING						
FREIGHT (20 FT CONTAINER TO HOUSTON)	100	$127,700	$204,000	$134,700	$140,000	$260,000
FREIGHT (20 FT CONTAINER FROM S.E. USA)	100	$281,700	$256,900	$0		$350,000
SUBTOTAL		$409,400	$460,900	$134,700	$140,000	$610,000
ADDITIONAL U.S. HOME OFFICE EXPENSE						
TELEPHONE / TELEX		$7,600	$11,000	$0	$12,100	$20,000
TECHNICAL ASSISTANCE		$18,000	$18,000		$18,000	$18,000
CARRYING COST OF INVENTORY		$17,000	$20,000		$20,000	$25,000
SUBTOTAL		$42,600	$49,000	$0	$50,100	$63,000
TOTAL ANNUAL COST		$1,561,968	$1,462,390	$6,326,494	$870,955	$2,081,043
TOTAL COST/STANDARD DIRECT MAN HOUR		$1.87	$1.62	$7.81	$1.08	$2.63
UNIT COST						

TABLE 6-8
ANNUAL OPERATING COST FOR AN AGRO-PROCESSING OPERATION (US$)

	number of units	NORTH MEXICO	SOUTHERN U.S.A.	DOMINICAN REPUBLIC	BELIZE
DIRECT LABOR COST					
BASIC LABOR (150 WORKERS)	150	$231,645	$1,584,818	$132,444	$280,665
SKILLED LABOR (33 WORKERS)	33	$99,000	$610,500	$49,500	$98,794
FRINGE BENEFITS %		28.00%	31.00%	27.04%	23.80%
SUBTOTAL		$423,214	$2,875,884	$231,138	$469,762
MANAGEMENT OVERHEAD					
MANAGER SALARY (INCLUDING FRINGES)	1	$100,000	$68,120	$100,000	$100,000
ASSISTANT PLANT MANAGER	1	$8,500	$44,000	$4,000	$8,000
ENGINEER	1	$5,200	$34,000	$7,000	$7,000
INDIGENOUS STAFF SALARIES	5	$16,500	$90,000	$7,200	$9,000
FRINGE BENEFITS % (Added to salaries other than manager)		28.00%	31.00%	27.04%	23.80%
SUBTOTAL		$136,095	$288,200	$123,121	$129,711
NON-MANPOWER OVERHEAD					
BUILDING RENT(SQFT)	26,910	$107,640	$134,550	$71,312	$61,893
WATER ($/1000CUFT)	1,600	$2,478	$1,600	$1,680	$93,600
ELECTRICITY (kwh/year)	400,000	$16,000	$28,000	$22,800	$82,000
SPARE PARTS AND SUPPLIES		$20,000	$20,000	$20,000	$20,000
TELEPHONE AND TELEX		$17,978	$3,000	$20,000	$7,512
MISCELLANOUS (INCLUDING OUTSIDE SERVICES, ie. LEGAL,ACCOUNTING SECURITY)		$7,000	$15,000	$7,000	$7,000
SUBTOTAL		$171,096	$202,150	$142,792	$272,005
SHIPPING					
FREIGHT (20 FT CONTAINER TO HOUSTON)	140	$178,780	$188,580	$196,000	$364,000
SUBTOTAL		$178,780	$188,580	$198,000	$364,000
ADDITIONAL U.S. HOME OFFICE EXPENSE					
TELEPHONE / TELEX		$7,600	$0	$12,100	$20,000
TECHNICAL ASSISTANCE		$18,000		$18,000	$18,000
CARRYING COST OR INVENTORY		$45,000		$56,000	$70,000
SUBTOTAL		$73,600	$0	$86,100	$108,000
TOTAL ANNUAL COST		$982,785	$3,554,794	$779,151	$1,343,478
TOTAL COST/STANDARD DIRECT MAN HOUR		$2.30	$8.55	$1.89	$3 31
UNIT COST		3.83	8.55	2.10	5.52

TABLE 6-9
ANNUAL OPERATING COST FOR A DATA-PROCESSING OPERATION (US$)

	number of units	JAMAICA	SOUTHERN U.S.A.	DOMINICAN REPUBLIC	BELIZE
DIRECT LABOR COST					
BASIC LABOR (50 WORKERS)	50	$75,600	$780,000	$22,200	$120,000
FRINGE BENEFITS %		28.52%	31.00%	27.04%	23.80%
SUBTOTAL		$97,158	$1,021,800	$28,202	$148,560
MANAGEMENT OVERHEAD					
MANAGER	1	$100,000	$73,150	$100,000	$100,000
ASSISTANT MANAGER (1 MANAGER)	1	$9,100	$44,000	$4,000	$9,000
PROGRAMMER/ANALYST	1	$9,000	$25,000	$3,120	$8,000
INDIGENOUS STAFF SALARIES	5	$15,000	$90,000	$9,000	$15,000
FRINGE BENEFITS %		28.52%	31.00%	27.04%	23.80%
SUBTOTAL		$142,539	$281,440	$120,479	$139,616
NON-MANPOWER OVERHEAD					
BUILDING RENT (7,750 SQFT)	7,750	$27,125	$69,750	$46,500	$18,058
ELECTRICITY		$16,000	$11,200	$9,600	$33,600
EQUIPMENT MAINTENANCE		$20,000	$20,000	$20,000	$20,000
TELEPHONE AND TELEX $ /YEAR		$8,000	$3,000	$1,143	$3,048
MISCELLANOUS (INCLUDING OUTSIDE SERVICES, ie. LEGAL,ACCOUNTING SECURITY) $ /YEAR		$8,000	$15,000	$8,000	$8,000
SUBTOTAL		$79,125	$118,950	$85,243	$82,705
SHIPPING					
SHIPPING COST PER POUND		$0.70		$0.78	$0.77
AIR FREIGHT FROM US	208000	$145,600		$162,240	$160,160
SUBTOTAL		$145,600		$162,240	$160,160
ADDITIONAL U.S. HOME OFFICE EXPENSE					
TELEPHONE / TELEX		$11,000		$12,100	$20,000
TECHNICAL ASSISTANCE		$18,000		$18,000	$18,000
SUBTOTAL		$29,000		$30,100	$38,000
TOTAL ANNUAL COST		$493,422	$1,422,190	$426,264	$569,041
TOTAL COST/STANDARD DIRECT MAN HOUR		$4.74	$13.67	$4.10	$5.47
UNIT COST		$4.99	$13.67	$4.55	$9 12

VII. DEMAND ANALYSIS

A. INTRODUCTION

7.01 The purpose of this Chapter is to evaluate and forecast demand for under-roof industrial space in a free zone located in Belize. In this vein, the Chapter has three specific objectives:

- to analyze the factors affecting demand for free zone space in offshore production locations;
- to evaluate the trends in supply and demand for factory space in Caribbean Basin free zones, and forecast near-term growth in both supply and demand; and
- to project demand for under-roof space in a Belizean free zone.

B. FACTORS AFFECTING DEMAND FOR FREE ZONE SPACE

7.02 Choosing a location for a production facility is among one of the most critical decisions in formulating a manufacturing strategy. The uncertainties and risks inherent in such a move are further compounded when investigating alternative sites in foreign countries. Yet, the demand by companies for pre-built industrial space in an offshore free zone is directly related to, and a product of, the same elements that determine foreign investment trends overall. Identification of these determinants will therefore aid in understanding the characteristics and trends of demand analyzed later in the chapter.

1. Foreign Investment Location Selection Process

7.03 Foreign investors searching for an offshore production site typically go through a three-stage location selection process. As shown in Figure 7-1, the free zone site selection procedure entails the movement from a macro-economic assessment to a site-specific evaluation. Foreign investors will:

- first compare and select a general worldwide region (e.g., the Caribbean Basin versus the Far East);
- select a particular country within a chosen region; and
- identify a specific free zone within the chosen country.

7.04 Different variables come into play at different stages of the investment location process. The most important factors affecting the selection of certain regions are usually proximity to end-user markets, labor cost differentials, and preferential market access. Particular countries, in turn, are selected on their comparative economic, locational and policy advantages. Individual free zone locations within the country, finally, are chosen on the basis of the particular advantages offered -- labor force availability, facilities and services offered, rent

FIGURE 7-1
FREE ZONE SITE SELECTION

STAGES OF SELECTION PROCESS

FACTORS AFFECTING DECISION-MAKING PROCESS

STAGE 1: SELECTION OF REGION

- o Comparative Regional Assessment
- o Long-Term Corporate Strategic Objectives
- o General Cost/Benefit Evaluation

Proximity to and Location of End-User Markets
Access to Raw Materials
Preferential Market Access
Location of Competition
General Labor Cost Differentials
Overall Investment Climate

STAGE 2: SELECTION OF COUNTRY

- o Country Comparative Advantage Evaluation
- o Cost/Benefit Analysis
- o Evaluation Against Criteria

Political and Economic Stability
Preferential Market Access
Labor Availibility, Productivity, and Cost Differentials
Quality/Cost of Infrastructure and Services
Investment Incentive Framework
Availibility of Manufacturing Sites
Existence of Other Manufacturers

STAGE 3: SELECTION OF FREE ZONE

- o Detailed Feasibility Assessment
- o Operating Cost/Benefit Analysis
- o Individual Site Evaluation
- o Management Assessment

Package/Cost of Facilities and Services
Location/Availibility of Site
Possibilioty for Business Expansion
Availibility/Quality/Access to Labor
Existence/Possibility of Labor Unrest
Access to Utilities and Support Services
Distance from Transportation Facililties
Community Living Conditions
Distance/Access to Production Inputs

charged, capability and experience of the management team, immediate availability of space, and the like.

2. Internal and External Variables Affecting Investment

7.05 The various factors affecting the free zone site selection process -- and by extension, demand for under-roof space -- can be divided into two fundamental groups: internal variables and external variables. Internal variables include those at both the national and site-specific level, largely within the control of the host government. National variables affecting investment decision-making include, among others:

- attractiveness and consistency of the Belizean investment incentives framework, and overall regulatory and institutional climate relative to competitive locations;
- political and economic stability;
- the availability, cost and quality of the country's basic economic factors of production -- land and buildings, labor, capital, basic economic infrastructure (ports, airports, rail and road networks) and basic services (power and water supply, sewerage, transportation, business support services, telecommunications, etc.); and
- access to and availability of a competitively priced labor force with requisite skills; and
- a host of subjective factors determining "quality of life".

7.06 Within a given national environment, the specific characteristics of individual zone sites also affect investment demand. Among the most important of the site-specific variables are:

- the physical suitability of the site for various types of industrial processes;
- distance from major transportation hubs and labor pools;
- availability, cost and quality of local labor;
- cost and quality of utilities;
- condition of transportation network and the frequency and cost of ground, air and sea cargo services;
- extent of labor union activity; and
- availability and quality of support institutions, etc.

7.07 In addition, there is a background of external variables affecting demand for all offshore locations, which usually come into play early on in the decision-making process. The relative weight of these factors varies greatly among different free zone industries. Some manufacturers are comparatively unencumbered by protectionism from the United States, while apparel manufacturers are constantly evaluating trade barriers and their impact on sourcing and offshore investment. External demand factors are generally beyond the control of the host country, and include:

- the general buoyancy of the world economy, and especially the U.S. economy which affects the demand for end-products and the flow of investment capital to offshore locations;
- extent of U.S. protectionist trade legislation;
- changing technologies of production (adversely affecting labor-intensive processes);
- the actions of competitive locations affecting the overall supply of zone space;
- regional political stability; and,
- currency fluctuations.

7.08 Demand for a free zone in Belize is therefore dependent on the interplay of all the above factors, and a careful assessment of the relative advantages and disadvantages of the zone location.

C. DEMAND FORECASTING METHODOLOGY

7.09 At present, there exists no single, comprehensive model of foreign investment patterns that can be suitably used to forecast potential demand for free zone facilities. For this reason, the demand analysis employed in this study utilizes a two-track methodology developed in previous estimates of demand for space in Caribbean Basin locations.

1 Discussion of Methodologies

7.10 A number of methods have been used to forecast demand for under-roof industrial space in specific zone projects, including:

- detailed projections (two-variable linear regression) of investment flows based on extrapolations of demand patterns and zone development over time;
- multiple regression analysis accounting for any variety of factors that may (or may not) determine investment patterns and subsequent demand for free zone space;
- informed estimates of industry revenue projections based on transportation cost differentials for various locations; and,
- direct market surveys of a sample of firms in various high potential industries with reference to investment factors, expansion plans, offshore spacial requirements, and reactions to a specific offshore production site.

7.11 Taken by themselves, none of these methods has proven to be an accurate predictor of demand for free zone space. Simple extrapolations of past investment trends are not generally good predictors of future investment, although they do indicate the magnitude of the overall market and provide a baseline for comparison. Transportation cost differentials focus on only one factor in many that affect demand. On the other hand, a singular reliance on direct market surveys is subject to the usual

limitations of any survey: resources often limit the sample size leading to the probability of sampling errors.

2. Demand Forecast Methodology Utilized

7.12 To arrive at a more confident estimate of potential demand, the methodology utilized in this study combines two of the techniques described above -- extrapolations of demand patterns and direct market surveys of high potential industries. The results of the combined analyses, when compared with the results of other free zone studies in the Caribbean Basin region, have proven effective in determining the demand for free zone facilities in a specific location. The forecasts of demand for under-roof industrial space in a Belizean free zone were derived in the following manner:

- **Extrapolations Based Upon Past Demand Absorption Patterns of Caribbean Basin Free Zones.** The increase in the total amount of under-roof space built and occupied in each free zone in the Caribbean Basin region over the past 12 years provides a base-line estimate for extrapolation of likely demand over the subsequent five-year period. For countries without zone programs, realistic estimates for demand for free zone space were based on representative demand trends in export industries, such as demand for apparel manufacturing facilities typically located in free zones.

- **Direct Market Survey of Potential Free Zone Occupants in Target Industry Sectors.** A direct market survey of 70 firms in selected high potential industry sectors and geographic locations was utilized to assess offshore experiences, reactions to the Belize location and proposed configuration of the new Belizean free zone, corporate expansion plans, and interest in investigating the new free zone for future investment. These results formed the basis for the parallel demand projections.

- **Comparison of Trend Extrapolations with the Direct Market Survey Results.** The comparison of the under-roof space demand forecasts resulting from each technique yields the best means to project likely demand for a Belizean free zone. The ratio of demand for free zone space expressed by those firms contacted in the market survey relative to the demand as calculated in the trend extrapolation yields the corroboration ratio. This ratio is then compared with ratios attained in previously successful free zone projects in the Caribbean Basin; the result yields an effective indicator of the demand for the proposed Belizean zone.

7.13 Used together, these two distinct methods possess an attractive complimentarity. Corroborating the demand extrapolations with the market survey is a highly useful means to

determine the overall demand forecasts for a Belizean free zone. The corroboration ratio approach possess a further advantage in that it can be verified through comparison with similar ratios of many highly successful existing free zones in the region.

D. DEMAND FORECASTS BASED UPON TREND EXTRAPOLATIONS

1. Definitions of Free Zone Demand

7.14 The projections of demand derived from the extrapolation of past free zone investment trends differentiates among various definitions of "demand" for under-roof space:

- effective demand is the total amount of space actually rented or occupied in any given period;
- unmet demand is the total amount of under-roof space in demand by firms that remains unmet in any given period. Unmet demand is equivalent to the "surplus" space requirements in excess of effective demand;
- potential (or total) demand is the sum of effective and unmet demand, i.e., the total amount of space actually rented plus surplus demand at any given point in time.

7.15 Trends in effective demand can easily be measured through the compilation of historical occupancy rates in free zones throughout the Caribbean Basin region, while unmet demand is based on reasoned estimates arrived through careful market analysis conducted during past relevant projects.

TABLE 7-1
HISTORICAL GROWTH IN EFFECTIVE DEMAND IN VARIOUS CARIBBEAN BASIN FREE ZONE LOCATIONS

Country	Average Annual Compound Rate of Growth	Average Annual Increment of Zone Space Leased
Costa Rica	90%	144,000 sq.ft.
Dominican Republic	64%	219,000 sq.ft.
El Salvador	8%	31,500 sq.ft.
Jamaica	30%	90,000 sq.ft.
Region	**20%**	**1,240,000 sq.ft.**

Note: Costa Rica 1984-1987
Dominican Republic 1970-1987
El Salvador 1974-1987
Jamaica 1980-1987
Source: Data Compiled by The Services Group, Inc., June 1988

2. Past Demand for Caribbean Basin Free Zones

7.16 As presented in Chapter 2, the growth in demand for space in the region's free zones has been impressive, especially in the 1980s. Between 1975-1988, the number of free zones in the region has increased eight-fold to well over 40 free zones, with total direct employment of approximately 200,000. The overall growth in effective demand for the region has been 20 percent annually over the past twenty years, as shown in Table 7-1. Since 1984, the region's average annual compound rate of growth accelerated to 30 percent. This figure for effective demand, however, is indicative only of the average increase in the amount of zone space leased and does not take into consideration the growth in unmet demand. Total demand (i.e., potential demand) should additionally take into account two factors:

- demand for space in many free zones has historically gone unmet due to bottlenecks in the supply of standard factory and office space; and,

- demand for free zone space has greatly accelerated in several key countries (Dominican Republic, Costa Rica, Jamaica) in recent years.

7.17 In this light, linear extrapolations of past demand trends may not be entirely representative of future potential demand. Effective investment rates for free zone space have also varied greatly by location. As shown in Table 7-1, average annual compound rates of growth in effective demand have ranged from a high of 90 percent in Costa Rica to a low of 8 percent in El Salvador.

3. Current Demand for Caribbean Basin Free Zones

7.18 As shown in Table 7-2 (next page), current estimates indicate that occupied under-roof space (effective demand) in regional free zones is approximately 16 million sq.ft. (as of June 1988). Free zone programs in the Dominican Republic, Panama, Jamaica, Haiti, and Costa Rica have absorbed over 64 percent (10,282,000 sq.ft.) of effective demand with 25 free zones.

7.19 Despite the rapid proliferation of free zone space over the past eight years, unmet demand is still considerable, as evidenced by the estimates in Table 7-2. This unmet demand for zone space is concentrated largely in the Dominican Republic, which argueably possesses the most successful free zone program in the Caribbean Basin. Certainly the Dominican Republic has been the most desired free zone location in the Caribbean Basin, where investors are willing to wait up to 24 months or pay six months rent in advance.

TABLE 7-2
EFFECTIVE AND UNMET DEMAND FOR SPACE IN CARIBBEAN BASIN FREE ZONES
(June 1988)

Country	Effective Demand (sq.ft.)	Unmet Demand Space (sq.ft.)
Barbados	2,075,000	320,000
Belize	0	386,000
Costa Rica	575,000	276,000
Dominican Republic	4,062,000	1,200,000
El Salvador	450,000	573,000
Guatemala	140,000	100,000
Haiti	1,632,000	0
Honduras	280,000	362,000
Jamaica	890,000	830,000
Panama	3,123,000	0
Other Caribbean Region	2,780,000	330,000
TOTAL REGION	**16,007,000**	**4,377,000**

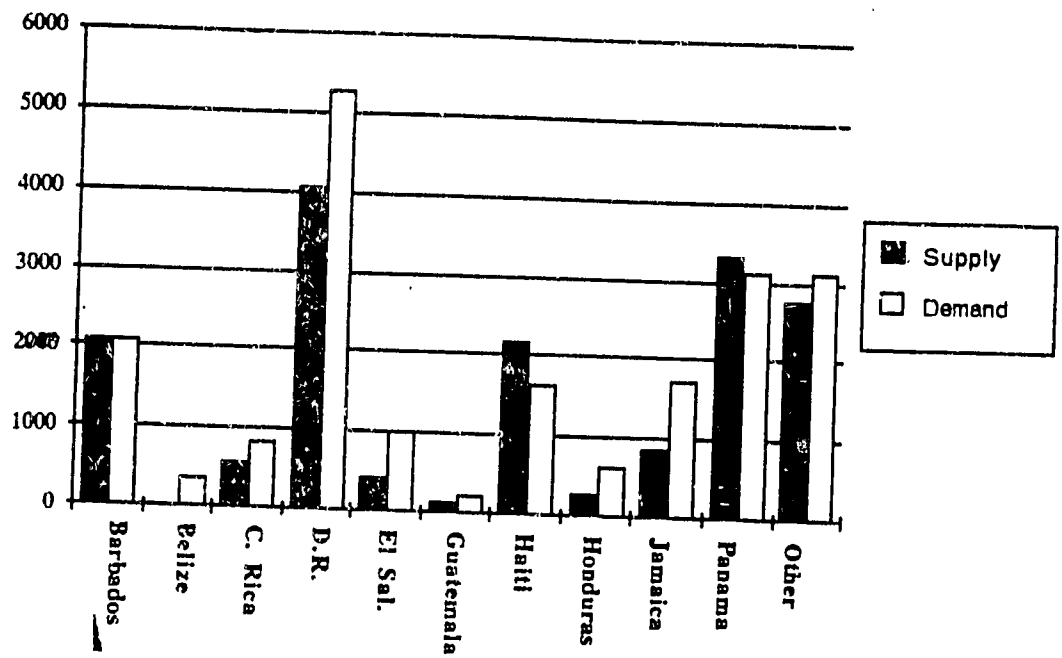
Source: Data Compiled by The Services Group, Inc., September 1988

7.20 Significant unmet demand also exists in Jamaica and El Salvador. The English-language capability in Jamaica has attracted numerous firms seeking to avoid complications in language training as well as to benefit from comparatively low wage levels. In El Salvador, the majority of demand is comprised of local manufacturers in need of available standard factory space, as much of the industrial infrastructure was destroyed or damaged in the 1986 earthquake and the eight-year guerrilla insurgency. Unmet demand for free zone space in Costa Rica is estimated to be only 276,000 sq.ft. despite the location's otherwise successful program. However, much of the foreign investment has been absorbed by two alternative export manufacturing regimes, the "Export Contract" program and the "Temporary Admission" regime, which have been highly successful as well. Both Haiti and Panama have suffered extensively as a direct result of their deteriorating political and economic climates during the past two years, and currently have excess facilities. Figure 7-2 shows total levels of supply and demand for various Caribbean Basin countries.

4. Unmet Demand for Free Zone Facilities in Belize

7.21 Potential demand (i.e., unmet demand, as there is no effective demand in Belize) for free zone space in Belize is estimated initially to be 386,000 sq.ft. This figure was obtained by investigating the share of Caribbean apparel manufacturing and assembly that Belize had attracted in 1987. Apparel manufacturing and assembly, a traditional labor-intensive free zone industry, is closely representative of the types of

FIGURE 7-2
Current Supply and Demand for Free Zone Space in the Caribbean Basin, June 1988
(Thousands of Square Feet)



operations that the proposed Belize free zone could attract. The effective demand for investment in apparel export manufacturing and assembly operations in Belize is subsequently assumed to conservatively represent potential demand for export manufacturing in the proposed free zone. In 1986, Belizean apparel exports (US$13.8 million) relative to the total apparel exports of the Caribbean region (US$750.4 million) equalled 1.84 percent. Hence, the demand for free zone facilities should be at least 1.84 percent of the total demand for free zone facilities in the Caribbean region (approximately 20 million sq.ft.).

7.22 This figure may well be understated, as the lack of available manufacturing space in Belize has constrained the growth of export manufacturing. Furthermore, demand for free zone space is based solely on the amount of apparel manufacturing that Belize has captured relative to other Caribbean countries, and does not consider the amount of unmet demand for apparel manufacturing operations in Belize, nor does the estimate consider other potential free zone industries such as agro-industry, footwear manufacturing and assembly, the manufacture of toys and sporting goods, and information services. Given these factors and Belize's freedom from quota restrictions on any major U.S. import including apparel, footwear, furniture, and other light manufacturing items, potential demand of 386,000 sq.ft. is a reasonable and conservative estimate.

TABLE 7-3
BASE-LINE SCENARIO: FORECASTED SUPPLY OF SPACE IN CARIBBEAN BASIN FREE ZONES, 1988-1992
(Thousands of Square Feet)

Country	06/1988	12/1988	12/1989	12/1990	12/1991	12/1992
Barbados	2,075	2,118	2,225	2,558	3,200	3,390
Costa Rica	575	814	1,171	1,528	1,910	2,388
Dom. Rep.	4,062	4,985	6,820	8,520	8,946	9,170
El Salvador	450	450	495	585	675	765
Guatemala	140	150	160	170	180	190
Haiti	2,176	2,176	2,176	2,176	2,220	2,264
Honduras	280	377	474	590	706	823
Jamaica	890	1,010	1,162	1,393	1,706	2,134
Panama	3,323	3,492	3,492	3,492	3,570	3,750
Other Carib.	2,780	2,805	2,860	3,432	3,520	3,630
TOTAL REGION	**16,751**	**18,377**	**21,035**	**24,444**	**26,633**	**28,504**

Source: Data Compiled by The Services Group, Inc., October 1988

TABLE 7-4
BASE-LINE SCENARIO: FORECASTED DEMAND FOR SPACE IN CARIBBEAN BASIN FREE ZONES, 1988-1992
(Thousands of Square Feet)

Country	06/1988	12/1988	12/1989	12/1990	12/1991	12/1992
Barbados	2,395	2,535	3,030	3,260	3,420	3,510
Belize	386	423	486	560	658	790
Costa Rica	851	936	1,295	1,795	2,154	2,485
Dom. Rep.	5,262	6,578	8,550	9,192	9,420	9,530
El Salvador	1,023	1,023	1,073	1,123	1,173	1,273
Guatemala	240	245	260	275	290	320
Haiti	1,632	1,523	1,414	1,524	1,634	1,734
Honduras	642	704	827	950	1,073	1,196
Jamaica	1,720	1,849	2,126	2,339	2,515	2,640
Panama	3,123	3,123	3,154	3,250	3,350	3,475
Other Carib.	3,110	3,330	3,385	3,440	3,532	3,630
TOTAL REGION	**20,384**	**22,269**	**25,600**	**27,708**	**29,219**	**30,583**

Source: Data Compiled by The Services Group, Inc., October 1988

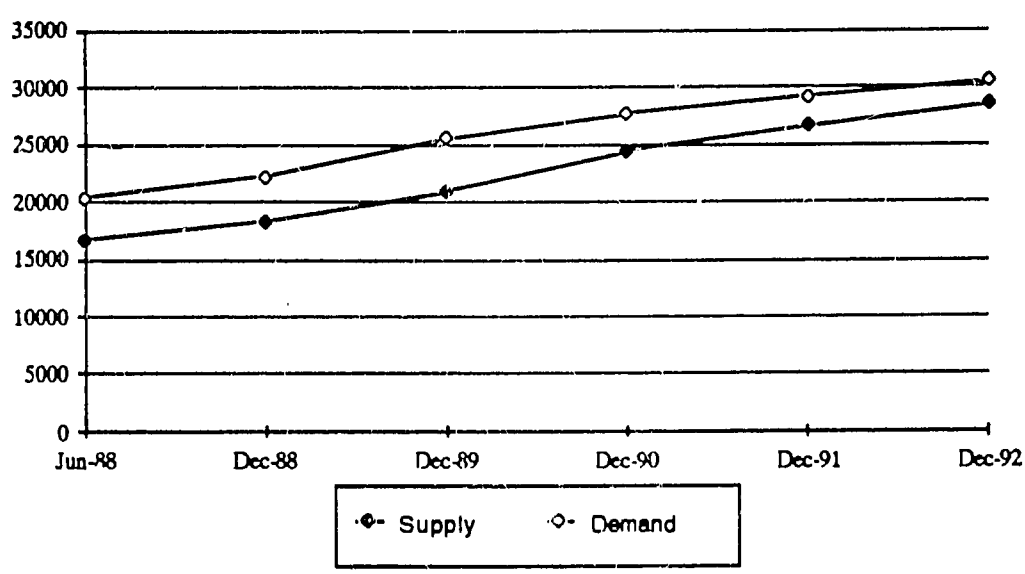
5. Base-Line Forecast of Demand for Caribbean Basin Free Zones

7.23 Table 7-3, Table 7-4, and Figure 7-3 project the base-line growth in total supply and demand for regional free zones over the next five-year period (June 1988-December 1992). They represent a conservative assessment of future absorption of demand. From 1975 to 1987, effective demand for free zone space averaged a 20 percent annual growth. For the five-year period following 1987, demand is expected to grow somewhat more moderately. By 1992, more than 28.5 million sq.ft. of under-roof free zone space will be available in the region, with over 2 million sq.ft. in excess demand.

7.24 The leader in zone development and construction over the next two years will be the Dominican Republic, which plans to build at least 4.4 million sq.ft. of new under-roof free zone space by the beginning of 1991. At present, 18 new zones are either under construction or in the planning stages. The free zone construction boom should slow considerably by the early 1990s as current unmet demand becomes rapidly absorbed.

7.25 The number of Jamaican free zones will also expand, with approximately five projects currently under consideration. However, unmet demand is expected to decrease significantly in several years due to increasing dissatisfaction with Jamaican labor, rising union activity, and the proliferation of competitive free zone projects in other parts of the Caribbean Basin. (Note: the project team has not been able to assess the impact of Hurricaine Gilbert on Jamaican free zones.)

FIGURE 7-3
Base-Line Scenario
Forecasted Supply and Demand for Free Zone
Space in the Caribbean Basin, 1988-1992
(Thousands of Square Feet)



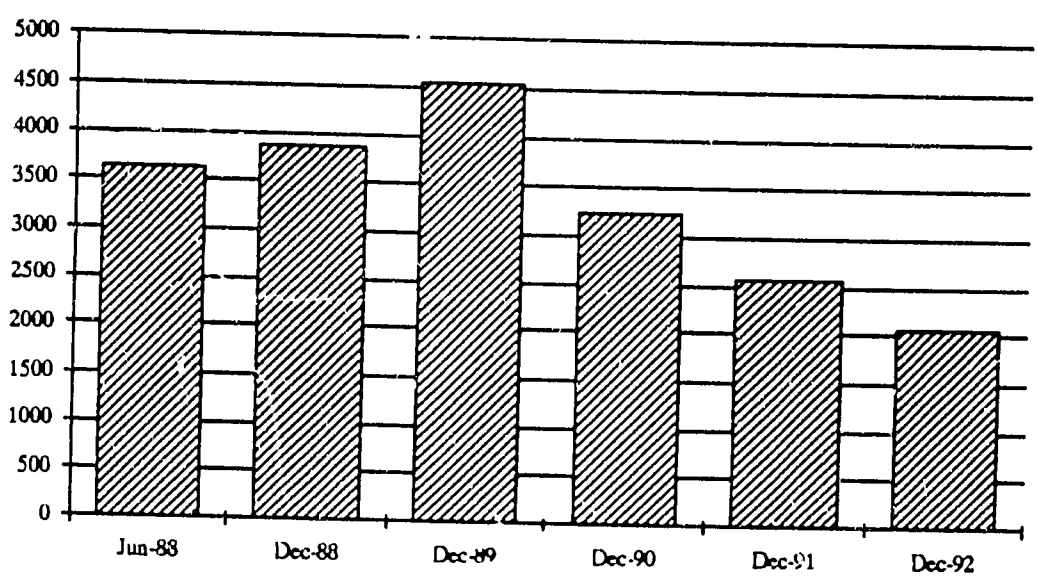
7.26 In Costa Rica, the Corporacion de Zona Franca estimates that approximately 1,900,000 sq.ft. of under-roof space will be in place by 1992. However, more realistic estimates predict that only 950,000 sq.ft. will be constructed over the period, with up to four new zones initiated under the free zone program.

7.27 Haiti has experienced traumatic declines in occupancy rates in its four zones due to economic and political turmoil. Haiti's assembly sector has lost 11,000 jobs and more than 70 percent of the twin plant operations since Duvalier's departure. Current estimates indicate that total demand for Haitian free zone facilities will decline over the next two years, recovering slightly by the mid-1990s.

7.28 In aggregate, forecasts estimate that the annual incremental increase in potential demand for free zone facilities will average just under 2.3 million sq.ft. of under-roof space (Figure 7-4). In economic terms, this represents approximately 96 new firms initiating operations per year (each firm occupying 18,000 sq.ft.), creating at least 11,500 new jobs annually (based on an average 150 sq.ft. per worker). Given the buoyancy of demand for free zone space in recent years, the growth of total demand forecasted in Figure 7-3 represents a reasonable estimate of demand for the region.

7.29 It should be noted that this aggregate demand is composed of several segments that are affected by different factors. "High-end" companies choosing to locate in private free zones charging on average in excess of US$4.00/sq.ft./year are motivated by a different composition of factors than those firms

FIGURE 7-4
Base-Line Scenario
Forecasted Unmet Demand for Free Zone
Space in the Caribbean Basin, 1988-1992
(Thousands of Square Feet)



seeking to locate in the lowest cost zones (typically subsidized public zones) offering a lower level of facilities and services. As such, aggregate demand figures developed should be interpreted with some degree of caution given the large number of complex variables influencing investment patterns in a specific manufacturing region.

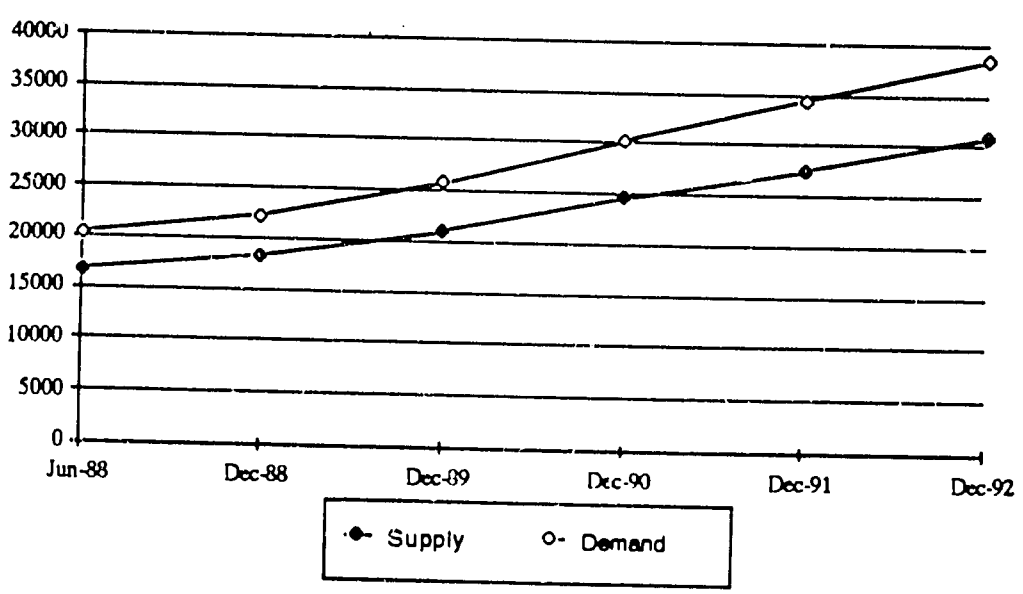
6. Base-Line Forecasts of Demand for Free Zone Facilities in Belize

7.30 Given the past growth rate of 20 percent annually in effective demand for regional free zone space, an annual compound rate of growth over 17 percent for a Belizean free zone project is a conservative estimate, given that demand for free zone facilities usually grows rapidly in the early stages of zone development. Such growth translates into 148,000 sq.ft. of under-roof space demanded annually for Belize. If only 35 percent of the demand was absorbed in free zone development, the project would succeed in attracting approximately 15 firms and creating over 1,800 jobs in the export sector.

7. Optimistic and Pessimistic Forecasts of Demand for Caribbean Basin Free Zones

7.31 Figure 7-5 depicts an optimistic scenario in supply and demand growth where total demand for zone space clearly outstrips current and projected construction and expansion. Such high

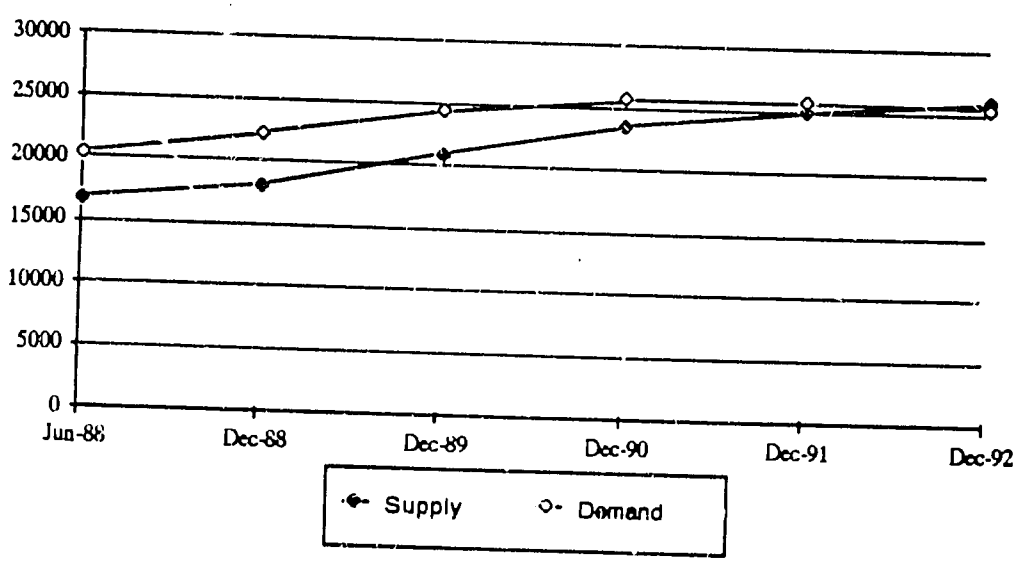
FIGURE 7-5
Optimistic Scenario
Forecasted Supply and Demand for Free Zone
Space in the Caribbean Basin, 1988-1992
(Thousands of Square Feet)



levels of demand would be induced by a variety of factors, including greater protectionist measures toward Far Eastern suppliers of traditional free zone exports (such as apparel products), increased cost-competitiveness pressure on U.S. and European manufacturers in the assembly of labor-intensive products, the upgrading of infrastructure and manufacturing support mechanisms, more attractive investment incentives in Caribbean Basin locations, and a continuation of general economic health in developed country markets, ensuring demand for zone exports. Free zone development would certainly increase in response to the surge in demand, but implementation lags between formulation of plans and completion of zone construction would allow the gap between zone supply and demand to widen considerably by the mid-1990s. If the behavior of demand follows the trend illustrated in the optimistic scenario, potential demand for free zone space in the Caribbean Basin could well exceed 38.4 million sq.ft. in 1992, with over 32 percent of total demand concentrated in the Dominican Republic alone.

7.32 In contrast, Figure 7-6 depicts forecasts of supply and demand based on pessimistic factors affecting demand for regional zone space. An economic recession in industrialized economies, reduced or static levels of protection against Far Eastern exporters of typical free zone industry sectors (apparel, footwear, electronics, etc.), increased perceived instability in the Caribbean Basin region by U.S. and Far Eastern producers, and a reoriented manufacturing strategy in target industry sectors in the United States toward automated and capital-intensive production processes could all conceivably induce a downward trend in both regional supply and demand for free zone space.

FIGURE 7-6
Pessimistic Scenario
Forecasted Supply and Demand for Free Zone
Space in the Caribbean Basin, 1988-1992
(Thousands of Square Feet)



7.33 Free zone locations such as Haiti, Jamaica, Panama, and El Salvador would be especially affected by a convergence of supply and demand over the next several years. Those manufacturers opting to remain in the Caribbean Basin would favor the more successful and stable free zone programs, such as those in the Dominican Republic and Costa Rica. By 1992, total demand could drop below free zone space supply by more than 700,000 sq.ft., leaving many zones with vacant facilities.

8. Optimistic and Pessimistic Forecasts of Demand for Free Zone Facilities in Belize

7.34 Under optimal conditions, total demand for free zone space in Belize could exceed 1 million sq.ft. by 1992. This corresponds to an annual compound rate of growth in total demand of 25 percent for the five-year period, creating more than 2,400 jobs through 20 firms. Increased protection against Far Eastern exporters and further pressure for U.S. manufacturers to increase offshore sourcing of labor-intensive production processes could fuel the majority of demand, especially given Belize's lack of any quotas or other restrictions on manufactured exports to the United States.

7.35 In the pessimistic scenario depicted in Figure 7-6, total demand could conceivably reach only 423,000 sq.ft. by the end of 1992, an annual compound rate of demand growth of slightly more than 2 percent. In fact, demand growth could peak in 1990, reaching upwards of 450,000 sq.ft., only to drop during the following two years. Such behavior would be a result of normal lags in demand response to changing production and trade patterns worldwide. Manufacturers generally allow between 6 and 24 months to observe industry trends before radically adjusting manufacturing strategies.

E. DIRECT MARKET SURVEY

1. Methodology

7.36 To arrive at an accurate estimation of demand for free zone space in Belize, the extrapolations of demand trends employed in the previous analysis were complemented and corroborated by a direct market survey. The following methodology was utilized:

- **Select Relative Composition of Target Industry Sectors Based on Identification of High Potential Industries.** A total of 70 firms were chosen as the sample size, distributed unevenly over the four industry sectors identified in Chapter V and the Technical Progress Report: apparel (41 firms), light manufacturing (16), agro-processing (8), and information services (5). The relative weights given to various industries were based on the preliminary conclusions reached concerning the market

potential of each sector with respect to a Belizean free zone project. Apparel proved to be the highest potential candidate, and was allotted 57 percent of the total number of firms contacted. Various light manufacturing activities received 23 percent of total sample, while agro-processing and information services received 11 and 7 percent, respectively. This method of surveying is known as disproportionate sampling, and is designed to target a set of the population (apparel manufacturers in the southeast United States, for instance) deemed more important than others (such as rubber footwear manufacturers in the northeast United States). The method is also considerably more useful and rewarding in surveys of a smaller size, such as the one used in this study. The reason for utilizing disproportionate sampling in this survey is to research a relatively large number of sample points in a priority segment (again, apparel manufacturers or U.S. firms) while at the same time not totally ignoring another segment that is less important.

- **Delineate Industry Sector Composition by Geographic Location.** Within each industry sector, certain high potential geographic locations were further segmented in accordance with the disproportionate sampling technique described above, based on traditional and emerging industries and sources of investment in Belize. The majority of firms contacted were either headquartered or had most of their manufacturing plants in the southeast United States, as they have historically possessed a high propensity to move operations offshore to the Caribbean Basin. Furthermore, the U.S. has been the largest investor in many Belizean industrial sectors. Belizean firms were allotted a 21 percent share of the total number of firms contacted, while emerging sources of foreign investment, such as the Far East and Mexico, were each given 5 firms in apparel so as to capture and evaluate general manufacturing trends in less immediate, yet potential geographic areas.

- **Select Random Firms to Contact Within a Preselected Disproportionate Sample of Firms.** Random sampling is maintained within the preselected sample of firms, with sets of firms in target sectors and geographic locations. Within the preselected, target sample of industry sectors, those firms contacted are chosen purely at random to control data distortion and maintain effeciency in survey execution. Lists of firms used for the survey were obtained from industry associations, and were (with noted exceptions) closely representative of the entire population of firms within the industry. (Industry lists for U.S. firms in apparel, footwear, and sporting goods were comprehensive and representative, while the Hong Kong and Mexican survey were constrained by the lack of cooperation from respective government officials in obtaining lists of firms in certain industries and

geographic locations; i.e., apparel manufacturers in Merida, Mexico.)

- **Develop Survey Instrument and Conduct Market Survey.** The sample of 70 firms were contacted between October 1 and November 4, 1988. The majority of interviews (64) were conducted by telephone, while the remaining six were conducted in person in Belize by the field team. The survey instruments were designed to give a brief introduction of the project and advantages of the Belizean location, and then assess interest in further investigating expansion or relocation of manufacturing operations in the Belize free zone (level of interest was rated on a scale of 0-10; those indicating a 7 or above were considered to possess a high level of interest). The survey elicited responses to questions regarding past offshore experience, knowledge of Belize and the Caribbean Basin, constraints to offshore investment or subcontracting, and general trends in offshore manufacturing within the specific industry.

- **Compile and Aggregate Survey Results.** Responses from decision-makers within contacted firms were compiled and grouped according to frequency of response and importance. Immediate space requirements were tabulated in preparation for the corroboration of separate demand analyses in Section F of this chapter.

7.37 Complete synopses of each interview are included in an annex to this report, and are separated by geographic location and industry. Only the aggregate responses and final square feet requirements are discussed in the following sections.

2. Survey Results

7.38 A total of eight firms, or 11 percent, indicated a high level of interest (7 or above) in further investigating the possibility of directly investing in manufacturing space in a free zone in Belize. These firms indicated that their immediate space requirements total approximately 131,000 sq.ft. of under-roof standard factory free zone space. Overall, the important results from the survey are:

- The greatest degree of interest in further investigating investment or subcontracting in the free zone was evidenced by apparel and light manufacturing firms. These firms have been the traditional users of free zones in the Caribbean Basin. Those surveyed were most impressed by the stability, geographic proximity, and cultural compatibility of Belize.

- Belizean firms interviewed (including apparel firms, agro-processing, and light manufacturing) expressed moderate to high levels of interest in expanding operations to the

free zone. The degree of infrastructure development, regulatory relief, and general convenience offered by the free zone was extremely attractive to a large majority of the sampled exporters in Belize.

- High levels of demand were voiced by U.S.-based firms. U.S. firms engaged in apparel and light manufacturing had an extensive knowledge of offshore sourcing in the Caribbean Basin in general, and expressed interest in the overall locational stability and compatibility (English-speaking, close to the United States, etc.).

- Little serious interest in free zone manufacturing in Belize was discovered in data entry or footwear manufacturing.

- Firms located in the Far East and Mexico expressed little interest in expanding to a Belizean zone, or to the Caribbean Basin in general. However, the size of the survey limited the drawing of definitive conclusions regarding investment interest; these segments of the total sample were designed to elicit general information on offshore manufacturing trends and perceptions of the Caribbean Basin.

- Although nearly 30 percent of non-Belizean firms contacted in the direct market survey (including Mexican firms) knew of Belize, the extent of their knowledge was extremely limited in comparison to their familiarity with other countries in the region.

- Agro-processing appears to hold considerable potential with considerable demand evidenced, despite the small size of the survey segment.

7.39 Many apparel and light manufacturing firms surveyed indicated that although the advantages to offshore operations were evident, the operations were difficult to manage and coordinate, and that any assistance or simplification on the part of the host government could act as a major inducement in attracting firms. Almost no firms cited government incentives as the primary motivation in going offshore, but rather listed labor cost savings. Those firms that inquired about the average manufacturing or semi-skilled wage rate and other general production costs reacted positively to the Belizean cost levels, and did not indicate that they were unusual for the region. A large percentage of firms with previous experience in Caribbean operations did note that most problems in offshore operations occurred with either the labor force (poor skill level, lack of motivation, inferior workmanship, etc.) or transportation infrastructure, both of which seriously affected production turnaround times and the overall successfulness of the venture. The Dominican Republic, Costa Rica, and Mexico were the three most frequently cited offshore manufacturing locations, though a

higher level of satisfaction was expressed by those firms with operations in Costa Rica.

7.40 Regardless of expressed interest in the free zone in Belize, many firms were asked about their perceptions of the current and future use of the Caribbean by U.S. firms for apparel assembly and light manufacture in the next five years. The majority of firms who responded thought that the U.S. apparel industry would utilize the Caribbean to a greater extent in the coming period, but that growth in offshore operations would not be as pronounced as in the early and mid-1980s. Several firms also noted that some retailers and consumers are scrutinizing apparel products for a "made in the U.S.A" label and product quality, and that the increased use of capital-intensive technologies will negatively affect the movement of U.S. manufacturers offshore.

a. Response by Sector

7.41 Of the total immediate demand for zone space, 58 percent of demand was expressed by firms in the apparel industry. The square footage requirements of firms in various industry sectors is illustrated in Table 7-5. The most crucial free zone factors affecting offshore operations indicated in the survey included labor, transportation infrastructure, the presence of other apparel manufacturers, and political and economic stability. Apparel firms stated that labor characteristics, such as low wages, motivation, productivity, skill level, and attention to

TABLE 7-5
IMMEDIATE DEMAND FOR FREE ZONE SPACE IN BELIZE, BY INDUSTRY
(In Square Feet)

	Apparel Manuf.	Light Manuf.	Agro Proc.	Data Entry	Total
Number of Firms Interviewed	41	16	8	5	70
Number of Firms Expressing High Level of Demand	5	2	1	0	8
Percentage of Interested/ Surveyed	12%	13%	13%	0%	11%
Under-Roof Space Requirements of Interested Firms*	76,000	52,000	3,000	0	131,000

* Over the next twelve-month period.

detail were the most important factors in determining the success of an offshore operation. Other comments worth mentioning included: ability of labor force to ensure quick production turnaround times; ease in starting a business; simplified investment code; efficient Customs and exporting/importing procedures; governmental support for the private sector; and a well-developed business and manufacturing community.

7.42 Another 40 percent of expressed demand for under-roof free zone factory space originated mostly from two firms in the light manufacturing sector, indicating a total immediate need for 52,000 sq.ft. of space. Firms in light manufacturing, as with the apparel sector, were primarily concerned with the characteristics of the labor force in evaluating a potential manufacturing location, scrutinizing such factors as productivity and motivation, wage and skill level, and quality of workmanship. Those interviewed also considered a straightforward investment code, streamlined customs regime, transportation infrastructure, and political and economic stability as key factors in their decision to further investigate a prospective offshore location. Most of those firms interviewed were aware of the Dominican Republic's success in attracting several large U.S. footwear manufacturers, but were not knowledgeable of locations. On average, however, footwear manufacturers in the United States utilize the Caribbean to a lesser extent than apparel manufacturers.

7.43 Finally, the remaining 2 percent of expressed demand was evidenced by a firm involved in the processing of jams, jellies, and sauces for export. Although the total amount of square footage demanded in the sector was small, the percentage of

TABLE 7-6
IMMEDIATE DEMAND FOR FREE ZONE SPACE IN BELIZE, BY LOCATION
(In Square Feet)

	U.S.	Belize	Mexico	Far East	Total
Number of Firms Interviewed	45	15	5	5	70
Number of Firms Expressing High Level of Demand	3	5	0	0	8
Under-Roof Space Requirements Of Interested Firms*	64,000	67,000	0	0	131,000

* Over the next twelve-month period.

highly interested firms relative to the size of the segment was as high as other sectors. Other firms interviewed in agro-processing were more concerned with the state of infrastructure services provided by the location, such as electricity, international transportation, water, and internal road networks than with the composition and characteristics of the labor force.

b. Response by Location.

7.44 As shown in Table 7-6, U.S. and Belizean firms expressed a high degree of serious interest in further investigating the possibility of investing in a free zone in Belize. Approximately 7 percent of U.S. firms interviewed were significantly interested in the zone, expressing immediate demand for under-roof space of 64,000 sq.ft., or 49 percent of the total expressed demand. U.S. firms were more inclined to scrutinize labor characteristics and transportation infrastructure, while also placing importance on the economic and political stability of the site. Many firms had knowledge or experience with other production locations within the Caribbean Basin, and noted that the level of infrastructure development in these more established manufacturing locations made Belize relatively less attractive.

7.45 Demand for free zone space locally (by both Belizean and foreign firms) proved equally as strong in square footage required, despite the significantly smaller segment size. Of the 15 exporters surveyed, 33 percent indicated a serious interest in expanding, or in one case relocating, to the proposed free zone. A total of 67,000 sq.ft. (51 percent of total space requirements revealed) was indicated. A location offering comprehensive infrastructure services (electricity, water, telecommunications); improved transportation linkages; simplified, consistent investment codes and Customs procedures; and the support of government institutions proved to be the primary factors in determining demand by local firms.

7.46 Exporters in Belize are experiencing common difficulties in their operations as reported in the survey, and as a whole welcome the effort to overcome these location's shortcomings in the short term. Although those interviewed possessed only limited knowledge of the free zone concept, they were aware of this project and its attempts to introduce an alternative exporting regime. Apparel manufacturers accounted for nearly two thirds of highly interested local demand, and felt that the zone could improve exporting channels to the United States. Export manufacturers in the southern region of the country were less inclined to express interest in the project, principally as a result of the poor road network between the south and midland regions to the Santa Elena region, and the subsequent increased cost and logistical effort in transporting raw materials and intermediate goods between locations.

7.47 The Far Eastern and Mexican firms surveyed showed little interest in exploring manufacturing alternatives in the either

Belize or other Caribbean Basin countries. Apparel manufacturers surveyed in Hong Kong were not inclined to investigate the region due to its lack of manufacturing expertise and sophistication, geographic distance from the Far East, and perceived low level of labor force skills and product quality. Manufacturers contacted did not feel pressure to establish offshore manufacturing sites as a result of increased U.S. protectionist policies in the apparel industry toward many Far Eastern suppliers. Those firms that were involved in offshore ventures were more inclined to utilize the Near and Far Eastern low-labor cost production centers such as India, Bangladesh, the Phillipines, and other countries. Mexican apparel manufacturers were also uninterested in exploring manufacturing opportunities in Belize for several reasons. Mexican firms interviewed were also not inclined to investigate alternative production opportunities outside Mexico, though the small sample size limits the conclusions that can be drawn from the responses. Belize's access to preferential market programs in both the United States and Europe was an important consideration in this regard: these exporters felt the free zone would affect their operations in a competitive manner, rather than provide them with increased opportunities and market expansion.

c. Summary of Results

7.48 Of the total 70 firms interviewed for the direct market survey, approximately 52 percent expressed a zero level of interest in further investigating the possibility of locating in the proposed free zone in Belize, while 37 percent indicated a level of interest ranging from 1 to 6. Firms indicating a level of interest equal to or greater than 7 comprised the remaining 11 percent of those interviewed. The four industry sectors targeted evidenced, average levels of interest ranging from a 0.4 in data entry to 3.25 in agro-processing. However, levels of interest were more evenly dispersed in apparel largely as a result of the greater sample size, and apparel exhibited a greater proportion of responses above seven than in other industry sectors. The average level of interest for manufacturers located in the United States was over 1.84, while the average for firms surveyed in Belize was 4.6.

7.49 Clearly, immediate interest from both U.S. and Belizean manufacturers was discovered in the direct market survey, almost exclusively in apparel and light manufacturing sectors. Firms interviewed in the United States were more concerned with the labor force and the transportation of inputs and final products, while local manufacturers were interested in infrastructure and the provision of support services offered by the proposed free zone. The survey also discovered a noticeable lack of knowledge of Belize by U.S. manufacturers, despite their familiarity with other offshore Caribbean manufacturing centers such as the Dominican Republic, Jamaica, Haiti, and Costa Rica.

F. CORROBORATION OF DEMAND FORECASTS AND MARKET SURVEY RESULTS

7.50 The demand forecasts calculated from trend extrapolations of total demand for free zone facilities in Belize and the Caribbean Basin arrived at a projected demand figure of 386,000 sq.ft. for Belize as of June 1988. This figure is probably understated given the unique method utilized to determine demand for free zone facilities in Belize with no free zones or similar facilities on which to base extrapolations. Furthermore, the estimate calculated accounts only for the apparel industry, and did not consider other active free zone industries such as light manufacturing, agro-processing, electrical and electronics manufacturing, or information services. Baseline demand projections estimate that total demand for under-roof space in Belize would reach 486,000 sq.ft. by calender year-end 1989.

7.51 The findings of the market survey substantiated the demand projections calculated in the trend extrapolations. Although the level of knowledge regarding Belize in general was limited, three U.S. firms in two industry sectors -- apparel and light manufacturing -- expressed immediate interest in the zone, while five local firms in the same sectors plus agro-processing also expressed high levels of interest. Together, these eight firms indicated a total of 131,000 sq.ft. of required under-roof free zone space in the next twelve month period (i.e., by year-end 1989).

7.52 The corroboration ratio, defined as the amount of space demanded by firms in the market survey as a percentage of the amount of space in demand as projected by the trend extrapolation, equals 27 percent (131,000 sq.ft./486,000 sq.ft.) for the project. At the most basic level, the corroboration ratio shows that the market survey of 70 firms uncovered 27 percent of the projected demand based on the baseline trend extrapolation. As is shown below in Table 7-7, this ratio provides assurance that sufficient and robust levels of demand for free zone facilities in Belize exist.

TABLE 7-7
CORROBORATION RATIOS IN OTHER SUCCESSFUL FREE ZONE PROJECTS
(Results of Market Survey as Percentage of Extrapolation Results)

Spanish Fort	17%
Montego Bay	7%
Honduras	21%
El Salvador	101%
Puerto Rico	4%

Source: The Services Group, Inc.

7.53 The positive results of the two separate demand analyses as reflected by the corroboration ratio is impressive, relative to the limited sampling of firms in the survey. The findings of previous market studies in the Caribbean Basin utilizing identical methodology undertaken in the Caribbean Basin exhibited lower corroboration ratios between trend extrapolation and market survey results. As Table 7-6 shows, successful free zone projects in the past have evidenced, on average, a minimum corroboration ratio of approximately 15 percent. Although the zone project analyzed in Honduras has not yet been constructed, the national zone program has witnessed the realization of projected demand. Free zone programs in Puerto Rico and El Salvador have also yet to proceed, though the estimated level of demand projected by the analyses is expected to be substantiated by another source.

7.54 By employing the optimistic and pessimistic trend extrapolation scenarios depicted in 7-5 and 7-6, optimistic and pessimistic corroborations ratios of 25 and 31 percent are recorded using the same demand results from the direct market survey. The resulting range in ratios is small, dropping only 2 percent in the optimistic scenario and rising only 4 percent in the pessimistic scenario. In all three cases, the resulting corroboration ratio exceeds those ratios achieved in other successful projects executed in the Caribbean Basin. Therefore, a free zone of moderate size and configuration can expect sufficient levels of near-term demand over the next twelve-month period, in the range of the 486,000 sq.ft. derived from the trend forecast and substantiated by the market survey. Furthermore, both the trend extrapolations and the direct market survey suggest that growth in demand over the next five-year period will slow moderately for the Caribbean Basin as a whole, but increase moderately for Belize, based on trends in demand in previously emerging manufacturing locations.

VIII. ZONE MARKETING AND PROMOTIONAL STRATEGY

A. OVERVIEW

8.01 For any economic development initiative which relies heavily on private sector participation, effective marketing and promotion is crucial. This is especially true of free zone programs, oriented as they are to the highly competitive international marketplace. Although often overlooked by host country governments embarking on zone development, the success or failure of a zone project may depend upon both the planning and execution of marketing and promotional efforts.

8.02 In free zone development, the principal goal of the government is generally to attract foreign investment in export industry and thereby realize the accompanying benefits of foreign exchange earnings, job creation, and technology transfer. For the investor considering a variety of site locations, a parallel concern is the ease of establishing a business and, subsequently, the efficiency of operating it on a day to day basis.

8.03 A free zone program, carefully conceived, developed, and marketed, can be a powerful drawing card for foreign (and local) investment. Throughout the developing world, countries have found free zones to be especially useful in the early stages of export-led industrial development. Foreign investors are often wary of being pioneers in a country with unfamiliar laws and procedures. Given the worldwide similarities among free zones, however, the presence of a zone can create confidence among investors regarding the investment conditions that they will encounter.

8.04 To satisfy both the government's objectives and those of the potential zone user, cooperation and coordination among local public and private sector institutions is crucial. This chapter begins by discussing the role of the MED as the representative of the GOB, that is, fulfilling primarily a regulatory function. In this light, MED's direct involvement in zone promotion would focus on ensuring that the GOB's interaction with potential investors was as streamlined and generally positive as possible. It then turns to outlining the expanded responsibilities that would fall to BEIPU, the leading private promotional organization, should a zone program be initiated, and on indicating how these duties would relate to its present institutional portfolio.

8.05 A comprehensive institutional/regulatory analysis is not within the scope of this phase of the study. However, it should be noted that once the legal framework for the free zone program has been codified the government's role in regulating free zone activity takes place on two distinct levels. The first is the administration of a system of zone designation and supervision. This involves the evaluation of applications submitted by organizations or individuals who wish to develop a free zone project and the monitoring of active zone projects to ensure that

they are in compliance with government regulations. The second is the design and implementation of a system for processing requests by potential zone users to establish operations within a free zone project (or, in the case of "special free zones," outside a designated zone site). Only the promotional role of the MED in interacting with potential and actual zone businesses is addressed here.

8.06 An effective free zone promotion effort for Belize should take place in three basic and parallel categories. These can be classified as:

- the institutional element, which refers to the allocation of institutional responsibilities for zone marketing and promotion, the development of new institutional capacity including training and tracking systems, and the improvement of the free zone "product" to be offered;

- the targeting element, which covers the assessment of business sectors that are candidates for a Belize free zone program, and selection of priority sectors for zone marketing and promotion; and

- the marketing element, which consists of building upon current marketing/promotional activities in such areas as presentation materials development, client contact, site visit assistance, and followup.

B. INSTITUTIONAL ELEMENT

1. Allocation of Institutional Responsibilities

8.07 Three organizations will play key roles in the marketing/promotion success of free zones in Belize. These include the Ministry of Economic Development, the Belize Export and Investment Promotion Unit, and the zone development organization itself, once the program is underway.

a. Ministry of Economic Development

8.08 The Ministry of Economic Development is the government agency dedicated to the design and implementation of the GOB's economic policies and programs. As such, its functions can be divided into three major areas:

- Economic and social planning, including the preparation of the GOB five-year plans, statistical and economic data collection, and the coordination of the GOB's economic and social programs;

- Project coordination, oriented toward identifying and promoting investment, evaluating projects under the development concessions program and monitoring their performance;

- Coordination of external cooperation, involving the technical and financial supervision of the bilateral and multilateral assistance programs in place.

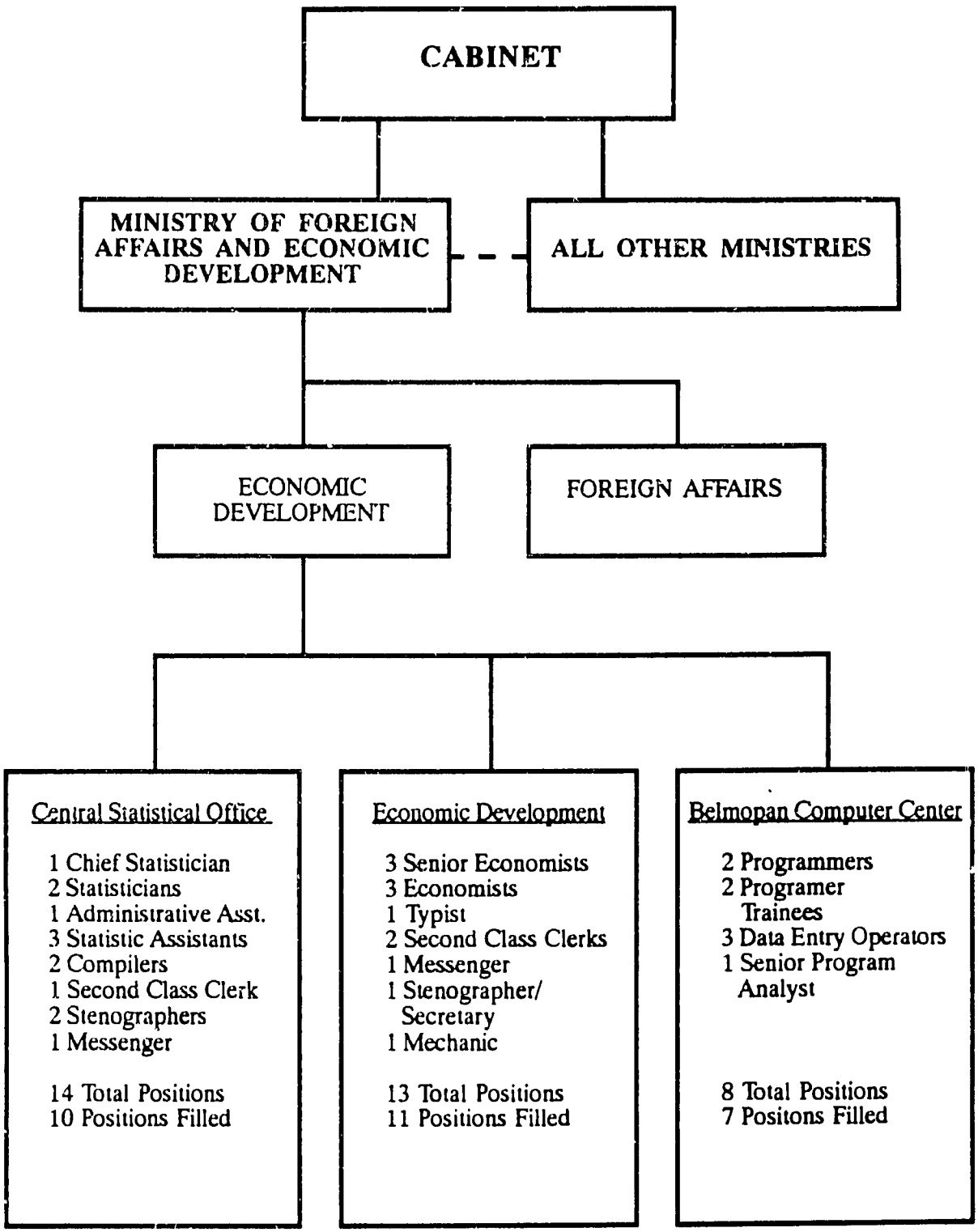
8.09 As can be seen in Figure 8-1 on the following page, these functions are carried out through three mutually supportive divisions within the MED. The Economic Development Office, which presently administers the MED's development concessions program, is the analytic center of the Ministry, and its role in Project Coordination is most salient to free zone development.

8.10 With the start of a Belizean zone program, it is envisioned that the MED will serve as the primary GOB contact office for potential zone investors. This does not imply that it will undertake direct promotion of a free zone program or project, but rather that it will administer the regulatory procedure associated with free zone investment. Such an arrangement would capitalize upon the institutional capabilities that have been developed through the administration of the development concessions and would be a natural outgrowth of inter-ministerial coordinating role that the MED already plays within the GOB.

8.11 It is clear from the investigations and analyses conducted to date that the MED is interested in taking on the additional duties that administering the free zone program would entail. Such an expansion would require some increase in professional staffing to cope with investment applications in a streamlined manner. Ideally, it would also entail the centralization of the evaluation and review procedures attendent to zone investment within the Ministry itself. As mentioned earlier, other countries have found that the establishment of a "one-stop-shop" is an effective and direct means for a government to demonstrate its support for (especially foreign) investment. A well-run office is not unnecessarily complicated and laden with paperwork requirements which ultimately detract from the appeal of the country as an investment location and thereby undermine the growth of the free zone program.

8.12 Whether or not a one-stop shop is established, it has been repeatedly demonstrated that the best way for a government to promote free zone investment is to be responsive to investor needs for a hospitable and predictable business environment. This is not to urge the MED to assume direct promotion responsibilities but rather to encourage the development of a private sector "consciousness" within the MED's personnel -- a familiarity with the multiple elements involved in setting up a zone business and a willingness to assist firms in complying with the procedural requirements. The effective execution of this dual role of ongoing regulation and active support will fall to the MED and is crucial to the free zone program's success.

FIGURE 8-1
ORGANIZATIONAL CHART OF THE BELIZE MINISTRY OF ECONOMIC DEVELOPMENT



b. Belize Export and Investment Promotion Unit

i. Existing Organizational Structure

8.13 The principal institutional objective of the Belize Export and Investment Promotion Unit is to provide technical assistance to the private sector to promote exports, tourism and new investment in Belize. As indicated in Figure 8-2 below, BEIPU -- although a division of the Belize Chamber of Commerce and Industry -- is an autonomous unit with a specialized staff, reporting to its own Board of Directors.

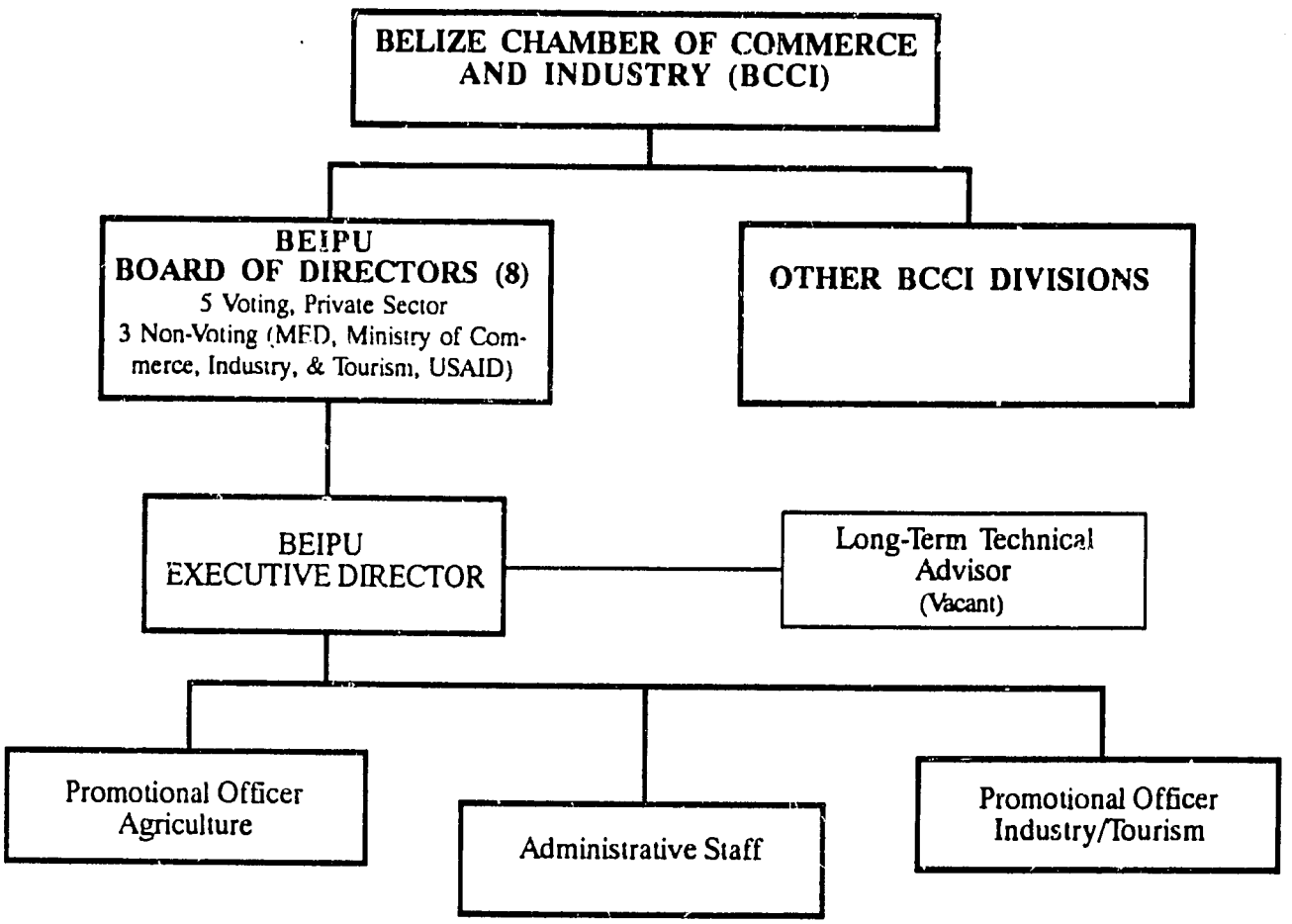
8.14 BEIPU's present professional staff is limited to the Executive Director, two promotion officers and a part-time accountant. Interviews conducted locally with both foreign and Belizean investors evidenced considerable support for the efforts of these individuals and confidence in the capabilities of the institution. At the same time, a number of persons contacted expressed the concern that BEIPU is understaffed, and could benefit from the hiring of additional sector specialists. Currently, one promotion officer is assigned to agriculture and one to industry and tourism.

ii. Suggested Organizational Changes

8.15 Given the growing interest in all types of investment opportunities in Belize, demonstrated in part by the rising number of BEIPU's investor contacts, it would appear that serious thought should be given to dividing the responsibility for tourism and industry between two individuals. This would allow each of BEIPU's promotion officers to specialize, and increase the coverage given to these key sectors. While agriculture, broadly defined, remains the focal point of investor interest in Belize and is the primary focus of the investments generated through BEIPU's efforts to date (see Chapter 5), investment patterns are changing.

8.16 The combined effects of improved infrastructure, expanded transportation and business support services, and the continuation of present promotional efforts will yield increasing investment in the industrial and services sectors and in a free zone facility, if established. (The recent rapid growth in the volume of tourism traffic is well documented and the corresponding increase in the manpower devoted toward attracting investment in this sector which this staffing structure implies would also aid in its development.) It is important to bear in mind that promoting the zone will complement and support BEIPU's current program to encourage industrial investment in general. BEIPU is now promoting opportunities for establishing export industries in Belize in the absence of a multi-user facility designed expressly for that purpose, or even any significant quantity of available industrial space. An established free zone project will make this task much easier.

FIGURE 8-2
ORGANIZATIONAL CHART OF THE BELIZE EXPORT & INVESTMENT PROMOTION UNIT (BEIPU)



c. Zone Developer

8.17 Once a free zone program is initiated, the zone development organization will ultimately have the greatest stake in the marketing/promotional campaign. Typical responsibilities of the free zone developer include preparation of basic promotional materials on the zone, and assistance for investors during their tour of the site. In some cases, the zone developer also initiates direct contacts with potential tenants through engagement of promotional representatives overseas. The most powerful contribution to zone marketing success that the developer can make, however, is to ensure that the initial tenants in the zone are satisfied with the conditions they find. The endorsements of existing occupants surpass those of all others in the weight they carry upon location decisions by later investors; dissatisfied tenants will deter future foreign investors from locating. The zone developer should thus go the "extra mile" to ensure that concerns of the initial occupants of the zone are treated with exceptional responsiveness.

2. Development of New Institutional Capacity

a. Data Collection

8.18 All organizations concerned with free zone development in Belize will benefit from BEIPU's establishment of data bases with current information on business conditions. These should identify specific competitive advantages and disadvantages of the Belize free zone project when compared to alternative investment locations. By determining those areas where the project enjoys a competitive edge the Belize free zone project can persuasively demonstrate its advantages.

8.19 Building upon the computer capabilities already established within BEIPU, economic and other data related to investment can be input into a database system for both internal staff use and to allow potential investors access to "on-line" information in their areas of special interest. In this regard, it is essential that the BEIPU staff "know their product" and its competition. They should secure both primary and secondary information on such factors as:

- zone regulatory, legislative and institutional framework;
- cost, quality and availability of the basic production factors available to zone users (labor, land and buildings, basic infrastructure and services, business support services, etc.);
- the relative endowment of regional competitors in each of the above areas and the orientation and extent of their own promotional efforts.

8.20 In addition to systematic data gathering from reference materials, it will be important for both BEIPU and the MED to have a first-hand familiarity with the free zone policies and programs of regional competitors. Toward this end, a field mission should be undertaken by their representatives to examine successful free zone projects in neighboring countries, including Honduras, Jamaica, and the Dominican Republic.

b. Training

i. Ministry of Economic Development

8.21 The MED should arrange for training in the planning and implementation of "one-stop-shop" permit approval centers. Following a visit to the successful free zone sponsoring countries in the region, MED should explore the interest of other GOB agencies in establishing a multi-departmental application processing center under one roof. If this is acceptable, a short training and "case study" program could be undertaken with a range of hypothetical investment projects, to identify delays or other problems in the review and approval process. Costa Rica's CENPRO organization is now implementing a model one-stop procedure, and may be amenable to offering a training program on this subject.

ii. BEIPU

8.22 BEIPU staff should undertake any training needed to develop the informational data base discussed above. The staff should also audit any training programs developed to streamline the GOB permit approval process since, as the lead promotion agency, BEIPU must become familiar with all aspects of zone development, from the regulatory framework, through the facilities and services provided, to the operational processes of the firms which will occupy the project. The development of this institutional capability should be a natural adjunct to the program of data collection, market analysis and investor assistance that BEIPU now provides. BEIPU already offers support to firms considering investment opportunities throughout the country in assessing the comparative advantages of a Belizean location and in complying with the legal requirements should they decide to invest or apply for concessions. Similar assistance cqn be provided to potential free zone users.

8.23 The BEIPU promotion officer will first have to become knowledgeable about the free zone concept and the regional experiences in zone development. It may be useful to include a BEIPU representative in one of the several free zone training programs that are offered by the Shannon, Ireland Free Zone.

iii. Zone Developer

8.24 As mentioned previously, the overall success of free zone marketing/promotion efforts is likely to hinge upon the level of satisfaction of pioneering tenants. Accordingly, the zone developer can benefit from a short training course on responding to the principal concerns to zone tenants, including building and grounds maintenance, personnel recruitment and labor relations, transportation services, and utilities. The training program should also include advice regarding information to include in the zone-specific promotional material and information guide, and assistance in simulating the likely questions/problems inherent in an investor visit and followup. Again, the Shannon free zone management courses might be helpful in this regard.

c. Tracking Systems

8.25 An essential part of institutional development consists of Investor Tracking Systems. Whether manual or automated (on microcomputers), they enable the interested parties at any moment to ascertain the status of specific investor prospects and follow-up actions needed. BEIPU has already installed a computer tracking system with over 1,200 entries of investor contacts. The existing information can be built upon and its presentation tailored to classify firms according to free zone "suitability."

8.26 Future promotional efforts by BEIPU can include interest in free zone space as a standard query for entry into the database, and the facilities requirements of these leads can be shared with the zone development group for use in their own planning efforts.

3. Zone Product Development

8.27 In the "Product Development" aspect of the program, the MED and BEIPU should make concerted and continuing efforts to improve the fundamental attractiveness of the Belize investment climate. In this regard, the main areas of emphasis for each institution are described below.

a. MED: Removing Regulatory/Infrastructural Bottlenecks

8.28 In addition to moves toward a one-stop shop, the following steps should be taken by MED:

- preparation of guidelines for Customs regarding timely clearance of zone-bound shipments;
- arranging training courses for all Customs personnel;
- exploring opportunities to reduce power and telecommunications constraints.

b. BEIPU: Upgrading Local Technical and Management Skills

8.29 In coordination with the Belize Institute of Management and the USAID Training for Employment and Productivity Program, BEIPU should consider the following:

- arranging a review of local training institution curricula/equipment
- encouraging work/study programs, on-loan instructors from business community, and/or private contributions of equipment to selected institutions
- introducing partnership options between overseas technical institutions with compatible Belize free zones/training centers.

C. TARGETING ELEMENT

8.30 The targeting element of the promotion campaign should concentrate upon, the selection of priority business sectors for zone marketing and promotion, the choice of basic promotional "themes" to position the zone in the marketplace, and the introduction of specialized services -- notably subcontracting or shelter plan capabilities -- that will enable the zone developer to attract foreign companies which decline to directly invest.

1. Selection of Priority Sectors

8.31 The identification of "feasible" industry and service sectors arises from analysis of sector-specific economic, locational, technical, infrastructural, service pre-requisites and requirements. It is the matching of industries' requirements on the one hand, and the characteristics of the Belize free zone on the other, that leads to determination of sector feasibility. The pre-investment studies conducted for the Belize free zone project have determined that light manufacturing, and specifically, garment manufacture and assembly, agro-processing, and over the longer term, data entry and information service industry have the potential for successful development in a Belizean zone. Given the small size of the sampling, these and other target sectors identified by BEIPU should be market tested through a survey prior to embarking upon a formal campaign.

2. Development of Zone Promotional Themes

8.32 Based on analyses of Belize's comparative advantages, a dominant sectoral orientation or "theme" should be formulated for marketing purposes. This orientation should build upon distinctive resource or locational advantages of the Belize zone. Surveys of a preliminary sampling of potential investors may

suggest ways to refine this theme, as well as to emphasize presentation of specialized or customized facilities, development of special services such as training linkages, and the like, to further refine the product in order to respond to market demand.

3. Structuring of Subcontracting Offers

8.33 Because a full-fledged free zone promotional campaign often generates two or three subcontracting opportunities for each direct investor prospect, BEIPU and/or the zone developer will find it useful to establish links with well-regarded local entrepreneurs. The following steps can assist in creating zone-affiliated subcontracting capability:

- development of subcontractor information packets for interested local or foreign firms/investors, explaining the workings of a subcontracting relationship;

- working with high-potential subcontractors/shelter operators to define introductory offers to potentially major overseas customers

D. MARKETING ELEMENT

8.34 The marketing element of the Belize free zone promotion effort should concentrate on identifying the most productive ways of reaching the targeted sectors, developing presentation materials, contacting clients directly, assisting in site visits, and followup with firms after their visits. The tasks described below are intended as guidelines for development of the marketing program which can be initiated by BEIPU and later assumed by the project's developer. Once a zone project is underway, BEIPU's involvement should focus on assisting the developer to develop an in-house marketing capability as well.

1. Identification of Optimal Approach

8.35 There are two general approaches to free zone promotion -- "shotgun" marketing and "rifleshot" marketing. The first entails actions designed to increase the overall awareness of the project among firms that are likely to locate operations there. This may be done through advertising and articles in trade publications. The more focused rifleshot approach typically means generation of direct contacts through trade conferences or referrals by companies with an existing presence in Belize. Promotional activities such as direct mail or telemarketing campaigns may be conducted either in a shotgun (low-cost contacts with great numbers of firms) or in a rifleshot manner (high-quality contacts with selected firms).

2. Selection of Appropriate Marketing/Promotion Channels

8.36 Selection of appropriate channels should be guided by and awareness of the strengths and weaknesses of the following approaches.

8.37 Telemarketing. This offers a direct personalized channel, which can also be cost-effective, especially if performed from a U.S. base. (One full-time employee can often successfully complete eight to ten marketing calls in a day.) The keys to a successful telemarketing effort are to know who in the target organization to reach, and how to open, direct and close a phone contact effectively. A follow-up letter with support information should be sent within 48 hours of each successful call.

8.38 Direct Mail. This is done best when used in connection with telemarketing or when announcing a specific event (e.g., a seminar on investing in Belize). Direct mail contacts should include any favorable news clippings, as well as standard brochures and/or sectorally targeted literature.

8.39 Advertising. Costly one-time ad campaigns in general business media usually have little benefit. Instead, BEIPU should place small ads repeatedly in inexpensive outlets reaching the specific target sectors.

8.40 Business Conferences/Industry Shows. The primary value of such events is to make multiple personal contacts. The most common shortcoming of this approach is the problem of finding sector-specific conferences that are worthwhile in the sense that company decisionmakers will attend.

8.41 Special Workshops/Seminars. BEIPU can itself sponsor such events in order to attract the audience that it wants to reach. The tradeoff here, however, is that staging such events may be expensive, and those most likely to attend may be those who already have an interest in doing business in Belize. The advantage, however, is that contacts that are made in this way are generally already very interested in the local environment, and thus have a potentially high probability of coming to fruition.

3. Presentation Materials Development

8.42 Brochures and information kits. The choices to be made in this regard will depend greatly on the projected zone marketing budget for the first few years. Even if the zone developer is operating with "bare bones" funding, he should plan to spend around $10,000 on the production of a color brochure. This brochure should be compatible with BEIPU materials about Belize. These general information items can then be included with the brochure in a folder to make up, for all practical purposes, a complete information kit. Therefore, in preparing the brochure an effort should be made not to unnecessarily duplicate

information already contained in materials that will be included as companion pieces. Design of the kits should be modular, with items appealing to one audience interchangeable for items that may appeal to another group. An effort should also be made in the design and writing of such materials to allow for future updating.

8.43 Advertisements. Effective display advertisements have the following attributes: 1) they convey the theme at a glance, 2) they present information in a clear, straightforward manner, and 3) they project an image of professionalism. The actual production of "camera ready" material for advertisements in trade publications need not be a costly item. The typical cost of running a one-page display ad in a trade publication with a circulation of 30,000 is about $3,000, or $4,000 for a color ad. Some economies of scale (5 to 10 percent) can be realized if such ads are run more than twice.

8.44 Trade Conference Booths/Hospitality Suites. Updating BEIPU displays for such meetings may be a worthwhile expenditure, especially if part of the zone's strategy for the first year is to make a number of direct contacts at industry events.

4. Publicity Generation

8.45 The most desirable kind of shotgun marketing is free publicity generated by the media. This may be encouraged by nurturing contacts with publications and journalists that cover the area and by calling their attention to positive news events, such as an opening ceremony. Accordingly, BEIPU should encourage favorable articles in general and business press in the U.S. and the Belize (interviews with pioneering Belize-based firms in trade and general publications, features on existing/imminent sector opportunities, and items for newspapers read by Belize expatriates).

5. Direct Client Contact

8.46 The most important marketing contact with potential clients is the first face-to-face business meeting. This session should convince the prospective tenant that Belize is serious about reaching a mutually beneficial business agreement. The BEIPU representative should be able to explain clearly the advantages of locating in the zone, including space rent, services, incentives, etc. He should also be prepared to respond readily to any questions or concerns that the prospective client raises.

6. Site Visit Assistance

8.47 The key to conducting a productive initial site visit is to coordinate all logistics properly. Prospects should be greeted at the airport; hotel accommodations should be arranged before

driving clients to the zone. Staff should be prepared to meet clients and assist in showing them around facilities, explaining various features of the site. The tour should be followed by a discussion in a private conference room, at BEIPU or the zone; any questions that have not already been raised should be addressed at this session. Finally, such a visit should be followed by a relaxed social events when appropriate.

7. Investor Followup

8.48 The investor tracking system should remind the BEIPU promotion officer at regular intervals following the site visit to ensure routine followup with those who are considering a commitment. Information about the company should be keyed to a method of rating the strength of the prospect's interest, which should in turn dictate how followup activities should be conducted. The zone marketing representative should be responsible for updating these information files and for assuring that followups are made, either in the form of phone contacts or a business letter.

* * *

8.49 The approach described above incorporates the key elements of successful zone promotional efforts elsewhere in the region and around the world. Nevertheless, of all the various elements, techniques and approaches described, by far the most important is that each institution or individual involved in the promotional effort demonstrate genuine support for the free zone program in Belize and to work to assist in its development.

CHAPTER IX: CONCLUSIONS AND RECOMMENDATIONS

A. REPORT CONCLUSIONS

9.01 As stated in the introduction, this report is the product of the first phase of a two-phase scope of work which, when completed, will constitute a feasibility analysis. The investigations and analyses undertaken in the execution of this initial study -- a market demand analysis and labor assessment -- provide the basis for drawing initial conclusions regarding the potential for successful project development.

9.02 It must be borne in mind, however, that much of the data regarding the technical, financial and institutional aspects of the project, as discussed in this report, are preliminary and will be examined in much greater detail in the Phase II work program. In that light, the following discussion reflects the comprehensive examination of a singular, although important, dimension of the project -- the market demand for free zone development in Belize and the impact of the Belizean labor supply on the prospects for exploiting the potential market.

9.03 The principal conclusions that can be drawn from the Phase I analysis are as follows:

9.04 **Belize possesses the necessary attributes to support the development of a free zone project.** Taken as a whole, the economic and institutional characteristics of Belize as they relate to its potential to attract investment in export processing are competitive with other regional locations. In the crucial factor of investor perceptions of political stability and government support, Belize ranks higher than the majority of countries in the Caribbean and Central America. The institutional and regulatory framework already in place is supportive of the private sector, although policy and procedural reforms should be instituted to streamline the investment approval process for foreign investors. While the relatively small size of the labor force and deficiencies in infrastructure and support services appear to present constraints to the medium-term expansion of zone industry, they are not sufficient to inhibit the initiation of zone program. Remedial measures are already underway in key areas such as transportation infrastructure, telecommunications, and power generation; programs have been established to upgrade the skill levels of the local labor force.

9.05 **Development of an industrial free zone project will enhance the attractiveness of Belize as an investment location.** Belize has experienced considerable growth in its non-traditional export sector over the past five years, fueled in part by the GOB's development concessions program. However, in a region where competing locations have taken or are instituting measures to liberalize export regimes to aggressively attract investment in export processing activities, Belize has fallen far behind. In

such cases, a comprehensive free zone program is perhaps the most effective means to enhance and solidify a market position. By eliminating the discretionary element in the granting of incentives and initiating a "one-stop-shop" for free zone investors, Belize can greatly enhance its competitive position.

9.06 From a different perspective, the construction of an attractive, fully serviced industrial facility will provide the industrial space that is sorely needed in the country, a demand that has been evidenced from both foreign and local businesses. By building up the available stock of industrial space, the free zone will allow Belize to capture those investors who wish to move quickly or are hesitant to take the risk to invest in the construction of their own buildings.

9.07 **The demand for free zone space in the Caribbean is strong and a Belize free zone can expect to capture a portion of that demand.** The analysis conducted of the regional demand for zone facilities indicates that there is more than enough "room for Belize." The phenomenal growth in demand for zone space in the 1980s has yet to peak, and while regional leaders such as the Dominican Republic, Jamaica and Costa Rica have initiated aggressive EPZ development programs, demand for multiple offshore production locations has never been more buoyant. With its unique industrial country market access abilities, natural resource base and high political stability, Belize is well positioned to capitalize on the regional investment trends and capture a portion of the market.

9.08 **There is considerable U.S. and Belizean investor interest in a Belize free zone project.** The market survey conducted revealed a significant level of demand for direct investment in plant and equipment, despite the small size of the sampling. U.S. firms familiar with the region view Belize as an attractive investment location, due in large part to the shared cultural heritage and absence of a language barrier. Local exporting firms are also very interested in the project, especially as a means to obtain high-quality facilities, infrastructure and services, and to operate with a minimum of "red tape." The results also indicate that apparel firms and other light manufacturers will initially be the principal zone users.

9.09 **The Santa Elena area of Belize can support free zone development.** The investigations and analyses conducted indicate that Santa Elena is a viable location for establishing a free zone project. The town of Corozal and surrounding communities possess a sufficient labor pool to meet the basic requirements of the targeted industries for EPZ development of a modest scale. Although skilled technicians and managers are lacking, they can and should be allowed to be brought in from elsewhere in the country or from foreign locations. Historic patterns in worker mobility indicate that should demand for the project warrant, sufficient labor would also be attracted from more distant parts of the country. The transportation linkages for both the zone workforce and the incoming and outgoing goods are adequate to

meet the demands of the user industries. The primary attraction of the existing commercial free zone as a site for EPZ development is the possibility for reliable, lower-cost electricity. While this continues to be an important consideration, it is not of over-riding importance. Other sites in the general area may offer much of the same advantages and ameliorate many constraints.

9.10 **The MED should take the lead role in regulating the development of a free zone program and BEIPU should undertake zone promotion.** The experience of the MED in administering the development concessions program and the role that it has played as a coordinating office for governmental economic policymaking make it the most appropriate institution to design and implement the free zone program as well, in conjunction with other key agencies. Likewise, BEIPU has already begun to establish the resources and programs needed to promote export industry and has succeeded in securing investment in the country. The initiation of a free zone promotional effort would complement BEIPU's existing programs and build upon the capabilities already established.

B. PRINCIPAL RECOMMENDATIONS

9.11 The following discussion summarizes the primary recommendations to facilitate zone development in Belize.

9.12 **Configure the free zone as an industrial park with EPZ incentives.** The optimal approach for zone development is to allow for the dual utilization of the park infrastructure by both EPZ and non-EPZ companies. As very successful zones in other countries have demonstrated, the financial stability and overall market appeal of industrial facilities can be greatly enhanced by allowing a spectrum of occupants in the park. Companies operating under an EPZ regime will have to comply with specific regulations and security measures. Alternatively a physically distinct area could be set aside for export-oriented firms operating under an EPZ regime. The value of this approach is that the prospects for project success are greatly enhanced, the demand of local manufacturers for quality industrial space is met, and the potential for the creation of sourcing relationships between free zone firms and local industry are greatly enhanced. While the specific design and overall strategy needs to still be formulated, the approach holds considerable promise for Belize.

9.13 **Investigate the viability of establishing a bilateral agreement with Mexico.** The viability of an EPZ in Belize generally, and in the northern districts in particular, will be greatly enhanced through a bilateral agreement with Mexico. The recommended approach is to reach agreement in four basic areas: the preferential and duty-free access to each other's markets; the procurement of electrical power from Mexico at preferential rates; determination of a joint approach to the possibility that labor will be attracted from across the border to the zone

project; and the streamlining of the Customs formalities. Negotiations regarding electricity provision are already underway. The move towards preferential market access has been greatly facilitated with the agreement and subsequent formalization of the US$5 million credit line to finance Mexican exports to Belize. If the envisaged one-way duty-free access to the Mexican market for Belizean products is also passed, the movement to freer trade will accelerate. A necessary corollary to these activities is the need to greatly reform and liberalize Mexican (and Belizean) Customs practices to expedite transshipment of products across the common border. Mexico has had many years of a similar system with the "border zone program" along the U.S. and Mexican border, which should be relevant to this proposal.

9.14 The treatment of the issue of employment of Mexican workers within the zone project should reflect the overall policy of the GOB in regard to migrant, unskilled labor and the employment of expatriate technical and managerial personnel. As discussed earlier, the zone programs which have had the most success and which have been supported by the local workforce have been those where the regulations governing the zone labor are equivalent to those in force outside the zone. The problems and conflicts inherent in allowing "privileged" status to zone industries generally far outweigh the advantages. Belize's historically open policies vis-a-vis worker visas, guest worker programs, and the like, provide a strong precedent for permitting similar flexibility within the free zone. As in the past, Belizean workers would be given precedent over their foreign counterparts should local personnel in sufficient quantity be available to meet the demands of the user firms.

9.15 **Representatives of public and private sector institutions should meet to discuss the operational aspects of developing of a zone program.** The Belizean government, and the MED in particular is experienced in the administration and regulation of investment incentives. The existing capabilities will serve as the basis for the establishment and supervision of a free zone regime. However, MED's role as a coordinator of economic policy development and implementation, must be strengthened if the free zone program is to succeed. The full cooperation of the Central Bank, Customs, and other government agencies is crucial to its expeditious administration. Likewise, BEIPU must develop a tailored promotional program to attract zone users to Belize in one of the most competitive regions in the world today. The careful integration of the activities of both institutions will provide the institutional foundation for the project's success.

ANNEX A
LABOR AVAILABILITY ANALYSIS

ANNEX A: LABOR AVAILABILITY ANALYSIS

A. INTRODUCTION

The purpose of this annex is to analyze past growth trends in the Belizean labor force and to forecast the availability of labor over the near-term. Specific attention is paid to the characteristics and growth of the existing and potential labor force in the Corozal/Santa Elena area, especially entry-level female labor appropriate for most light manufacturing activities undertaken in an EPZ.

Accurate and current labor statistics are not generally available in Belize. The the last comprehensive population census was undertaken in 1980, and most recent statistics on the labor force are merely extrapolations of that data. In analyzing and projecting the size and characteristics of the Belizean workforce, this annex has utilized data derived from a number of official sources. /1 Comparative data for verification purposes was obtained through the Social Security Office, and through direct interviews with relevant individuals in the private and public sectors.

B. NATIONAL POPULATION CHARACTERISTICS AND TRENDS

1. Size and Growth

Table A-1 depicts the overall pattern of Belizean population growth since 1970 to date. Despite having one of the highest fertility rates in the world, the population of Belize has grown slowly. As can be seen during the last intercensal period (1970-80), total population growth (1.9 percent per annum) did not keep in pace with the natural population growth rate (4.3 percent yearly). This has been due primarily to high rate of emigration to the United States and other countries. Since 1970, as Table A-1 shows, this outflow of labor has more than balanced the increasing immigration from neighboring countries: net immigration was negative, implying that emigrants outweighed immigrants by approximately 30,000 persons during 1970-86. /2

/1 Primary sources included: (1) Caricom, 1980-1981 Population Census of the Commonwealth Caribbean: Belize, May 1985; (2) Central Statistical Office, Belize Labour Force Survey 1983-84: Preliminary Report, August 1984; (3) Central Statistical Office, Abstract of Statistics 1985, August 1985; (4) Central Statistical Office, Abstract of Statistics 1987, October 1987.

/2 These figures should be treated with caution because immigration into Belize -- frequently illegal -- has been poorly documented. Still, it is estimated that upwards of 60,000 Belizeans have emigrated to the U.S. alone.

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TABLE A-1
POPULATION TRENDS

	1970a	1980a	1986b	1988c	Ave. Annual Growth (d) 70-80	80-86
Total Population	119934	145353	170382	179651	1.9%	2.7%
Total Live Births	4455	6264	6178	6149	3.5%	-0.2%
Crude Birth Rate (per thousand)	36.9	43.1	36.3	34.3		
Total Deaths	813	717	716	713	-1.3%	-0.2%
Crude Death Rate (per thousand)	6.7	4.9	4.2	3.9		
Natural Annual Population Growth	3642	5547	5462	5445	4.3%	-0.2%
Implied Net Migration	--	-20584	-6411	/1		

(a) Data compiled from CARICOM, 1980-81 Population Census of the Commonwealth Caribbean, 1985
(b) Estimates provided in CSO, Abstracts of Statistics 1987, October 1987
(c) Estimates derived from extrapolation of 1980-86 growth patterns
(d) Compounded annual average growth rates. In terms of an exponential growth rate, the 1970-80 natural population increase would be equivalent to 1.84% per annum.

However, there are several indications that this pattern may be completely reversed of late. /2

2. Demographic Characteristics

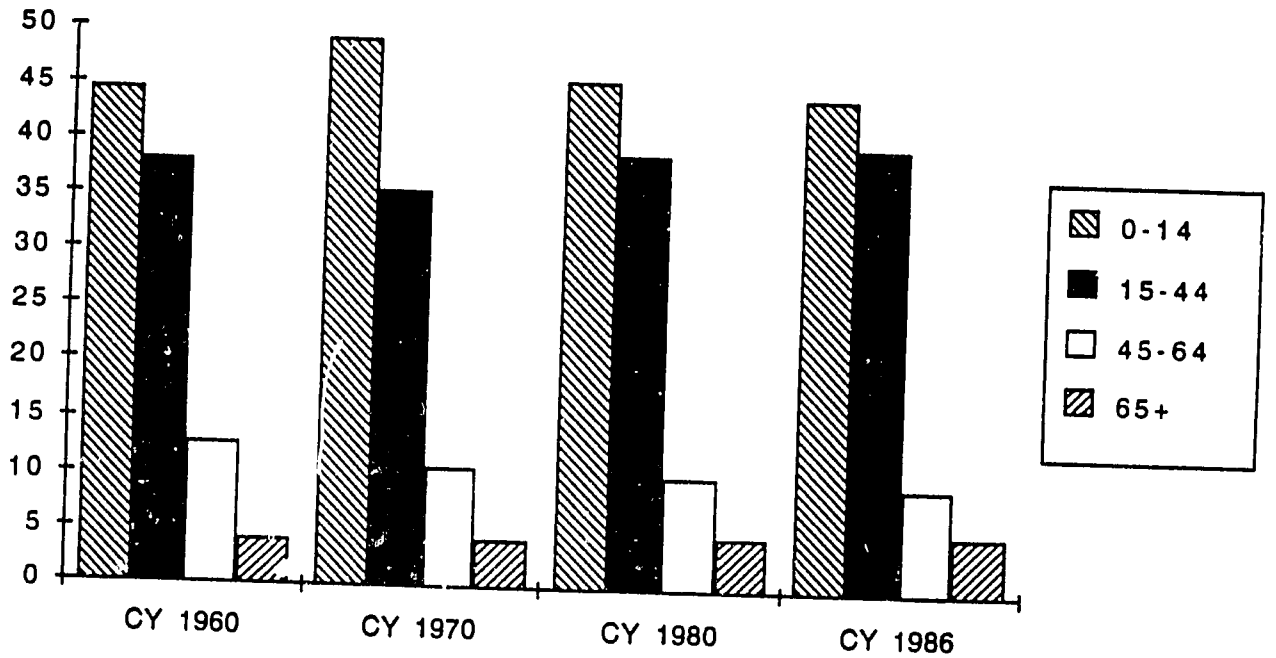
The Belizean population is very young. In 1960, over 44 percent of the total population was under the age of 14 years. In 1980, census data had indicated that 58 percent of the population were less than 20 years; 73 percent were under 30 years of age.

The population distribution reflects the high fertility rate of the country and increasing emigration. This can be seen in

/1 "Implied net migration" is derived by comparing the natural increase of the population (births minus deaths) with the increase in total population actually recorded.

/2 Emigration to the U.S. has slowed considerably due to U.S. government restrictions. This has happened at the same time that immigration from other Central American countries (Honduras, Guatemala and El Salvador) and Mexico has grown.

FIGURE A-2
PERCENTAGE DISTRIBUTION OF POPULATION
BY AGE (1960-1986)



Source: See Table A-1

Table A-2 above depicts the distribution of the population by broad age groups over the period 1960-86. As indicated, the population growth rate has not been uniform across the age groups. Between 1970 and 1980, the population as a whole grew by 21 percent, the population under 15 grew by only 11 percent, and the population between 35 and 65 grew by only 10 percent. In contrast, the 15 to 35 years age group grew only 8 percent, and the population aged 65 and over grew by 26 percent. This lack of a uniform growth rate typically found reflects three factors: the recent decreases in the still high fertility rate; the somewhat reduced emigration possibilities for the 15-34 age group born after 1965; and heavy emigration of the 35-65 age group in the 1950s and 1960s. /1

The age structure and growth rates of the population has serious implications for near-term size and growth. Given the high percentage of the population under 20 years, population size will increase rapidly over the next few years, even if fertility rates

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/1 These conclusions are generally supported by population growth patterns since 1980. Over the period 1980-86 the population under 15 grew by 29%; 15-35 by 24.5%; 35-64 by only 14%; and 65 and over by 30.5%.

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TABLE A-3
POPULATION GROWTH BY DISTRICT AND SEX

	1960	1970	1980	1986	Total Increase 1960-70	1970-80
Total Pop.	90505	119934	145353	170382	35.52%	21.19%
Males	44659	60091	73617	86332	34.56%	22.51%
Females	45864	59843	71736	84050	30.48%	19.87%
Belize	40084	49355	50801	59549	23.13%	2.93%
Males	18895	23938	25005	29311	26.69%	4.46%
Females	21189	25417	25796	30238	19.95%	1.49%
Corozal	9730	15551	22902	26846	59.83%	47.27%
Males	5020	8150	12000	14066	62.35%	47.24%
Females	4710	7401	10902	12779	57.1[illegible]%	47.30%
Orangewlk	10306	17041	22870	26808	65.35%	34.21%
Males	5387	8918	12004	14071	65.55%	34.60%
Females	4919	8123	10866	12737	65.14%	33.77%
Cayo	11764	15975	22837	26769	35.80%	42.95%
Males	6203	8338	11549	13538	34.42%	38.51%
Females	5561	7637	11288	13232	37.33%	47.81%
Stann Crk	10906	13023	14181	16623	19.41%	8.89%
Males	5365	6364	7140	8369	18.62%	12.19%
Females	5541	6659	7041	8253	20.18%	5.74%
Toledo	7715	8989	11762	13787	16.51%	30.85%
Males	3789	4383	5919	7088	15.68%	35.04%
Females	3926	4606	5843	6740	17.32%	26.86%

Source: Derived from CSO, Abstract of Statistics 1987. 1986 figures are rough estimates based upon 1970-80 growth.

fell. This would be further accentuated if emigration levels slowed and immigration increased as is currently the trend.

3. Population by Location and Sex

Table A-3 above measures the increase in population by geographic location and sex. Unlike its regional neighbors, Belize is an under-populated country with about 8 persons/sq.km. Belize City is the country's major population center, accounting for about one third of total population since 1960. As indicated, the most rapid population growth between 1970-80 was experienced by the northern districts of Corozal (47 percent) and Orangewalk (34 percent). In sharp contrast, Belize district generally and

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Belize City specifically grew only marginally during the same period. /1

C. NATIONAL LABOR FORCE CHARACTERISTICS AND TRENDS

1. Labor Force Participation

Table A-4 details the changes in overall Belizean employment and labor force composition since 1960. The portion of the working age population which is classified as economically active totaled 33,360 in 1970 and grew by 40 percent or 46,457 in 1980. By 1986, the labor force had increased by an additional 22 percent to 56,600.

The growth in the labor force has mostly kept in pace with the increase in the size of the working age population. This is further reflected in the labor force participation rate which has remained consistently about 55 percent of the working age population. The most remarkable trend has been the increased rate of participation of women in the formal economy. In 1960, less than 21 percent of women in the working age population were economically active. In 1986, the labor force participation rate had more than doubled to 43 percent, representing an annual average growth rate of 9.6 percent in 1980-86 alone.

The labor force statistics in Belize understate true employment and hide the significant underemployment that characterizes the labor force. In addition to the students, retired and disabled individuals who are considered "inactive", the "economically active" figure also excludes persons who perform "home duties". This has the distorting effect of understating the total number of persons actually employed. Also excluded are the significant numbers of people involved in the informal sector. /2

2. Unemployment and Underemployment

No accurate unemployment data is available since the last population census in 1980 when unemployment was estimated at more

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/1 Unlike most other developing countries, Belize is experiencing faster growth in its rural areas relative to its cities. Because most of the emigration out of the country originates from Belize City, it has grown slowly over the past decade. Between 1960-70, the population of Belize City actually decreased by 2.6 percent and remained mostly unchanged between 1970-80. During the same period, rural Corozal and Orangewalk experienced rapid growth (60 percent and 65 percent respectively in 1960-70 and 43 percent and 33 percent respectively in 1970-80).

/2 The number of people that are excluded by this classification are considerable. In 1980, over 70 percent of "economically inactive" females were classified as domestic workers.

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TABLE A-4
EMPLOYMENT AND LABOR FORCE PARTICIPATION

	1960	1970	1980	1984	1986
Total Population	91,000	120,670	145,353	162,000	170,382
Males	46,000	60,577	73,617	84,240	86,332
Females	45,000	60,093	71,736	77,760	84,050
Working Age Pop.	46,300	55,624	71,510	80,500	87,300
Males	22,600	27,779	36,414	41,100	44,700
Females	23,700	27,845	35,096	39,400	42,600
Economically Activ	27,000	33,360	46,457	52,200	56,600
Males	22,100	27,348	35,830	35,200	38,200
Females	4,900	6,012	10,627	17,000	18,400
Total Employment	24,900	31,465	39,806	44,900	48,100
Males	20,000	25,484	31,782	32,000	34,300
Females	4,900	5,981	8,024	12,900	13,800
Labor Force Partic	58.32%	59.97%	55.66%	55.78%	55.10%
Males	97.79%	98.45%	98.40%	85.64%	85.46%
Females	20.68%	21.59%	30.28%	43.15%	43.19%
Unemployment	7.78%	5.68%	14.32%	13.98%	15.02%
Males	9.50%	6.82%	11.30%	9.09%	10.21%
Females	.00%	.52%	24.49%	24.12%	25.00%

GROWTH RATES

	Yearly Growth Rates			Total Change		
	1960-70	1970-80	1980-86	1960-70	1970-80	1980-86
Total Population	2.90%	1.90%	2.60%	24.59%	20.45%	17.22%
Males	2.80%	2.00%	2.70%	24.06%	21.53%	17.27%
Females	3.00%	1.80%	2.60%	25.12%	19.37%	17.17%
Working Age Pop.	1.90%	2.50%	3.40%	16.76%	28.56%	22.08%
Males	2.10%	2.80%	3.50%	18.64%	31.08%	22.75%
Females	1.60%	2.50%	3.30%	14.89%	26.04%	21.38%
Economically Activ	1.50%	3.40%	3.30%	19.06%	39.26%	21.83%
Males	1.40%	2.60%	1.10%	19.19%	31.02%	6.61%
Females	1.90%	5.90%	9.60%	18.50%	76.76%	73.14%
Total Employment	2.40%	2.40%	3.20%	20.86%	26.51%	20.84%
Males	2.50%	2.20%	1.30%	21.52%	24.71%	7.92%
Females	2.00%	3.00%	9.50%	18.07%	34.16%	71.98%

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TABLE A-5
UNEMPLOYMENT BY AGE AND SEX
(Percentages)

Age Group	1970 Male	1970 Female	1970 Total	1980 Male	1980 Female	1980 Total
15-19	18.1	12.5	16.8	14.1	13.2	13.9
20-24	6.2	2.2	5.3	5.4	4.5	5.2
25-34	2.3	1.3	2.2	2.3	1.3	2.1
35-44	2.5	0.1	2.2	1.6	0.3	1.4
45-54	2.1	0.8	1.9	1.1	0.8	1.0
55-64	2.1	1.6	2.0	1.4	0.3	1.2
65+	0.9	0.5	0.9	1.0	0.9	1.0
All Ages	6.1	4.3	5.7	9.1	24.1	14.0

Source: Caricom, 1980-1981 Population Census., Vol. 3

than 14.3 percent of the labor force -- a sharp increase from 5.7 percent in 1970. In 1986, unemployment was estimated at 15 percent of the labor force, with fully a quarter of the female workforce unemployed. Today, the national unemployment rate is estimated to have increased to over 15 percent. Unemployment also appears to be an acute problem among the young as indicated by Table A-5. In 1980, more than two-thirds of the unemployed were in the 15-19 age group. However, due to recent increases in economic growth, this situation may have eased somewhat.

Underemployment is fairly widespread in Belize. This is especially true because so many workers have alternate sources of income (e.g., remittances). Underemployed workers generally fall into two groups: those that are working in part-time jobs but would like full-time employment and those whose skills are underutilized in their present jobs. The large numbers of household domestic workers and low female labor force participation rates indicates the good availability of female labor for a free zone.

An indication of the extent of underemployment and formal unemployment is given in Table A-6. In 1980 at least, Belize City accounted for the largest pocket of unemployment, with over 7 percent of the male labor force and almost 2 percent of the female labor force unemployed. This situation has almost certainly worsened as national unemployment has increased of late. The extent of underemployment in the workforce is indicated by the very large number of females engaged in domestic work. This is especially notable of Orangewalk and Corozal where more than 80 percent of the workforce was underemployed.

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TABLE A-6
UNEMPLOYMENT AND UNDEREMPLOYMENT BY LOCATION AND SEX (1980)
(Percentages)

	UNEMPLOYMENT		UNDEREMPLOYMENT	
Area	Males	Females	Males	Females
Belize City	7.1	1.7	0.6	54.3
Belize District	3.9	1.6	0.3	68.8
Corozal	1.9	0.1	0.3	80.3
Orangewalk	1.4	0.4	0.4	85.9
Stan Creek	5.0	1.3	0.8	64.6
Toledo	2.8	0.2	0.2	83.8
Cayo	3.4	0.8	0.6	78.0
Belmopan	4.2	0.8	0.3	50.5

Notes: Data compiled from Caricom 1980 population census. "Underemployment" is defined as persons engaged in domestic "home duty" activities.

D. EMPLOYMENT AND LABOR FORCE PARTICIPATION IN NORTH BELIZE

The northern parts of Belize consisting of Corozal and Orangewalk districts, have historically experienced sustained population growth, with the exception of the recent down-turn in the regional economy. Between 1960 and 1980, total population in those areas was estimated to have increased 128 percent. By contrast, the population of Belize district (76 percent of which is resident in Belize City) grew by less than 2 percent during the same period.

Employment and participation in the formal economy is much harder to pinpoint given the lack of data. Table A-9 provides some information on the overall trend in employment in the various districts. Unfortunately, it also reflects the tremendous data gaps that exist in this area.

As can be seen, the working age population (i.e, persons between the ages of 15-65) in Belize district increased by 88 percent between 1960-86, exceeding the general increase in population during the same period. It is not clear what the growth rate has been in other districts. The only clear trend is that employment opportunities appear to be slowing. Between 1970-80, total employment country-wide increased by almost 27 percent. In 1980-84, it had only risen by 13 percent. Employment in Belize district only increased marginally during the same period; total employment in Corozal district actually fell by 12 percent.

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TABLE A-9
EMPLOYMENT AND LABOR FORCE PARTICIPATION BY DISTRICT

	1960	1970	1980	1984	1986	1988
Total Population	91,000	120,670	145,353	162,000	170,382	179,357
Belize	40,084	49,355	50,801	51,413	51,722	52,033
Corozal	9,730	15,551	22,902	26,689	28,812	31,103
Orangewalk	10,306	17,041	22,870	25,740	27,308	28,971
Cayo	11,764	15,975	22,837	26,409	28,400	30,540
Stann Creek	10,906	13,023	14,181	14,698	14,964	15,235
Toledo	7,715	8,989	7,520	6,993	6,744	6,503
Working Age Pop.	46,300	55,624	71,510	80,500	87,300	93,337
Belize			26,152			
Corozal			10,961			
Orangewalk	N/A	N/A	10,945	N/A	N/A	N/A
Cayo			10,760			
Stann Creek			6,467			
Toledo			5,065			
Labor Force	27,000	33,360	46,457	52,200	56,600	60,397
Belize			18,693			
Corozal			7,087			
Orangewalk			6,568			
Cayo			6,630			
Stann Creek			4,511			
Toledo			2,968			
Total Employment	24,900	31,645	39,806	44,900	48,100	51,228
Belize			14,195	14,770		
Corozal	N/A	N/A	6,240	5,498	N/A	N/A
Orangewalk			6,127	6,943		
Cayo			5,819	7,329		
Stann Creek			3,474	3,280		
Toledo			2,608	2,880		

Notes: Data has been compiled from the 1983-84 Labour Force Survey, but must be interpreted with caution. Numbers may not add up due to rounding.

E. POPULATION AND LABOR FORCE FORECASTS

1. Methodology

The labor forecasts presented in this annex are based upon extrapolations of past growth trends derived from the 1980-81 census, the 1983-84 labor force survey, and annual statistical bulletins. Although an unlimited number of alternative forecasts could be developed, given the general lack and unreliability of data, the overall results would be largely inconclusive and could be misleading. For the purposes of this analysis, the most useful approach is to consider a reasonable combination of

TABLE A-10
EMPLOYMENT AND LABOR FORCE PARTICIPATION FORECASTS

	1988	1989	1990	1991	1992	1993
Total Population	179,534	184,293	189,178	194,193	199,341	204,625
Males	91,057	93,515	96,040	98,633	101,297	104,032
Females	88,477	90,778	93,138	95,560	98,044	100,593
Working Age Pop.	93,342	96,518	99,802	103,198	106,710	110,341
Males	47,884	49,560	51,294	53,090	54,948	56,871
Females	45,458	46,958	48,508	50,108	51,762	53,470
Econ. Active Pop.	61,147	63,699	66,458	69,446	72,684	76,194
Males	39,045	39,475	39,909	40,348	40,792	41,240
Females	22,102	24,224	26,550	29,098	31,892	34,954
Labor Force Part.	65.51%	66.00%	66.59%	67.29%	68.11%	69.05%
Males	81.54%	79.65%	77.80%	76.00%	74.24%	72.52%
Females	48.62%	51.59%	54.73%	58.07%	61.61%	65.37%

Source: TSG estimates

circumstances and forecasts that is likely to occur in Belize in the very short-term.

The scenario developed incorporates the following primary assumptions:

- total population growth will increase at 2.7 percent per annum, following the estimated yearly growth pattern in 1980-86;
- the natural population growth rate will not change substantially in the near-term;
- the fertility rate will at the same rate (far above replacement levels);
- net migration levels will reach equilibrium levels with emigration decreasing and immigration from neighboring countries rising.

Although the population forecasts generated are crude estimates, they are useful as parameters of the possible growth in the laborforce, and by extension, the availability of labor for an EPZ in the Corozal/Santa Elena area.

2. Forecasted Results

In order to estimate what the current and near-term availability of labor in the Santa Elena area, the analysis must begin at a macro-economic level and project the overall increase in

TABLE A-11
EMPLOYMENT AND LABOR FORCE PARTICIPATION FORECASTS BY DISTRICT

	1988	1989	1990	1992	1993	1994
Total Population	179,534	184,293	189,178	194,193	199,341	204,625
Belize	52,210	53,594	55,015	56,473	57,970	59,507
Corozal	31,103	31,928	32,774	33,643	34,534	35,450
Orangewalk	28,971	29,739	30,527	31,336	32,167	33,020
Other	52,278	53,664	55,086	56,547	58,045	59,584
Working Age Pop.	93,342	96,518	99,802	103,198	106,710	110,341
Belize	34,136	35,298	36,499	37,741	39,025	40,353
Corozal	14,307	14,794	15,298	15,818	16,356	16,913
Orangewalk	14,286	14,773	15,275	15,795	16,333	16,888
Other	29,098	30,088	31,112	32,170	33,265	34,397
Labor Force	61,147	63,699	66,458	69,446	72,684	76,194
Belize	24,604	25,631	26,741	27,943	29,246	30,658
Corozal	9,328	9,717	10,138	10,594	11,088	11,623
Orangewalk	8,645	9,006	9,396	9,818	10,276	10,772
Other	18,570	19,345	20,183	21,091	22,074	23,140
Total Employment	51,744	53,774	55,958	58,313	60,852	63,594
Belize	17,021	17,689	18,408	19,182	20,018	20,919
Corozal	6,336	6,585	6,852	7,140	7,451	7,787
Orangewalk	8,001	8,315	8,653	9,017	9,410	9,834
Other	15,545	16,155	16,811	17,518	18,281	19,105
Labor Force Part.	65.51%	66.00%	66.59%	67.29%	68.11%	69.05%
Belize	72.08%	72.61%	73.27%	74.04%	74.94%	75.98%
Corozal	65.20%	65.68%	66.27%	66.97%	67.79%	68.72%
Orangewalk	60.51%	60.96%	61.51%	62.16%	62.92%	63.78%
Other	63.82%	64.30%	64.87%	65.56%	66.36%	67.27%

Source: TSG estimates

population. As shown in Table A-10, in spite of the effects of emigration and other attrition, it is estimated that the Belizean population will increase by 11 percent by 1992 to almost 200,000 persons. The growth in the working age population (ages 15 to 65) is likely to be greater, in excess of 14 percent during the same period.

The growth in the Belizean labor force is expected to accelerate as larger numbers of enter the workforce. Between 1988-92, the labor force is forecasted to increase by 19 percent; equivalent to about 2,300 new entrants per annum. The number of females entering the labor force is projected to increase sharply (44 percent) during this period, far out-pacing the increase in the male labor force. This is reflected in labor force participation rates. Today, only 48 percent of working age females are economically active. If current trends continue, it is expected that female labor force participation will reach 60 percent,

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TABLE A-12
ANALYSIS OF LABOR AVAILABILITY IN NORTHERN BELIZE

	1988 (%)	1992 (%)
(1) Total Working Age Pop.	28,593	32,689
- Male	14,502 (51)	16,671 (51)
- Female	14,091 (49)	16,018 (49)
(2) Total Labor Force	17,973	21,364
- Male	11,682 (65)	12,177 (57)
- Female	6,291 (35)	9,187 (43)
(3) Total Eligible Workforce	11,682 (65)	16,579 (78)
- Male	9,253 (68)	10,279 (62)
- Female	2,429 (32)	6,300 (38)
(4) Unemployment	3,055 (17)	3,205 (15)
- Male	1,388 (15)	1,826 (15)
- Female	3,145 (50)	4,593 (50)
(5) Underemployment	14,296 (50)	14,710 (45)
- Male	72 (.5)	83 (.5)
- Female	10,568 (75)	9,611 (60)

Notes: (1) Working age population is defined as between the ages of 15-44. The age distribution of the Corozal and Orangewalk are assumed to be similar to the national distribution.
(2) Labor force is defined as that percentage of the working age population that is economically active.
(3) The "eligible" workforce is an estimate of the total labor force that is between the ages of 15-44.

though further increases are naturally limited by child rearing and other traditional responsibilities.

Table A-11 disaggregates forecasted employment and labor force statistics by location. As can be seen, the working age population of Corozal and Orangewalk are expected to increase by about 14 percent between 1988-92 to more than 32,600. The projected labor force is expected to grow by more than 3,300 persons to 21,000. Table A-11 also indicates the pattern of increased labor force participation. As indicated, by 1992, about 65 percent of the working age population in Corozal and Orangewalk districts will be economically active.

3. Conclusions

The ability to draw accurate conclusions from this analysis is limited by the fundamental lack of verifiable primary data. However, the foregoing analysis has revealed certain patterns,

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which, taken together, are indicative of the future growth and development of the Belizean labor force. The most important findings are the following:

- population and labor force growth have been the most rapid in the northern districts relative to the primary population center of Belize City.

- emigration from Belize City and immigration into (primarily) northern Belize is slowing population growth in Belize City. The rural population is growing faster than the urban population.

- unemployment has been increasing over the past decade (the recent economic upturn notwithstanding) as more people enter the labor force and net out-migration slows.

- the high fertility rate of Belize has resulted in a very young population. In 1980, about 40 percent of the population was in the 15-44 year age group. In 1988 this has been estimated to increase to 65 percent; it is forecasted to further grow to 78 percent by 1992.

- participation by women in formal economic activities is accelerating at an annual average rate of 9.6 percent. By 1992, female labor force participation is expected to reach 60 percent.

- underemployment is widespread in Belize. Estimates of underemployment of the female labor force are about 50 percent in urban areas and more than 80 percent in rural areas. The female population of Corozal and Orangewalk are particularly underemployed. This will certainly increase if economic activity slows.

- the Belizean population evidences a high rate internal migration. In 1980, more than 6,000 of Belize City residents were born elsewhere in the country. Corozal and Orangewalk had the highest numbers of native born, as well as the highest number of foreigners. This has certainly increased as immigration from neighboring countries has increased.

Table A-12 on the previous page summarizes the labor force forecasts and assesses the question of labor availability in northern Belize -- consisting of Corozal and Orangewalk districts. In interpreting the results, the primary labor requirements of free zone industries should be kept in mind. Light manufacturing industries typically located in EPZs generally employ unmarried, basically entry-level unskilled, female labor force, usually within the ages of 15-45. As shown by Table A-12, the size of the overall female labor force in 1988 (6,291) and 1992 (9,187) are sizable. The number of females estimated to be within the 15-44 year age group (the primary target population) is expected to increase from 2,400 to 6,300 by

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1992. /1 The high number of household domestic workers indicated by the "underemployment" figures in Table A-12 point to the good availability of female labor as more become more fully employed.

/1 It should be kept in mind that the relevant time frame for the labor availability analysis is the next 3-5 year period. Certainly, it will take at least 1-2 years (until 1990) for an EPZ to commence construction and slowly begin operations.

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ANNEX B
DIRECT MARKET SURVEY INTERVIEWS

U.S. APPAREL MANUFACTURERS SURVEYED

Company: American Argo Corporation
Contact: Michael Curcio, Senior Vice President
Address: 350 Fifth Avenue
New York, NY 10118
Telephone: 212-613-9200
U.S. Plants: Georgia (2)
North Carolina (4)
Pennsylvania (4)
South Carolina (1)
Offshore Plants: None
Offshore Subcontracting: CBI
Principal Products: Men's, boy's, women's, and infant's apparel.

Level of Interest: 5
Immediate Space Requirements: 0

Response: American Argo Corporation has had relatively good experiences with subcontracting work to manufacturers in the Dominican Republic, but was deeply unsatisfied with previous efforts to engage manufacturers in Haiti. Mr. Curcio feels that American Argo Corporation will be basing more operations in the CBI region in the future, and expects manufacturing quality and production processes in the region to improve over time. According to Mr. Curcio, Far Eastern manufacturers are investigating new manufacturing locations in the CBI, including Belize. American Argo is potentially interested in Belize, but Mr. Curcio has reservations concerning adequate supplies of labor and the difficulties of business transition.

Key Free Zone Factors: Abundant labor; a minimum level of production quality; simple start-up procedures and requirements; necessary infrastructure; and acceptable turnaround times.

Company: American Uniform Co.
Contact: Gary Smith, President
Address: P.O. Box 2130
Cleveland, TN 37311
Telephone: 615-476-6561
U.S. Plants: California (1)
Colorado (1)
Connecticut (1)
Georgia (1)
North Carolina (1)
Oregon (1)
Tennessee (2)
Offshore Plants: Tunisia (1)
Offshore Subcontracting: None

Principal Products: Work clothing.

Level of Interest: 0
Immediate Space Requirements: 0

Response: American Uniform has recently completed construction of additional facilities in the United States. Typical garments manufactured by American Uniform have a low labor component, therefore cost savings from a cheap-labor offshore location are not significant.

Key Free Zone Factors: Dedicated, inexpensive labor.

Company: Angelica Uniform Group
Contact: Gene Byrd, Vice President Manufacturing
Address: P.O. Box 466
St. Louis, MO 63112
Telephone: 314-889-1111
U.S. Plants: Florida (1)
Mississippi (2)
Missouri (3)
Tennessee (3)
Offshore Plants: Costa Rica (1)
807 Subcontracting: None
Principal Products: Career apparel and work uniforms.

Level of Interest: 8
Immediate Space Requirements: 15,000 sq.ft.

Response: Angelica Uniforms Group is highly interested in Belize as a possible manufacturing location. Mr. Byrd has investigated Belize closely in the past, but still harbors reservations concerning local manufacturing support mechanisms such as infrastructure and competent 807 experience by Belizean officials and the labor force. Mr. Byrd also expressed reservations concerning in-bond trucking as a primary means for transporting apparel inputs and final goods, preferring ocean freight.

Key Free Zone Factors: Adequate infrastructure; reliable transportation; and efficient customs procedures.

Company: The Barbizon Corporation
Contact: Sondra Robinson, Vice President Planning
Address: 475 Fifth Avenue
New York, NY 10017
Telephone: 212-684-5720
U.S. Plants: New Jersey (1)
Pennsylvania (1)
Puerto Rico (1)

Offshore Plants: Phillipines (3)
Offshore Subcontracting: Far East and CBI
Principal Products: Women's apparel and accessories.

Level of Interest: 0
Immediate Space Requirements: 0

Response: The Barbizon Corporation prefers the quality and price of the Far East and has only utilized 807 to a small degree. Ms. Robinson was not at all familiar with Belize and doubted whether Barbizon would consider such an unknown location.

Key Free Zone Factors: Established manufacturing base; ease in establishing operations and conducting business.

Company: The William Carter Company
Contact: Norman Cohen, Vice President Manufacturing
Address: 963 Highland Avenue
Needham, MA 02194
Telephone: 404-228-0930
U.S. Plants: Georgia (8)
Mississippi (3)
Texas (3)
Offshore Plants: None
Offshore Subcontracting: Mexico
Principal Products: Infant's and children's wear, sleepwear.

Level of Interest: 0
Immediate Space Requirements: 0

Response: The William Carter Company is currently investigating the Dominican Republic for subcontracting operations, and possibly other locations for direct investment within the next two or three years. Mr. Cohen's lack of knowledge concerning Belize prohibited him from expressing interest in the location, but he reacted favorably to the project and the involvement of Mexican workers, whom he regarded highly.

Key Free Zone Factors: Labor complimentarity and cost; efficiency in transportation and procedures; government committment to foreign investment and private sector.

Company: Champion Products Inc.
Contact: Thomas Sheehy, Vice President Operations
Address: P.O. Box 850
Rochester, NY 14603
Telephone: 716-385-3200
U.S. Plants: New York (4)
North Carolina (3)

Offshore Plants: None
Offshore Subcontracting: Far East
Principal Products: Athletic uniforms, casual wear.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Over 95 percent of Champion's products are produced in the United States due to their heavy weight; transportation costs for the materials are simply too high to warrant moving labor-intensive operations offshore. Champion Products also maintains that a "made in the USA" label is good for business.

Key Free Zone Factors: Reliable, cheap transportation to the primary market.

Company: Coordinated Apparel, Inc.
Contact: Irving Hochberg, Executive Vice President Operations
Address: 90 Park Avenue
New York, NY 10016
Telephone: 212-573-9750
U.S. Plants: Georgia (7)
North Carolina (4)
Pennsylvania (3)
South Carolina (1)
Offshore Plants: Dominican Republic (1)
Offshore Subcontracting: CBI
Principal Products: Knit shirts, pants, and shorts.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Coordinated Apparel, Inc. is currently satisfied with their operations in the Dominican Republic, and have no plans for expansion either in the Caribbean or the United States. Mr. Hochberg was not familiar with Belize and was not interested in the free zone project.

Key Free Zone Factors: Infrastructure; positive work ethic; competent local management; political stability; and positive record in 807 apparel operations.

Company: Crystal Brands, Inc.
Contact: John Schofield, Vice President Sourcing
Address: Crystal Brands Road
Southport, CT. 06490
Telephone: 203-254-6200
U.S. Plants: Georgia (1)
Puerto Rico (1)
Rhode Island (1)

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Offshore Plants: Dominican Republic (1)
Offshore Subcontracting: CBI
Principal Products: Men's, women's clothing.

Level of Interest: 2
Immediate Space Requirements: 0

Response: Mr. Schofield previously investigated Belize as a possible manufacturing site for Crystal Brands, Inc., but stated that company regards experience and stability in a prospective manufacturing location as most essential. Mr. Schofield prefers to keep corporate risk to a minimum, and would rather invest in an established 807 center such as Costa Rica than in an unknown area such as Belize.

Key Free Zone Factors: Economic and political stability; and extensive national experience in apparel manufacturing.

Company: Elder Manufacturing Company
Contact: Robert Howerton, Vice President Manufacturing
Address: P.O. Box 273
St. Louis, MO 63166
Telephone: 314-469-1120
U.S. Plants: Arkansas (1)
Missouri (1)
Offshore Plants: Costa Rica (1)
Offshore Subcontracting: CBI
Principal Products: Men's, boy's, and women's woven shirts, slacks, shorts, jeans, and sport coats.

Level of Interest: 7
Immediate Space Requirements: 18,000 sq.ft.

Response: Elder Manufacturing is pleased with their operations in Costa Rica, but has experienced problems in their subcontracting operations in the Dominican Republic due to inefficient procedures required by the government in the transfer of goods from one location to another. Mr. Howerton prefers direct investment in free zones, and has heard positive comments about the manufacturing climate in Belize from Williamson-Dickie Industries management personnel. As Elder Manufacturing is experiencing moderate corporate growth, Mr. Howerton is frequently reviewing locations in which to expand production.

Key Free Zone Factors: Regulatory flexibility; reliable transportation, preferably in-bond trucking through Mexico; favorable turnaround times.

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Company: Elk Brand Manufacturing Company, Inc.
Contact: Andrew Marianelli, President
Address: 1601 County Hospital Road
Nashville, TN 37218
Telephone: 615-254-4300
U.S. Plants: Kentucky (1)
Offshore Plants: None
Offshore Subcontracting: CBI
Principal Products: Men's, women's, boy's pants and jackets.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Elk Brands is currently satisfied with their subcontracting arrangements in the Dominican Republic, although labor problems continue affect production schedules. Mr. Marianelli was only marginally familiar with Belize, but considered Costa Rica the only possible alternative sourcing location for his operations in the medium-term future.

Key Free Zone Factors: Infrastructure; access to quotas; adequate supply of local management; and unproblematic labor.

Company: Farah, Inc.
Contact: Mark Dunham, Senior Vice President Manufacturing
Address: 8889 Gateway West
El Paso, TX 79985
Telephone: 915-593-4444
U.S. Plants: Texas (1)
Offshore Plants: Costa Rica (1)
Dominican Republic (1)
Mexico (1)
Offshore Subcontracting: CBI
Principal Products: Men's, boy's, and girl's apparel.

Level of Interest: 3
Immediate Space Requirements: 0

Response: Although Farah, Inc. management personnel have not traveled to Belize, Mr. Dunham had heard favorable manufacturing experiences in Belize and was receptive concerning the use of overland transportation for goods and components. Mr. Dunham prefers not to locate offshore operations in free zones due to proximity to competitors, but he did prefer to subcontract to firms located in free zones. Mr. Dunham's felt that the overall 807 market would grow in the next few years, and that Farah, Inc. would utilize more 807 offshore operations and sourcing in the future.

Key Free Zone Factors: Manageable and inexpensive labor; and reliable and accessible transportation.

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Company: Haggar Apparel Company
Contact: Jack Smith, President
Address: 6113 Lemmon Avenue
Dallas, TX 75209
Telephone: 214-352-8481
U.S. Plants: Texas (8)
Oklahoma (2)
Offshore Plants: Dominican Republic (1)
Haiti (1)
Mexico (1)
Offshore Subcontracting: CBI
Principal Products: Men's and women's sportswear and suits.

Level of Interest: 6
Immediate Space Requirements: 0

Response: Haggar Apparel Company is currently unsatisfied with their maquiladora operations in Mexico near the U.S. border. Mr. Smith noted such problems as constant employee turnover, poor product quality, and insufficient government cooperation. Mr. Smith expressed interest in the Belize free zone and asked for detailed information concerning the overall Belize investment climate. Expansion would require 20,000-30,000 sq.ft. of under-roof space.

Key Free Zone Factors: Economic and political stability; favorable labor relations; and acceptable product quality.

Company: Jockey International, Inc.
Contact: Ernst Ott, President
Address: 2300 60th Street
Kenosha, WI 53140
Telephone: 414-658-8111
U.S. Plants: Georgia (1)
Kentucky (4)
Mississippi (1)
North Carolina (2)
Wisconsin (1)
Offshore Plants: Jamaica (1)
Offshore Subcontracting: None
Principal Products: Underwear and sportshirts.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Jockey International, Inc. is currently satisfied with their Jamaican operations, having decided on a Caribbean location over Central America largely due to the region's political instability. Mr. Ott feels that should Jockey expand operations in the CBI region, they would continue to do so in Jamaica.

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Key Free Zone Factors: Political stability; production quality, and substantial cost savings.

Company: Klear-Knit, Inc.
Contact: Frank McQuire, Vice President Manufacturing
Address: P.O. Box 236
Clover, SC 29710
Telephone: 803-222-3011
U.S. Plants: North Carolina (1)
South Carolina (3)
Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Men's knit shirts.

Level of Interest: 2
Immediate Space Requirements: 0

Response: Klear-Knit, Inc. has not previously engaged in 807 operations. Current production is tailored to quick-response operations, and company policy is currently to maintain all operations within the United States. However, should Klear-Knit, Inc. opt for 807 operations in the future, Belize would certainly be considered.

Key Free Zone Factors: Capacity for quick-response production.

Company: Levi Strauss and Company
Contact: John Frazier, 807 Specialist
Address: 15000 Panatella Parkway
Little Rock, AK
Telephone: 501-897-5100
U.S. Plants: Not disclosed
Offshore Plants: Worldwide
Offshore Subcontracting: Worldwide
Principal Products: Levi's jean's and sportswear.

Level of Interest: 3
Immediate Space Requirements: 0

Response: Mr. Frazier expressed moderate interest in Belize as a possible production site, but suspected that the location was currently too underdeveloped. He would recommend that Levi Strauss wait and observe the experiences of other firms before committing themselves to a new location, but asked for any information on the proposed free zone project.

Key Free Zone Factors: Production quality; and general locational reliability.

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Company: Perry Manufacturing Company
Contact: Alan Connolly, Senior Vice President
Address: P.O. Box 1027
Mount Airy, NC 27030
Telephone: 919-786-6171
U.S. Plants: North Carolina (5)
Virginia (2)
Offshore Plants: Costa Rica (1)
Offshore Subcontracting: CBI
Principal Products: Women's, junior's, and misses' sportswear.

Level of Interest: 4
Immediate Space Requirements: 0

Response: Perry Manufacturing is currently satisfied with their Costa Rican operations. Mr. Connolly was not knowledgeable of the Belizean location, but did indicate that Perry Manufacturing is expanding rapidly and searching for new locations. Mr. Connolly requested further information on the proposed free zone program, and indicated a positive response to the preliminary configuration of the zone.

Key Free Zone Factors: Economic stability; favorable wage rates; and access to reliable transportation.

Company: Riegel Consumer Products Division
Mount Vernon Mills, Inc.
Contact: Larry Little, Division President
Address: P.O. Box E
Mount Vernon, SC 29832
Telephone: 803-275-2541
U.S. Plants: South Carolina (3)
Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Children's sleepwear, underwear, and shirts.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Reigel Consumer Products maintains a corporate philosophy to keep all manufacturing sites within the United States.

Key Free Zone Factors: Access to skilled labor.

Company: Russell-Newman Manufacturing Company, Inc.
Contact: Gayland Howell, Vice President Production
Address: P.O. Box 2306
Denton, TX 76201
Telephone: 817-382-2531

U.S. Plants: Texas (6)
Offshore Plants: Guatemala (1)
Offshore Subcontracting: None
Principal Products: Ladies'lingerie, loungewear, robes, daywear, nightwear, sundresses, and housecoats.

Level of Interest: 4
Immediate Space Requirements: 0

Response: Russell-Newman Manufacturing is extremely satisfied with the quality and cost of operations in Guatemala. Mr. Howell believes costs savings are as high as 40 percent in Guatemala compared to other CBI locations. Russel-Newman Manufacturing did not seriously investigate Belize due to the lack of established industry sectors and infrastructure development, but Mr. Howell is aware of Belize's relative advantages and expressed considerable interest in obtaining more information on the project in Belize for consideration in the future.

Key Free Zone Factors: Moderate/reliable turnaround times; infrastructure; excellent productivity and worker quality; and adequate transportation.

Company: J.H. Rutter-Rex Manufacturing Company, Inc.
Contact: Eugene Rutter, Jr., Vice President Manufacturing
Address: 145 Robert E. Lee Blvd.
New Orleans, LA 70124
Telephone: 504-283-7373
U.S. Plants: Louisiana (2)
Mississippi (1)
Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Apparel sets for men, women, and boys; school uniforms.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Rutter-Rex does not engage in 807 operations because the majority of their work is for U.S. Government contract, which stipulates that manufacturing remain in the United States. Mr. Rutter also feels that offshore operations are too difficult to control, and has heard reports of poor quality and management problems in CBI locations. It is Mr. Rutter's opinion that the increased emphasis on quick-response production techniques and improved manufacturing technologies will dampen the incentive for U.S. firms to locate offshore.

Key Free Zone Factors: Quality production; flexible production arrangements; and comparable labor productivity.

Company: Standard Manufacturing Company
Contact: George Arakelian, President
Address: 750 2nd Avenue
Troy, NY 12182
Telephone: 518-235-2200
U.S. Plants: New York (1)
Puerto Rico (1)
West Virginia (1)
Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Men's, boy's, and ladies' outerview.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Mr. Arakelian had no knowledge of Belize, nor was he very familiar with offshore manufacturing in the Caribbean. Standard Manufacturing is not experiencing growth, and would prefer to remain in present locations should it experience expansion in the future.

Key Free Zone Factors: Quick-response production.

Company: Sunstate Sportswear, Inc.
Contact: Alfredo Fernandez
Address: 900 N. Howard Avenue
Tampa, FL 33606-1029
Telephone: 813-253-0948
U.S. Plants: Florida (2)
Georgia (1)
Offshore Plants: Costa Rica (1)
Offshore Subcontracting: None
Principal Products: Dresses and casual slacks, tennis wear, and jeans.

Level of Interest: 1
Immediate Space Requirements: 0

Response: Sunstate Sportswear is satisfied with their operations in Costa Rica, and feels that the location is the best in the CBI region. Mr. Fernandez was unfamiliar with the advantages offered by Belize, but had heard of Williamson-Dickie's successful operations. Sunstate has also investigated the Dominican Republic for a possible joint venture, but the opportunity never solidified.

Key Free Zone Factors: Political stability; well-developed manufacturing base; and reliable/educated workforce.

Company: Unifirst Corporation
Contact: Stephen Gaykan, Director of Manufacturing

Address: 68 Jonspin Road
Wilmington, MA 01887
Telephone: 617-658-8888
U.S. Plants: Florida (1)
Massachusetts (1)
Pennsylvania (1)
Puerto Rico (1)
Offshore Plants: None
Offshore Subcontracting: CBI
Principal Products: Men's work wear.

Level of Interest: 2
Immediate Space Requirements: 0

Response: Mr. Gaykan investigated Belize several years ago as a possible manufacturing location, but felt that the climate was not yet adequate for investment by Unifirst. Belizean officials were not timely in providing the necessary information concerning foreign investment, and discussions of Belize's relative disadvantages were not resolved. With regard to the current free zone project, Mr. Gaykan was not convinced that Mexican labor would be attractive to free zone tenants, as the reputation of Mexican labor in maquiladora operations is somewhat tarnished due to reports of low product quality and high turnover among Mexican employees.

Key Free Zone Factors: Sufficient infrastructure; stability; adequate supply of workers; presence of other 807 manufacturers; English-language capability.

Company: Warnaco, Inc.
Contact: Phyllis Bonanno, Sourcing
Address: 90 Park Avenue
New York, NY 10016
Telephone: 212-661-1300
U.S. Plants: Alabama (1)
California (3)
Kentucky (1)
Pennsylvania (1)
Puerto Rico (3)
Offshore Plants: Costa Rica (1)
Dominican Republic (1)
Honduras (1)
Mexico (4)
Offshore Subcontracting: Far East and CBI
Principal Products: Men's, women's apparel and accessories.

Level of Interest: 2
Immediate Space Requirements: 0

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Response: Ms. Bonanno felt that Belize could, in the future, be an excellent location for offshore apparel manufacturing. However, deficiencies in infrastructure and lack of experience were immediate barriers. She also felt that Cost Rica is, at the moment, a safer and more secure location for direct investment than Belize. According to her research, the amount of apparel products manufactured in the CBI region will expand sharply in the coming years as Far Eastern manufacturers react to quota restrictions and import market saturation. Because Warnaco seeks extremely stable relationships with offshore producers, Belize would be ruled out of consideration due to the country's lack of industry development and expertise.

Key Free Zone Factors: Presence of established manufacturing companies; and political and economic stability.

Company: Washington Manufacturing Company
Contact: Lamar Bullard, Corporate Vice President Operations
Address: 1010 South 7th Street
Nashville, TN 37206
Telephone: 615-244-0600
U.S. Plants: Kentucky (2)
Tennessee (3)
Offshore Plants: Haiti (1)
Offshore Subcontracting: None
Principal Products: Men's, women's, and boy's apparel.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Washington Manufacturing is currently in financial difficulty and is not in a position to consider expansion or relocation. Operations in Haiti have been plagued by problems, and have contributed to the financial instability of the firm. Should the company recover from the current crisis, it will undoubtedly divest its Haitian operation and look elsewhere; however, Mr. Bullard felt Belize could not be considered unless it proved to be an extremely stable location for long-term investment. It is probable that that Washington Manufacturing will go bankrupt.

Key Free Zone Factors: Adequate transportation; completely reliable infrastructure; sufficient cost reductions in overhead; and guaranteed access to the U.S. market.

Company: Weather Tamer, Inc.
Contact: Dwight Fox, Vice President Manufacturing
Address: 821-A Merchandise Mart

Chicago, IL 60654
Telephone: 615-855-2140
U.S. Plants: Tennessee (3)
Offshore Plants: None
Offshore Subcontracting: Far East
Principal Products: Women's, children's, and infant's outerwear.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Weather Tamer has recently initiated subcontracting arrangements with Far Eastern manufacturers, and also considered the CBI region for 807 operations. However, Weather Tamer chose the Far East due to uncertainty in production factors in the CBI region. Mr. Fox considered the CBI region too inexperienced for confident investment.

Key Free Zone Factors: Rapid, reliable product delivery.

U.S. FOOTWEAR MANUFACTURERS SURVEYED

Company: Brown Shoe Company
Contact: Joe Kramer, Manufacturing
Address: 8300 Maryland Avenue
St. Louis, MO 63166
Telephone: 314-854-4000
U.S. Plants: Illinois 91)
Missouri (17)
Tennessee (6)
Other Offshore Plants: None
Offshore Subcontracting: CBI, Far East, Near East, and South America
Principal Products: Men's women's and children's shoes.

Level of Interest: 2
Immediate Space Requirements: 0

Response: Brown Shoe Company sources shoe components from all over the world, and currently have sourcing relationships with subcontractors in the Dominican Republic. Brown Shoe usually establishes operations in locations that have experience and stability in the industry. Mr. Kramer feels that the Caribbean Basin is ideal for future growth in the footwear industry, especially for more simple shoes, but the labor force does not yet possess the necessary motivation, training, or skill diversity. Workers at the Dominican facility require a tremendous amount of supervision, and the time needed for training and management is longer than acceptable in some cases. Nonetheless, Mr. Kramer is confident that new entrants into the free zone market can capture U.S.-based manufacturers.

Key Free Zone Factors: Labor quality and drive; transportation infrastructure; and sense of business expertise.

Company: The Carpenter Shoe Company, Inc.
Contact: Sam Carpenter, President
Address: 803 State Rd. 16
Green Cove Springs, FL 32043
Telephone: 904-284-0980
U.S. Plants: Florida (1)
Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Infant's and children's footwear.

Level of Interest: 2
Immediate Space Requirements: 0

Response: Carpenter Shoe Company was located in Puerto Rico for 14 years, but moved to Florida as the firm's market

share decreased and labor costs became a smaller component of total production costs. Since the move, Mr. Carpenter has not looked into offshore manufacturing. He did indicate that should production volume for his company increase in the future, the Caribbean would be ideal, especially Costa Rica and perhaps Puerto Rico again. Mr. Carpenter feels that the Caribbean Basin will play a larger role in the footwear industry in the near term, but in the high-end product category consumers are increasingly looking for a "made in the U.S.A." label.

Key Free Zone Factors: Dedicated, favorable cost labor.

Company: Child Life Division of Munro
Contact: Doug Ervin, Vice President and General Manager
Address: 55 Malvern St.
Hot Springs, AR 71901
Telephone: 501-262-4444
U.S. Plants: Florida (1)
Other Offshore Plants: None
Offshore Subcontracting: Far East
Principal Products: Infant's and children's shoes.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Child Life Division does not have any offshore operations, as the corporate policy is to maintain all manufacturing facilities within the United States. They do occasionally subcontract some cutting in Korea, but would like to phase out those arrangements. Mr. Ervin reported that retailers insist on U.S. made products to a greater extent than before, and for this reason growth rates for 807 footwear manufacturing will slow in the next several years.

Key Free Zone Factors: None.

Company: Colonial Shoe Company
Contact: Ted Kastern, Manufacturing
Address: 116 Newark St.
Littlestown, PA 17340
Telephone: 717-359-7176
U.S. Plants: Pennsylvania (2)
Other Offshore Plants: None
Offshore Subcontracting: Near East
Principal Products: Athletic and casual shoes and boots.

Level of Interest: 0
Immediate Space Requirements: 0

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Response: Colonial Shoe Company used to source shoe components in India and ship them to the Dominican Republic for assembly, but the firm's lack of offshore experience, strategic timing, and logistical expertise plagued the venture. Consequently, Colonial terminated the offshore arrangement indefinitely. Mr. Kastern, however, did feel that other manufacturers could benefit much by utilizing the Caribbean Basin. The unsuccessful Colonial Shoe sourcing strategy failed largely as a result of the U.S. firm's mismanagement.

Key Free Zone Factors: Stable economic and political climate.

Company: Frolic Footwear
Contact: Jim Smith, Director of Manufacturing
Address: 1020 Aggie Rd.
Jonesboro, AR 72401
Telephone: 501-932-7466
U.S. Plants: Arkansas (4)
Puerto Rico (1)
Other Offshore Plants: Dominican Republic (1)
Offshore Subcontracting: CBI, Far East, and South America
Principal Products: Men's and women's casual and dress shoes.

Level of Interest: 2
Immediate Space Requirements: 0

Response: Frolic Footwear has had offshore operations in the Dominican Republic for seven years, primarily in the assembly of men's shoes (due to their simpler design). Mr. Smith expressed satisfaction with the operation, and predicts that the Caribbean will become a larger component of U.S. footwear production in the next few years. He did not express a high level of interest in investigating Belize, nor was he knowledgeable of the country.

Key Free Zone Factors: Strong economic growth; governmental support.

Company: Hanover Shoe Company
Contact: Vicki Van Horn, Offshore Resourcing
Address: 222 Carlisle St.
Hanover, PA 17331
Telephone: 717-632-2444
U.S. Plants: Pennsylvania (1)
West Virginia (2)
Other Offshore Plants: None
Offshore Subcontracting: Far East and Near East
Principal Products: Men's casual and dress shoes.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Hanover Shoe does not utilize the Caribbean because subcontractors there will not source their own components and manufacturing materials. The firm places a premium on low levels of inventory; hence the firm stipulates that offshore subcontractors arrange production input logistics and purchases. Ms. Van Horn stated that Hanover Shoes did investigate Haiti several years ago, but found the manufacturing climate far too risky. She was not knowledgeable of Belize.

Key Free Zone Factors: Stable currency; reliable telecommunications; extensive laws governing business practices; labor competency; stable political structure; and vibrant business environment.

Company: Justin Boot Company, Justin Industries
Contact: James Latshaw, Division Manager
Address: 11th and Presley Dr.
Cassville, MO 65625
Telephone: 417-847-4192
U.S. Plants: Missouri (2)
Texas (1)
Offshore Plants: None
Offshore Subcontracting: Mexico
Principal Products: Western boots.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Justin Boot Company is sufficiently satisfied with their subcontracting arrangement with a Mexican manufacturer, but he has noted some problems with acceptable production quality. Mr. Latshaw feels that the workers need constant supervision and do not train well. The firm also investigated the Dominican Republic, but found the location too risky given Mexico's advantages. Mr. Latshaw feels that the Caribbean has not proven to be a foolproof manufacturing alternative. largely as a result of the region's lack of acceptable labor skills and motivation. He was not knowledgeable of Belize.

Key Free Zone Factors: Hard-working labor; and efficient exporting arrangements.

Company: The Maytown Shoe Manufacturing Company
Contact: Victor Lombardo, President
Address: Queen and Elizabeth Streets

Maytown, PA 17550
Telephone: 717-426-1901
U.S. Plants: Pennsylvania (2)
Offshore Plants: None
Offshore Subcontracting: Mexico
Principal Products: Women's and men's athletic, casual, dress, and work shoes.

Level of Interest: 5
Immediate Space Requirements: 0

Response: Maytown Shoe Manufacturing Company uses Mexican subcontractors on occasion, but the company has been in a state of financial difficulty and has had to cut back operations. Since the firm's products are high-end, offshore subcontractors are usually dropped first when such a crisis occurs. Mr. Lombardo did feel that the quality of work executed offshore was acceptable, and that he was interested in exploring Belize further. He asked that he be sent some introductory materials on Belize.

Key Free Zone Factors: Stability; and trainable labor force.

Company: The Timberland Company
Contact: Hugh Wallace, Vice President
Address: Cold Springs Road, Rte. 2
Mountain City, TN 37683
Telephone: 615-727-9911
U.S. Plants: Maine (1)
Puerto Rico (3)
Tennessee (1)
Offshore Plants: Dominican Republic (2)
Offshore Subcontracting: CBI and Mexico
Principal Products: Men's and women's workboots, shoes, and casual footwear.

Level of Interest: 5
Immediate Space Requirements: 0

Response: Timberland is very active in the Caribbean, but has had problems with product quality and the perceived mentality of Caribbean workers. Training periods are long and absenteeism is high. Mr. Wallace prefers Puerto Rico labor and product quality, but is looking for cheaper labor rates. Although he wasn't knowledgeable of Belize, Mr. Wallace was interested, and seemed impressed by the description of Belize's production and regulatory advantages for footwear manufacturing. He asked for further information.

Key Free Zone Factors: Labor quality and motivation; reliable transportation; and predictable customs procedures.

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Company: Wolverine Worldwide, Inc.
Contact: Gary Fountain, Director of Manufacturing
Address: 9314 Courtland Dr., NE
Rockford, MI 49351
Telephone: 518-483-6300
U.S. Plants: Michigan (2)
Puerto Rico (1)
Tennessee (1)
Offshore Plants: Dominican Republic (1)
Offshore Subcontracting: CBI
Principal Products: Men's, women's, and children's workboots, shoes, and casual footwear.

Level of Interest: 5
Immediate Space Requirements: 0

Response: Wolverine's experience in the Dominican Republic has been good, though expectations were adjusted downward after several years. Mr. Fountain feels that offshore operations require much of work on the part of the U.S. firm to ensure the venture's success. Labor has been difficult to motivate, and economic and political stability is always in jeopardy. However, Wolverine has recently doubled the size of their operation in the free zone, and plan to expand in approximately twelve months. Mr. Fountain expressed a moderate level of interest in the Belize project, and asked to be keep abreast of developments.

Key Free Zone Factors: Labor management; and excellent zone management.

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U.S. SPORTING GOODS MANUFACTURERS SURVEYED

Company: Optimus, Inc.
Contact: Douglas Sage, Vice President Operations
Address: 1100 Boston Avenue
Bridgeport, CT 06601
Telephone: 203-333-0499
U.S. Plants: None
Offshore Plants: Worldwide (Europe, Taiwan, Korea)
Offshore Subcontracting: None
Principle Products: Stoves, lanterns, bottles, and water sports products.

Level of Interest: 7
Immediate Space Requirements: over 31,000 sq.ft.

Response: Optimus, Inc. is continually assessing worldwide manufacturing locations, and Mr. Sage expressed high interest in the Belize free zone project and general investment climate as described. However, Mr. Sage's knowledge of the location was limited and he was unable to rate his level of interest higher. He indicated that he would look into the location more thoroughly on his own. Optimus operations require an above average space per worker ratio than other labor-intensive operations.

Key Free Zone Factors: Inexpensive labor; ocean transportation; ease of investment.

Company: Slazenger, Inc.
Contact: Ernie Berdet, Vice President Manufacturing
Address: P.O. Drawer 2447
Greenville, SC 29602
Telephone: 803-233-2434
U.S. Plants: Not Available
Offshore Plants: Not Available
Offshore Subcontracting: None
Principle Products: Squash and tennis racquets, balls and bags.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Slazenger, Inc. showed no interest the free zone project in Belize or the possibility of subcontracting arrangements, nor was Mr. Berdet interested in the Caribbean Basin.

Key Free Zone Factors: Product quality.

Company: Worth Sports Company
Contact: Charles Bale, Vice President Manufacturing
Address: P.O. Box 550
Tullahoma, TN 37388
Telephone: 615-455-0691
U.S. Plants: Not Available
Offshore Plants: Haiti
Honduras
Jamaica
Offshore Subcontracting: None
Principle Products: Hand-stitched baseballs and softballs.

Level of Interest: 4
Immediate Space Requirements: 0

Response: Mr. Bale expressed reserved interest in the free zone project, but foresees no expansion for Worth Sports Company in the next year. However, Mr. Bale felt that Belize may be relevant for Worth Sports in the future, and expansion would necessitate 25,000 sq.ft. of space.

Key Free Zone Factors: Preferential treatment for free zone tenants; tax holiday; low wage rates; support of established manufacturing base.

Company: Bard International
Contact: Michael Bonn, Vice President Operations
Address: P.O Box 206
Ojus, FL 33163
Telephone: 305-940-1022
U.S. Plants: Not Available
Offshore Plants: Not Available
Offshore Subcontracting: Not Available
Principal Products: Racquets, sports bags, machines.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Bard International showed no interest whatsoever in offshore manufacturing and free zones Belize.

Key Free Zone Factors: Not Available.

Company: Kwik Goal, Ltd.
Contact: Vincent Curso
Address: 40 Field Street
West Babylon, NY 11704
Telephone: 516-293-0075
U.S. Plants: New York
Offshore Plants: None
Offshore Subcontracting: None

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Principle Products: Nets, balls, sport accessories.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Kwik Goal, Ltd. showed no interest in basing an 807 operation in a Belize free zone. Mr. Curso stated that the company prefers to keep all manufacturing and assembly operations within the United States. Should they expand in the near future, they will do so in New York.

Key Free Zone Factors: Not Available.

U.S. DATA PROCESSING FIRMS SURVEYED

Company: ADA Computer Services, Inc.
Contact: Lance Geller
Address: 230 Adams Avenue
Hauppauge, NY 11788
Telephone: 516-231-7770
Offshore Centers: None
Offshore Subcontracting: None
Principal Service: Data entry, list maintenance, letters.

Level of Interest: 0
Immediate Space Requirements: 0

Response: ADA Computer Services, Inc. was involved in an offshore subcontracting venture in 1986 in Jamaica, but abandoned the operation after a year due to inadequate labor, difficulties in management, infrastructure deficiencies, unreliable air freight, and general lack of significant cost savings. Mr. Geller did feel that the amount of data processing executed in the Caribbean Basin will increase in the future. However, given his firm's bad experience with Jamaica and the lack of growth in time-insensitive orders, he had no interest in investigating other offshore locations.

Key Free Zone Factors: Reliable air freight; energetic and productive workforce; and workable infrastructure.

Company: American Franklin Company
Contact: Bill Seelbach
Address: Franklin Square
Springfield, IL 62713
Telephone: 217-528-2011
Offshore Centers: None
Offshore Subcontracting: None
Principal Service: Data entry, full line.

Level of Interest: 0
Immediate Space Requirements: 0

Response: American Franklin has not considered going offshore in the past. The firm's clients generally prefer work to be executed in the United States. Furthermore, Mr. Seelbach noted that his firm is not under any pressure to reduce costs, and does not wish to introduce any complications in his operations.

Key Free Zone Factors: Minimized risk.

Company: American General Service Corporation
Contact: Walter Vukas, President
Address: 4945 Schaefer Road
Dearborn, MI 48126
Telephone: 313-581-5150
Offshore Centers: None
Offshore Subcontracting: None
Principal Service: Data entry, mailing, list compiling.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Mr. Vukas almost entered into subcontracting arrangements in Haiti and Jamaica, but the firm's clients (particularly General Motors) found the additional risk and reduced turnaround times unacceptable. Mr. Vukas would consider offshore subcontracting for some of his less time-sensitive work, but present volume is not great enough at this time.

Key Free Zone Factors: Turnaround; low-risk; and accuracy.

Company: Domor Data Processing Services, Inc.
Contact: Owen Charles, Sr., President
Address: 51 Springstowne Center
Vallejo, CA 94591
Telephone: 707-554-2156
Offshore Centers: None
Offshore Subcontracting: None
Principal Service: Data entry.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Mr. Charles is aware of his competitors utilizing offshore locations, and has been approached by subcontractors from the Caribbean, but Domor Data Processing Services has not taken advantage of services offered. Mr. Charles felt that his firm was simply not capable of successfully managing such arrangements.

Key Free Zone Factors: None

Company: Programs & Analysis
Contact: John Wormica, General Manager
Address: 21 Ray Avenue
Burlington, MA 01803
Telephone: 617-272-7723
Offshore Centers: None
Offshore Subcontracting: CBI

Principal Service: Data entry.

Level of Interest: 2
Immediate Space Requirements: 0

Response: Programs & Analysis currently sends some of its less crucial, less time-sensitive orders offshore to a subcontractor in Jamaica, but Mr. Wormica only relies on the arrangement when U.S. operators are unable to handle the volume. The arrangement has worked fairly well, except for expected problems with infrastructure and air freight. However, Mr. Wormica has not been impressed with the capacity or accuracy of the subcontractor, and does not have much faith in their ability to capture significant amounts of processing work in the near future.

Key Free Zone Factors: Educated workforce; and more reliable transportation and infrastructure.

BELIZEAN EXPORT MANUFACTURERS SURVEYED

Company: Belize Children's Apparel
Contact: General Manager
Address: Belmopan, Belize
Telephone:
Ownership: U.S. (North Carolina)
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Children's clothing.

Level of Interest: 4
Immediate Space Requirements: 0

Response: Belize Children's Apparel is considering expanding operations to San Ignacio and possibly Barbados, and could increase direct labor from 80 operators to 130. Martha was not knowledgeable of the free zone concept, but was not opposed to the project. However, the General Manager in Belize would not be in a position to make such a decision.

Key Free Zone Factors: Good customs facilities and service; and overall cost advantage.

Company: Caribbean Producers Corporation
Contact: Rubin Gonzalez, Manager
Address: Belize City, Belize
Telephone: 02-73614
Ownership: 100% Belizean
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Shrimp, conch, and fish.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Caribbean Producers Corporation is a twenty-five year old processing and exporting cooperative run by approximately 125 active owners of fishing ventures in Belize. The Corporation produced US$463,000 and 290,000 pounds of shrimp in 1987, 60 percent of which was exported to the United States and Jamaica. Packaging materials and processing chemicals are obtained from El Salvador by truck and the United States by boat. The Corporation purchases rope and plastic locally, and owns a small building for processing activities. Air freight costs for the transportation of shrimp to the United States run US$0.15 per pound. Future plans for expansion involve the purchase of additional shrimp boats, and the development of a subcontracting arrangement with

Honduran fisherman for the processing of catch. Mr. Gonzalez did not feel that the free zone would be beneficial for his cooperative's operations, as the building near the port serves them best.

Key Free Zone Factors: Incentives reducing import duties.

Company: Classic Wood Products
Contact: Elizabeth Nunez, General Manager
Address: Ladyville, Belize
Telephone: 02-72703
Ownership: U.S.
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Doors, moldings, and other assorted wood products.

Level of Interest: 2
Immediate Space Requirements: 0

Response: Classic Wood Products currently has a total of twenty employees and two buildings at the Ladyville site producing doors and other wood products. Exports to the United States last year reached US$44,000. Ms. Nunez indicated that several other countries were interested in importing their products, primarily Jamaica and the Virgin Islands, and that business was well. Exports to the U.S. are shipped via ocean freight to Miami. Ms. Nunez cited frequent electricity problems and overall infrastructure unreliability as the primary obstacle to production. The firm will probably expand in Ladyville in the next six to twelve months due to increased orders from abroad. Ms. Nunez stated that the firm would probably prefer to expand in Ladyville so as to remain near port facilities and keep transportation costs low; however, she did think the Santa Elena location would be attractive to other manufacturers who could benefit from in-bond trucking rather than ocean freight.

Key Free Zone Factors: Reliable electrical provision; and adequate transportation links.

Company: David Thomas Limited
Contact: David Peden, President
Address: Guadalajara, Mexico
Telephone: 36-35-56-52 (Mexico)
Ownership: Mexican
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Precision nails.

Level of Interest: 9
Immediate Space Requirements: 21,000 sq.ft.

Response: David Thomas Limited initiated their Belize operations at the end of 1987, and are now exporting all production (500 tons) valued at US$500,000 principally to the U.S. market. At present, all raw materials and intermediate goods are sourced from the United States, transported by road through Mexico. The finished nails are also transported by in-bond trucks via Mexico at approximately US$100/ton. At present, David Thomas Ltd. has erected 1000 sq.ft. of temporary building space on leased land (US$125 per month). Mr. Peden expressed a high level of interest in relocating or expanding operations to a free zone in the Santa Elena region, and would likely double current capacity if obstacles in infrastructure were remedied. Mr. Peden cited very poor, expensive telecommunications, extremely expensive electricity, and complex import/export procedures and customs controls as problems that constrain manufacturing growth. However, Mr. Peden did express satisfaction with with Belizean labor, citing their high degree of education and motivation.

Key Free Zone Factors: Improve and effectively price electrical and telecommunications provision; and streamline import/export regulations and procedures to allow easy, duty-free entry of necessary manufacturing materials and commodities.

Company: Golden Stream Plantation
Contact: Thomas Matthews, Owner
Address: Punta Gorda, Belize
Telephone: 304-327-7952 (West Virginia)
Ownership: 100% U.S.
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Cashews, cocoa, and pepper.

Level of Interest: 4
Immediate Space Requirements: 0

Response: Golden Stream Plantation has obtained development concessions from the GOB, but has not initiated operations due to procurement delays. Most of the equipment and seeds/nursery plants are purchased in Costa Rica and Guatemala, with miscellaneous materials from the United States. Mr. Matthews expressed dissatisfaction with the degree of infrastructure development in Punta Gorda, especially the roads and electricity. Although he had no immediate interest in

locating in the proposed free zone, Mr. Matthews did indicate general support for the project.

Key Free Zone Factors: Improved reliability of requisite infrastructure and support services.

Company: Melinda Ltd.
Contact: Gerry Sharp
Address: Dangriga, Belize
Telephone: 05-22080
Ownership: 100% Belizean
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Jams, jellies, and hot pepper sauce.

Level of Interest: 9
Immediate Space Requirements: 3,000 sq.ft.

Response: Melinda Ltd. currently employs 15 workers in the bottling of jams, jellies, and sauce using imported bottles from Guatemala and the United States. In 1987 exports equalled US$12,000 utilizing a 1,350 sq.ft. building owned by Mr. Sharp. The products are exported under the CBI program. Mr. Sharp noted that the firm is expanding soon to a location nearby for an additional 1,800 sq.ft. of space. Mr. Sharp had heard of the plans for free zone development in Santa Elena, and expressed complete support for the project. He stated that Melinda Ltd. would be very interested in leasing approximately 3,000 sq.ft. of space for use as a warehouse facility.

Key Free Zone Factors: Electrical provision; telecommunications facilities; and reliable water provision.

Company: Quash Savanna Enterprises Ltd.
Contact: Terry Orio
Address: Orange Walk Town, Belize
Telephone:
Ownership: Belizean/U.S. Joint Venture
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Landscape timber, benches, and swings.

Level of Interest: 6
Immediate Space Requirements: 0

Response: Quash Savanna Ltd. has been operating since 1982, but expansion of activity has been severely constrained by lack of infrastructure development and technical expertise (it has taken six months to to install a new

transformer). Furthermore, an application for development concessions has been on file with MED for some two years with no results. Consequently, lack of import incentives has slowed the flow of raw materials and intermediate goods such as cardboard, nails, wires, chains, and stains. The firm has only exported two 20 ft. containers last year through the CBI program. Operations are temporarily suspended while waiting for the transformers to become operational. Ms. Orio did express interest in the free zone project as a development effort and means to take advantage of CBI, but noted that her operations were best located in the southern part of the country.

Key Free Zone Factors: Government support (MED and BEIPU); incentives; and minimal electrical provision.

Company: Reynolds Furniture Factory
Contact: Wilfred Reynold
Address: Belize City, Belize
Telephone: 2-44493
Ownership: 100% Belizean
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Solid and panel mahogany doors.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Reynolds Furniture Factory has been in operations for over 30 years and currently occupies a 2,000 sq.ft. building employing six workers. Mrs. Reynolds stated that the firm is expanding near the current site with plans to build a US$250,000 building. The firm does not currently export a large portion of production.

Key Free Zone Factors: None

Company: Santa Elena Sewing Enterprises Ltd.
Contact: Vilio Marin
Address: Santa Elena, Belize
Telephone: 04-22050
Ownership: 100% Belizean
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Children's clothing.

Level of Interest: 8
Immediate Space Requirements: 3,000 sq.ft.

Response: Santa Elena Sewing Enterprises does not currently have the expertise to expand operation beyond existing size (15 sewers), nor does Mr. Marin have any experience at the moment in exporting apparel products to the U.S. market. However, Mr. Marin did feel that the climate for free zone development was good, and that Mexican manufacturers could potentially be interested in gaining access to the U.S. apparel market. He also felt that the time was right to expand into the export market and feels the free zone would be ideal for such an expansion, perhaps through a joint venture.

Key Free Zone Factors: None.

Company: Satellite Apparel
Contact: Bob Bounabra
Address: Belize City, Belize
Telephone: 02-74573
Ownership: 100% Belizean
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: All types of garments.

Level of Interest: 8
Immediate Space Requirements: 20,000 sq.ft.

Response: Satellite Apparel has been operating for six months and now employs 225 workers producing solely for export to the United States, though not through TSUS 807 since components are not sourced from the United States. The firm presently has one building of approximately 20,000 sq.ft., with plans to build an adjacent building and renovate a warehouse in downtown Belize City. Mr. Bounabra noted severe deficiencies in the provision of electricity, but stated that obtaining requisite laborers was no problem. Mr. Bounabra expressed a high level of interest expanding operations in the free zone, as business is growing rapidly and the zone would be ideal for operations.

Key Free Zone Factors: Adequate electricity; sufficient labor supply; and less expensive telecommunications.

Company: Sportex Ltd.
Contact: Elton Jones, Manager
Address: Ladyville Industrial Park
Telephone: 02-44977
Ownership: 100% Belizean
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Jeans and sportswear.

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Level of Interest: 0
Immediate Space Requirements: 0

Response: Sportex Ltd. exports 100 percent of all production to the U.S. market, with raw materials originating from the U.S., Mexico, and Hong Kong. Mr. Jones stated that the firm has plans to double in size by renting another 6,000 sq.ft. of space at the Ladyville Industrial Estate under the Development Finance Corporation's planned expansion.

Key Free Zone Factors: None.

Company: Tabony Industry Ltd.
Contact: Gus Tabony, Owner/CEO
Address: Belize
Telephone: 02-72670
Ownership: 100% Belizean
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Blouses and children's apparel.

Level of Interest: 9
Immediate Space Requirements: 20,000 sq.ft.

Response: Tabony Industries has been in operation for five years, employing 55 workers and exporting US$2,000 to the United States under TSUS 807. All raw materials and components are sourced from the United States. Mr. Tabony indicated that Belizean local apparel materials were unreliable and of poor quality. Tabony Industries currently utilizes a three-story building, but hopes to expand dramatically in the next twelve to eighteen months. Mr. Tabony noted serious electricity and telecommunications deficiencies, and consistent inefficiencies with customs and export/import controls. He expressed enthusiasm for the free zone project, especially for the proposed site, but thought the project might consider Guatemalan labor, rather than Mexican labor.

Key Free Zone Factors: Electricity and telecommunications provision; and productive labor.

Company: Thomas V. Flynn
Contact: Leon Varion
Address: Belmopan, Belize
Telephone:
Ownership: 100% U.S.
Other Offshore Plants: None
Offshore Subcontracting: None

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Principal Products: Cane and rattan furniture.

Level of Interest: 5
Immediate Space Requirements: 0

Response: Thomas V. Flynn is exporting wicker chair seats to the U.S. through GSP (exported US$90,000 in 1987) under a subcontracting arrangement with a U.S. importer, utilizing imported raw materials from Indonesia. Flynn presently employs 15 men in the factory and 50 women working out of their homes. Mr. Flynn expressed interest in expanding, but does not possess the business expertise nor marketing awareness.

Key Free Zone Factors: None.

Company: Tropical Produce Company Ltd.
Contact: Neil Jexlez
Address: Belize
Telephone: 06-2004
Ownership: European/Cayman Joint Venture
Other Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Fresh mango and bananas and concentrate.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Tropical Produce has been operating for over eight years and now employs more than 300 workers. Exports totaled US$33,000 in 1987, primarily destined for Europe (Lome III), though some exports also go to the United States and the Far East. Plastic, boxes, and metal drums used in the processing of concentrate and packaging of fresh goods are sourced from the U.S. and U.K., with seeds purchased locally. Operations utilize a 2,400 sq.ft. building, which are owned by the firm. Mr. Jexlez felt that the firm would not be interested in locating in the free zone, since operations are 200 miles south of Santa Elena and roads are very poor (and could damage goods).

Key Free Zone Factors: None.

Company: Williamson Industries Ltd.
Contact: Larry McLaren
Address: Belize
Telephone: 25-2189
Ownership: 100% U.S.
Other Offshore Plants: Honduras (1)
Jamaica (1)

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Mexico (2)

Offshore Subcontracting: CBI

Principal Products: Men's and boy's causal wear and jeans.

Level of Interest: 5

Immediate Space Requirements: 0

Response: Williamson Industries has been in Belize for almost 10 years producing garments under the U.S. Item 807 Program. Until recently, Williamson Industries brought all raw materials by truck from the United States and returned the finished product by truck as well. They are now utilizing their own ship to transport goods from all their facilities in the Caribbean basin. Mr. McLaren feels that there is sufficient demand for the firm's products to expand by 20 percent, but Belize does not have the necessary labor supply. While Williamson Industries is not interested in relocation to the proposed free zone (they own both land and buildings in current facilities), they would like to be granted free zone "status", and subsequently enjoy zone benefits at their present site.

Key Free Zone Factors: Automatic approval of concessions; and expedited customs entry and exit.

Company: Contempo Fashions Ltd.
Contact: Manager
Address: Ocean Center, Rm. 921
Kowloon, Hong Kong
Telephone: 37231162
Offshore Plants: None
Offshore Subcontracting: CBI and Far East
Principal Products: Ladies' and Men's apparel.

Level of Interest: 1
Immediate Space Requirements: 0

Response: Contempo Fashions Ltd. currently utilizes the Caribbean Basin region for transshipment of apparel products to the United States. However, Hong Kong has not saturated their U.S. quota level, and the outlook for next year is similar with regard to lower aggregate exports to the U.S. Therefore, there is not a pressing need within the Hong Kong apparel industry to investigate offshore production sites. Furthermore, demand for apparel products in the U.S. market appears reserved over the next 18 months.

Key Free Zone Factors: Substantially competitive labor rates.

Company: Fredsimon & Company Ltd.
Contact: Edward Lau
Address: OPL-KSIP Holding Center
Tsimsatshui, Hong Kong
Telephone: 372123441
Offshore Plants: None
Offshore Subcontracting: None
Principal Products: All types of ladies' apparel.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Fredsimon & Company is currently not interested in moving production offshore due to lower product quality standards and lower volume capacity in such locations. However, Mr. Lau did investigate offshore opportunities primarily as a result of dramatic rises in local wage rates in the past several years. Mr. Lau was not knowledgeable of the Caribbean Basin countries.

Key Free Zone Factors: Quality labor; established apparel industry; and technical expertise in producing high-value apparel products.

Company: Lim Ying Ying Ltd.
Contact: Alfred Ly
Address: Hang Fung Industrial Building
Kowloon, Hong Kong
Telephone: 3657155
Offshore Plants: None
Offshore Subcontracting: None
Principal Products: All types of ladies' apparel.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Upon hearing of the free zone project in Belize and opportunities for apparel sourcing in the Caribbean Basin, Mr. Ly indicated that he had absolutely no interest in the region whatsoever.

Key Free Zone Factors: None.

Company: Parkscene Ltd.
Contact: Paul Ma
Address: Hong Kong Industrial Center
Kowloon, Hong Kong
Telephone: 37451806
Offshore Plants: Far East
Offshore Subcontracting: Near and Far East
Principal Products: All types of apparel.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Parkscene currently has offshore operations in China, and sources other work from India, Bangladesh, and the Phillipines. Mr. Ma has been of aware of some movement toward the Caribbean Basin in the face of higher apparel exports to the United States, but he prefers to maintain offshore operations closer to the Hong Kong office to keep management channels simplified. Furthermore, Mr. Ma feels that an apparel manufacture must have extensive experience in the U.S. market before attempting to move operations to the Caribbean Basin. For Parkscene, the region is still too underdeveloped and inexperienced in apparel manufacturing for Parkscene to seriously investigate production locations.

Key Free Zone Factors: Established apparel sector; extremely low wage rates competitive with Far East locations.

Company: Polisphere Ltd.
Contact: Tom Yn, General Manager

Address: Sunbeam Center, Rm. 504
Kowloon, Hong Kong
Telephone: 3434294
Offshore Plants: None
Offshore Subcontracting: None
Principal Products: Ladies' apparel.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Mr. Yn had no interest in discussing the Caribbean Basin region and offshore production.

Key Free Zone Factors: None.

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MEXICAN APPAREL MANUFACTURERS SURVEYED

Company: Confeccion Imperial de Tehuacan, S.A.
Contact: Jose Mendez Gomez
Address: 5 Norte 407B
75700 Tehuacan, Puebla, Mexico
Telephone: 238-2-3998
Offshore Subcontracting: None
Principal Products: Men's pants.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Confeccion sources apparel components locally and from the U.S., employing 50 workers. Mr. Gomez was not knowlegeable of manufacturing in Belize, and did not have any interest in exploring manufacturing or subcontracting operations in a free zone. The firm is satisfied with its present location and has no plans for expansion.

Key Free Zone Factors: None.

Company: Camisetas de Puebla , S.A.
Contact: Oscar Chedraui
Address: 19 Norte 1606
72090 Puebla, Mexico
Telephone: 22-46-1966
Offshore Subcontracting: None
Principal Products: Sportswear.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Mr. Chedraui was not interested in investigating the free zone on the border, and stated that he did not think that the advantages would outweigh the increased costs and logistical arrangements.

Key Free Zone Factors: None.

Company: Foleys de Mexico
Contact: Eduardo Musi Checa
Address: Jose Ma. Izazagz No. 99-Piso 2
06090 Mexico, D.F. Mexico
Telephone: 22-45-1727
Offshore Subcontracting: None
Principal Products: Casual clothing.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Mr. Checa was not familiar with the free zone concept, though he had heard of the maquiladora program in Mexico, and considered the Belize program a competitive project rather than an opportunity for Mexican firms to relocate or expand.

Key Free Zone Factors: None.

Company: S'Candia de Mexico, S.A.
Contact: Arturo Begun
Address: Prolomgacien Recursos
54060 Tlalnepantla de Baz, Mexico
Telephone: 905-398-0365
Offshore Subcontracting: None
Principal Products: Trousers and jeans.

Level of Interest: 0
Immediate Space Requirements: 0

Response: S'Candia de Mexico is a large apparel firm with over 1,200 employees and nine plants, producing some products for Sears. The firm sells products to retailers in Mexico, Europe, Canada, and the United States. Mr. Begun was not interested in investing in the free zone, nor interested in subcontracting work either in or out of Mexico, though he was interested to find that Belize was a beneficiary of Lome III.

Key Free Zone Factors: Guaranteed market access.

Company: Sergale, S.A. de C.V.
Contact: Gerardo Ruiz Pellico
Address: 7 Oriente 1813
72000 Puebla, Mexico
Telephone: 52-22-36-6444
Offshore Subcontracting: None
Principal Products: Cotton jackets.

Level of Interest: 0
Immediate Space Requirements: 0

Response: Mr. Pellico expressed no interest in the free zone concept, nor in investigating opportunities for manufacturing in Belize.

Key Free Zone Factors: None.

ANNEX C
FIELD MISSION INTERVIEWS

FIELD MISSION INTERVIEWS

Ministry of Economic Development
John Briggs, Head of Development Concessions
Sharmaine Hyde, Permanent Secretary

Ministry of Commerce, Industry and Tourism
Cresencio Sosa, Permanent Secretary
Henry Young, Deputy Minister

USAID/Belize
Fred Mangum, Economic Development Advisor
Carol Manning, Acting Program Director
Richard Joseph, Training for Employment and Productivity
Pedro Perez, Private Sector Office
Arturo Villanueva, Program and Project Development Office

Ministry of Labor
Mr. Sutherland, Labor Inspector

Ministry of Education
Steve Burns

Belize Customs
Frank Pandy, Comptroller

Belize Telecommunications Ltd.
Reynaldo Guerrero, Manager-Domestic Services

Belize Electricity Board
Hugh Fuller

Belize Port Authority
Alfred Coye, Ports Commissioner

Development Finance Corporation
Sandra Bedran, General Manager

Central Statistical Office
Mr. Divatia

U.S. Embassy
C.A. De Bodisca

Belize Export and Investment Promotional Unit
Denton Belisle, Executive Director
Gilroy Graham, Agricultural Promotion Officer
Elton Jones, Member of Board of Directors
Winston Miller, Industry and Tourism Promotion Officer

Belize Honey Producers Cooperative
Julian Avila

Central Bank of Belize
Mr. Garbutt
Dr. Rao

Belize Agribusiness Company
Jack Bachofer, Consulting Agricultural Economist
Jose Novelo, Administrator
Matt Tokar, Consultant and Project Head

Embassy of Mexico
Marco Alcazar, Ambassador

Belize Bank, Ltd.
John Miller, Managing Director

Belize Sugar Industry, Ltd.
Jose Montalvo, Manager

Belize Cane Farmers Association
George Henry, Manager
Jose Villanueva, Administrator

Belize Chamber of Commerce and Industry
Arsenio Burgos, Treasurer
Billy Musa, Vice President

Corozal Town Board
Guadalupe Longsworth, Mayor
Edmond Longsworth
Richard Quan
Lester Sawers

Businessmen
Luis Buenfil, President, Buendurex S.A.
Lloyd Carrillo
Tony Castillo, Owner, Tony's Motel
Steven Chen, General Manager, Satellite Apparel Co.
Harry Duesberry, Ace Ice
Doug Erskine, Partner, Pannel, Kerr and Foster
Thomas Flynn, Owner, Thomas V. Flynn Co. Ltd.
Ray Fuller, President, Belize Investment Services Ltd.
Mirna Gomez, Owner, Mirna's Store
Larry Maclaren, Manager, Williamson Industries
Vildo Marin
Vilio Marin, Managing Director, Santa Elena Sewing Enterprises
Adolfo Oliva, General Manager, David Thomas Ltd.

Myrtle Palacios, Glessina Data Entry
Fabio Paredes, Owner, Belize Upholstery Company
Horace Schroder, Manager, First National Trust Ltd.
Hector Thompson, Cement Products
Victor Turnell, Owner, Belize Engineering Company
Owner, Belize Marine Enterprises
Manager, Belize Childrens Apparel