BELIZE'S EXPORT INDUSTRIES: IMPLICATIONS OF ERODING TRADE PREFERENCES

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1. BACKGROUND

1.i. Preface

The study represents one aspect of a wider undertaking and establishes the framework for futher investigations. It focusses on Belize's major export industries and attempts to highlight the problems posed by the prevailing free-trade current moving across Western Europe, North America, the English-speaking Caribbean and the rest of the world. The study is definitely not the first of its kind nor is it exhaustive. However, it is important because it helps to extend the discussion to other forums, giving greater awareness to a developing situation, which holds potentially devasting consequences for small nations such as Belize.

1.ii. Introduction

The Belizean economy runs smoothly when there is a sufficient supply of hard currencies, particularly US dollars, to meet the demand at any point in time. This is the case because the economy depends heavily on imports from abroad, particularly the US. (Table 1) This pervasive feature of Belizean lifestyle has tied the survival of the economy to hard currency generation. Earnings from domestic exports are very important because they provide

coverage for the majority of imports as is illustrated in Table 2. The primary hard currency earners are sugar, citrus and banana exports, in that order. (Table 3) Combined they accounted for 68.7% of export proceeds in 1996. Individually, they accounted for 30.7%, 18.7% and 19.3%, respectively.

Today, these industries each face an uncertain future, particularly in the medium and long terms. For the banana industry, the uncertainty is in the short term. This is the case for these industries because the primary arrangements which allowed them to develop are under attack. They each receive significant levels of protection from external competition by the EU and the US through perferential trading arrangements, albeit at varying degrees. Without protection, they are certain to collapse, barring astronomical increases in export prices. Survival will call for changes; the paper will attempt to outline the issues.

2. Trade Arrangements and their Impact on Belizean Industries

Belizean sugar, citrus and bananas are produced primarily for exports, as illustrated in Table 4. This is the case mainly for two reasons - the existence of preferential trading arrangements and the small size of the domestic market.

Trade preferences are extended by the EU, US, CARICOM and Canada, the EU and US being the most important. The EU preferences are afforded under ACP-Sugar, Citrus and Banana Protocols of the Lome IV Convention while the US preferences are afforded under its Sugar Program and the Caribbean Basin Economic Recovery Act (CBI). Canadian preferences are afforded under CARIBCAN.

The EU's ACP-Sugar and Banana Protocols and the US's Sugar Program are Belize's most lucrative arrangements because they guarantee, on an annual basis, purchases of significant proportions of our domestic production at prices which are significantly higher than those prevailing on the world market. For sugar, this is illustrated in the patterns of exports to the EU and the US, in Table 5. For bananas, this is illustrated in Table 6.

The arrangements are also critically important because the prices offered are above the respective unit costs of production (Table 7), which in turn are above the world market prices.(Table 8) Without the arrangements, both sugar and banana industries would collapse.

CARIBCAN affords Caribbean sugar exports duty-free entry into Canada. However, sugar exports to Canada represent a residual, after the requirements of the EU, US and domestic markets are met, because the export price received is as low as the world market price. (Table 5) The market does hold some competitive potential,

as in 1990 when prices rose as high as US$0.15 per pound.

The citrus industry benefits from duty-free entry of citrus concentrates into the EU, US and CARICOM under the citrus provisions of Lome IV, the US's CBI and by right of membership in CARICOM, respectively. Although the prices have been comparable among these markets (Table 9), the US and the EU are the most important because of significantly greater market size.(Table 10) Citrus concentrates are also exported to other markets at comparable prices. However, the market sizes are very limited. (Tables 7 and 8)

Traditionally, the majority of citrus concentrates have gone to the US. Shipments to the European Union, particularly of grapefruits, rose after 1992 to take advantage of the trade preferences, high prices and hugh sales potential.

The industry has fared well largely because they have been able to keep the average unit cost of production consistently below export prices.(Table 9) However, if the benefits of duty-free preferences are eroded, the industry may run into trouble because the larger international producers, particularly Brazil, can survive at prices below our unit costs of production.

3. Threats to the Arrangements

The primary threat to the trade preferences originates in the high cost of maintaining the EU's Sugar and Banana Protocols and the US's Sugar Program. For example, it is estimated that it costs EU consumers US$2.3 bn annually to transfer a net benefit of US$0.3 bn to ACP banana producers, under the Banana Protocol.(Borrell) The programs have come under heavy attack in recent years largely because the EU and the US are struggling to reduce their respective budget deficts.

Despite the weight of the attacks, the pending reform of the EU's Common Agriculture Policy is expected to incorporate a 10.0% reduction in the price of sugar paid under the Protocol, at most. In the US, any erosion of the US's Sugar Program will likely come from price reductons implemented after the Farm Bill expires in 2002.

The threat to the Banana Protocol is more immediate. It was officially condemned in April of this year by the World Trade Organization on charges that it violated trade and investment principles as set out in a number of governing agreements, notably the General Agreement on Trade and Tariffs. An appeals process is underway and is expected to conclude by September, 1997.

Another threat is the life of the arrangement, which ends in the

year 2002. Given the gravity of the current debates, there is considerable doubt that it will be continued after 2002.

The greatest threat may be that bananas are not produced in the EU (excluding the overseas territories in the Caribbean). There are no domestic producers to protect, as in the case of sugar.

The threat to citrus concentrates exports to the EU is likely to materialize after the citrus provisions expire with Lome IV in the year 2000. The threat to exports to the US may materialize with the phasing-out of CBI when the phasing-in of NAFTA is completed around the year 2008. However, the threats are likely to involve a marginal erosion of the tariffs paid by non-ACP and non-CBI exporters, and the elimination of tariffs on Mexican exports.

4. Critical Issues facing Belize's Export Industries

The real or imagined negation of Belize's trade preferences is of primary concern to producers because it poses a fundamental problem - the inability to recover production costs in the short and medium terms. This stems directly from the existence of low world market prices, the relatively small size of our operations vis-a-vis the rest of the world (Table 11), and the existence of internal rigidities.

The best option available to the industries may be to align themselves with those parties who also have reason to see the arrangements remain. Yet, this may not necessarily prove successful because the outcome will depend ultimately on the economic and political circumstances impacting the governing parties.

The more probable alternative may be to intensify ongoing efforts to improve productivity and reduce unit costs. This is a gamble that may pay off because there is good reason believe that the trade preferences will suffer, at most, some erosion in the foreseeable future. This notion is based on the fact that the arrangements that give protection to Belize's producers are tied to arrangements that give protection to domestic producers in EU and the US. This is particularly the case for sugar and citrus exports.

In the US, sugar and citrus are produced extensively and both industries, particularly sugar, have very strong representation in Congress. In the EU, sugar ~~is also~~ produced extensively while citrus is produced at a lower level. Bananas are grown mainly in the overseas territories of the Canary Islands, Martinique and Guadeloup, in that order.

Another factor is the rising cost of producing sugar in the EU. This is being used increasingly to oppose the expected reductions

in the guaranteed price to sugar producers. Nevertheless, if the trade preferences are kept, albeit with some erosion, our industries may find themselves in a sustainable situation, if they are able to improve efficiency levels and reduce costs.

5. Productivity Enhancement and Cost Reduction

Belizean poducers are relatively unproductive compared to their efficient counterparts in the international arena.(Table 12) The reasons are largely three-fold - structural, agronomic and infrastructural - and are all interrelated.

5.i. Sugar Industry

One of the main structural problems in the sugar industry is the prevalence of small-scale farmers. In 1995, the average farm size was estimated at 2.5 hectares. This is a critical problem because it creates agronomical and infrastructural problems. The returns to the small farmers are not large enough to allow them to adequately manage their farms. As a result, yields and sucrose levels suffer from inadequate water, weed, pests and disease control. These are compounded by the fact that roughly 30.0% of cane production takes place in flat and lowlands, and 52.0% of the crop consist of varieties that are highly susceptible to smut

disease.

The problems associated with the prevalence of small scale farmers is likely to continue if the Sugar Act of 1969 is not amended to address the issue of quotas. Under the Act, farmers are entitled to a minimum share of the annual sugarcane requirements of the [redacted] addition to giving support to the existence of small scale operations, the quota system has also precluded the industry from obtaining the benefits derived from competition because farmers are guaranteed a share of the market.

Another structural problem is revenue sharing in the industry. The farming community is legally entitled to 65.0% of the revenues earned from exports, after certain expenses are charged to the industry. The remainder is taken up by the processors. The problem with this arrangement is that it does not allow the earnings of the farmers and the processors to assist equally in the task of improving productivity. In this industry, the farmers have done far less to improve productivity, as is evidenced in the yields at the field and factorty levels.(Table 13).

For processors, problems associated with productivity are chiefly cost-related. Operations are highly automated and depend significantly on imports for expansion and maintenance. Despite the high costs to themselves, processors have made significant gains in production efficiency. Overall factory efficiency

currently averages 93.0%. Because the costs of improvements in conversion efficiency are high and are largely imported, there is little that can be done to reduce them. This is the major constraint facing processors.

Cost-related issues are not distinct from productivity-related issues in the sugar industry. At the field level, the structural inefficiencies have manifested themselves foremost in the cost of transporting sugarcane from the fields to the factories. The industry suffers from a proliferation of 8-ton trucks, as the aim of the majority of the farmers is to provide their own means of transportation. Combining the cost of maintenance, petrol and to a certain extent, financing, pushes transportation costs up to roughly 35.0% of the total costs to farmers.

Labour costs are also high, primarily because the law fixes the minimum wage rates at a relatively high level. This problem is compounded by the fact that operations, at the field level, are labour-intensive. Labour is used primarily for weed control (80.0%) and for cutting (100.0%) and loading (75.0%) sugarcane.

At the factory level, costs cannot be influenced significantly for two reasons. Firstly, the overwhelming costs to processors, the price paid to purchase cane from farmers, is fixed and is weighted heavily in favour of farmers.(65.0% of export receipts) Secondly, the majority of the conversion costs are imported. Approximately

70.0% of the conversion costs are incurred for maintenance purposes which pertain primarily to the acquisition and installation of mechanical and electrical parts in the "front side" of the operations. The "front side" incorporates cane handling, cane milling and energy generation and contributes the most to costs because it is that aspect of the operations that is subjected to the greatest level of wear and tear.

5.ii. **Citrus Industry**

Productivity and cost issues in the citrus industry, on average, have received a greater level attention, particularly because of the greater level of awareness in the community of citrus growers. This may have been forced by the lower level of protection afforded to the industry by the export markets. It may also be related to the fact that the larger citrus growers possess some equity in the processing activities. Yet, there are serious problems which need to be addressed at both the field and factory levels.

Some of the productivity-related problems are structural, as in the case of the sugar industry. At the field level, approximately 20.0% of the crop are produced by 97.3% of the farmers. These proportions do not correspond because the farmers are small scale operators and their yields are 25.0% to 30.0% lower than what can be achieved. Yields suffer because the returns earned at this

level of production are incapable of sustaining proper management practices.

A widespread problem at the field level is inadequate water control or drainage, especially in low lying areas. Very wet conditions keep yields down by 20.0% because trees are not stressed sufficiently to produce an abundance of seedlings, and what is produced is subsequently attacked by the proliferation of fungal growth and pests which thrive under these conditions. Wet conditions also contribute to a loss of production time because transportation for the fruits from the fields to the factories are immobilized by already poor on-farm road conditions.

At the factory level, productivity is estimated to lie between 80.0% and 85.0%.(7) Although this is very good, there is scope for improvement. However, cost-related constraints are prohibiting further improvements from occurring.

In this industry, as in the sugar industry, issues of costs are related to issues of productivity. At the field level, cost issues revolve around those inputs that are imported, such as fuel and spare parts for fruit transportation purposes, and fertilizer and chemicals for plant productivity. However, there is not much that can be done because these costs are largely import related.

For processors, the most important cost issue concerns the arranged

purchase-price of fruits from the farmers. Processors contend that this arrangement is costly and obsolete because it is fixed in favour of farmers and it promotes divisiveness between themselves and growers when in fact they should be united against foreign competition. The second-most important cost issue to processors are energy expenses, which account for roughly 40.0% of conversion costs. Energy costs are high because of wide usage and the high import duty levied on diesel, by Government. Import duty on fuel accounts for approximately 50.0% of the pump price.

A major concern in the industry at this time is the inadequate and costly disposal of solid and liquid waste. Processors are exploring the possibility of replicating the situation in the sugar industry, where waste (or by-product) is used to produce energy. This would successfully address the problem of waste disposal while reducing energy costs considerably.

5.iii. **Banana Industry**

In the banana industry, the issue of productivity revolves around essentially three factors - the rate of labour turnover, farm management and infrastructure. The rate of turnover is a serious issue because it is high and the industry is labour-intensive. This robs the industry of the benefits of a semi-skilled labour force, particularly shorter production time periods and lower incidence of

human error. This compounds an existing problem - a relatively unskilled labour force.

Improper management practices also reduces the productivity in the industry. A general problem is the tendency to work outside of set schedules, especially in the application of inputs at the field level. This adds up to significant losses to the industry because the time, energy and resources expended in the process do not yield proportional returns.

Yields are also compromised by improper pruning, deleafing and weed control practices because plant quality and life-span deteriorates. The plant population suffers further because the level of supplementary plantings are insufficient. Poor maintenance of irrigation systems is also a problem on a number of farms because it leads to water related problems for the banana plants and top soil is lost from run-off. Poor soils produce lower yields well into the future. This is particularly noteworthy, because natural soil conditions in the industry are second rate, and not well suited for the purpose of banana cultivation.

Infrastructural deficiencies are numerous. Although irrigation and drainage systems have been upgraded and expanded over the last five years, over 35.0% of cultivated acreages are still without adequate drainage. This creates problems in the wet and dry seasons because in the first instance, muddy conditions hamper severely mobility on

and off the farms. Decreased mobility contributes to the loss of valuable production and transportation time. In the dry season, inadequate water supplies stresses unduly the banana plant. Under these conditions, the plant produces bananas which do not meet the appearance and quality standards of the export market. Improper road construction on and off the farms adds equally to mobility-related problems. It also contributes to fruit damage during transportation.

The issue of costs mainly concerns the applications of labour, energy and chemicals, fertilizers and plastics wraps. Labour costs, at roughly US$12.00 per day per labourer, are high and at 40.0% of total costs, are the greatest cost-related concern to the industry. In the neighboring republics labour costs, at approximately US$3.00 per day per labourer, are roughly four times lower and is the major constraint to Belize's international competitiveness.

Energy costs also contribute significantly to overall costs and are almost twice as high as in the neighboring countries. This stems largely from the fact that import duties on fuel are high and fuel and electricity usage are widespread - in transportation, irrigation-related activities, processing, packing, disease control and in road maintenance and construction.

The acquisition of chemicals, fertilizers and plastic wraps, also

contribute significantly to costs and are roughly 50.0% higher than the corresponding costs in neighboring republics. These costs are pushed up by high import duties, port charges, transportation charges and markup by middlemen and intermediaries.

6. Conclusion

6.i. Summary

Belize relies heavily on the export receipts of the sugar, citrus and banana industries. At this time, these industries face an uncertain future because the trade preferences which have allowed them to succeed and expand, are uder attack. The prospect of significant erosions in the foreseeable future is forcing the industries to consider the practical alternatives available to them. This seems very much to be reducing costs and improving efficiency levels. This is the case because they are too weak to prevent any erosion of the trade preferences, and they are too small to influence world market prices in their favour. Besides, there is a good chance that trade preferences will not be entirely eroded in the short and medium term.

6.ii. **Constraints**

Improving efficiency levels and reducing costs will not be accomplished quickly or easily. In the first instance, there has to be industry-wide awareness of the significance of the threat posed by international developments. Subsequently, a spirit of cooperation has to overtake the longstanding hostility and mistrust that exists between growers and processors, and employees and employers. Lastly, the issues must be de-politicized.

Table 1 - Selected Trade Indicators
(Percentages)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Belize										
Domestic Exports/GDP	36.3	35.8	30.6	30.9	26.2	28.2	25.3	27.5	28.9	30.0
Gross Imports/GDP	59.6	68.1	70.3	62.4	69.0	66.2	62.1	56.0	52.2	49.7
Domestic Exports/Gross Imports	60.8	52.6	43.6	49.5	38.0	42.6	40.8	49.0	55.5	60.3
United States										
Domestic Exports/GDP	n/a	n/a	6.9	7.1	7.4	7.2	7.1	7.4	8.1	n/a
Gross Imports/GDP	n/a	n/a	9.4	9.4	8.9	8.9	9.2	9.9	10.6	n/a
Domestic Exports/Gross Imports	n/a	n/a	73.8	76.1	83.0	80.9	77.0	74.4	75.9	n/a
Japan										
Domestic Exports/GDP	n/a	n/a	9.5	9.8	9.4	9.3	8.6	8.6	8.6	n/a
Gross Imports/GDP	n/a	n/a	6.8	7.6	6.5	5.8	5.2	5.4	6.0	n/a
Domestic Exports/Gross Imports	n/a	n/a	139.9	129.3	145.3	160.0	165.4	159.8	144.4	n/a

Sources: Central Satistical Office
International Financial Statistics

Table 2 - Directon of Trade Statistics: Gross Imports
(Percentages)

Country/Community	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
United Kingdom	8.2	8.9	9.2	8.2	7.9	8.5	7.0	7.3	6.3	4.6
U.S.A.	57.9	53.5	57.0	57.6	58.9	56.6	56.5	53.1	54.0	54.9
Mexico	8.8	6.9	6.9	6.8	8.3	8.8	9.6	9.6	11.0	12.3
CARICOM	2.4	4.7	4.7	6.2	2.7	4.0	3.9	4.3	4.2	4.2
Rest of the World	22.7	26.1	22.1	21.3	22.3	22.1	23.0	25.7	24.5	24.0

Source: Central Statistical Office

Table 3 - Composition of Domestic Exports
(Percentages)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Major Domestic Exports	93.4	95.4	95.3	95.1	92.3	92.8	94.2	94.5	93.6	92.7
Sugar	36.0	36.8	36.2	40.9	43.7	32.3	36.3	31.6	33.4	30.7
Molasses	0.6	0.5	0.7	3.1	3.9	2.0	4.2	4.1	2.0	3.6
Bananas	18.4	18.2	20.7	21.2	9.4	23.5	12.2	13.2	20.4	19.3
Citrus	8.2	9.1	9.6	9.4	7.7	8.8	10.6	18.0	15.4	18.7
Marine	9.7	8.5	7.1	5.0	6.1	9.6	11.4	10.4	10.9	7.9
Garments	18.0	19.6	18.4	13.7	18.4	14.4	17.8	14.3	10.2	11.6
Sawnwoods	2.4	2.9	2.5	1.8	3.1	2.1	1.9	3.0	1.4	0.9
Nontraditional Exports	6.6	4.6	4.7	4.9	7.7	7.2	5.8	5.5	6.4	7.3

Source: Central Statistical Office

Table 4 - Export Orientation

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Sugar (Long Tons)										
Production	82,320	81,747	90,934	100,297	101,914	100,528	100,231	105,397	105,344	108,784
Exports	78,981	79,700	78,749	92,454	91,914	90,032	90,388	92,845	92,316	94,828
Export/Production Ratio (%)	95.9	97.5	86.6	92.2	90.2	89.6	90.2	88.1	87.6	87.2
Citrus Concentrates ('000 Gallons)										
Production	1,919	1,524	1,880	1,956	1,469	2,261	1,934	2,033	3,335	3,386
Exports	1,930	1,525	1,880	1,957	1,229	2,670	1,955	2,108	3,453	3,396
Export/Production Ratio (%)	100.6	100.0	100.0	100.0	83.7	118.1	101.1	103.7	103.5	100.3
Bananas ('000 42-pound boxes)										
Production	1,183	1,457	1,551	1,723	1,157	1,545	2,140	2,642	2,453	3,202
Exports	1,183	1,457	1,551	1,723	1,157	1,545	1,945	2,535	2,092	2,988
Export/Production Ratio (%)	100.0	100.0	100.0	100.0	100.0	100.0	90.9	96.0	85.3	93.3

Source: Central Statistical Office

Table 5 - Sugar Exports: Market Shares and Prices

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Export Volumes (Long Tons)	78,981	79,700	78,749	92,454	91,914	90,032	90,388	92,845	92,316	94,828
EU - Total	41,511	42,273	43,351	41,726	35,825	36,098	42,234	42,569	54,538	50,277
- Protocol (UK)	41,511	42,273	43,351	41,726	35,825	36,098	42,234	42,569	42,322	41,908
- SPS (UK)	0	0	0	0	0	0	0	0	12,216	8,369
US - Sugar Program	15,820	19,317	21,865	33,406	30,460	23,246	12,136	10,210	14,095	23,176
World/Canada	21,650	18,110	13,533	17,322	25,629	30,688	36,018	40,066	23,683	21,375
Market Shares (%)										
EU - Total	52.6	53.0	55.0	45.1	39.0	40.1	46.7	45.8	59.1	53.0
- Protocol(UK)	52.6	53.0	55.0	45.1	39.0	40.1	46.7	45.8	45.8	44.2
- SPS (UK)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2	8.8
US - Sugar Program	20.0	24.2	27.8	36.1	33.1	25.8	13.4	11.0	15.3	24.4
World/Canada	27.4	22.7	17.2	18.7	27.9	34.1	39.8	43.2	25.7	22.5
Export Values (BZ$mn)	62,622	70,027	68,128	85,529	83,407	75,258	82,914	80,620	95,502	94,572
EU - Total	46,139	48,527	44,761	48,686	41,198	41,287	56,405	51,333	69,559	62,313
- Protocol (UK)	46,139	48,527	44,761	48,686	41,198	41,287	56,405	51,333	56,386	53,697
- SPS (UK)	0	0	0	0	0	0	0	0	13,173	8,616
US - Sugar Program	9653	14914	16425	25796	31,038	21,529	10,751	9,109	12,585	21,409
World/Canada	6830	6586	6942	11047	11171	12442	15758	20178	13358	10850
Export Prices - US cents per lb (f.o										
EU - Protocol (UK)	0.248	0.256	0.230	0.260	0.257	0.255	0.298	0.269	0.297	0.286
- SPS (UK)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.241	0.230
US - Sugar Program	0.136	0.172	0.168	0.172	0.227	0.207	0.198	0.199	0.199	0.206
World/Canada	0.070	0.081	0.115	0.142	0.097	0.090	0.098	0.112	0.126	0.113
Market Shares (%) - Value										
EU - Total	73.7	69.3	65.7	56.9	49.4	54.9	68.0	63.7	72.8	65.9
- Protocol(UK)	73.7	69.3	65.7	56.9	49.4	54.9	68.0	63.7	59.0	56.8
- SPS (UK)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.8	9.1
US - Sugar Program	15.4	21.3	24.1	30.2	37.2	28.6	13.0	11.3	13.2	22.6
World/Canada	10.9	9.4	10.2	12.9	13.4	16.5	19.0	25.0	14.0	11.5

Sources: Central Statistical office
Belize Sugar Industres Limited

Table 6 - Banana Exports: Volumes, Values and Prices

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Export Volume ('000 42 lb Boxes)	1,183	1,457	1,551	1,723	1,318	1,812	2,252	2,535	2,092	2,988
Total Export Value (BZ$'000)	14,311	17,232	18,072	19,737	14,674	27,870	34,837	45,900	44,100	57,400
Export Value	14,311	17,232	18,072	19,737	14,674	20,497	24,180	29,700	28,300	37,600
Export Value of Quality Bonus						7,373	10,657	16,200	15,800	19,800
Total Unit Value - US$ per 42 lb Box	6.05	5.91	5.83	5.73	5.57	7.69	7.73	9.05	10.54	9.61
Unit Value	6.05	5.91	5.83	5.73	5.57	5.66	5.37	5.86	6.76	6.29
Bonus Unit Value	0.00	0.00	0.00	0.00	0.00	2.03	2.37	3.19	3.78	3.31

Sources: Central Statistical Office

Table 7 - Average Unit Cost of Production: By Industry
(US DOLLARS)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Per Pound of Sugar	0.20	0.20	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Per Gallon of Citrus Concentrates	6.45	6.45	6.45	6.45	6.45	6.45	6.45	6.45	6.4	6.4
Per 42-Pond box of Bananas	-	-	-	-	-	6.50	6.50	6.75	6.75	6.75

Sources: Belize Sugar Industries Ltd.
Citrus Company of Belize ltd.
Belize Food Products Ltd.
Banana Growers Association
Note: All the figures are approximations

Table 8 - World Market Prices: By Commodity
(US Dollars)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Per Pound of Sugar	0.070	0.081	0.115	0.142	0.097	0.090	0.098	0.112	0.126	0.113
Citrus Concentrates (Per Gallon)										
Orange	8.04	12.12	11.51	12.48	9.32	10.55	6.31	7.65	8.65	8.88
Grapefruit	9.49	9.79	8.07	7.85	7.63	9.46	9.18	8.75	8.85	8.09
Per 42-Pound Box of Bananas	4.05	3.82	3.91	3.75	3.73	3.56	3.49	3.30	3.58	4.20

Sources: Belize Sugar Industries Ltd.
Central Statistical Office

Table 9 - Average Export Prices of Citrus Concentrates: By Markets
(US$ Per Gallon)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Prices	8.29	11.34	10.33	11.03	8.81	10.26	7.13	7.96	8.69	8.71
Orange Concentrates	8.04	12.12	11.51	12.48	9.32	10.55	6.31	7.65	8.65	8.88
European Union	-	12.21	11.22	7.20	-	-	6.74	9.07	8.47	7.97
US	7.82	12.45	11.18	12.19	8.13	10.34	6.11	7.53	8.01	9.28
Caribbean	8.83	11.48	12.59	13.61	11.05	11.64	7.33	8.13	8.46	9.85
Other	-	-	-	-	-	10.24	9.30	8.10	12.33	9.23
Grapefruit Concentrates	9.49	9.79	8.07	7.85	7.63	9.46	9.18	8.75	8.85	8.09
European Union	-	8.94	8.06	8.10	7.12	9.21	9.11	8.88	8.86	8.07
US	9.55	10.05	8.00	7.71	7.79	10.15	9.38	8.22	-	8.53
Caribbean	9.34	9.79	9.39	8.77	9.44	9.59	9.35	8.15	8.40	8.66
Other	-	-	9.20	-	-	-	-	-	-	-

Sources: Central Statistical Office

Table 10 - Exports of Citrus Concentrates: By Markets

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Export Volume (Gals)	1,929,802	1,524,524	1,879,703	1,956,904	1,228,989	2,670,255	1,955,127	2,108,310	3,452,868	3,395,875
Orange Concentrates	1,592,404	1,016,612	1,234,741	1,343,772	859,712	1,951,027	1,394,285	1,514,699	2,695,671	2,677,364
European Union	0	35,182	93,952	14,643	0	5	3,710	10,590	1,274,782	883,415
US	1,246,918	645,676	853,707	1,001,750	511,429	1,629,876	1,180,276	1,230,572	981,620	1,602,936
CARICOM	345,486	335,754	287,082	327,379	348,283	309,917	202,879	241,749	200,039	130,035
Other	0	0	0	0	0	11,229	7,420	31,788	239,230	60,978
Grapefruit Concentrates	337,398	507,912	644,962	613,132	369,277	719,228	560,842	593,611	757,197	718,511
European Union		93,699	156,362	95,665	203,232	492,440	398,178	485,140	741,012	687,808
US	241,326	307,490	460,229	470,671	120,765	162,600	125,280	87,923	0	7,328
CARICOM	96,072	106,723	26,687	46,796	45,280	64,188	37,384	20,548	16,185	23,375
Other	0	0	1,684	0	0	0		0	0	
Export Value (BZ$'000)	32,008	34,583	38,846	43,168	21,651	54,768	27,893	33,564	60,016	59,162
Orange Concentrates	25,603	24,640	28,433	33,542	16,019	41,165	17,593	23,170	46,609	47,533
European Union	0	859	2,109	211	0	0	50	192	21,606	14,090
US	19,501	16,072	19,096	24,419	8,320	33,719	14,432	18,530	15,720	29,755
CARICOM	6,102	7,709	7,228	8,912	7,699	7,216	2,973	3,933	3,384	2,562
Other	0	0	0	0		230	138	515	5,899	1,126
Grapefruit Concentrates	6,405	9,943	10,413	9,626	5,632	13,603	10,300	10,394	13,407	11,629
European Union	0	1,675	2,521	1,550	2,896	9,070	7,251	8,613	13,135	11,099
US	19,501	16,072	19,096	24,419	8,320	33,719	14,432	18,530	15,720	29,755
CARICOM	1,795	2,090	501	821	855	1,231	699	335	272	405
Other	0	0	31	0		0	0	0	0	0

Sources: Central Statistical Office

Table 11 - Comparative Production Levels. 1993

Sugar Production (Mn Metric tonnes)	
Belize	0 1
European Union	17.2
United States of America	6 9
Cuba	4.6
Mexico	3.7
Citrus Production (Mn Boxes)	
Belize	3.0
BrazilP	408.0
United StatesP	212.0
Banana Production (Mn 42 Pound Boxes)	
Belize	2.2
EcuadorP	200.0
HondurasP	58.0

Sources: Supplementary Proceedings - West Indies Sugar Technologists Conference 1994.
EUROPA Trade Repot, 1994
P - Provisional

Table 12 - Comparative Productivity Levels: 1993

Sugar Production (Tonnes Sugar Per Hectare)	
Belize	4 7
Australia	11.0
Barbados	5.6
Guyana	5.8
Citrus Production (Boxes Per Hectare)	
Belize	183.0
BrazilP	320.0
United States of AmericaP	314.0
Banana Production (42 Pound Boxes Per Hectare)	
Belize	410.0
EcuadorP	655.0
HondurasP	600.0

Sources: Supplementary Proceedings - West Indies Sugar Technologists Conference 1994.
EUROPA Trade Repot, 1994
P - Provisional

Table 13 - Localized Comparative Productivity Levels: 1993

	Yields	
	Field Level TC/H	Factory Level TC/TS
Belize	43.67	9.24
Barbados	50.81	9.1
Guyana	73.0	12.7
Jamaica	51.1	11.92

Sources: Supplementary Proceedings - West Indies Sugar Technologists Conference 1994.
Notes: TC/TS - Tonnes Cane/Tonnes Sugar
TC/H - Tonnes Cane/Hectare

BIBLIOGRAPHY

Boye, Greta; Briggs, John; Santos,Carlos. Enhancing the Competitiveness of Agriculture in Belize. Inter-American Development Bank, May 1996.

"West Indies Sugar Technologists XXV Conference: Supplementary Proceedings". Belize City, Belize, April 1994.

Borrell, Brent. "EU Bananarama III". World Bank, 1994.

"Belize Agricultural Sector Study". Inter-American Institute for Cooperation on Agriculture, OAS, 1992.

Sugar Association of the Caribbean Handbook, 1961 - 1993. Sugar Association of Caribbean Technologists Committee.

Technological Modernization of the banana industry in the Caribbean. IICA. August 1996.