The CARICOM

Regional Transformation Programme for Agriculture

DRAFT

EXECUTIVE SUMMARY

The Coconuts Industry in CARICOM:

Global Market Intelligence Report

COCONUT

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Acknowledgements

The core team takes the opportunity to express its appreciation to all those who provided logistical and technical support for the completion of this exercise. We firstly like to thank the RTP Coordinator / Agricultural Advisor, Mr. Sam Lawrence as well as the country officers for their logistical and other support in the completion of this exercise. Field visits allowed us to verify and update the information base on small ruminants. Small ruminant investors particularly in the case of Jamaica, Trinidad and Tobago and Guyana provided valuable information in shaping the review of the Regional Sheep and Goat industry. The database on small ruminants worldwide, as well as in the Caribbean, contains significant gaps and took considerable time in their verification and validation.

Our discussion with officials in the Ministries of Agriculture in the Region proved helpful in reconciling some of the deficiencies we encountered in the review. Technical support was provided through the assistance of Brent Theophile, Rebecca Gookool, Jai Rampersad and David Hanson, to which the Core Team also expresses support. To Ms. Martha Jiminez-Spence and Ms. Indira Buchoon-Ousman, we express our sincere thanks for their logistical organizational and communication support.

Although we tried to ensure accuracy of the database used for the review, nonetheless we accept responsibility for any errors that may be discovered. This may be the result of the multiple databases from which we had to access the data. The small ruminants sector in the Caribbean is just emerging unlike countries such as Australia and systems of data recording for this commodity have not yet entered the mainstream databases. This gap we recommend should be addressed with urgency.

The Core Team

Dedication

We dedicate this work to the Memory of our Colleague and member of the study team, Dr Lloyd B. Rankine. Dr Rankine passed away on October 25, 2006. He was a colleague with whom we shared many long hours in dialogue, in the field and in the class room. His life long endeavours and dedication reflect his passion for agriculture in the Caribbean.

Dr. Rankine was an integral part of the University of the West Indies having served the University (both Mona and St. Augustine campuses) from 2nd December 1968 to June 3, 2006 when he suffered a debilitating stroke. He served as Head of the Department of Agricultural Economics and Extension from 1977 to 1990 and taught in the capacity of Senior Lecturer up until 2003, when he retired. From 2003 to June 3, 2006, he lectured part-time in the Department

Dr. Rankine also served as Director and Chairman on many Boards in Trinidad and Tobago. **.**

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THE CARICOM REGIONAL TRANSFORMATION PROGRAMME FOR AGRICULTURE:

SOURCES OF SUPPLY AND COMPETITIVENESS

FOR

COCONUT

EXECUTIVE SUMMARY

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1. BACKGROUND: THE CARICOM REGIONAL TRANSFORMATION STUDIES ON COMPETITIVENESS

This Report was commissioned by the CARICOM Regional Transformation Programme for Agriculture and comprises of the findings of the market review for Coconut. The study focuses on evaluating sources of competitiveness for CARICOM producers in the international market. This report is followed by an examination of the competitiveness of the Region, highlighting options for development of the Caribbean coconut Industry.

Although CARICOM is a net importer of Oils for consumption and industry, potential export markets – the USA, Canada and EU markets were reviewed for opportunities that may exist. For these markets, as well as CARICOM, primary and value-added commodities were evaluated, incorporating an examination of seed vegetable oils, including oil seeds. Seed Vegetable Oil includes coconut, soybean, groundnut, oil palm, sunflower, corn, rape seed, castor and sesame. The report notes that there exists a high degree of substitutability between coconut oil and the market leaders -- palm and soybean oils. Additionally, the study sought to determine the major competitors in the global marketplace.

2. THE GLOBAL MARKET FOR COCONUT AND COCONUT PRODUCTS

2.1 World Production of Major Coconut Commodities

Coconut: The total world cultivation under coconut was estimated at 11.0 mn hectares producing 55 mn tonnes in 2004. Asia remained the largest producing region at 46 mn tonnes, or 85% of global production in 2004 (Figure 3.1). In the western hemisphere, South America was a major producing region at 6% of production. Indonesia and the Philippines were the world's two largest

producers, with an estimated production of 16.3 mn tonnes and 14.4 mn tonnes from 3.3 mn ha and 2.7 mn ha, respectively.

Copra and Coconut Oil: The top copra producers in the world were The Philippines (42%), Indonesia (24%), India (9%) and Thailand (7%). In the case of coconut oil, The Philippines produced 44% of world production, followed by Indonesia (18%) and India (14%), (Figure 3.2).

Figure 3.1: World Production of Coconuts in 2004 - Major Regions
'000 tonnes (Data Source: FAOStat Database)

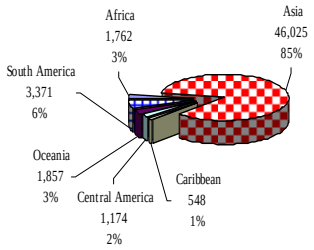
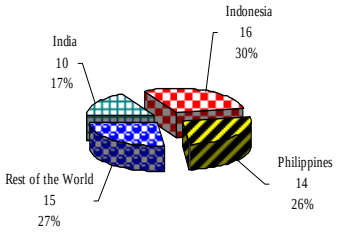


Figure 3.2: World Production of Coconuts in 2004 - Major Producers
'000 tonnes (Data Source: FAOStat Database)



Oils and Fats Trade

Major Exporters and Importers: Exports of oils and fats were projected to represent an estimated 30% of total world production in 2004/05. It is important to remember that some oils and fats are produced locally from imported oilseeds. Account must also be taken that an estimated 28% of soybeans are exported as beans and also 13% of rapeseed and 7% of sunflower as seed (2004/05 forecasts), see Table 2.1. Exports of oil come mainly from Malaysia (30%) and Indonesia (13%) as palm oil, and from Argentina (14%) as soybean and sunflower oil. Further, the biggest importers of oil in 1999/00 were India (14%), EU-15 (14%), and China (8%)[1].

Volume Trade: Oil of Palm constitutes the highest volume of vegetable oil traded, estimated at 21.9 mn tonnes or 70% of the 31.08 mn tonnes produced in 2004/05. The next highest volume that entered the export trade was soybean oil at 9.55 mn tonnes (30%) from the 32.17 mn tonnes produced. Much less, but yet significant was the volume of sunflower oil exported, 2.32 mn tonnes or 26%, and coconut 1.77 mn tonnes or 52% of total production of sunflower and coconut respectively.

[1] Source: Oils and Fats in the marketplace http://www.britanniafood.com/german/invite_05.htm

Trends: The use of soy and palm oil is expected to increase while consumption of sunflower seed oil is expected to decrease. The demand for oil for the production of biodiesel has been projected to increase as the European Union (EU)-25, USA and Brazil are implementing policies to stimulate production and consumption as petrol prices increase (ibid).

Table 2.1: World Oilseed Supply and Distribution, 2000/01-2004/05 mn tonnes

Item	2000/01	2001/02	2002/03	2003/04 1/	2004/05 2/
Production					
Soybeans	175.93	185.12	197.12	188.81	224.14
Cottonseed	33.51	36.61	32.87	35.54	44.18
Peanuts	31.40	33.81	30.54	32.49	34.47
Sunflower seed	23.18	21.37	23.95	26.49	25.41
Rapeseed	37.41	36.03	32.45	39.32	43.85
Copra	5.77	5.21	5.11	5.33	5.48
Palm kernel	7.04	7.20	7.64	8.34	8.81
Total	**314.23**	**325.36**	**329.67**	**336.32**	**386.34**
Exports					
Soybeans	53.79	53.62	61.71	55.59	62.41
Cottonseed	1.29	0.98	0.75	0.93	1.00
Peanuts	1.79	1.93	1.85	1.74	1.86
Sunflower seed	2.59	1.29	1.81	2.75	1.84
Rapeseed	7.18	4.93	4.12	5.48	5.48
Copra	0.14	0.14	0.12	0.12	0.12
Palm kernel	0.05	0.08	0.08	0.06	0.07
Total	**66.83**	**62.96**	**70.44**	**66.67**	**72.77**
1/ Preliminary. 2/ Forecast.					

Source: Foreign Agricultural Service, USDA. **Source: http://usda.mannlib.cornell.edu/data-sets/crops/89002/tab46.xls**

Market shares: In terms of market shares, reductions have taken place with animal fats and vegetable oils other than the big four. Market share increased most for palm oil, followed by soybean and sunflower, registered through exports. Total palm oil (oil of palm and palm kernel oil) has always held a higher trade share than soybean.

Outlook Trends: Production of palm oil is also projected to exceed soybean by 2010[2]. Malaysia and Indonesia, the largest producers of palm oil dominate world trade in oils and fats, accounting for an estimated 45% of total trade in oils and fats in 1999/00. However, in the case of soybean oil, the principal product in the oil industry is considered a by-product of the soybean meal process for livestock. **This situation represents a major factor for the competitive positioning**

[2] Source: Oils and Fats in the marketplace http://www.britanniafood.com/german/invite_05.htm

of soybean oil in international markets, as well as for the CARICOM market with respect to the trade of vegetable oils.

3. OVERVIEW OF THE CARICOM MARKET FOR COCONUT AND COCONUT PRODUCTS

The Region consumed an estimated 130,000 tonnes of vegetable oils annually in 2000/02. The highest consumption was reported in Haiti at 61,000 tonnes, followed by Jamaica 33,000 tonnes and Trinidad and Tobago 17,000 tonnes.

The Caribbean produced an average of 512 thousand tonnes of coconut annually over the 1999/02 period. Jamaica produced 170 thousand tonnes or 56% of the Region's coconuts. The next largest producer was Guyana at 59 thousand tonnes (20.6 %), followed by Trinidad and Tobago at 23 thousand tonnes (8 %). Dominica recorded just about 11 thousand tonnes or 4 % of Regional production. CARICOM production accounts for 301 thousand tonnes or 59% of this production; the rest being produced in the non-CARICOM Region of which the Dominican Republic accounts for 166 thousand tonnes or 32 % of the Caribbean Region's production.

4. CARICOM PRODUCTION AND TRADE IN VEGETABLE OILS

The trade in Oil is done in two forms: (i) trade in oilseed; and (ii) trade in oils. In addition to imports and utilization of coconuts, two countries in the Region produced a significant amount of other vegetable oils from imported oilseed.

The trade in vegetable oils represents the major issue for the development of a regional coconut industry. CARICOM Member Countries imported an estimated 72,306 tonnes of vegetable oil valued at USD 46.3 mn in 2003 (Table 4.1). The largest importers during that year were Jamaica at 25,274 tonnes valued at USD 15.1 mn, followed by Trinidad and Tobago 25,254 tonnes valued at USD 14.7 mn. Suriname recorded the next highest import levels; 7,846 tonnes valued at USD 5.9 mn, followed by Barbados with 4,897 tonnes valued at USD 3.1 mn. Except for The Bahamas and Guyana, imports into the other CARICOM countries were of volumes less than 1,000 tonnes, and valued at less than USD 1.0 mn. Data for Trinidad and Tobago and Barbados includes volumes produced from imported soybean oil seed.

Trade in Oilseed: During 2003, Trinidad and Tobago imported an estimated 62,598 tonnes of soybean seeds valued at USD 15.6 mn and Barbados, 23,121 tonnes valued at USD 5.6 mn. Using an average oil conversion of 18%, Trinidad and Tobago produced an estimated 11,268 tonnes of soybean oil and Barbados 4,162 tonnes. Other CARICOM countries imported a range of vegetable oils to satisfy their requirements.

Trade in Oil: Jamaica imported an estimated 23,233 tonnes of soybean oil valued at USD 13.8 mn, representing about 33% of the soybean oil trade in value terms. The other major importer, Trinidad and Tobago imported 24,023 tonnes of soybean oil valued at USD 13.7 mn. In the case of Trinidad and Tobago however, 45% of imports represent oil produced within the country from imported soybean oil seed.

Table 4.1: CARICOM Member Countries Total Vegetable Oil Import Trade in 2003 (Intraregional and Extra-regionally), including Oilseed and Copra Equivalent

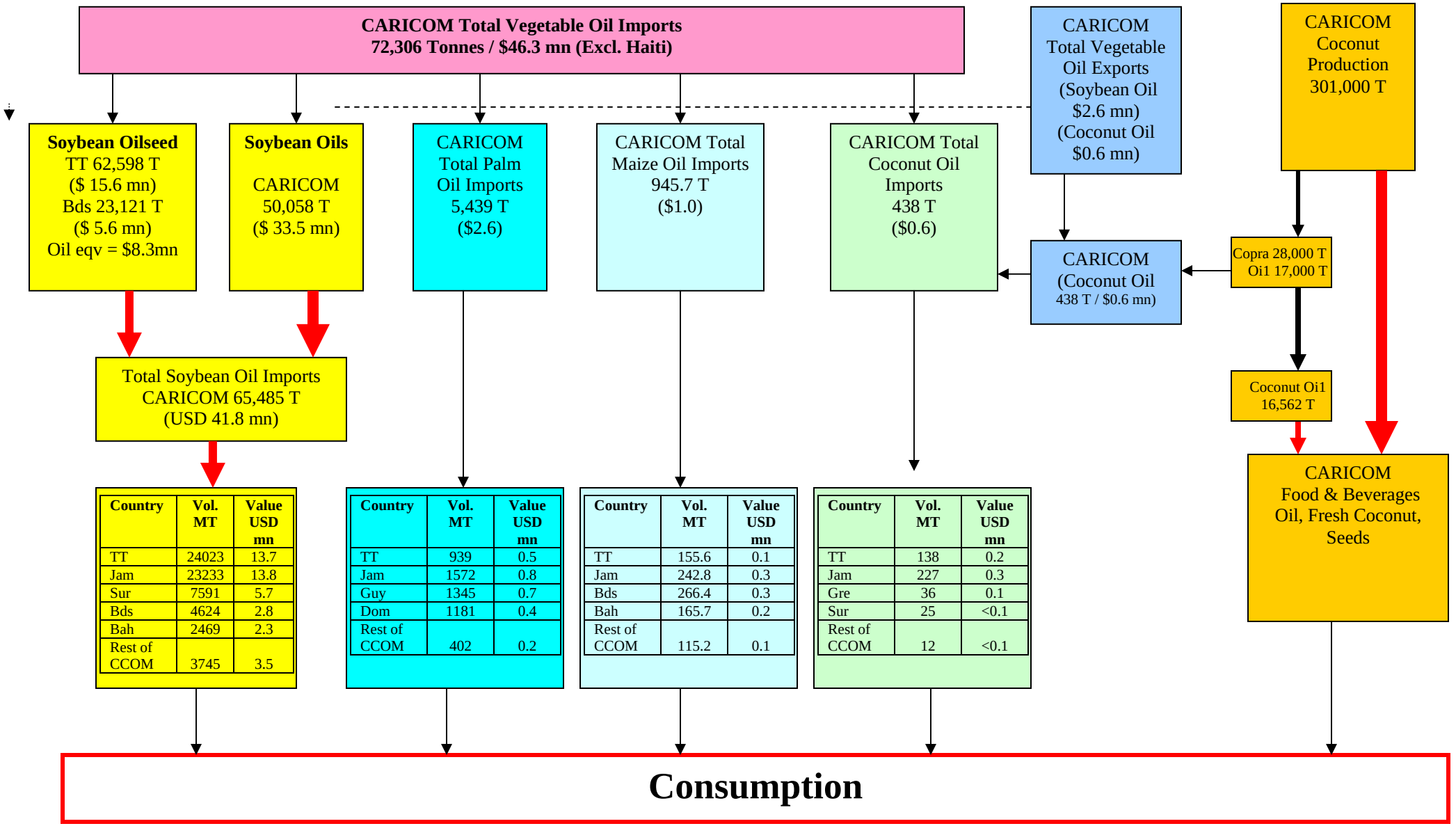
Importing Country	Total Imports	
	Trade Value (USD mn)	Net Weight (Tonnes)
Antigua	$ 0.5	519
Bahamas	$ 2.6	2,642
Barbados	$ 3.1	4,897
Belize	$ 0.06	59
Dominica	$ 0.9	1,697
Grenada	$ 0.7	565
Guyana	$ 1.8	2,690
Jamaica	$ 15.1	25,274
Montserrat	-	-
St Kitts/Nevis	$ 0.2	191
St Lucia	$ 0.2	140
St Vincent	$ 0.6	533
Suriname	$ 5.9	7,846
Trinidad and Tobago	$ 14.7	25,254
Total Imports	**$ 46.3**	**72,306**
Data Source: United Nations Comtrade Database		

Figure 4.1 presents a summary of the CARICOM market situation for imports of oils and fats with respect to coconut. Soybean oil dominates the consumption of oils within the Region; from both direct imports and the use of soybean oilseed in manufacturing. Clearly, any measure to promote a regional coconut industry must take into account this present trend.

In light of this, expanded opportunities from oils derived from coconut as well as other products from coconuts require R&D support into further value added for the advancement of the industry.

In addition, existing trends in consumption of fresh coconut water, the increasing opportunities in the trade of bottled fresh coconut water, oleochemicals, lauric acid and biofuels, amongst others must be considered. The former two, in particular are of note. Coconut water is increasingly being bottled and marketed as a beverage and as a sport drink, having significant nutritive benefits. Therein, we believe exist significant opportunities for industry expansion in both the domestic / regional as well as the international markets. Moreover, the trade of oleochemicals contributes to pharmaceutical and nutraceutical markets which are an increasing consumer-spending segment. Also, in the case of Jamaica, attractive marketing opportunities have been exploited for the trade of seeds for horticulture/ornamental purposes. These emerging markets are a focus for encouraging investment and greater examination of the potential of a regional coconut industry.

Figure 4.1 Summary: CARICOM Oils and Fat and Coconut Situation



4. CONSTRAINTS TO THE DEVELOPMENT OF A VIABLE COCONUT INDUSTRY

Our review of the global market situation for vegetable oils based on coconut suffered from a lack of detailed and comprehensive data for the commodity in the global marketplace. The situation is further compounded by the relative ease of substitution for other oils and the relatively closeness or correlation of the prices. The following are identified as pertinent areas for concern:

4.1 The Coconut Oil Controversy:

Coconut oil has been proven to have a saturated fat which is of the medium-chain fatty acid variety (MCFA). Based on this, the question is often asked:

Isn't coconut oil bad for my cholesterol?"

Alternatively, some researchers have said that MCFAs are more readily digested by the body, in that MCFAs are not stored as fat but are immediately converted into energy. This results in an overall increase of the body's metabolism. Studies such as that conducted by Spade and Dietchy (1988) showed that coconut oil prevented the formation of hepatic cholesterol esters. In addition to this, the lauric acid found in coconut oil provides the disease fighting fatty acid monolaurin which boosts the immune system.

Coconut reportedly has been proven to have no dangerous trans-fats, which are traditionally found in vegetable oils, margarines and shortenings. These substances have the effect of increasing the body's production of LDLs or 'bad' cholesterol which has implications for heart disease, diabetes and other health problems (Grundy 1989).

Nonetheless, perception or otherwise, the health concerns associated with the consumption of coconut oil in foods remains to be pronounced upon.

4.2 The CARICOM Oils and Fats Agreement

The major development in the vegetable oils and fats sub sector in the Region came about in the establishment and subsequent expansion of the CARICOM Oils and Fats Agreement. The agreement first sought to maximize utilization of indigenously produced coconut and cotton seed oils while allowing entry of some level of substitutes. Although not conclusive, this expansionary clause seems to have opened the door for substitutes and initiated large inflows of oil seeds and seed oil which ultimately impacted negatively on the coconut industry. Consequently, the

Agreement, though geared towards stimulating development of the regional industry, has, at best failed and seems to be purporting a similar demise as seen in other sub-sectors of agriculture in the Region.

4.3 Pest and Diseases

Lethal Yellowing, Red Ring Disease, Cedros Wilt and recently the Red Palm Mite have been impacting negatively on the Region's coconut production.

4.4 Commentary

Coconut oil, once an important commodity in the global food basket, including CARICOM has perhaps suffered loss of market share because of suspected adverse health and nutrition effects on human. Although this controversy was not sustained, supplies of coconut oil remain in the global market, but at low levels due to the effect of pests and diseases on production. On the other hand, the demand for coconut oil has also shown increases in Trinidad and Tobago and Jamaica. Consumption of coconut water as a beverage has also followed an increasing trend in all CARICOM countries.

Although the oil market has increased in the Region in both the oleochemicals and food sub sectors, our review has shown that the coconut industry's domestic production of oils did not keep pace with these developments in market opportunities. With respect to the oleochemicals, some indigenous manufacturers have given way to imports from neighbouring countries; classic example is the case of the soap.

5. POTENTIAL FOR DEVELOPMENT OF A REGIONAL COCONUT INDUSTRY

Importantly, R&D support for targeted value-added products is required to ensure productive returns for stakeholders along the value chain. These efforts however were largely concentrated on production of resistant varieties such as the Maypan in Jamaica and Belize. Although the resistance / tolerance to Lethal Yellowing is still being evaluated, the sale of seeds from this initiative has borne returns in the case of Jamaica, while the development of the coconut industry in Belize is being built using the Maypan as its dominant genetic variety.

Alternatively, the bottling and storage of coconut water for extended shelf life and improved marketability is still posing a serious challenge to packers. Further R&D work is required in areas

which include coconut oil derivatives such as the oleochemicals and lauric acid, as these are being reviewed for new pharmaceutical and nutraceutical applications.

Development in palm oils as well as the sustained presence of soybean continues to pose challenges to initiatives the Region may wish to undertake to reverse the downward trend in the coconut industry. Notwithstanding, given the limited success with soybean production (except in the case of Belize), the Region may wish to revisit soybean production and at the same time examine the production of Oil Palm for the production of palm oil which has been talked about as a possibility given the potential demise of coconut due to diseases and the threat of hurricane. We are not proponents for the abandonment of coconuts. Indeed, we believe the industry should be maintained and strengthened while research is undertaken in vegetable (*vs.* coconut) oil production. Further, given the shift away from oil-based animal fats, it gives further impetus for investments into vegetable oils.