



# **THE NATIONAL FOOD & AGRICULTURE POLICY (2002-2020)**

**NO FARMER = NO FOOD**

**MINISTRY OF AGRICULTURE & FISHERIES  
&  
GOVERNMENT OF BELIZE**

**APRIL 2003**

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## Glossary of Terms

**ACP**- African, Caribbean & Pacific  
**A & F**- Agriculture & Fisheries  
**APHIS** - Animal & Plant Health Inspection Services  
**BABCO**- Belize Agri-business Company  
**BAHA** - Belize Agriculture Health Authority  
**BCCP** – Belize Citrus Certification Program  
**BEIPU** - Belize Export & Investment Promotion Unit  
**BELTRAIDE** - Belize Trade & Investment Development Services  
**BEST**- Belize Enterprise For Sustainable Technology  
**BOPA** – Belize Organic Producers Association  
**BLPA**- Belize Livestock Producers Association  
**BPGA**- Belize Papaya Growers Association  
**BMB**- Belize Marketing Board  
**BMP**- Best Management Practices  
**CARDI**- Caribbean Agriculture & Research Development Institute  
**CARIBCAN** - CARICOM & Canada Preferential Trade Agreement  
**CARICOM**- Caribbean Community  
**CBI**- Caribbean Basin Initiative  
**CBO**- Community-Based Organization  
**CET**- Common External Tariff  
**CIF**- Cost, Insurance & Freight  
**CORECA**- Central American Regional Council On Agriculture  
**CREI**- Citrus Research & Education Institute  
**CRFM**- Caricom Regional Fisheries Mechanism  
**CSME**- Caribbean Single Market Economy  
**CSO**- Central Statistical Office  
**CTV**- Citrus Tristeza Virus  
**DFC**- Development Finance Corporation  
**ECC**- Export Competitiveness Coefficient  
**EPA** - Economic Partnership Agreement  
**EU**- European Union  
**FTAA**- Free Trade Area of the Americas  
**GATT**- General Agreement On Tariffs & Trade  
**GDP** - Gross Domestic Product  
**HACCP**- Hazard Analysis Critical Control Point  
**IDB** - Inter-American Development Bank  
**IPM**- Integrated Pest Management  
**MAF**- Ministry of Agriculture & Fisheries  
**MAFC**- Ministry of Agriculture, Fisheries & Cooperatives  
**MBRS**- Meso-American Barrier Reef System  
**MDC**- More Developed Countries  
**MPA**- Marine Protected Areas  
**NAFTA**- North American Free Trade Agreement  
**NPC**- Nominal Protection Coefficient  
**NXR**- Net Export Ratio  
**NDFB**- National Development Foundation of Belize  
**OIRSA** - Regional International Organization for Plant & Animal Health  
**NGO**- Non-Governmental Organization  
**PCB**- Pesticide Control Board

**QR** - Quantitative Restrictions  
**RCA**- Revealed Comparative Advantage  
**R & D**- Research & Development  
**SFBB**- Small Farmers & Business Bank  
**SICA**- Economic Integration System of Central America  
**UK**- United Kingdom  
**USAID**- United States Agency For International Development  
**USDA**- United States Department of Agriculture  
**WTO**- World Trade Organization  
**VIFINEX**- Project On Strengthening of Phyto-sanitary Surveillance in Non- Traditional Export Crops  
**RK**- Red Kidney

## **Foreword**

Let me congratulate the persons who had the initiative to REQUEST that the Ministry have a clear policy. It signals a fundamental shift in perception about our policies and priorities, where the private sector initiates a new approach for COORDINATED management and policy making in the productive sector.

Today is a testament of the need to forge strong tripartite partnership and teamwork between the private and public sectors as well as civil society. This will ensure that we

revitalize and revalue the agricultural, fisheries and cooperatives sector for their transcendental importance in the Belizean economy.

These policies are constituted as a result of the administration of Prime Minister Said Musa focusing on ensuring productivity, competitiveness and sustainability of our national agriculture, to guarantee substantial improvement in the quality of life of the rural

poor and the well being of the citizens in general.

The Draft National Agriculture and Food Policies 2002-2020 positions the producers as the fundamental base of agricultural development, considering them capable of producing, transforming and commercializing, in an environment with clear rules that are predictable and stable that are guaranteed by the state in its role as facilitator, supporting and providing incentives for productive activities.

In the philosophy that guides the Ministry's actions, the private sector remains as the principal agent of the productive sector and the country's economy. We consider each producer as a businessperson capable of making rational economic decisions that allows them to increase their income, be financially independent and to sustain their activities through the efficient use of their resources.

The private sector is the fundamental strength of development. To assume this commitment requires adopting new forms of work and changes in focus and attitudes based on the principles of shared responsibility for the development of the productive sector. The participation of this productive force is of utmost importance that is manifested in the expanded contribution of the agricultural sector (agriculture and agro industries) in the generation of 36% of GDP or total contribution of over \$600 million.

The objective of this document, is to provide the global framework for action of the productive sector, it is necessary to value it as an engine of progress to the economy in its entirety which is reflected in the creation of employment, foreign exchange earnings, conservation of the environment, food security and as a supplier of primary produce, inputs and services to other sectors.

As the Ministry of Agriculture and Fisheries we provide strategic services directed at the adoption of technology, at agribusiness, to agricultural health, to productive infrastructure, at water resource management and the conservation of soil, to the fisheries management and watershed management, to agricultural education and to support of rural development, all this in the ambience of security and respect for private property.

With this policy framework the following steps should be taken to put forward different sub-sectorial activities in conjunction with the private sector, in each of the programs described here, taking into account the focalization and prioritization of tasks as well as the coordination with other public institutions.

It is because of this reason that the private sector must be proactive in the search for the common good within the same sector, in the interest that a sense of unity persists besides the national interest of the different policies that are promoted within the sector.

The moment of the productive sector is here. Let everyone understand the slogan: **NO FARMER = NO FOOD**. I ask that we accompany the development of this policy and that together we cultivate the future of Belize.

**AGRICULTURE: Strengthening Communities, Uniting Belize.**

**Hon. Servulo Baeza**  
**Minister of Agriculture & Fisheries**

### **Executive Summary**

Relative to 1997 when the last policy document was prepared for the sector (**Agriculture & Marine Policies of the Agriculture & Fisheries Sector, 1997**), successes has been achieved on all major sub-sectors as reflected in increased production/acreage, and exports with the exception

of the sugar sub-sector which declined in production and export earnings due largely to the impact of downward trend in export prices for sugar.

In the last 5 years the greatest shocks impacting the agriculture sector has been the globalization process (North American Free Trade Area, World Trade Organization) which has impacted tremendously on the banana industry and may potentially affect on the citrus and sugar industries in coming years. The second factor impacting the sector has been a downward trend/wide fluctuation in prices received for export commodities. The third factor impacting negatively on agriculture has been natural disasters (hurricane Keith, Tropical Storm Chantal and Hurricane Iris), which together caused more than US\$200 million in damages to the sector.

The vision defined for the sector is that of **“A FULLY TRANSFORMED/ MODERN SECTOR THAT IS FULLY COMPETITIVE, DIVERSIFIED AND SUSTAINABLE.** Therefore, the policies (Agriculture, Fisheries & Cooperatives) will be guided by the major challenges/constraints (labour productivity, inadequate/inappropriate credit, opportunity for improving food security, inadequate infrastructure, maintaining plant/animal health status, increase agro-processing and linkage to the tourist industry, greater diversification) facing the sector. Cross-cutting policies will focus on research & development, human resource development, agro-processing, sustainable resource management, watershed management, extension, credit, trade/price, diversification and rural development designed to address factors that cross all three sub-sectors.

For the agriculture sub-sector, the constraints/challenges (organized marketing, low yields in small-scale agriculture, lack of drainage/irrigation, limited research/development, outdated farming practices/equipment, inadequate packaging & grades/standards, limited Government land available for agriculture & land tenure insecurity) facing the sector is determining the policies.

Therefore, the focus will be on: accelerating the diversification of both local/export-oriented agriculture, promoting agro-processing and value adding as a means of expanding opportunities and increasing the income of the rural sector, actively promoting market/trade expansion both locally and internationally, increasing the efficiency, profitability and competitiveness of the

sector, and improving and conserving the natural/productive resource base to ensure long-term sustainable productivity/ viability.

Likewise, for the fisheries sub-sector, the constraints/challenges (long-term sustainability of capture fishery, reliable/competitive seed stock and animal feed, loss production due to diseases) facing the sector is determining the policies. Therefore, the focus will be on ensuring a sustainable supply of marine products, particularly, lobster, shrimp and conch, while continuing to contribute to food production and foreign exchange earnings. For aquaculture the focus will be on developing a globally competitive industry with high quality/safe products and in an environmentally responsible manner; support will continue in the form of fiscal incentives for new investments/expanding operations; thirdly, support will be provided to the private sector in producing a greater proportion of operational inputs (feed and seed stock) which should minimize incidence of importing diseases from abroad.

For the cooperative sub-sector, the constraints/challenges (loan delinquency, illegal/ foreign fishing, financial mismanagement/ disloyalty) facing the sector is determining the policies. Therefore, the focus will be on Government extending assistance in areas of education and training, technical and financial support in order to improve the management and contribute towards the viability of cooperatives by providing a climate, which affords credit unions and cooperatives a fair opportunity to compete with commercial enterprises. Policies will also be directed at strengthening the financial base of credit unions, which will assist them to be in a better position to support non-financial cooperatives.

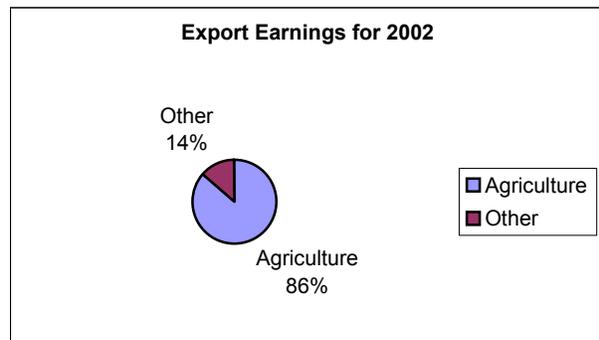
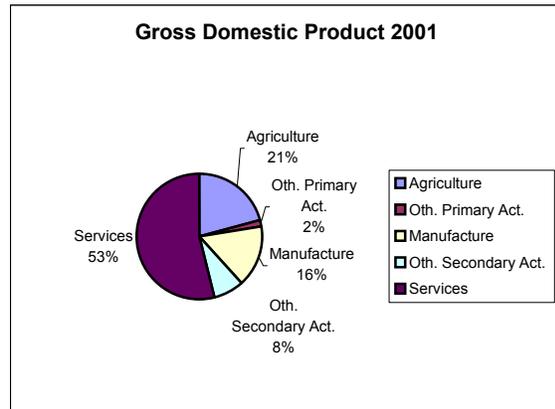
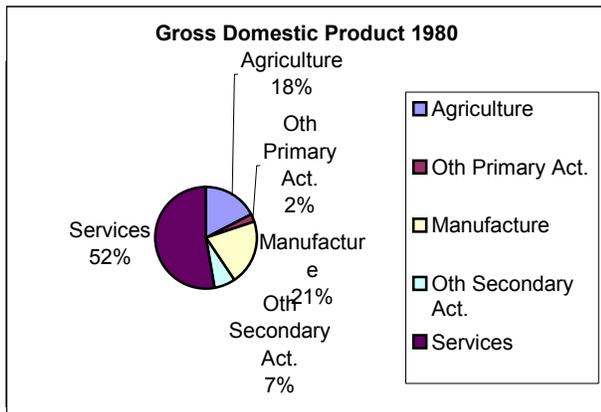
Support will continue to be provided to the fisheries department in reducing the amount of illegal /foreign fishing in Belizean waters.

Finally, the success of the productive sector in the future will be determined by the success or failure of the sector in achieving sustainability through significant improvements in productivity and greater diversification so as to achieve greater levels of competitiveness in products catering to preferential, world and domestic markets. The justification of this shift in priority is that just

focusing on increasing production/acreage will not allow us to solve many of the constraints/challenges facing the sector due to the continuous erosion of preferential markets, the smallness of the local markets which limits production/economies of scale together with the global pressure to open up our domestic markets.

## 1.0 Global Review

Since the 1980s the performance of Belize's agriculture sector (includes fisheries but excludes forestry/logging) was the main source of growth in the Belizean economy; this growth rate exceeded growth rates for neighboring Latin American and Caribbean countries. During this time period the agriculture sector experienced a growth rate above 6.0% per annum. Agriculture share contribution to GDP and foreign exchange increased by 3 and 17 percentage points respectively, while employment averaged greater than 26%. This sustained growth was heavily dependent on a few traditional products (citrus and bananas) which are exported to preferential markets together with the exponential growth in the aquaculture sector (mainly shrimp). However, the uncertainty of preferential trading arrangements due to the emergence of the World Trade Organization (WTO), the North American Free Trade Agreement (Mexico, Canada & USA), the European Union and proposed reforms to the Lomé Convention has created ambiguity as to the future of the traditional markets captured by Belize after the years 2005-2008, given that sugar and banana exports from Belize are not currently competitive in free markets.



NAFTA went into effect as of January 1994 and it is expected that its implementation will last between 1-15 years. NAFTA will ensure that Mexico have free access to the USA market for sugar, citrus and fruits/vegetables within the coming 6 years. This will mean that preferential access for Belizean exports to the USA such as papayas, peppers, citrus, sugar and all other exports will slowly see their preferential market eroded. Mexico as an exporter of citrus products will gradually experience a competitive advantage over other exporters of citrus products since tariffs on its produce will go down. Mexico is still a net importer of sugar, nevertheless, the fact that it also exports sugar should be bared in mind in the sense that the potential is there for it to convert into a net exporter of sugar. Thus the agriculture sector will need to improve its competitive vis-à-vis other Latin-American countries which may obtain preferential access to the USA under NAFTA. Implementation of NAFTA will also mean that new commodities developed by Belize will no longer enjoy large preferential access as compared to Mexico who is a major producer of winter fruits/vegetables, consequently, higher efforts in terms of efficiency will be demanded.

It is expected that reforms to the Lomé Regime will occur sometime after the year 2007. However, reforms to the Banana protocol is already taking place since it has been successfully challenged by the USA to be "Not In Conformity" with WTO. These coming reforms will affect Belize exports of bananas, citrus and sugar to the EU market which represents the most important export market for these commodities. The EU is responsible for purchasing all banana export from Belize and also for buying over 46% of all sugar exports at preferential price which exceeds the world market price by over 100%.

Under the Caribbean Basin Initiative Belize enjoys duty-free access for all exports to the USA market; Belize also receives similar treatment for exports to Canada under a similar agreement called CARIBCAN. However, it is expected that with the entrance of Mexico and other large Latin-American countries into NAFTA, these benefits will be eroded in the long run. Commodities such as papayas, citrus, peppers, fish products, dried fruits and other niche commodities will undergo an erosion of trade benefits relative to producers of these commodities not presently belonging to CBI.

Belize is a signatory to the WTO agreement which requires that all existing non-tariff barriers to trade such as import licensing be tariffed. The agreement also specifies that each country must provide minimum access to imported commodities into their domestic market. Therefore, Belize will need to explore avenues acceptable under WTO which could be used to support/protect agriculture such as grades, standards, and sanitary/phyto-sanitary requirements for human, animal and plant health.

Belize is a signatory to the Common External Tariff (CET) as a member of the Caribbean Community (CARICOM); tariff schedules under CET arrangements are generally below what would be required to compensate for removal of import licenses. Therefore, removal of QRs and replacement by CET commitments would impact on the agriculture sector from two sides. Exports to CARICOM (fish commodities, citrus, beans, cowpeas, peanuts etc) would see their preferential treatment eroded since some of the MDCs (Jamaica & Trinidad) are pushing for further reductions in the CET for agriculture products. The domestic sector will face greater competition from cheaper imports of agriculture produce due to lower import tariffs.

Nevertheless, trade liberalization will, likewise, provide opportunities for Belizean farmers capable of being competitive with foreign producers in terms of price/quality since it will provide markets for staple crops such as corn, rice, beans and meats at lower tariffs in non-traditional markets such as those of Central America. In staple commodities Belize has reached a level of self-sufficiency and, therefore, Belize needs to export to neighboring countries if further growth and productivity improvements are to be achieved. Successful exports of corn, beans, rice and poultry is already taking place to Guatemala; small exports of beef have also occurred to Mexico. All this suggests that Belize has a competitive edge in these markets and a potential for developing these markets due to its resource endowment and capacity for expansion.

In Europe and the USA reduced subsidies which are required under WTO will mean that Belizean producers will be in a better position to compete with citrus and sugar producers in the USA. The same opportunity will present itself for Belizean exporters to Europe. However, this opportunity will not fully compensate for substantial losses in preferential trading arrangements. Furthermore, neither the USA nor the EU together with most of the developed countries have not lived up to their commitment in reducing subsidies plus their domestic support programs have been on the rise.

Opportunities are/will be available for niche crops whose minimum economies of scale is low and which demand high quality product but reward good prices. Belize has had some experience in these types of commodities such as aquaculture (shrimp, lobster, finfish), fruits (papayas, mangoes), honey, hot peppers, red/black beans, cowpeas and organic cacao. Opportunities will open for export-oriented industries (vegetables) which may be prepared to invest in drainage/irrigation infrastructure in order to be competitive with imports from Mexico and the USA; Mexico has successfully produced vegetables for the USA market. The tourist industry will continue to offer an export market for quality fruits/vegetables which could be supplied by local farmers. It is expected that the tourist market will continue to expand in the coming years.

Opportunity will continue to remain for production of some of the major inputs used in the agriculture sector, particularly, animal feed for poultry, shrimp and pork industries. Animal feed in the form of soybean concentrate together with oils represents the most important commodity-based imports. Trials in Belize have shown that the technological package together with climatic/topographic conditions is available for Belize to be competitive with foreign markets. Furthermore, this commodity could be promoted within a farming system where it could be rotated with corn.

**Table 1: Non-Traditional Trade Preference For Belize**

<b>Export Product</b>	<b>Destination</b>	<b>Preference</b>	<b>Prospect</b>
<b>Sugar</b>	EU - 54%	EU Sugar Protocol Quota under the Lomé Convention: 39,400 metric tons, US \$.30/lb	Extended to 2007
	US – 14 %	US Sugar Quota: 14,910 metric tons, US\$.227/lb	Vulnerable to being reduced
	World - 32%	World Price: US\$.115/lb, Duty-free entry into Canada under CaribCan	Requires WTO waiver
<b>Citrus</b>	US – 70%	US: Caribbean Basin Initiative: Duty-free	Will be phased out as NAFTA is fully implemented by 2010
	EU – 15%	EU – Lomé Convention, Duty-Free	Extended to 2007
	Caricom – 15%	Common market: duty-free	Not threatened
<b>Bananas</b>	EU – 100%	EU Lomé Convention: up to 55,000 metric tons, duty-free	Extended to 2005

Source: Agriculture & Marine Policies of the Agriculture & Fisheries Sector; Country Paper Belize, IDB;

## 2.0 Sector/ Policy Review

Agriculture still continues to form the foundation of the productive sector and the rural economy of Belize. At least, 35% of GDP (\$338 million at constant prices) and 41% of total employment is directly dependent on agriculture, fisheries & forestry. This is so because 90% of all manufacturing (which constitutes 17% of GDP and 12% of employment) is based on input (sugar, citrus concentrate, animal feed, agriculture chemical, furniture, jams, jellies, chips, juices, milk, ice cream, sausages, packaging etc) from/for the primary sectors of agriculture, fisheries and forestry. Primary agriculture and fisheries are responsible for 29% of employment and more than 21% of GDP (constant prices).

**Table 2: Food & Agriculture Trade Performance 1990-2000 (BZE\$'000)**

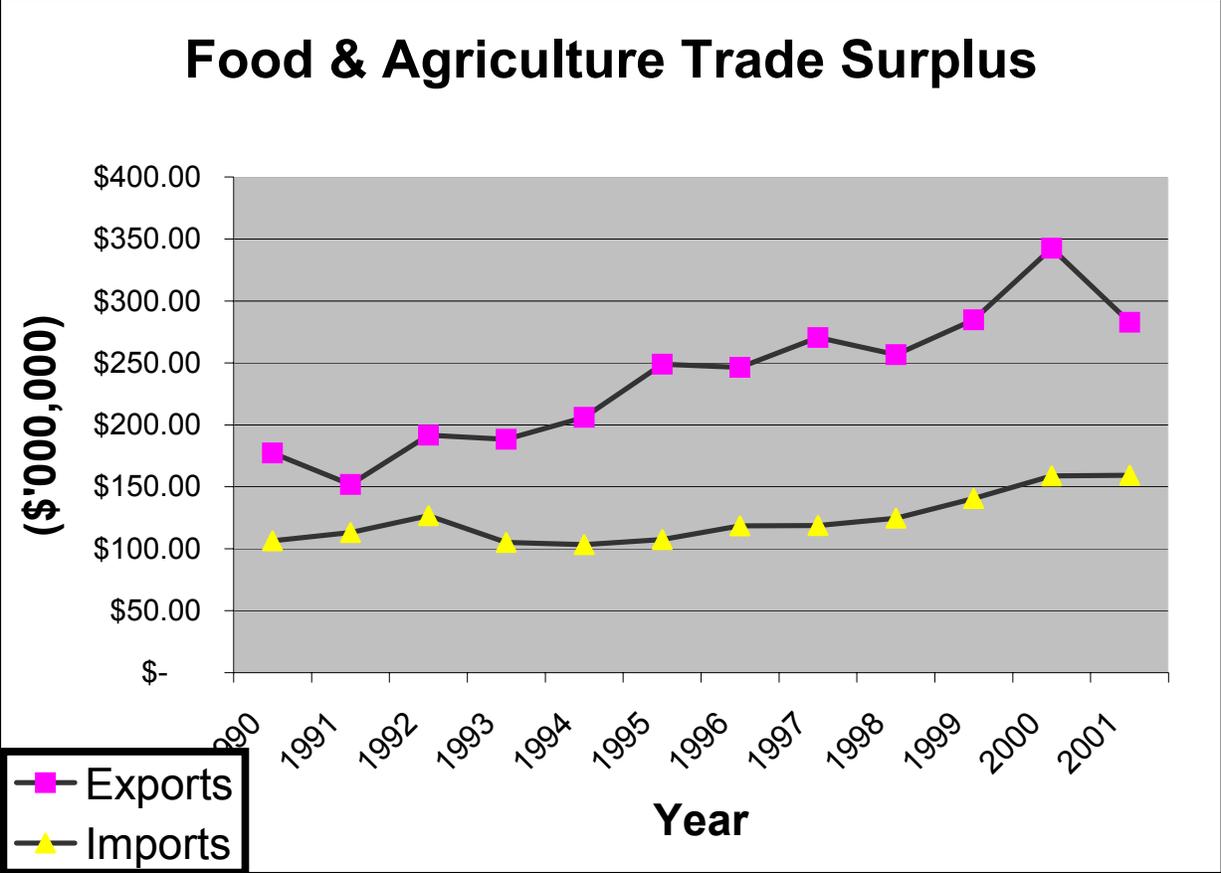
Category	1990	2002	% Change	Average Per Annum % Change
Agriculture GDP (1984 constant price)	\$ 104,806	\$ 202,552	93%	8%
Food/Agriculture Exports	\$ 177,830	\$ 278,198	56%	5%
Food/Agriculture Imports*	\$ 106,402	\$ 159,236**	49%	3%
Net Agriculture Trade Surplus	\$ 71,428	\$ 123,000 **	73%	10%
Net Trade Surplus/Capita (US\$)	\$ 386.10	\$ 478	90%	
Population	185000	257,310**	39%	2.5%
Tourist Arrivals excl. cruise tourists	86656	199521	130%	8.0 %
Sugar Exports	\$ 92,064	\$ 68,689	-25%	(-2.0%)
Citrus Exports	\$ 43,588	\$ 79,994	83.5%	17.0%
Banana Exports	\$ 19,736	\$ 40,990	107%	10.0%
Marine Exports	\$ 18,172	\$ 67,703	273%	13.0%
Non-Traditional Agriculture Exports	\$ 4,340	\$ 20,852	382%	20.0%
Other Non-Agriculture Exports	\$ 39,010	\$ 44,128	13.1%	2.0%
<b>Total Exports</b>	<b>\$ 216,910</b>	<b>\$ 322,326</b>	<b>48.6%</b>	<b>4.0%</b>

\*Includes agriculture inputs (agro-chemical & animal feed)

\*\*Refers to 2001 since data on 2002 not yet available

Source: Policy Unit, Ministry of Agriculture, Fisheries & Cooperatives; Central Statistical Office

During the 1990s both macro and sectoral trade development had a positive impact on the agriculture sector; the impact from global trade development was minimal but is creating great long-term uncertainty with respect to traditional markets in the European Union (EU) and the USA. From 1990 to 2001 the contribution of agriculture to GDP increased by more than 5% points (from 16.1% to 21.5%). The increase is largely attributed to the increase in the fisheries sub sector from 2% to 7% of GDP in 2001. Total agriculture export earnings, at current market prices, has increased from \$177.8 million in 1990 to \$278.1 million in 2002. This represents an increase of more than \$ 100 million (56%) and a per annum growth of 5%. On the other hand food/agriculture imports during the 1990s expanded by 3% per annum from \$106.4 million to \$158.9 million in 2001. The trade flow resulted in an increase in the agriculture trade surplus from \$71.4 million to \$123 million (2001) while the per capita net trade surplus increased from \$386 to \$478 (24% increase). All this indicates sustained growth within the agriculture sector together with strengthened food security supply (increased production) and access (increased exports).



**Figure 1**  
 Source: Policy Unit, MAFC; Central Statistical Office

Belize's export trade is dominated by agricultural exports, particularly the traditional products sugar, bananas, citrus and in recent years marine products. In 2002 total domestic exports amounted to \$322.3 million, of which agricultural exports contributed 86%. The traditional crops (sugar, citrus and bananas) and fish products accounted for 80% of domestic exports and 92% of total agricultural exports (excludes forestry products) while non-traditional agricultural exports (papayas, peanuts, black eye peas, cocoa beans, honey, chicle, and pepper products) accounted for only 8% of agricultural exports.

Export agriculture continues to rely on preferential markets in the European Union, the US, and the Caribbean Community and to a lesser extent Canada. Trade liberalization/ globalization trends such as the Free Trade Area of the Americas, World Trade Organization and other emerging regional/extra-regional integration movements are slowly eroding preferential market access and make it imperative to improve competitiveness and productivity, particularly, in products such as sugar, bananas, and to a lesser extent, citrus. However, even with respect to products catering to the domestic and regional markets in Caricom such as RK beans, cowpeas, rice, and livestock there will be need to achieve significant improvements since potential reductions in the Common External Tariff are becoming more imminent.

Natural disasters contributed to a reduction in agriculture production/exports and to short-term increases in food imports. The aggregate impact from Tropical Storm Roxanne (1995) and Hurricane Keith (2000) in Northern Belize together with tropical storm Chantal and hurricane Iris (2001) in Southern Belize resulted in more than US \$200 million in losses/damages to the agriculture sector alone. These natural disasters caused short-term shortages of domestic commodities such as rice, corn and beans and contributed to reduced exports of shrimp, lobster, papayas and bananas in the corresponding years, apart from damages caused to infrastructure.

**2.1 Previous Agricultural Policies:** Over the past 15 years Belize's agricultural and food policies basically aimed at creating a dynamic agriculture to meet the country's food needs, create employment and provide foreign exchange earnings. The thrust of the agricultural development strategy focused on promoting a market and export-led growth through diversification of the traditional production base (mainly sugar), import substitution, expanded food production and employment generation. Seven major objectives were targeted in the strategy:

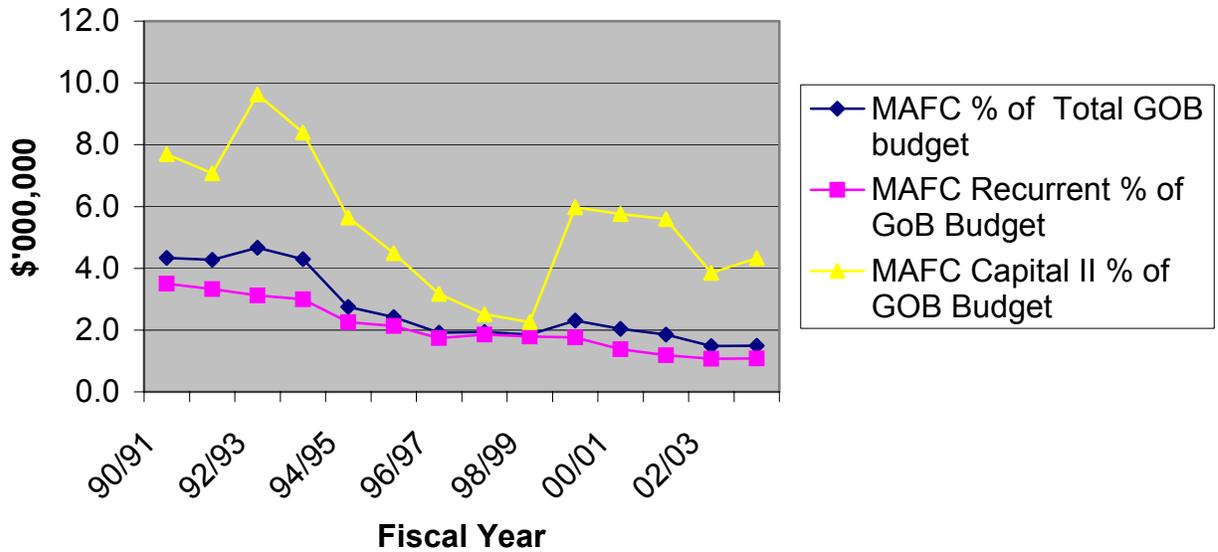
- (i) Greater efficiency in resource allocation in the long run.
- (ii) Minimizing sharp fluctuations in market prices and reducing investment risks and uncertainty in the sector.
- (iii) Promoting specific commodities for which there are identified and growing markets.
- (iv) Achieving a higher level of self-sufficiency in food production.
- (v) Reducing financial outlays of the Government on the sector.
- (vi) Expanding inter-sectoral linkages.
- (vii) Increasing the country's competitiveness in regional (CARICOM) and extra-regional markets.

The Government adopted a series of policy measures to achieve these objectives, most of which are still being implemented. These can be summarized as follows:

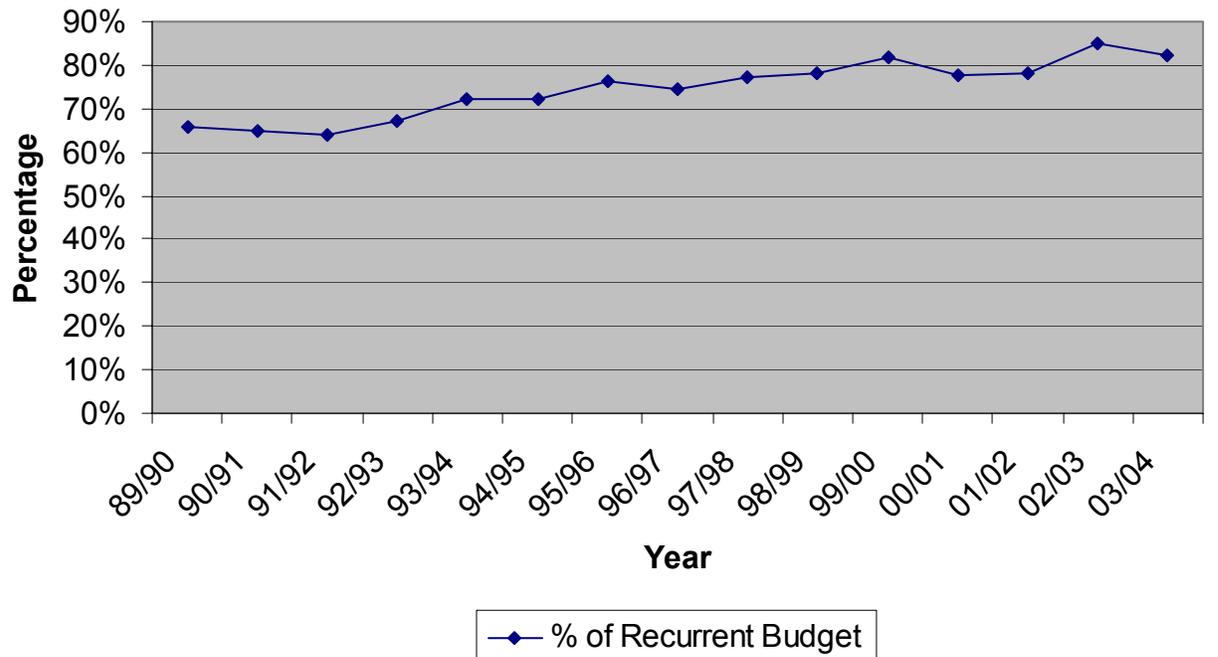
- (i) A marketing and price stabilization program for rice output from southern Belize, which continues to be administered by the Belize Marketing Board (BMB), and involves the purchase of paddy at a guaranteed price. Paddy is then processed into rice and distributed by the BMB at a retail-ceiling price. Import controls were put in place when there is a shortage in domestic supply, with the BMB being the sole distributor of imported rice.
- (ii) Price controls were placed on some basic foods for consumers. Some products subjected to this measure are cheese, powdered milk, cooking oil, rice, flour, and fish, sugar, bread, coffee and RK beans.
- (iii) Import controls (QRs) were implemented on a range of agricultural products to stimulate domestic production. These include a range of fresh fruits and vegetables, meats and meat products as well as some inputs such as animal feed.
- (iv) In the fisheries sector regulations were implemented for minimum size requirements, closed season, licensing requirements and size of catch for certain species in order to avoid depletion of fish stocks.
- (v) Concessional credit was made by institutions such as the Development Finance Corporation but also through other institutions such as NDFB, BEST, HELP-FOR-PROGRESS, BLPA and the Small Farmers Bank.
- (vi) Machinery services were provided by the MAFC, particularly to develop rice production in southern Belize at below-market prices as an incentive for encouraging agricultural activities by small farmers.
- (vii) Production, pricing and marketing arrangements for the three traditional commodities were implemented by the Sugar, Banana and Citrus Control Boards respectively.
- (viii) A diversification program was spearheaded by BABCO for fruit crop production (mainly papaya) and for improving quality and by BEIPU to assist exporters in penetrating external markets; both of these programs were financed by USAID.
- (ix) Policy support was provided to specific areas through various public sector institutions, externally financed projects and development concessions.

**2.2 Government Expenditure:** Since 1990, the proportion of the Government's budgetary allocation (both recurrent and capital) to agriculture has declined steadily. In 1990/91, \$5.3 million or 3.5% of the total Government's recurrent budget was allocated to the Ministry of Agriculture (MAF). In 2002/2003, this allocation declined to less 1.08 percent. Similarly, the capital budget declined from 7.69% in 1990/91 to 3.85 percent in 2002/03. At the same time, expenditures on personnel costs increased from 66% to 85% of the total Ministry's recurrent budget.

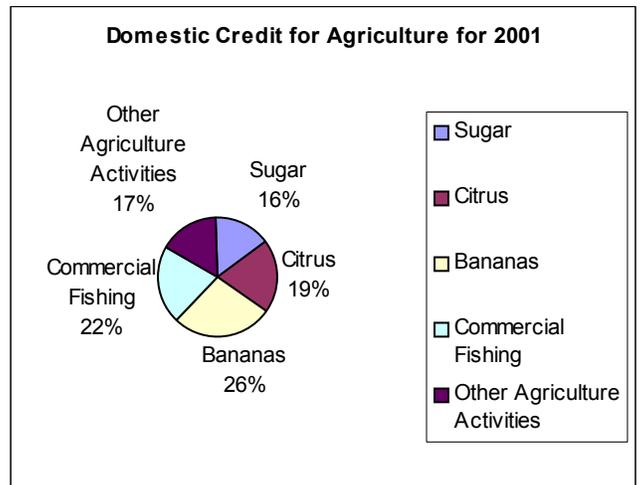
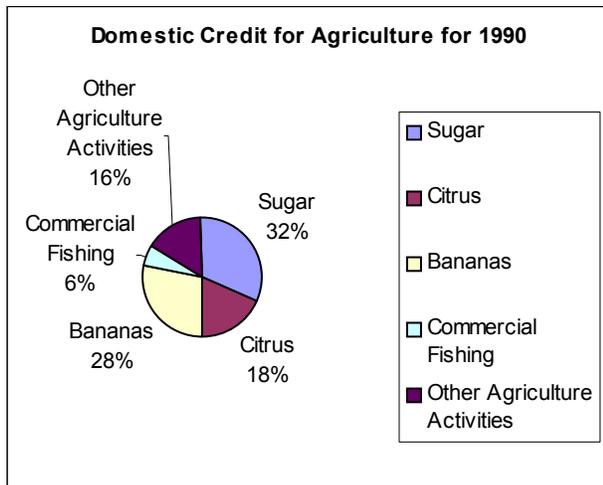
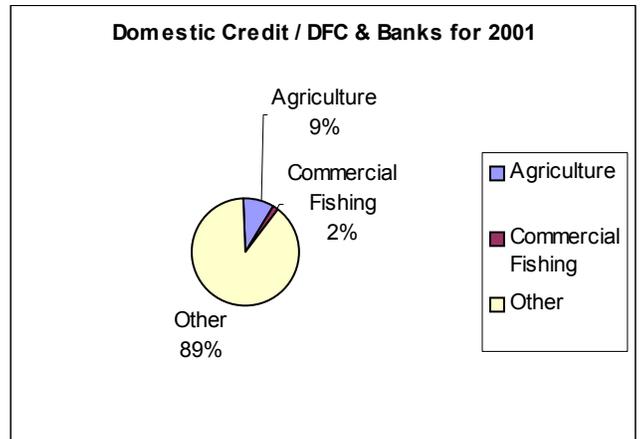
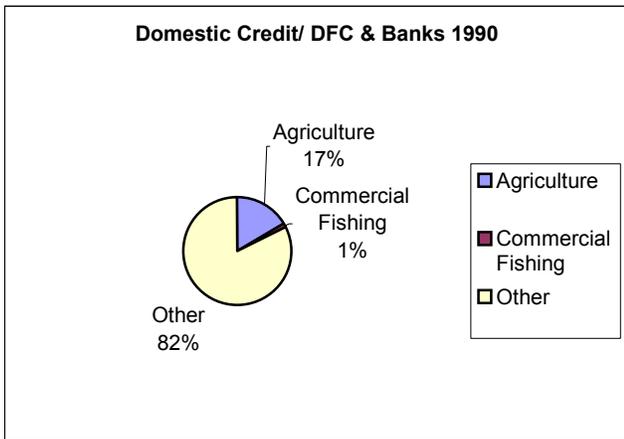
### GOB Budgetary Allocation to MAFC



### MAFC salaries as % of Recurrent Budget



**2.3 Domestic Credit/Financing:** In the last 12 years, total commercial credit to agriculture increased by \$61.26 million from \$ 63.54 million to \$ 124.8 million; commercial fishing (includes aquaculture) was responsible for more than \$23 million in additional credit (37% of the total increase). The loan portfolio of both the commercial banks and the DFC show a decline in the proportion going to this sector - from 17.8% to 11.4% for commercial banks and from 39.8% to 13.4% for the DFC. However, most of the credit continues to be targeted towards the traditional sector (sugar, bananas and citrus); within the agriculture sector Commercial banks reduced credit allocation to the traditional export crops from 81% to 69% while for DFC this rate declined from 64.4% to 39%; most of this reallocation was channeled to the aquaculture industry with the percentage going to non-traditional activities remaining stable.



**2.4 Belize's Policy Agenda:** Belize's development Strategy aims at achieving sustainable development, ensuring that all segments of the population benefit as the country implements sound and comprehensive socio-economic strategies to achieve broad-based economic growth. Poverty reduction from 33% to 28% by 2004 forms the centrepiece of the Government's economic development strategy, which is seeking to bring vulnerable groups into the mainstream of economic activity.

*In this context, the policy agenda of the Government includes five main elements and objectives:*

- 1. Enhancing and sustaining economic growth:** through establishing and maintaining a stable macroeconomic climate for investment, improving fiscal management, developing an enabling framework for increased private sector participation and modernising economic infrastructure in order to stimulate development in the urban and rural areas of the country. Economic growth will focus on diversification in agriculture, tourism, financial services, data processing and aquaculture farming. The aim is to achieve a real GDP growth of 5%.
- 2. Improving access to quality social services:** through investment and reform in education, healthcare; targeting safety nets for the poor; improving land titling, housing and essential infrastructure in the rural area.
- 3. Modernising the State and improving governance:** through political and public sector reforms, decentralisation of political and management authority, improving the regulatory framework and law enforcement on money laundering and drug trafficking, as well as improving the judiciary.
- 4. Implementing policies and measures for environmentally sustainable development:** through improving natural resources management (land, water and forestry), expansion of sustainable tourism and improving natural disaster prevention and management.
- 5. Ensuring safety and security in Belize:** through establishing peaceful relations with all neighbours, ensuring respect of human rights, improving security and reducing criminality

For the Agriculture sector, Gob is firmly committed to sustainable rural development and sees the agricultural sector (including livestock and fisheries) as providing the economic base for enhanced economic growth of the country, in particular of the rural areas, whilst contributing to poverty alleviation. The agricultural and food policies are accordingly designed to make the agricultural sector more efficient and competitive, while at the same time, contributing to the improvement of the economic and social well being of the population.

*The overall Government's agricultural policy is based on the following broad objectives:*

- Promoting sustainable agriculture and rural development.
- Increasing the efficiency and competitiveness of the agricultural sector as a whole.
- Accelerating diversification in the production of exports.
- Increasing food production, enhance food security and improve the nutritional status of the population.
- Improving income generation, distribution and equity with enhanced participation of small producers, communities and indigenous groups.
- Strengthen inter-sectoral linkages, in particular with the social sectors of health and education, as well as with the strategy and action plan for poverty eradication.

### 3.0 Major Challenges/Constraints Facing the Sector

The last agriculture census (1984/1985) indicated a total farm population of 11,000 while the last population census (2000) indicates a preliminary estimate of 16,979 persons owning farm land and 1878 persons involved in fishing/processing. The last poverty assessment survey (1996) indicated that more than 50% of all the poor (25,000 poor households) were regarded as farmers/fishers. The majority of these poor persons may be categorized as small farmers/fishers, indigenous people, women, recent immigrants, and/or practicing slash/burn and catering to the domestic market. It is expected that deeper trade liberalization will further encourage large farming and make it more difficult for small farmers/fishers to continue with their present production systems, particularly small farmers within the sugar and citrus industries.

The main challenge for Belize will be to identify and access markets and then develop or adapt appropriate technologies in order to improve labour productivity, improve quality of product, and formulate cost-effective policies, incentives and services that will provide small farmers/fishers with the capacity and tools required to succeed. Only so will they remain in the rural environment and maintain a link to the agriculture sector while moving out of the vicious cycle of poverty. In this connection, the key issues that must be addressed in moving forward the sector, are:

#### 3.1 Broad Sector

**1. Employment & wages:** Wages in Belize are higher than those of neighbouring countries. For instant, the rates for unskilled labour are estimated to be about three to four times higher than those in neighbouring Central American countries. In order to deal with this cost/disadvantage the sector normally allows between 15-25% of the entire labour force in agriculture to be migrant temporary workers.

**2. Domestic Credit:** Most credit from commercial banks and also from the Government's main development bank (Development Finance Corporation) goes to stable and less risky activities within the agriculture sector (main traditional exports), where repayment periods are short and where there is virtually no supervision of borrower activities. This has resulted in small farmers not having easy access or affordable credit. Credit needs to cater to the unique characteristics of farmers by reforming administrative stipulations for its management, such as decentralization, collateral, repayment, supervision, and insurance against risk and uncertainty. The management of credit should not be based on production experience, repayment record and collateral since current lending practices discriminate against subsistence farmers, new farmers, women/youth and those without land ownership rights.

**3. Export Credit** remains a big constraint for expanding production by small farmers since farmers require cash at point of sale while the intermediaries/exporters are compelled to sell on credit either to local distributors or to export markets. In order for non-traditional exports to expand in any significant/smooth manner the cash flow problem faced by exporters due to lack of an export credit facility will need to be addressed by Government Policy.

**4. Food Security:** Food import in 2001 was estimated at \$120 million while imported agriculture inputs represented \$38.5 million. Total food/agriculture imports (\$159.2 million) represented 18% of aggregate imports (\$868.1 million). Belize has potential for reducing its food imports in the areas of animal feed, fruits/vegetables and some processed agriculture products. Reduction in imports would require that the agriculture sector engage in:

- Greater linkage between small farmers and agro-processors; this would ensure more stable markets for primary products and provide greater value-added while at the same time assure a given quality of the product which is competitive due to the larger production volume and guaranteed market (contract farming);
- Better organization of producers' associations, cooperatives and other forms of farmer groups so that they may be economically viable in producing/marketing their products; this will also ensure maximum utilization of all capital investments (machinery & infrastructure), for example, storage, irrigation, drainage, land preparation, drying, marketing, and harvesting;
- The primary/agro processing sector needs to have greater linkage with the tourist sector since this represents an export market; this would require that farmers be educated on how the tourist sector operates and on the benefits of capturing this market.
- Counteracting consumer preference in favour of imported processed food. Consumer perception is that locally produced commodities and locally processed products are inferior and that health/quality standards for such products are non-existent and/or not being enforced.

**5. Infrastructure:** Inadequate infrastructure contributes to high production cost and production inefficiencies which is limiting the growth of agriculture and agro-industrial production by reducing the competitiveness of agriculture products. Some of these infrastructure constraints are the high costs of fuel, utility and telecommunications, relative to those existing in neighbouring Mexico or the USA. Other constraints involve the limiting amount of secondary and feeder roads in the rural areas, which serves to limit production during the rainy season.

**6. Plant & Animal Health:** Belize, currently, enjoys a high level of agriculture health. In order to maintain its health status Belize will need to improve on its system of inspection and education to avoid the introduction of agriculture disease & pest. Belize will also need to strengthen its ability to handle occasional outbreaks with emergency responses, adequate surveillance and proper eradication programme, quarantine facilities and appropriate regulatory/legal instruments. IDB is financing a project on Plant & Animal Health, which should address these constraints

**7. Agro-processing:** Agro-processing/value adding is hampered by the high cost of packaging (bags, boxes, containers etc.) due to lack of economies of scale in importing small quantities and lack of knowledge on suppliers of good used equipment/machinery for their respective product line. Small processors are also, generally, not eligible for development concession (tax concession) and/or export processing zone designation since, initially, they just cater to the local market. All of these disparities put small processors at a great disadvantage relative to large producers and also in being able to compete with imported products. All these constraints partly explain why Belize continues to be largely a producer/exporter of primary products and importers of processed agriculture products.

**8. Linkage to Tourism:** One of the major constraints to food/agriculture in Belize is the small population base (257,310 people) and the wide geographical dispersion of that population. In 2002 tourist arrival in Belize was roughly 199,521 while the cruise ship industry had 319,690 visitors; in 2000 this generated expenditures of \$265 million. The tourist sector represents an export market within the national boundaries of Belize that so far is largely dependent on imported fruits/vegetables and imported processed food products. In order to capture this large potential market it would be necessary for small farmers to be better organized for distribution/marketing and for engaging in production that meets the price/quality demanded; farmers also need to be educated on the concept of contract farming and on the benefits of selling at lower prices but to large/stable markets.

**9. Diversification:** Diversification has had some success for large farmers (aquaculture, papayas, juices, RK beans and cowpeas). For small farmers there has been little success (hot peppers, organic cocoa, honey, plantains, coco-yam, cassava, rice and corn). Diversification into niche products such as deer rearing, small ruminants, herbs/spices, fresh water aquaculture, coco-yam, cassava, hot peppers and organic fruits/vegetables is one of the strategies which should contribute to the sustainability of small farmers in Belize given the present trends in globalization/trend liberalization. These products represent niche markets that largely are not of interest to the big multi-nationals due to their small size relative to other product lines. Successful diversification into niche markets will require addressing the constraints, which have just been elucidated.

### **3.2 Agriculture Sub-sector**

**1. Marketing and storage:** The current production/marketing for most fruits/vegetables and other products catering to the domestic market is not sufficiently organized and well developed to supply year round, stable quantities with a uniform product quality. Contributing factors to the status quo are: the seasonal nature of most products due to lack of irrigation, inappropriate production technology, poor packaging, limited processing and value adding, inadequate market standards and grades, lack of adequate marketing agencies, lack of or inadequate storage facilities and deficiencies in the transportation system which does not allow for a regular flow of products all year-round.

**2. Small-Scale Agriculture:** Small farmers can be divided into milpa producers, who practice shifting cultivation, and permanent cultivators. More than 50% of all farmers in Belize would be considered milpa farmers; furthermore, more than 60% of all rice and corn farmers would also be considered milpa farmers. Small farmers are mostly engaged in producing for both the domestic market and for their own consumption; a large portion of small farmers produce sugar cane and citrus; about 92% of all citrus growers are small farmers (less than 20 acres) producing less than 20% of total production while about 98% of all sugar cane producers are small farmers producing the bulk of the crop. Most small farmers in Belize may be described as poor. Some of the main factors responsible for the low income are: their limited access to inputs/credit and lack of a good distribution network, the limited access to support facilities such as drying, storage, processing, transportation, access to improved varieties developed specifically for the Belizean environment, lack of appropriate technological packages required for optimizing yield, lack of an organized market intelligence system, and regional/central assembling centers/markets

and the small size of the domestic market and prevailing culture and attitude. During 2000, domestic agriculture (non-traditional agriculture) was responsible for more than \$125 million worth of output.

**3. Drainage/Irrigation:** There is complete dependence on rainfall by small farmers and very limited use of irrigation by even large farmers. Farmers, now, understand the importance of having irrigated agriculture due to their success on a limited scale with new commodities. It is important for credit institutions to be fully supportive of lending long-term for this type of infrastructure investment; in the medium/long-term it will contribute to more competitive and less risky agriculture. Poor drainage, in a similar fashion, has been contributing to a limited cropping season, low yields and low product quality which all results in high fluctuations of farm income. Small farmers understanding of good drainage needs to be increased and credit agencies should be willing to finance this type of activity as a way to reducing risk.

**4. Research & Development:** Very limited research & development (R&D) is being carried out on crops of interest to small farmer. R&D is needed for the traditional commodities, new and potential exports and particularly for commodities that cater to the domestic market so that gradually they may become competitive in quality and price. Farmers and extension staff must be fully involved in this process so that results can be shared/adopted by farmers.

**5. Farming Practices/technology:** Most farmers continue to use outdated production practices or equipment. Training and demonstration are required on better farming practices and technology that will build upon indigenous knowledge and allow rural farmers to be competitive. This is a priority for the process of transforming agriculture to a market-driven, producer-organized, technology-conscious and profit-optimizing strategy, practiced and shown to yield results by the Mennonite communities in Belize.

**6. Packaging & Grades/Standards:** Inadequate and/or non-existent packaging facilities together with a lack of product market requirement (grades/standards) continues to limit expansion of small farmers' subsistence crops – vegetables, root crops, and grains.

**7. Land Availability & Security:** Land Security continues to remain a constraint for small farmers; most small farmers do not have adequate title to the land which they occupy; Government's Land Administration has limited resources to solve this problem in an expeditious and affordable manner. This has resulted in the present land titling system being overburden with numerous conflicting and overlapping claims and farmers not being able to access capital for investment due to lack of collateral.

Land Availability for agriculture development is limited, in spite, of the small population base. For instance, 44% of all the land (class 5) consists mostly of steep slopes of the Maya mountains and lime karst and is best suited for forest. Another 20% of the land (class 4) has very poor drainage, is shallow and is subject to drought and is best suited for forest management/production. These two types of unsuitable land for agriculture development represent 64% of all land in Belize. The remaining 36% of land is suitable for agriculture development but 16% of this is already being used for sugar, banana, citrus and pasture development; the other 20% is suitable but requires proper management since it is characterized by poor drainage and is

difficult to work due to compaction or shallow depth to bedrock. Most of the latter 20% of land suitable for agriculture is located in Southern Belize where a great majority of small farmers and where poverty is more persistent and widespread. IDB is financing a Land Administration project to address some of these constraints.

### **3.3 Fisheries Sub-sector**

**1. Sustainability of Lobster Harvesting:** A virtual explosion in the number of licensed fishers together with the enlargement of size and scope of operation of current fishers is putting pressure on the long-term sustainability of the lobster industry.

**2. Imported Operational Inputs:** Protein concentrate for animal feed is imported together with 30% of all seed stock; the industry needs to be able to obtain reliable supplies of seed stock and soybean concentrate, at competitive prices, in order to ensure its export market.

**3. Animal Health:** In 1996 the taura virus infected two farms. In 2001 all farms were infected with the taura virus; the virus caused the survival rate for post-larvae to decrease from 65% to 37%; this has caused export/production to be reduced by 44%.

**4. Sustainability of Conch Harvesting:** Inadequate law enforcement and patrol of the waters due to lack of man-power and facilities, together with continuous disregard for fisheries regulation and inadequate research/monitoring on sustainable production level is posing a threat to the long-term survival of the industry.

**5. Sustainability of Small-scale finfish fishers:** Small scale fishers are constrained by insufficient resource assessment studies required to determine maximum sustainable yields, need on improving harvesting technologies and greater use of modern equipment, insufficient financial resources to expand beyond the exploited barrier reef and by inadequate regulations and insufficient surveillance/ enforcement capabilities in order to prevent unauthorized utilization of resources by foreigner/local fishers.

### **3.4 Cooperatives Sub-sector**

**1. Loan Delinquency/Management:** Credit unions are important financial institutions providing financial intermediation services to its members and play a significant role in stimulating the economy within the communities where they operate. Many of them have embarked on production credit for agriculture; they have also assisted numerous enterprises with credit and members with credit for houses and emergencies. Credit union membership exceeds 68,509 while their assets are valued at more than \$196 million with loans outstanding at \$158 million. Nevertheless, the smaller credit unions continue to be plagued by high loan delinquency and significant mismanagement.

**2. Illegal Fishing:** There are 4 active fishing cooperatives with a total membership of 1,285 and assets of \$20.1 million. In 2000 fishing cooperatives exports exceeded \$19 million; this represents more than 28% of total fish exports. Belize boasts the largest and most successful fishing cooperatives in the CARICOM region; this type of cooperative has been the most

successful in Belize. Threats to fishing cooperatives are from illegal fishing (under-sized fishing, out-of-season fishing, foreign fishing).

**3. Financial Mismanagement/Disloyalty:** There are 28 active agriculture/ marketing cooperatives with a total membership of, approximately, 700 and gross revenue of \$0.8 million. These societies deal with commodities such as fruits, vegetables, grains, root crops, livestock and dairy products. Some of the main constraints are members' disloyalty in selling his/her product through his/her cooperative, delinquency in loan repayment and mismanagement of cooperative finances.

## **4.0 Ministry of Agriculture & Fisheries**

**4.1 Description:** The Ministry of Agriculture, Fisheries and Cooperatives (MAFC) are the lead public sector institution responsible for formulating, executing, monitoring and coordinating the GOB 's agricultural and food policies. The mission of MAFC is **“to enable agriculture and fisheries as the economic pillar of Belize, ensuring food security, generating income and foreign exchange, creating employment, and conserving natural resources, in order to grow the economy, reduce poverty and empower the local populations for sustainable development”** The MAFC has two broad sets of responsibilities and functions: those related to policy and those related to the provision of goods and services. Its policy related activities would comprise the following:

- Formulation, implementation and coordination of sectoral policies, programs and projects that are designed to achieve the GOB's policy objectives.
- Design and execute strategies and programs associated with sub-sector and commodity specific activities.
- Monitoring, evaluation and periodic review of policy and program impacts at the sector and sub-sector levels.
- Provide policy guidance and recommendations to the GOB on issues of the sector.
- Coordinate the Gob's policy initiatives with development and other technical assistance from regional and international organizations.

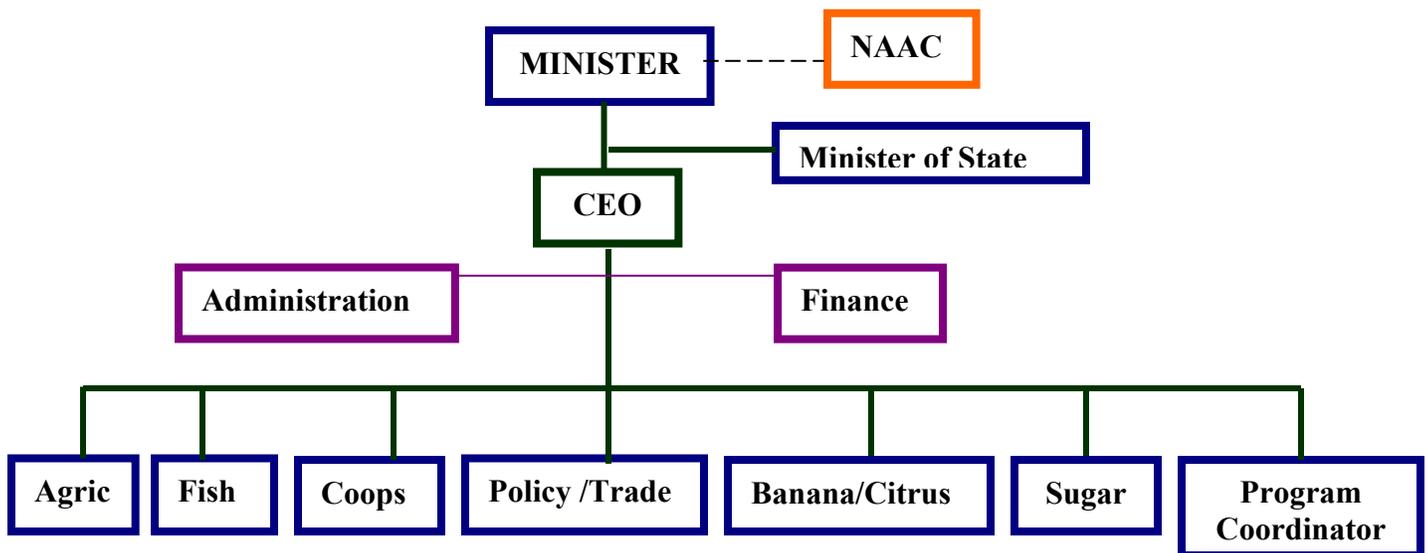
The MAFC's responsibilities in the provision of goods and services will include:

- Applied research and development in non-traditional crops and livestock activities.
- Provision of extension services.
- Design and management of the regulatory framework relating to agricultural health.
- Education and training.
- Support to the provision of physical infrastructure such as feeder roads, irrigation, transport, storage, drying and marketing facilities.
- Data collection and information management to support planning and decision-making.
- Provision of information on technical matters and market opportunities.
- Facilitate linkages and networking between national institutions and with regional and international organizations.
- Develop an annual planning, programming and budgeting cycle to execute the above responsibilities.

**4.2 Structure:** The **technical structure** of the Ministry is divided into 3 departments, a Trade/Policy Unit and director for the traditional sectors of sugar, citrus/bananas and a program coordinator. A **National Agriculture Advisory Committee (representatives from the traditional/nontraditional sectors, processors, consumers, farmers, intermediaries/marketers)** exists which advises the Minister on the effectiveness of policies/programs being implemented by the Ministry.

**Agriculture Department:** The mission for the Department of Agriculture is “*to enhance the profitability by providing professional and technical services to farmer and producers through research, extension and training countrywide.*” This mission requires the provision of the following support services: generation of statistics, research & extension, soil testing/ analysis, training, provision of improved planting material, seeds and breeding stock.

### **MAF ORGANOGRAM**



**Fisheries Department:** The mission for the Fisheries Department is to “*provide the country and the people of Belize with the best possible management of aquatic and fisheries resources with a view to optimize the present and future benefits through efficient and sustainable management.*” This mission requires the following support services: enforcement of fisheries regulations, quality assurance, detailed biological and socio-economic research, park and coastal zone management and strategy implementation.

**Cooperative Department:** The mission of the Cooperatives and Credit Union Department is “*to enable the common person to generate income and self improvement through organized group enterprises based on cooperative philosophy and principles for sustainable development.*”

**This Involves:**

- i. Promoting, educating and training groups seeking registration.
- ii Registering of cooperatives and credit unions
- iii Regulating and supervising cooperatives and credit unions including drawing up by-laws for societies, inspecting of records, auditing of accounts, and settlement of disputes submitted for arbitration and cancellation and liquidation of societies
- iv Promoting, supporting and assisting the development, management and monitoring of economic enterprises to ensure sustainable development

**Trade/Policy Unit:** The mission of the Policy/Trade Unit is **to improve relevant GOB and institutional policies and optimize the lasting impact of MAFC mission which is “To continue as the economic pillar of Belize, ensuring food security, generating income and foreign exchange, creating employment and conserving natural resources in order to grow the economy, reduce poverty and empower the local populations for sustainable development.”** Therefore, the broad objective of this unit is policy and legislative reform in order to facilitate and accelerate investment, diversification, productivity, marketing and export of agricultural products.

The functions/responsibilities of the Unit is as follows:

- i. **Policy Improvement:** To access the effectiveness of current policies on agriculture, fisheries and cooperatives and on MAFC’s mission (for example, free trade, land tenure, migration and concessions), to diagnose their constraints and accordingly formulate reforms on new policies, and to assist in implementing recommendations;
- ii. **Monitoring & Evaluation:** To determine the social, economic, financial and ecological impact (ex post and ex ante), within an appropriate space (macro-micro) and time context (short-long-term), of MAFC’s program, technological innovations and proposed projects;
- iii. **Market Information Analysis:** To provide timely market driven information to farmers, fisher persons, investors and policy-makers so they can make better choices among sectoral priorities, production technologies and marketing techniques, albeit for the local, national or international markets;
- iv. **Information Dissemination:** To coordinate, collate and edit the timely publication of MAFC annual reports, sectoral statistics and other key documents outlining the major achievements, recommendations and priorities of MAFC and/or the agriculture/fisheries/ cooperative sector;
- v. **External Interaction:** To liaise, collaborate and develop joint ventures with other GOB Ministries and the private sector (National Agriculture Advisory Council & the Fisheries Advisory Board) which will lead to a more effective and efficient fulfillment of its goal.
- vi. **Public Relations:** To ensure that media houses together with the public (other Ministries, departments and projects) / private (international agencies, embassies) sector is kept abreast of MAFC activities and programs and to engage in an active public awareness and education campaign on behalf of the agriculture, fisheries and cooperatives departments

## 5.0 National Food & Agriculture Policy Framework 2002-2020

**5.1 Lessons Learned:** From recent experience, both successful initiatives and some disappointments, the Ministry of Agriculture, Fisheries and Cooperatives has learnt valuable lessons, that should guide future development pathways to modernize the productive sectors. These are:

- i. Macro-economic policy and coordination strategy for sector-wide development for food security, export promotion and development of complementary/cross-fertilization between national, local and international donors/cooperation agencies;
- ii. Institutional strengthening for sustainable development by creating viable and effective partnership among government, private sector, NGOs and community based organizations;
- iii. Commodity & pragmatic approach in response to market and consumer preferences, by integrating production with processing and value adding strategies and technologies;
- iv. Excellent market demand and opportunities for non-traditional, high quality exports, for example fresh fruits and vegetable, organic products and marine products;

**5.2 Policy:** The long-term vision for the sector is that of “*A transformed/Modern Sector that is Fully Competitive, Diversified and Sustainable.*” Therefore, policies for the Sector (Agriculture, Fisheries & Cooperatives/credit Union) will be guided by the major national challenges/constraints. Against this background five priority policy areas were placed, each with specific major objectives and areas for actions has been elaborated as follows:

### (i) Trade Policy

- Exploit the existing preferential market opportunities and continue to lobby for preferential market access.
- Increase production efficiency of both traditional and non-traditional products to compete in open and liberalized markets including the domestic market.
- Diversify the export product base to reduce negative impacts from the loss of the preferential markets.
- Exploit niche market opportunities for non-traditional products.
- Implement legislative and other institutional requirements consistent with meeting regional and international commitments and agreements.
- Improve the agricultural health services to facilitate agricultural trade and human safety.

### (ii) Price Policy

- Minimize distortions and facilitate market-oriented production activities.
- Facilitate quicker response of production and marketing activities to market price signals.
- Preserve and improve the profitability of activities in the agri-food chain.
- Provide increased incentives to products that compete in open markets and with potential to contribute to both production and export diversification.

**(iii) Diversification of the Production Base and Food Security**

- Accelerate diversification of the production and export base to reduce the likely impacts of losses of the preferential markets.
- Promote food production programs that enhance the country's long-term food security.
- Promote sustainable farming practices to reduce natural resource degradation, particularly of more fragile and vulnerable areas.
- Improve farming and production systems of particularly milpa and other small farmers.
- Strengthen infrastructure and support services to support diversification and increase food production.
- Promote greater use of locally produced foods.
- Reduce macroeconomic and price instability that often adversely affects low income and the most vulnerable groups of society.

**(iv) Sustainable Development of Rural Areas**

- Establish a national rural development program to contribute to a sustainable increase in competitiveness of production activities, food security and social well being.
- Accelerate employment and income generating opportunities that are fundamental to the alleviation of rural poverty alleviation and food insecurity.
- Address the main policy, institutional and infrastructural weaknesses and constraints of small and mid-size producers.
- Improve human capital through training, organization and technology transfer.
- Foster micro-enterprise development to make more productive use of rural natural and human resources.
- Improve information systems to provide information on markets and opportunities for small producers and micro-enterprises.
- Strengthen development programs of indigenous groups and communities.
- Promote greater participation of local people including women, youth and indigenous groups in local development planning and decision-making.

**(v) Natural and Environmental Resources Management**

- Promote an integrated approach to the use and management of natural and environmental resources for agricultural production, tourism and settlement development.
- Strengthen management of environmentally fragile areas including watershed management, protected areas and development of eco-tourism areas.
- Improve management of fishery and forestry resources to achieve an optimum combination of their productive, protective, recreational and scientific and educational capabilities.
- Resolve land tenure issues that inhibit more optimum and sustainable uses of land for production activities.
- Increase investment in water resources and management on account of its critical importance for improving agricultural productivity and sustaining production.

## 6.0 Agriculture Policies

**6.1 Sector Background:** During 2001 the contribution of agriculture to GDP (excluding fisheries & forestry) amounted to 14.2%, it contributed towards 25.0% of the labor force and 65.0% of total export earnings. In 2000 citrus exports replaced sugar cane as the largest contributor to foreign exchange earnings followed by sugar cane in second place and bananas in third place. Citrus, sugar/molasses, and banana exports for 2002 amounted to \$79.9, \$68.6 and \$45.9 million, respectively, for a grand export of \$194.4.0 million for these three traditional commodities.

From the early 1980s to the mid-1990s Belize main source of economic growth was the agriculture sector - sugar, citrus, bananas and aquaculture; this growth was largely a response of the private sector to higher market prices being offered by preferential arrangements in the EU (bananas, sugar) and citrus in the USA and EU markets. Belize's agriculture policy focused on being market-led while aiming at providing consumers with a wholesome and safe diet at reasonable prices. Agriculture policy was also directed at having an environment within which agriculture could provide competitively products for both domestic foods needs and export markets. As a result of this market-led approach Belize experienced higher levels of self-sufficiency, development of new export commodities (papayas, aquaculture, habanero peppers) reduced price fluctuations and growth in export of bananas and citrus products.

Belize has a farming population of about 11,000 operating on a total land area of 265,00 acres of which 146,000 acres are for crops and 119,000 acres for pasture. The majority of farmers in the South (Toledo District) still practice milpa agriculture - traditional slash/burn method of shifting cultivation producing staples (corn, beans) for their consumption; rice is produced as a cash crop, together with any surplus of corn and beans. Small farms with permanent crops predominate in Northern Belize (Orange Walk & Corozal) and in the Stann Creek Valley where they are responsible for producing sugar cane and citrus respectively. In Western Belize (Cayo and part of Orange Walk) farmers are responsible for most of the corn, beans, poultry, pork, dairy and beef output - staple commodities for which Belize has achieved a significant level of self-sufficiency.

One of the major challenges facing domestic/milpa agriculture is the prevalent poverty level in over 75.0% of all farmers mostly small-scale/milpa farmers; these farmers may be described as indigenous peoples, recent immigrants from Central America, and as farm laborers in the citrus, banana and other agriculture industries. In the future agriculture will need to ensure that further growth in the sector trickle down to small farmers' income and better standard of living so that small-farming be sustainable in the long-run; small farms are responsible for producing the bulk of agriculture commodities consumed in the domestic market (corn, beans, rice, beef, pork, vegetables, fruits).

**6.2 Policy:** For the agriculture sector, the agriculture department, in consultation with its partners in development, has elaborated seven strategic objectives with accompanying programs:

**i. Accelerate the diversification of both local and export-oriented agriculture**

Specific attention is to be given to commodities that have traditionally been imported but that have the potential to be economically grown in Belize for local consumption. These include Irish potato, onion, carrots, garlic, celery, broccoli, cauliflower and grapes. In addition, new initiatives are being launched to rear the fallow deer and the wild gibbon, to expand the rearing of sheep and goats under improved management, and promote the cultivation of non-traditional fruits such as cashew, sapodilla, soursop, pitahaya etc. With respect to the export sector, efforts continue to expand aquaculture and non-traditional commodities in order to reduce the reliance on a few export products.

**ii. Promote agro-processing and value adding as a means of expanding opportunities and increasing the income of the rural sector**

Special emphasis will be placed on the packaging of locally produced products as well as promoting agro-processing both at the farm-level and in commercial enterprises. Training on product development, good manufacturing practices, marketing and packaging are being intensified. The Technical Mission of the Republic of China on Taiwan have opened up a regional food processing unit in the agriculture research and development station in Central Farm and the Belize Marketing Board has been renamed and restructured to expand its mandate to include value added and processed agricultural products. Collaboration with BELTRAIDE will be strengthened to ensure the provision of investment/trade support through an investment promotion unit, a trade information unit and through advisory services of an export business adviser.

**iii Support the establishment and development of an Organic Agriculture Industry in Belize.**

Recognizing the potential local and international market opportunity for organic produce from Belize, the need to diversify income opportunities for Belizean small-scale farmers and recognizing that organic production methods entail significant restrictions on the use of fertilizers and pesticides which may have detrimental effects on the environment or result in the presence of residues in agricultural produce which could pose potential risk to human health, the Ministry of Agriculture supports the establishment and development of an organic industry in Belize. To this end the Ministry will support the development and strengthening of the Belize Organic Producers Association (BOPA), an association that has been established to promote organic production and marketing in Belize. The Ministry will collaborate with BOPA in the implementation of Belize Organic Agriculture Standards and the establishment of a Belize Organic System. The Ministry will support initiatives to develop local markets for Belizean organic products through initiatives to be developed through the Belize Marketing Board and Belize Tourism Association (BTIA) as well as supporting initiatives to exploit international market opportunities for Belizean organically produced crops. Support will also be given and

opportunities sought for programmes to develop the technology required for organic production, crops and livestock in Belize.

#### **iv Actively promote market and trade expansion both locally and internationally**

In line with the diversification of the productive sector and the promotion of agro-processing and value adding, special attention will be given to expand market opportunities. The renamed and restructured Belize Marketing and Development Corporation will be tasked with linking small-scale food processors with the retail outlets such as supermarkets and tourist resorts. The national 'Buy Belizean' campaign will be supported at home and abroad. The Belize Trade and Investment Promotion Unit (BELTRAIDE) was established and given the mandate to promote Belizean products in the regional and international market. Collaboration with Beltraide will ensure the participation of Belizean agribusiness companies in various trade fairs in different parts of the world. Trade missions will continue to be sent to different countries and efforts to penetrate the Guatemalan, Mexican and Caribbean markets have been intensified. Special attention will be given to promoting the export of ethnic, processed and niche agricultural products from Belize. Linkages with the expanding tourism industry will also be strengthened to promote the consumption of more locally produced fresh and processed food and fruit beverages.

#### **v. Increase the efficiency, profitability and competitiveness of agri-businesses**

Research and development programs are now focusing more on reducing the cost of production by improving yields and promoting cost-reducing technologies. Special farm mechanization custom services have been launched for small farmers who do not have access to machinery and this program will be strengthened. More attention is also being paid to commodities such as papaya in which Belize has a comparative advantage. Irrigation is being promoted more actively as a way to increase yields, improve product quality and maintain year round production.

To facilitate these programs and agri-business investment in general, the Department will lobby strongly for the productive sector to obtain loans at reduced interest rates directly from external sources to the commodity associations (eg. Citrus Growers Association, Cane Farmers Association, Belize Livestock Producers Association etc.), and the credit unions. A close working relationship will also be maintained with the Small Farmers and Business Bank which presently offers loans at 10 % interest and with flexible repayment plans for farmers.

#### **vi. Improve and conserve the natural and productive resource base to ensure long-term sustainable productivity and viability**

The conservation of the natural and productive resource base will be an integral part of our agricultural development program. All major agricultural investments will be required to submit a business proposal complete with an environmental impact assessment (EIA). This EIA must be approved by the national environmental approval committee (NEAC) before their business proposal is accepted.

The Department will also create the enabling environment for organic agriculture by passing relevant legislation to promote the production of organic products. Integrated pest management and rational use of pesticides will form a key component of our production systems. Tree farming, forest enrichment, agroforestry and silvipastoral production systems will be also promoted as alternative livelihoods for farmers and businessmen in general.

**vii Improve access to productive resources and services and create economic opportunities for small farmers, women and young farmers, and indigenous people, particularly in poor, marginal areas**

Special programs are being established for women and young farmers, inclusive of credit, training and apprenticeships. In the south of Belize, where most of the indigenous and underprivileged live, an \$ 15 million project entitled “Community Initiated Agriculture and Rural Development Project” which will last for the next 7 years has been launched. This project places developmental decision making directly in the hands of the people.

Research programs will be geared to be more outreach in nature and in many cases will be established on farmers’ fields along with demonstration plots. The agriculture development program will also focus on commodities that make maximum contribution to the livelihood of the rural poor, and consciously empower individuals and communities to be less dependent on handouts and government.

The Department of Agriculture will actively engage the participation of the Ministry of Rural Development, other government departments, the NGO community, civil society and indigenous organizations in planning and executing the agriculture development program of each district. Where possible District Development Councils or steering committees that will include these stakeholders will guide the development programs in each district.

**viii Strengthen the institutional capacities to provide effective support in marketing and trade, research and extension, as well as relevant education and training**

Human resource development and institutional strengthening are critical factors in achieving the other strategic objectives outlined above. The Government of Belize has moved to integrate the Belize College of Agriculture with 4 other institutions to establish the University of Belize. Support to the secondary agriculture schools, focusing on technology transfer and information technology, will be further strengthened. The Ministry itself has been re-organized and many of its services are being removed from the day-to-day management by government. The Belize Agriculture Health Authority will be which was established by integrating plant health, animal health, quarantine and food safety, into one semi-autonomous body, will be further strengthened to become a highly effective and world-renowned inspection and certification agency. The Research and Development Station in Central Farm will be re-structured into a semi-autonomous research and development institute that will enable it to better carry out its functions. Re-organization efforts will continue over the next 15 – 20 years and will include the Belize Marketing Board, the National Agriculture and Trade Show committee amongst others. In principle, the Department will maintain a culture of creative dissatisfaction, and will be active in trying to find new and better ways to deliver our mandate to farmers and agribusiness.

All these objectives should contribute in the long-term to the sector's vision of:

- i. An agriculture sector that will make maximum contribution to the economic, social and environmental well-being of Belizeans.
- ii. Agriculture industries that are innovative, efficient and competitive supplying the local and international market with high quality products.
- iii. Robust and self-sufficient production systems that will ensure food security, poverty alleviation and the ability to control our lives.

### **6.3 Traditional Crops**

The overall policy objective is to continue to exploit the preferential market opportunities in the USA, EU and Canada as long as these are available for sugar, citrus products and bananas, while at the same time preparing these sub-sectors to compete with markets under free trade. The specific objectives are to:

- Continue to meet the preferential market requirements in the US, EU and Canada as long as these are available to Belize.
- Introduce technological improvements and improve productivity at the levels of farm production, processing and marketing in preparation of reduction/elimination of the guaranteed markets.
- Improve the commercial viability of the sugarcane, citrus and banana crops farming system.
- Develop a long-term strategy to diversify the traditional export product lines of these sub-sectors by developing new by-products for both the domestic and export markets.

**SUGAR CANE INDUSTRY** - Planned activities of the MAFC will be lobbying to keep preferential access to the EU, USA and the Canadian markets while at the same time concientize industry leaders, cane farmers association and factory workers on need to increase yields and processing efficiency. It is expected that Belize will retain some level of preferential markets in the USA and EU but at the same time prepare the industry to compete for markets under free trade.

Another strategy will be to facilitate strengthening of cane farmers association in order to permit transfer of better technologies and adoption of optimal scale of operation with extension support in the form of demonstration; this should contribute towards a reduction in cost of production. The other policy of the MAFC will be to encourage/ continue diversification into using by-products (molasses) and residues (bagass); encouragement will be through granting of fiscal incentives and through availability of technology required to produce animal feed and other by-products.

The sugar policy as described in the “**Sugar Policy & Strategy: Strategic Actions for the Belize Sugar Industry**” seeks to achieve five broad objectives:

- (i) An *efficiency* objective - to increase the competitiveness of the sugar industry;
- (ii) An *income* objective - stabilize and increase farm incomes and rural welfare;

- (iii) A *diversification* objective - diversification of the agricultural production base in the northern region;
- (iv) A *regional development* objective – the sugar industry’s continued contribution to the economic and social development in the northern region; and
- (v) An *economic development* objective - ensuring that the industry continues to make an important contribution to the economic and social development of the country.

**CITRUS** - Planned activities of the MAFC will be lobbying to keep preferential treatment for citrus products in external markets while at the same time sensitizing the industry on the need for free trade in external markets. It is expected that this will result in the retention of current duty-free entry of citrus products to the USA, EU and CARICOM markets. The Department of Agriculture will continue to work with CREI and OIRSA to protect Belize from devastating exotic diseases, such as Citrus Canker and Citrus Leprosis, by strengthening the implementation of quarantine regulations and by developing strategies and necessary legislation for emergency response to these diseases.

Other activities will focus on strengthening cooperation among CREI, MAFC and multi-lateral agencies on Citrus Tristeza Virus (CTV) and towards promotion of CTV tolerant rootstocks and research on bio-indexing in order to minimize the threat and impact of other graft transmissible diseases on the industry. To this end the Department of Agriculture will support and back-up CREI in the implementation of the Belize Citrus Certification Program (BCCP) thereby ensuring that all citrus planting material used in Belize is of the highest possible quality.

Significant focus will be placed on increasing the productivity (yield per acre) of the citrus, in order that the industry may develop in an economically sustainable manner. The MAFC will collaborate with CREI in establishing a comprehensive citrus-production database using Geographic Information Systems (GIS). This database will form a part of the national farm register and will enable industry stakeholders to design strategies and implement appropriate farm management decisions that will significantly increase the productivity of citrus in Belize. Improvements in productivity will also be facilitated through investments in drainage development, promotion of improved cultural management and through cooperation among MAFC, CREI and processors to increase the competitiveness of citrus products in free markets.

The MAFC will support CGA in its efforts to develop an organic citrus industry in Belize. MAFC and CGA will collaborate in developing relevant technology and accessing appropriate markets for organic products. Attempts will also be made to integrate citrus production with the rearing of sheep and other small ruminants.

The MAFC will support CREI in its efforts to secure an annual subvention from the Government.

**BANANAS** - Planned activities for the MAFC are to lobby the EU for expansion of quota allotment to Belize from 55,000 tons to 100,000 tons; this will ensure that markets are available for any surplus banana production, reduce cost of transport from Belize to the EU and reduce infrastructure cost such as port charges. Other strategies of MAFC are to continue searching for

financial/technical assistance from the EU and multi-lateral agencies for the banana industry in order to improve productivity and reduce cost of production. GOB is paving the Southern highway and will continue to upgrade the road network system in the banana zone so as to improve quality of fruit being delivered. MAFC will also facilitate whenever possible processing of bananas and identification of alternative domestic/export markets for surplus bananas.

#### **6.4 Competitively Produced Domestic Food Products**

The overall policy objective is to improve the efficiency of production of the domestically produced food crops to maintain their dominance in the local market by making them more competitive with imports. The specific objectives are to:

- Improve productivity of these commodities to compete in the domestic market at lower levels of protection and in export markets.
- Facilitate exports to contribute to export diversification and foreign exchange earnings.
- Enhance food security and improve income of farmers, particularly smaller producers.
- Promote more sustainable farm production systems that contribute to better management and use of the natural resource base and the environment.
- Improve the commercial viability of smaller producers.
- Promote value adding and processing amongst small and medium sized producers.

**RICE** - The Government of Belize policies on marketing/trade/price, an assured domestic market and the Ministry of Agriculture, Fisheries & Cooperatives intervention on services, infrastructure and technical assistance has given rise to unstable growth of the industry over the past 10 years. This instability has resulted in too much price variation and no incentive to capture export markets. Government of Belize policy in the coming years will focus on improving the marketing of rice by improving quality and packaging, promoting product diversity (such as jasmine and organic rice), and encouraging a centralized national marketing and distribution system for rice. Efforts will also focus on improving the competitiveness of the industry by promoting the use of irrigation, mechanization and other cost-reducing technology, so as to be able to take full advantage of the Mexican, Guatemalan and other markets which have been identified.

**CORN/SORGHUM** - The policy of the Department will focus on improving the yield of corn and sorghum through the transfer of proven technologies of production and the provision of management and technical assistance especially to small farmers. Simultaneously, the need to secure foreign markets will be sought so as to sustain self-sufficiency in corn and generate another source of foreign exchange. Through collaboration with CARDI and other research institutions, attempts will be made to develop and sustain the production of hybrid seed locally. Processing of corn into minza (tortilla corn flour) will continue to be supported with a view to ensure the production of a high quality local product. Promotion of sorghum as a substitute for corn in the feed industry will also continue.

The commercialization of grain production by small and medium-sized farmers will be encouraged. In the south, the use of high yielding varieties for subsistence and matahambre corn will be encouraged and support for the traditional marketing channels will be maintained. The

production of sweet corn will also receive extension and research support designed to improve productivity and marketability.

**OILSEEDS (SOYBEAN/SESAME)** - Policy will focus in promoting expansion of soybean acreage in order to increase farmers' income and reduce imports of oil and soybean meal. Support to the oilseed industry will continue through CARDI's research on more efficient production systems and improved productivity/competitiveness. Development of soybean processing will be monitored closely to ensure this linkage sustains itself so that the industry may develop its potential with as many farmers involved.

While the soybean development program will focus in its use as animal feed and edible oil, the production of alternative products from soybean such as soya milk, soya meat and other products will be encouraged.

**BEANS (RK BEANS, BLACK BEANS & COWPEAS)** - Focus in the MAFC will be to maintain and improve competitiveness in RK beans, cowpeas and other bean products. Simultaneously, production of these crops will be promoted through research, technical and marketing assistance. The Department will assist in coordinating the production and marketing efforts of the producers and exporters, and encourage the penetration of the distribution system in CARICOM. The goal of activities will be to increase foreign earnings from increased exports to CARICOM and outside CARICOM.

**ROOT CROPS (CASSAVA, COCOYAM)** - Promotion of cassava as a substitute for corn in the animal and shrimp feeds will continue focusing on improving yields to make it a viable and economic substitute. Processing of cassava and cocoyam into fresh, frozen and fried products for both the local and export market will also receive special attention. The policy will therefore focus on research and extension support designed to improve productivity and marketability. In the case of cocoyam, the use of irrigation is to be an important vehicle for increasing production and quality of the fresh product.

**VEGETABLES** - MAFC will focus its attention on providing extension/technical assistance to vegetable growers on cultural practices and on integrated pest management designed to raise productivity/ quality; efforts will also be directed to providing training in irrigation and in facilitating investment. Efforts to promote the production of existing but imported vegetables such as potato, carrots and onions will continue. Research and development will focus on identifying new high yielding and disease-resistant varieties that can be stored or planted out of the main production season. The policy will also be directed at the use of improved production technologies, such as irrigation, greenhouses and hydroponics, and at making vegetable production more competitive so as to expand local production over a longer period of the year. This should contribute to reducing the level of imports and the conservation of foreign exchange.

## **6.5 Non-traditional Crops**

Commodities catering solely to the domestic market but having reached self-sufficiency production level (rice, corn, poultry, beef) will be supported in ways to improve their efficiency/competitiveness rating. Commodities catering to the domestic market but for which imports are

still required (dairy, pork, vegetables, oilseeds,) will be supported through increased production and technical support/research designed to convert these industries into price/quality competitive with imports. A special effort will be made to encourage farmers maintain adequate records on their production and marketing activities.

**PAPAYAS** - The focus of the policy direction will be on facilitating increased production/farmer involvement through the provision of technical assistance, especially on plant health and water management. As an incentive for investment into papaya production, the Government of Belize will continue to grant fiscal incentives (duty-free capital equipment, tax holidays etc.). Furthermore, policies will reflect GOB's high priority in maintaining most of Belize medfly free so that exports could continue uninterrupted to the USA market. Policies will also reflect the importance of further spreading the industry to most parts of Belize and getting more Belizean farmers involved.

**CACAO** - Attention will center on increasing the number of small farmers involved in cacao production and in improving their fermentation and drying techniques. Efforts will also be directed at strengthening the Cacao Growers Association in their management, marketing and extension activities. The production of organic cacao for the high value end of the market will be aggressively pursued. All these efforts should contribute towards growth of the industry in a sustainable manner and in diversifying the agriculture base of the Toledo district.

**HOT PEPPERS** – Coordination among stakeholders (NGOs, Government, Processors, Farmers) within the industry will be strengthened in order to ensure maximum impact from all the financial/technical resources being invested in the industry. Secondly, the cash flow problem of exporters/processors as production expands will be addressed through an export credit scheme so as to ensure that production continues to expand in a smooth manner; this would contribute to reducing the mistrust which exists between farmers and exporters/processors. Farmer organization through cooperatives/associations will be encouraged in different regions in order to allow farmers to play an active role in the development of the industry. Along with the ROC food processing program, experimental efforts will intensify to produce high quality pepper derivatives such as sauces, mash, dried whole and ground pepper while at the same time alternative markets apart from those being offered by the current exporters/processors will be sought.

**FRUITS** – Attention will focus on the promotion of improved varieties/planting material and the Department will strengthen its capacity to produce grafted fruits in its nurseries. High priority will be the maintenance of a strong med fly/quarantine program in order to facilitate exports to the USA market. The policy will also be directed at facilitating investment in local and exotic fruits and to support the planting of new off-season varieties to ensure that local fruits are available over a longer period of time. Special efforts will be made to encourage the consumption of locally produced fruits by overland and cruise tourists. This should contribute towards enhancing import substitution and ensuring greater satisfaction for the demand of the domestic market.

**NEW INITIATIVES** - The policy of the MAF will pay particular attention to promoting the production of new and niche crops for both the local and export markets. The development

program will target commodity by commodity to determine the technical and economic feasibility of production and marketing and then encourage production on a larger scale. Such initiatives will include new and potential crops such as apple banana, okra, ginger, grapes, nutmeg, celery, garlic, broccoli, cauliflower, chaya, black pepper and others. The identification and promotion of crops for use as fiber and energy will receive some focus.

## **6.6 Livestock**

Belize's livestock sector faces the same challenges as its domestic food crops sector – improving efficiency and competitiveness in domestic and export markets in a more liberalized trading environment, stronger linkages with other activities and sectors to create more value added and contribute to product and export market diversification. Policies for the livestock sector will seek to:

- Improve competitiveness of the various sub-sector activities.
- Strengthen backward and forward linkages in the domestic economy.
- Promote value adding and significantly expand the diversity of processed meat products
- Achieve higher levels of self-sufficiency from domestic production.
- Contribute to food security and improving the nutritional status of the population.
- Exploit export market opportunities.

**POULTRY** - Research will continue on identifying and promoting cheaper sources of feed for the poultry industry. Incentives will also be facilitated for investment into the processing of feed using locally supplied ingredients such as soybean, sesame, corn, cassava and sorghum. Veterinary officers will continue to monitor and control infectious diseases so as to foster the development of quality products free from disease and harmful residue. The private sector will be encouraged to capture a larger percentage of the local market for processed poultry products, particularly, sausages. Support will be provided to the private sector in identifying and establishing export markets in Central America so as to facilitate further growth of the industry.

**BEEF** - Efforts of the MAF will center on improving cost of production and increasing yield in order to facilitate expansion of the industry into the export market. Attention will focus on improved breeds and feed management together with de-centralized development of the industry via the promotion of active livestock association branches in each district. In order to facilitate exports, animal health assistance will also receive high priority in order to ensure that acceptable standards are available in slaughtering/processing facilities which are equivalent to United States Department of Agriculture (USDA) standard.

**DAIRY** - Focus will center on assisting the industry through the availability of improve dairy breeds and through training and extension support designed to develop and market new milk products, improve quality and improve pasture and herd management. It is expected that these efforts will increase both output and efficiency/productivity ratings so that the local market price could decrease significantly; this will permit the marketing of liquid milk as a substitute to condensed, evaporated and powder milk.

**PORK** - Efforts will shift towards evaluating ways in which feed cost could be decreased. Economies of locally produced soybean meal will be evaluated. Potential of using more local products (supplements of cane, cassava, banana etc.) which may be more economical will be analyzed. Support will continue to the industry in terms of extension (veterinary) support for improved health and quality of meat being produced. The policy of limiting imports to the extent that local products are available will also continue in order to allow the industry to continue to grow and be more competitive.

**BEEKEEPING** - Focus will center on providing technical assistance to BHPA on varroa mite, Africanized bees, marketing options, management assistance and in facilitating funding to the industry for re-vitalization/growth in terms of increase output and number of farmers involve in honey production. Institutional support will be given to the BHPA in order to better be able to manage the industry and increase output for the export market. All this should contribute towards sustainable development of the industry for the export market.

**SMALL STOCK/RUMINANTS** – Support will be provided for the establishment of a market structure, together with cost of production figures, an extension program, marketing information, availability of breeding stock, the setting up of grades/standards, and the development /promotion of an appropriate tech pack for small stock/ruminants since all of this is needed in order to make farmers aware of the potential for small stock and promote production.

## **7.0 Fisheries Policies**

**7.1 Sector Background:** The fisheries sector has been known to be an important contributor to the Belizean economy since the 1970s. Contribution to employment (excess of 1,300 fishers alone), GDP (7%), and foreign exchange generation by the capture fishery and the aquaculture sub-sector, rank this industry third in economic importance to Belize and growing very fast.

Fishing activities in Belize have traditionally revolved around the lobster and conch fisheries. Shrimp and finfish have over the last few years gained recognition as being of vital importance to national nutrition. Harvested on a small-scale are stone crabs, marine aquarium fish, seaweed, shark, and more recently some species of squid from the shrimp trawlers.

Exports of fisheries products for 2002 were valued at approximately \$67.7 million and are expected to continue increasing due to the evident exponential growth of the aquaculture sub-sector; total pond acreage under aquaculture exceeds 5,100 acres with 15 farms. Farmed shrimp was the largest contributor to foreign exchange with \$50.3 million followed by lobster with \$13.9 million and conch with \$3.3 million. Capture fishery outputs is certainly threatened by a substantial increase in fishing effort, inadequate resource management, alteration to critical habitats and lack of necessary financing to conduct urgently needed research on stock assessment and exploitation potential.

It is estimated that in Belize we consume almost three times (weight) as much fish (excluding farmed shrimp) than what is being exported. This means that any damage to the finfish industry would be detrimental to our national security in terms of nutrition and access to it; artisan

(subsistence) fishers usually make up the bulk of fishers responsible for finfish catches. Therefore, in developing any fishery this factor needs to be thoroughly analyzed.

The key to the development of the fisheries sector is the fisher themselves since development must be viewed from a sustainable viewpoint. Henceforth, national policy in the fisheries sector continues to be directed towards species-specific management. Programs include fishing seasons, minimum size regulations and licensing of commercial fishers.

**7.2 Policy:** The national policy is directed at ensuring a sustainable supply of marine products, particularly, lobster, shrimp and conch. While present policy measures include minimum size, closed season and licensing requirements, the GOB recognizes the need to harvest other species in deeper waters since it is aware that sustainable levels of production for conch, lobster, and shrimp have already reached their maximum. The strategies will facilitate proper management of marine resources and contribute towards its long-term viability and sustainable development. The major policy objective for the fisheries sector is to maintain a sustainable yield of the fisheries resources while continuing to contribute to food production, foreign exchange earnings and to improved nutritional status in the longer term. Specifically, the GOB's fisheries policy will:

- Encourage and promote sustainable fish production systems in both sea areas and inland fisheries.
- Diversify production of the underutilized fish species in traditional waters so as to reduce pressure on high valued fish.
- Encourage deep-sea fishing to take advantage of the 12-mile zone.
- Increase value added activities in the production system, fish processing and prepared fish food.
- Improve management of the ecological systems and marine environment of fish habitats.
- Expand production of non-traditional fish species.
- Retain product quality and remain competitive in export markets.
- Improve the economic and social well being of fishers and their communities.

**Actions to achieve these objectives will focus on:**

- i. Improving quality control systems;
- ii. Encouraging joint venture activities with foreign fishers;
- iii. Developing an inter-sectoral approach to fisheries management that include improved planning of crop development, settlement and tourism development, particularly, in coastal and fragile areas that increase pollution and affect fish habitats;
- iv more effective coastal zone management through an inter-institutional and inter-disciplinary approach;
- v. Rehabilitation of rivers and better management of inland stocks;
- vi. Expanding aquaculture activities, particularly, shrimp farming and coastal impoundment;
- vii. Improving fisheries management to reduce over-harvesting and maintain sustainable yields;
- viii. Strengthening regulations, enforcement/compliance;
- ix. And providing training in testing, quality assurance and processing activities.

### **7.3 Capture Fishery**

The activities associated with capture fisheries has been the focus and primary concern of the Fisheries Department and any of its management initiatives since the establishment of a Fisheries Unit in 1965. As a result, many of the decisions, recommendations and regulations made over the years were primarily for the management of this sub-sector. The policy framework for capture fishery will include the following objectives together with the accompanying activities:

#### **1.0 Managing the fisheries resources in a sustainable manner.**

The proper management of the existing resources is the most important aspect of the capture fisheries policy. This will be achieved through a combination of methods designed to reduce fishing effort on the existing commercially exploited species and maintaining a close monitoring programme. This will entail:

- i. Development of a data collection programme to collect data relevant to the management of the resources.
- ii. Constant evaluation of the status of fisheries resources in Belize through frequent analysis of the data collected.
- iii. Management recommendations to the Minister based on the information collected and analyzed, including such things as closure of sensitive areas, quotas, limited entry fishing for selected species such as lobster, licenses for recreational fishing, bag limits for recreational fishing and size limits.
- iv. Development of a list of priority areas for research to provide additional information on the status of the fisheries resources, and the means by which the research can be done.
- v. Identification of the resources required to undertake all the various activities associated with management of the sector, and the mobilization of those resources through various means.

#### **2.0 Including the resources users in the management process**

Recent studies have shown that the most effective way to sustainably manage a common resource is to involve the stakeholders. To break the pattern of "*the tragedy of the commons*" it is important that the resource users be involved in the management process and be allowed to feel a sense of ownership. Involvement of stakeholders will require the following:

- i. An extension and public education/awareness programmes that targets the resource users in, particular, and the Belizean public in general.
- ii. Establishment of close working relationships with the fishermen's organizations to discuss matters that is of importance to the sector.
- iii. Involvement of fishermen and other resource users in the public consultation process.
- iv. Enhancement of the Fisheries Advisory Board model to ensure its continuity and continued effectiveness through some form of legislative process.

#### **3.0 Improving the efficiency and profitability of the sector through the identification of new methods and markets.**

Most of the higher priced commercially exploited marine species are at or beyond their Maximum Sustainable Yield (MSY). This is shown in the landings for Lobster, Conch and Shrimp where increased effort (through an increase in the number of fishers) has resulted in very small increases in landings, if any at all. If these species are to continue at present production levels, then their needs to be a reduction in the fishing pressure. This will mean a reduction in the current fishing effort on these species. As indicated above, this reduction in effort can take the form of limiting entry, licensing by species, quotas and closed season/ areas, all resulting in a reduction of the number of fishers per species per unit time. However, this will mean that some fishers will be displaced and in general the earnings of the industry will be affected. To offset this potential situation a combination of strategies will be necessary. These include but are not limited to:

- i. Identification of alternative commercially exploitable species such as shellfish (oysters, clams etc), blue crabs, pelagic fish species (tunas, mackerels, jacks) and squids.
- ii. Training of fishermen in the harvesting and handling of target species that are
- iii. Improvements in methods of handling for all species caught to reduce post harvest losses and increase value through increased quality. Close cooperation with agencies such as BAHA will be a must.
- iv. Identification and assistance in the identification and development of new markets both locally and regionally for new target species.
- v. Training and assistance with development of processing and packaging methods to add value to the harvested products, whether traditional or new. Such things as seasoned ground conch or seasoned lobster head meat packaged in one or two pound packets, or crab meat in the back, or salting and smoking or dry salting and packaging will be some of the options explored.

#### **4.0 Improving on the human resource base of the management agencies**

None of these management strategies can be effected without a sound human resource base to implement the policies. Therefore, it is imperative that careful attention be paid to the human resource situation of the Fisheries Department and its allied agencies such as the Marine Reserves and the Coastal Zone Management Authority/Institute. If any meaningful development and change is to occur in the sector then it requires that a cadre of trained professionals be available. This can be achieved through:

- i. Development and implementation of a programme to monitor the human resources needs of the sector and to match available resources to those needs. This should be multi-agency in scope since it might be necessary to 'share' expertise between agencies.
- ii. Development of a training programme that would incorporate in-service and academic training, both in country and abroad, with specific emphasis being placed on the areas of greatest need as identified;
- iii. Utilization of existing partnerships with countries that offer development aid, such as Japan, Korea, Taiwan, the European Union and the USA, to develop mechanisms for training and development of human resources.
- iv. Development of a system for the 'sharing' of expertise between agencies to alleviate the shortage of trained persons in the short term or on a needs basis.

## **5.0 Develop and foster linkages between the various regional and local organizations and institutions involved in natural resources management.**

Belize is part of several regional initiatives that are committed to the sustainable management of marine resources. Belize is already active in some of these initiatives such as CARICOM's Regional Fisheries Mechanism, the Mesoamerican Barrier Reef System Project and the Tri-National Commission on the Harmonization of Fisheries Legislation. These initiatives play a very important role in the management of resources that are regional in distribution and exploitation. They also allow for the 'sharing' of expertise at the regional level. In addition there are several local organizations that play an active part in marine resources management. Partnerships with such organizations can only be beneficial. Belize must continue to foster these relationships. This can be done through Belize's active participation in these organizations and initiatives. This will further enhance our ability and provide additional opportunities for such things as research, trade, stock assessment and training.

- i. Development of co-management arrangements with local CBOs and NGOs for the management of selected fisheries or areas.
- ii. Maintenance of close cooperation with sister Government agencies, such as the Cooperative and Forestry Departments, that are involved in natural resources management.
- iii. Maintenance of close contacts and active participation in the regional initiatives such as CRFM and MBRS.

**SHRIMP** - Focus will be on biological data collection (average size, catch/effort & trawler etc.) for the pink sea shrimp in order to obtain sound scientific evidence which may lead to proper management decisions and strategies. This will also include extensive evaluation of by-catch composition and volume with the objective of finding alternative uses for it. This will ensure that stocks are not depleted and that this sector of the industry be sustainable. Evaluation of by-catch composition/volume will be monitored with the objective of finding acceptable uses for it such as in feed for livestock and pets.

**LOBSTER** - Support to the industry will continue to ensure viability of the industry. Close monitoring of fishing activity and effort will continue to receive high priority; furthermore, enforcement of fishing legislation will also receive high priority. All this should contribute to the long-term sustainability of the industry.

Support will also go towards maximizing returns from the industry. Options will be explored to make optimal use of by-products such as lobster heads both in the local and export markets. Technical assistance will be facilitated to the cooperatives with the objective of improving their harvesting, production and processing techniques, in addition, to their management and marketing skills.

**CONCH** - MAFC continues to spearhead research in order to obtain reliable data as to the level of fishing pressure that the conch fishery can sustain. This would lead to the development of more concrete management strategies ensuring maximum returns for fishers and the nation at large. One very important aspect of this will be the proper monitoring and enforcement of conservation measures in order to preserve the industry.

**FINFISH** - The department of fisheries will complete stock assessment of target species and develop management plans for each of the main commercial species. Diversification of the fishing industry will be encouraged so as to lessen the pressure on heavily over-exploited species. A sustainable fisheries management policy will be developed.

## **7.4 Aquaculture**

The goal of the national aquaculture policy is to *“To develop a globally competitive aquaculture industry to meet consumer demands at home and abroad for cultivated aquatic foods and products, that are of high quality, safe, affordable and wholesome, and that are produced in an environmentally responsible manner, with maximum opportunity for profit, social justice and sustainability in all aspects of the industry.”*

Support to the aquaculture industry will continue in facilitating fiscal incentives for any new investment and for expanding operations. Exploration will continue on opportunities to produce major operational inputs such as feed and seed stock. The policies for the industry will comprise of five strategic objectives with accompanying activities:

### **i. Maximizing Biological Production**

- (i) Creating and strengthening institutions to improve the role of science in shrimp farming;
- (ii) Application of Best Management Practices (BMP) in aquaculture production;

### **ii. Optimizing Biological “Carrying Capacity”**

- (i) Expanding shrimp production with a view of remaining within the ecological limits or “carrying capacity” of the environment;
- (ii) Promoting environment-friendly aquaculture technologies and production practices to optimize yields and production
- (iii) Conservation of mangroves and other wetland systems as buffer between farms;
- (iv) Implementation of coastal area zonation and other mechanisms of Integrated Coastal Zone Management;

### **iii. Minimizing Crop Failure**

- (i) Diversifying aquaculture from its unidirectional focus on shrimp Mari culture;
- (ii) Promoting the use of disease resistant species and genetic lines;
- (iii) Developing institutions and processes to guard against the introduction and proliferation of diseases.

#### **iv. Sustaining the Competitive Position of Belize**

- (i) Maximizing economic returns from shrimp farming in an effort to instill investor confidence;
- (ii) Guarding against the threat of over-development of shrimp farming;
- (iii) Improving self-sufficiency in the production of critical inputs (seed stocks and feed) for shrimp farming and other aspects of aquaculture;
- (iv) Strengthening the legal basis of the rules and procedures adopted by various regulatory institutions.

#### **v. Expanding the Benefits Derived From Aquaculture**

- (i) Optimizing the use of primary resources in shrimp farming and other aspects of aquaculture;
- (ii) Improving the participation of small-scale operators, and groups requiring special attention;
- (iii) Expanding employment, training and other social benefits of shrimp farming and other aspects of aquaculture;
- (iv) Improving planning and coordination to anticipate, preclude, circumvent and resolve user conflicts;

**7.5 Conservation Compliance:** The goal of conservation compliance is to *“promote the conservation and sustainable use of fisheries resources for the benefit of the Belizean people.”* This goal will be achieved by monitoring, educating and providing protection for coastal resources so and to ensure that fisheries legislation is adhered to.

#### ***Policy will focus on the following support activities:***

- i. Conducting routine patrols in the waters of Belize
- ii. Continuous training of its officers
- iii. Providing presentations and lectures to fishers, schools and interested organizations
- iv. Taking offenders to court and prosecuting the cases
- v. Developing conservation related programs on TV, radio, print and electronic media
- vi. Assisting the Marine Protected Areas (MPA’s) in the patrolling of the designated areas
- vii. Ensuring that fisher folk are complying with all fishery regulations
- viii. Enhancing local and regional fish stocks through enforcement of closed seasons, size limits and no fishing zones i.e. MPA’s
- ix. Protecting of the fish habitats by ensuring that the reef is not damaged by vessels or fishing practices
- x. Assisting in conservation based fisheries management regimes

**7.6 Marine Protected Areas:** The purpose of MPA's is *"to ensure, increase and sustain the productive services and integrity of marine resources for the benefit of all Belizeans now and for future generations."* In Belize, the Fisheries Department has an indication that the fishery is experiencing overexploitation to a degree. The Department is working towards a full understanding of the fisheries status by restructuring its data collection unit so that it works very closely with the fishers, MPA staffs and other agencies in the capture fishery. The objectives for Marine Protected areas is as follows:

1. Conserving of marine biodiversity by protecting important ecosystems, habitats, and species.
2. Supporting marine scientific research by providing a natural laboratory.
3. Enhancing capacity through education, public awareness and collaboration.
4. Mobilizing financial and technical resources for the sector
5. Deriving benefits from the tourist sector

These Objectives will be facilitated through the following support services:

- i. Providing harvest refuge;
- ii. Protecting habitats, especially those critical to lifecycle stages such as spawning, juvenile rearing and feeding;
- iii. Protecting spawning stocks and spawning stock biomass, thus enhancing reproductive capacity;
- iv. Protecting areas of species, habitats, and ecosystems restoration and recovery;
- v. Enhancing local and regional fish stocks through increased recruitment and spillover of adults and juveniles into adjacent areas;
- vi. Assisting in conservation-based fisheries management regimes
- vii. Providing opportunities for scientific research;

## **8.0 Cooperatives Policies**

**8.1 Sector Background:** Credit unions, producer and service cooperatives constitute a strategic homegrown engine for development after more than 55 years of continuous strengthening. Credit unions and Cooperatives have continued to demonstrate their practicability; Cooperatives and credit unions have proven that they represent means available to the average man and woman whereby they can counteract poverty and economic problems by identifying their common needs and by pooling their resources to meet those needs. This has resulted in increased membership and assets.

With its unique principles of democratic ownership, collective effort and capital accumulation, the cooperative model offers attractive avenues for skills development, employment creation, income redistribution, rural development, import substitution and foreign exchange earnings at relatively low cost to Government.

The cooperative movement has demonstrated an enduring capacity to penetrate the widest cross-section of society by providing needed services, especially in coastal and hinterland communities, but it also offers exciting opportunities for meaningful employment and

empowerment for our youth and women. There are 43 functioning registered societies (15 credit unions and 28 cooperatives) spread throughout the six districts of Belize.

The cooperative movement combined membership is in excess of 69,000; in addition, about 2,000 small and micro entrepreneurs are affiliated to fishing, farming and honey-producing cooperatives. Credit union assets exceed \$196 million with loans outstanding in excess of \$158 million and a membership of 68,5000. Belize boasts the largest and most successful fishing cooperatives in the CARICOM region; all exports from the capture fishery sector (\$20 million) are being managed through the cooperatives. The cooperative sector, no doubt, will be a key factor in contributing towards gross domestic growth, equitable distribution of economic opportunities and foreign exchange earnings, particularly through increased savings, a wider range of financial avenues for home construction, agriculture/fisheries production and micro/small enterprises.

**8.2 Policy:** The Government of Belize is firmly committed to a revitalization and sustainable development of the economy. The Cooperative and Credit Union Sector has a major role in the overall development strategy, both in terms of its continued contribution as well as providing a major economic base for propelling the country. The Government's Cooperative and Credit Union policies are designed strengthen the movement and to make the sector more efficient and competitive, while at the same time contributing to the economic and social well being of the population.

The role of the Cooperative and Credit Union Department is to act as a catalyst committed to the consolidation, strengthening and development of credit unions and cooperatives in Belize by providing for the organization, education, supervision and guidance necessary for the mobilization of human and other resources in cooperative efforts, which will foster social and economic change.

The Government of Belize policies for the sector has six broad objectives:

- Assure the effective participation and full integration of women in cooperative development at all levels.
- Greater involvement of youths in the cooperative movement.
- Improve the management, economic and financial viability of cooperatives and credit unions.
- Strengthen the monitoring, inspection and supervision of credit unions and cooperatives
- Provide the legal environment, which will allow societies to operate as businesses.
- Increase the capacity of rural communities
- Enhance public confidence in credit union and cooperative enterprises.

These broad objectives provide new agenda for action in the sector. Policies will be directed at strengthening the financial base of credit unions, which will assist them to be in a better position to support cooperatives. Government's policy will be directed at extending assistance in areas of education and training, technical and financial support in order to improve the management and contribute towards the viability of cooperatives by providing a climate, which affords credit unions and cooperatives a fair opportunity to compete with commercial enterprises.

**The four policy areas each identified with specific major objectives and action for the next five years are as follows:**

**(i) Micro Enterprise Development Through Modern Cooperative Management**

- Research market opportunities and develop sector specific trade information system.
- Promote, develop and support market-driven economically viable and ecologically sound micro enterprises, within the context of the cooperative philosophy and principles.
- Develop joint marketing arrangements among members.
- Adopt, test and assess appropriate technologies for production and processing that can be managed to increase income, employment and productive assets in a sustainable manner
- Enhance the capacity and skills of the small and medium size farmers and producers to plan, manage and operate their micro enterprise and financial resources.

**(ii) Enabling Environment**

- Establish financial and economic incentives for cooperatives and credit unions
- Conduct reviews of all legislation which impacts on the credit union and cooperative sector
- Update Cooperative Societies Act and sensitize members
- Update Credit Union Statutory Rules and Orders (SR&O) and sensitize members;
- Establish a mechanism which will facilitate the coordinating of efforts with all stakeholders and other developmental agencies
- Establish prudential standards for cooperatives and credit unions which will provide for the assessment of their operations
- Promote diversification and value adding within the cooperative sector
- Promote partnerships with regional and international cooperatives, credit unions and other regional bodies

**(iii) Credit Union and Cooperative Information and Training**

- Promote membership involvement in management of their operations
- Encourage cooperatives to operate their business systems to assure sustainability and financial viability
- Facilitate members with the skills to develop and execute achievable plans, accomplish objectives, evaluate results and in the process identify and deal with contingencies before they become problems.
- Disseminate updated information on the practices, principles, opportunities and limitations of cooperatives and credit unions.
- Promote cooperatives in view of their potential for self-employment and their capacity to stimulate economic growth.
- Promote the role of women and youth in the credit union and cooperative movement.
- Focus on increase recruitment of membership and continuous education
- Enhance the transfer of technology and institutional know-how to members.

#### (iv) Regulations

- Implement legislative and other institutional requirements consistent with viable business operations within generally accepted business principles.
- Promote a wider range of service to members.
- Improve reserve and funds management.
- Consistently monitor and enforce all statutory requirements;
- Monitor of liquidity, receivables, loan delinquency, income generation, loan classification and loan loss provisioning.
- Strengthen the monitoring, inspection, supervisory/regulatory capacity and function of the Cooperatives and Credit Union Department.
- Ensure prudent financial practices, effective management controls, accountability and reliable data.
- Set requirements for registration of credit unions and cooperatives.

### 9.0 Support Mechanisms/Services Policy

**Research & Development:** The Department of Agriculture recognizes the importance of research and development in increasing the competitiveness of agricultural commodities, and that research and development programs must be practical and cost-effective, and must have a direct impact on the production, marketing or processing systems of farmers. The Department will promote the repositioning of technology innovation and agricultural research and development as important strategies in its national plans for the development of the sector. Research and development efforts will be significantly strengthened and will serve as an important tool to address the constraints to agricultural production in Belize. The private sector will be encouraged to play a greater role in agricultural research/extension, technology generation, human resource development and marketing. Technological innovation and agricultural diversification will be promoted through research and targeted extension services. The Department will also aim to further integrate research and extension activities to drive the development of the agricultural sector and to plan these programs using the program management model presently in place. Technical packages will be developed and promoted with farmers for both crop and livestock production, and these will be developed with assistance from the relevant stakeholders. To achieve these goals, the Ministry of Agriculture will support and where necessary facilitate (i) the establishment of the Belize Institute of Agricultural Research & Development (BIARD) (ii) the establishment of the Belize Agricultural Research & Development Council and (iii) continue liaison and collaboration with international agricultural development support organizations

**Human Resource Development:** This is an essential component for sustainable development of the sector; therefore emphasis will be placed on greater entrepreneurship, more self-reliance and spread of know-how to producers in rural areas. Support will be given to vocation and other training activities including focused business training geared to organizational development and institutional strengthening of rural and farmer groups, particularly, those which are engaged in production for niche markets and domestic crops. This will entail a four-pronged approach:

i) There will be strengthening of agricultural curricula in primary and secondary schools, as training institutions for youths and future farmers. MAFC will need to identify an annual "Profitable" commodity OPTIONS for each district and then promote these through the district schools with emphasis on the agri-business in the agriculture education curricula at all levels;

ii) High priority will be placed on producer workshops and courses as a means to spread technology and know-how to farmers/fishermen and enhance their productive capacity;

iii) Strengthening the professional staff of Belize, in the private and public sectors, on appropriate technological innovations, R&D policies and methodologies, and program management skills.

iv) Measures will be taken to disseminate updated information on the principles, practices, opportunities and limitations for cooperatives throughout the regions of Belize. Focus will also be centered on increased recruitment of membership and continuous training. Government will encourage appropriate ongoing educational courses on cooperatives in the schools, and at the University College of Belize. Closer functional networking between the department of Cooperatives and the Ministry of Education will be encouraged in order to ensure deeper integration of cooperatives in the formal education process and to facilitate the strengthening of junior cooperatives throughout Belize.

**Agro-Processing:** The policy for this sector will be based on building agro-processing through agriculture and using agro-processing to develop the agriculture sector. This policy follows from Government's emphasis on encouraging consumption of what is produced locally and producing what is consumed in the domestic market. Through this policy it is expected that small-scale agro-processing operations will gear up towards supplying domestic needs while at the same time improving the quality of processed products and make them competitive. Specific objectives of this policy are as follows:

- i. A market for reject agriculture/fisheries produce;
- ii. An increase domestic market for agriculture/fisheries product;
- iii. Increase value-added in agriculture;
- iv. Reduced imports of processed agriculture products;

**Sustainable Resource Management:** In agriculture, this means promoting farming systems that use mixed intercropping, organic nutrient recycling processes, crop rotations and irrigation facilities. More sedentary forms of farming will decrease pressure on deforestation while at the same time increasing domestic content in local agriculture; to facilitate this the MAFC will identify, analyze & promote an annual crop/livestock cycle for each district which is adoptable and profitable for the farmers of each respective district. In fisheries, this means employing management practices which protect threatened species (e.g. queen conch) and critical habitats, and create conditions for exploiting the valuable resources for sustainable fishing and aquaculture systems.

**Watersheds Management:** Watersheds will be conserved and managed so as to:

- (i) Minimize the effects of flooding on communities, farms, roads and bridges;
- (ii) Minimize soil erosion, siltation of rivers and sedimentation of near shore marine environments to protect coral reefs and sea grass beds
- (iii) Ensure an adequate supply and quality of water for domestic consumption and other purposes

**Extension:** Agriculture extension services will be re-vitalized by providing timely technical assistance to small farmers. The extension section will design production systems to assist particular areas (regions) and fit particular target groups such as small, medium and large farmers. The performance appraisal system and other systems will be used as a vehicle to improve the quality of the Ministry's extension staff. Efforts will also focus on recruiting highly trained and motivated officers to lead and deliver the district extension programs. The extension staff will also be trained to write project proposals, conduct feasibility studies and to assist producers with the preparation of agriculture investment proposals to access credit.

**Credit:** This has been identified by the Agriculture & Fisheries (A&F) sector as one of the thorniest constraints to development. The MAFC will collaborate closely with farmer groups on the wise use of credit and seek constructive and creative ways to address the problem of high interest rates, absence of export credit & limited micro-credit for productive activities, limited management/technical support from financial institutions and short periods for repayment, etc. Four areas of attention will be:

- (i) Technical and financial support to rural marketing cooperatives and commodity groups;
- (ii) Support provision of higher levels of capital to institutions, such as the National Development Foundation of Belize (NDFB), the Belize Enterprise For Sustainable Technology (BEST), Help-For-Progress, and Fondo Ganadero catering to small farmers;
- (iii) Strongly lobby for the productive sector to obtain loans at reduced interest rates directly from external sources to the commodity associations (e.g. Citrus Growers Association, Cane Farmers Association, Belize Livestock Producers Association etc.) and the credit unions. The Ministry will work closely with these institutions to ensure that the loans are kept at comparatively low interest rates and with flexible repayment plans for farmers.
- (iv) Small Farmers & Business Bank - The MAF will continue to support and work closely with the Small Farmers & Business Bank, which will provide credit to women, young entrepreneurs, farmers and small businesspersons free of the burdens of conventional collateral. Small farmers needs cannot be adequately met by present development banks since small farmers require timely technical support and supervision, together with low interest rates since agriculture is very risky.

- (iv) Export credit facilities will be developed with support from institutions such as the Belize Social Security Board and donor agencies such as the European Union. Micro-credit for the non-traditional productive sector will also receive high priority with support from national/donor agencies such as the European Union and the International Fund for Agriculture Development.

**Marketing:** The traditional bias for foreign food products has had a high cost in terms of local employment /income foregone, investment opportunity and reduced rural development and export capability. In order to address this preference, the MAF will build support for a Buy Belizean campaign in order to make Belizeans aware of the multiplier /linkage effect of purchasing domestic products and also of long-term benefits accruing to Belize; standards will be developed and put in place in order to assure quality products for Belizean consumers;

Farmer's organizations will be strengthened and promoted so that our small and medium-size farmers be empowered to defend the interests of the sector while becoming more productive and also involved in marketing their produce. The establishment of buying centers for small farmers to sell their produce will be promoted. However, GOB will not be involved in buying but this function will be left to NGOs, associations, marketing cooperatives and the private sector; GOB should only provide incentives for buying centers to get established. The establishment of agro-industrial plants for processing of farmers products will be promoted; this will provide secure markets for our small farmers, adding value to agricultural produce and stimulating employment. Technical assistance will be provided to small farmers in areas of storage and post-harvest management.

The Belize Marketing Board will continue its involvement in marketing rice for approximately 1,700 rice farmers in the Toledo district since this is the only cash crop available for small farmers in the district. However, the Belize Marketing Board will continue its active collaboration with the Ministry of Agriculture, Fisheries & Cooperatives in the development of prioritized commodities such as the production/marketing (credit, buying, storing, distribution) of onion, potatoes, carrots, peanuts, and the establishment of the soybean industry for the fast growing livestock (including aquaculture) industry.

**Trade:** The MAFC will actively participate in a tri-partite commission of Government, civil society and the private sector to negotiate trade agreements and to devise policies to cope with the effects of globalization. Emphasis will also be placed on the principle of gradualism to adjust our economy to the new global economic realities in order to defend the interests of our local producers and consumers. Industries with highest priority within the agriculture & fishery sectors will be protected. Emphasis will also be placed on negotiating accords that will allow our major and traditional industries to prosper and secure favorable markets for other exports. More vigorous support will be provided internationally for our sugar, citrus and banana industries as well as for new non-traditional exports.

**Annex 1**  
**List of Stakeholders who provided input into Policy Document**

Kindly note that more than 100 other stakeholders were consulted in preparing this Policy Document

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No.	First Name	Last Name	Job Title	Company	Address	City	Postal Code	Country	Work Phone	Fax	Email	Sector
43	George	Dyck	Chairman	Belize Poultry Association	Blue Creek	Orange Walk District	P. O. Box 2	Belize	323-0102		cchicken@btl.net	Agriculture
44	George	Myvette	Aquaculture Coordinator	Ministry of Agriculture, Fisheries & Cooperatives	Fisheries Department	Belize		Belize	224-4552, 223-2623	223-2983	species@btl.net	Fisheries
45	Harold	Westby	Extension Officer	Agriculture Dept.	Banquitas Square, Main Street	Orange Walk District		Belize	322-2149	322-2541	hhnn71@yahoo.com	Agriculture
46	Harry	Plett	Manager	Reimers Feed Mill	Centre Road	Spanish Lookout	P. O. Box 456	Belize	823-0105	823-0229	reimersfeed@btl.net	Agriculture
47	Harry	Rivas	Board Member	St. Francis Xavier Credit Union	#5th Avenue and 1st St.	Corozal		Belize	422-2892	422-2611	sfxavier@btl.net	Cooperative
48	Henno	Thiessen	President	Country Meat Products	Spanish Lookout			Belize				Agriculture
49	Henry	Brown	Manager	Farmers Feed Mill	Centre Road	Spanish Lookout	P. O. Box 427	Belize	823-0106	823-0034		Agriculture
50	Herbert	Masson		Prosser fertilizer & Agrotec Co. Ltd		Belize	P. O. Box 566	Belize	223-5410	222-5548	prosser@starband.net	Agriculture
51	Hilberto	Munchamp	Pond Manager	Tex Mar Ltd	Independence, Creek	Stann Creek		Belize	520-3075	520-3075		Fisheries
52	Hon. Daniel	Silva	Minister of Agriculture, Fisheries & Cooperatives	Ministry of Agriculture, Fisheries & Cooperatives	West Block Building	Belmopan		Belize	822-2241 822-2242	822-2409	minister@btl.net	
53	Hugh	Saul	Project Manager	Caricom Fisheries Unit	Princess Margaret Drive	Belize	P. O. Box 642	Belize	223-4444 223-4443	223-4446	cfstamp@btl.net	Fisheries
54	Hugh	O'Brien	Chief Agriculture Officer	Ministry of Agriculture, Fisheries & Cooperatives	West Block Building	Belmopan		Belize	822-2241	822-2409	hugh@btl.net	Agriculture
55	Imani	Fairweather	Chief Executive Officer	Coastal Zone Management Authority		Belize	P. O. Box 1884	Belize	223-2616 223-0719	223-5738	czmbze@btl.net	Fisheries
56	Isaias	Majil	MPA Coordinator	Fisheries Department	Princess Margaret Drive	Belize City		Belize	224-4552	223-2892	bacalarchico@hotmail.com	Fisheries
57	Ismael	Garcia	Southern Regional Coordinator	Ministry of Agriculture, Fisheries & Cooperatives	West Block Building	Belmopan		Belize	822-2241	822-2409	mileygarcia_bz@yahoo.com	General
58	James	Azueta	Fisheries Officer	Ministry of Agriculture, Fisheries & Cooperatives	Fisheries Department	Belize		Belize	224-4552 223-2623	223-2983	maddog@btl.net, species@btl.net	Fisheries

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59	James	Tsay	Chief	ROC Agriculture Technical Mission	Central Farm	San Ignacio	P. O. Box 43	Belize	824-3033	824-3724	roctmbz@btl.net	Agriculture
60	James	Hyde	Director	Nova Companies Belize Ltd	13 miles Northern Highway	Ladyville	P. O. Box 54	Belize	223-5515	223-4114	jhyde@yahoo.com	Fisheries
61	Javier	Garcia	Acting Managing Director	Community-Initiated Agriculture & Rural Development Project	Elridgeville	Toledo District		Belize	720-2015	722-0195	cardtol@btl.net	Agriculture
62	John	Klassen	Chairman	Rio Azul Processing & Cannery	Blue Creek	Orange Walk		Belize	323-0164	323-0104	klassen@btl.net	Cooperative
63	John	Ho	Manager	Gideon Int. Co Ltd.	Bella Vista			Belize				Agriculture
64	John S.	Usher	Chairman	Citrus Growers Association	Hope Creek Village	Stann Creek		Belize	520-2210 520-2213			Agriculture
65	Jose	Novelo	Export Business Advisor	Beltraide/Caribbean Export	14 Orchard Garden Street	Belmopan		Belize	822-3737	822-0595	jose@belizeinvest.org.bz	Agriculture & Fisheries
66	Jose	Mai	Director of Agro-processing	Ministry of Agriculture, Fisheries & Cooperatives	West Block Building	Belmopan		Belize	822-2241	822-2409	josemai@hotmail.com	Agriculture
67	Jose	Manzanero	Extension Officer	Agriculture Dept.	1st Avenue	Corozal Town		Belize	422-2297	422-3131	daocorozal@yahoo.com	Agriculture
68	Jose	Alpuche	Executive Chairman	Beltraide	14 Orchard Garden Street	Belmopan	P. O. Box 473	Belize	822-3737	822-0595	beltraide@belize.gov.bz	Agriculture
69	Jose	Castellanos	Policy Analyst	Ministry of Agriculture, Fisheries & Cooperatives	West Block Building	Belmopan		Belize	822-2241	822-2409	jmarcastellanos@yahoo.com	Genral
70	Jose Pepe	Garcia	Engineer	Tunic-nah Consultant & Engineering	Mile 6 Northern Highway	Belize		Belize	225-2036	225-2239	pepe@btl.net	Fisheries
71	Joseph	Thiessen	Exporter	Bel-Car Export and Imports	Spanish Lookout	Cayo District	P. O. Box 427	Belize	823-0271	823-0136	bel-car@btl.net	Agriculture
72	June	Sankar	Protected Areas Coordinator	Belize Audubon Society	12 Front Street	Belize City	P. O. Box 1001	Belize	223-5004		paterrestrial@bas.bz	Fisheries
73	Leonard	Reimer		Country Meat Products	Spanish Lookout, Cayo			Belize	823--8023		lereimer@btl.net	Agriculture & Fisheries
74	Levi	Penner		Bel-car Export	Spanish Lookout	Cayo District		Belize	823-8015			Agriculture

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75	Linda	Mckesey	Manager	McKesey Meats	27 Mahogany	Belize		Belize	227-3516 223-1484	227-4854	lincxx@hotmail.com	Agriculture
76	Lloyd	Carillo	Vice President	St. Francis Xavier Credit Union	#21 2nd St. South	Corozal Town		Belize	422-2298	422-3611	st.xavier@btl.net	Agriculture
77	Loraine	Thompson	Technical Officer	INCAP/PAHO/WHO	4 Eyre Street	Belize City		Belize	224-4852	223-0917	thompsol@blz.paho.org	Agriculture
78	Luciano	Cuellar	Sales Manager	Citrus Products of Belize Ltd.		Dangriga		Belize	522-2055			Agriculture
79	Luis	Ake	Engineer	TNC	6.5 miles N/Highway			Belize	225-2036		luake@btl.net	Agriculture
80	Margarito	Garcia	Director of Quarantine	BAHA	Central Farm	Cayo District		Belize	824-4899	824-4889	margargarcia_bz@hotmail.com	Agriculture
81	Maria	Edeso	Planning/Monitoring Officer	CARD PROJECT	5 miles San Antonio Road	Toledo District		Belize	722-0195	722-0195	loliedeso@hotmail.com	Agriculture
82	Marian	Castellanos	Cooperative Officer	Cooperative Department	117 North Front Street	Belize City		Belize	227-5826			Cooperatives
83	Marie	Sharpe	Managing Director	Marie Sharpe Fine Food Products	3 pier road Melinda Road	Dangriga	P. O. Box 6	Belize	522-2370 520-2087 520-2088	522-3504	fairylady36@yahoo.com	Agriculture
84	Martin	Alegria	Sr. Environmental Officer	DOE	10/12 Ambergris Ave.	Belmopan		Belize	822-2816 822-2542	822-2862	envirodept@btl.net	Fisheries
85	Mathew	Smiling	Manager	Smiling Meats	69 New Road	Belize		Belize	223-0699, 223-4237	223-2220	mattjam57@yahoo.com	Agriculture
86	Milton	Haughton	Scientific Director	Caricom Fisheries Unit	Princess Margaret Drive	Belize City	P. O. Box 642	Belize	223-4443	223-4446	haughton@caricom-fisheries.com	Fisheries
87	Natalie	Goff	Executive Director	Belize Credit Union League	46 Cor. Bishop Street and East Canal ST.	Belize	P. O. Box 397	Belize	227-2510		bcu@btl.net	Cooperatives
88	Neri	Sanz	Managing Director	Belize Agriculture Health Authority	Agriculture Showground	Belmopan	P. O. Box 169	Belize	822-0818 822-0813 822-1378 822-0197 615-2865	822-0271 822-3084	baha@btl.net ntsanz@hotmail.com	Agriculture
89	Neville	McAndrew	Agronomist	CARDI		Belmopan	P. O. Box 2	Belize	822-2602	822-2602	cardi@btl.net	Agriculture
90	Nidia	Aguleta	Executive Director	Belize Fishermen Cooperative Association	849 Consuelo Street	Belize City		Belize	223-4650	223-3980	bfca@btl.net	Cooperatives and Fisheries

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91	Noel	Jacobs	Regional Director	Meso-american Barrier Reef System	Newtown Barracks	Belize		Belize	223-4561 223-3895	223-4513	mbrs@btl.net	Fisheries
92	Norman	Augustine	Financial Controller	BAHA	Belmopan			Belize	822-0197		clover@btl.net	Agriculture
93	Oscar	Salazar	District Agriculture Coordinator	Ministry of Agriculture, Fisheries & Cooperatives	Central Farm, Cayo District			Belize	824-2079	824-2079	daocayo@btl.net	Agriculture
94	Paula	Perez	Research Analyst	Commodities Secretariat	14 Orchid Garden Street	Belmopan		Belize	822-3737	822-0777	commodity@btl.net	Agriculture
95	Pedro	Che	Chairman	Belize Grain Growers Association	14.5 Miles Southern Highway	Toledo District		Belize				Agriculture
96	Reynaldo	Guerrero	Managing Director	Belize Institute of Management	2090 Chancellor Street	Belize		Belize	223-3055	223-3060	bimbze@btl.net	Fisheries
97	Robert	Usher	Manager	Northern Fishermen Cooperative	49 North Front St.	Belize		Belize	224-4488	223-0978	norficoop@btl.net	Fisheries
98	Rudolfo	Carcamo	Branch Manager	Atlantic Bank	17 Burns Avenue	San Ignacio		Belize	824-2347 824-2596	824-2445	atlantic@btl.net	Agriculture
99	Rupert	Smith	Director	Citrus Growers Association	#8 Swasey Street	Belmopan		Belize	522-2110	522-2685	rupertsmith53@hotmail.com	Agriculture
100	Santiago	Victorin	Packing General Manger	Belize Fruit Packers	San Andres Export Processing Zone	Corozal		Belize	422-2511		bfp@btl.net	Agriculture
101	Sergio	Garcia	Chief Executive Officer	Ministry of Agriculture, Fisheries & Cooperatives	West Block Building	Belmopan		Belize	822-2241	822-2409	serghinio@yahoo.com	Agriculture
102	Shaun	Finnetty	Program Analyst	UNDP	1 Constitution Drive	Belmopan		Belize	822-2688	822-2364	shaunundp@btl.net	General
103	Stephen	Williams	Research and Extension Director	Citrus Research & Education Institute	Mile 9, Stann Creek Valley Road	Dangriga	P. O. Box 72	Belize	522-3535	522-3511	swilliams@belizecitrus.org	Agriculture
104	Thomas	Tillet	District Agriculture Coordinator	Ministry of Agriculture, Fisheries & Cooperatives	Belize City, Belize District			Belize	227-7492	227-5867	daobelize@btl.net	Agriculture
105	Victor	Gongora	Director Animal Health	BAHA	Central Farm			Belize	824-4872	824-4889	animalhth@btl.net	Agriculture

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106	Vincent	Gillett	Executive Director	Belize Fishermen Cooperative Association	849 Consuelo Street	Belize City		Belize		223-3982	bfca@btl.net	Fisheries
107	Vincente	Canul	General Manger	St. Francis Xavier Credit Union	#5th Avenue and 1st St.	Corozal		Belize	422-2892	422-2611	sfxavier@btl.net	Cooperatives
108	Wallace	Mahler	District Agriculture Coordinator	Ministry of Agriculture, Fisheries & Cooperatives	Toledo			Belize	722-2689	722-2689	daotoledo@btl.net	Agriculture
109	Wilber	Sabido	Technical Coordinator	Programme for Belize	1 Eyre Street	Belize City		Belize	227-5616	227-5635	www.pfbelize.org	Agriculture
110	Wilfredo	Rodriguez	Board Member	Northern Fishermen Cooperative	Sarteneja Village	Corozal District		Belize	428-2060			Cooperative
111	Wilfredo	Pott	Fisheries Officer	Fisheries Department	Princess Margaret Drive	Belize City		Belize	224-4552		wilpott@yahoo.com	Fisheries
112	William	Usher	Director	Research and development	Central Farm	Cayo District		Belize	824-2129		wsusher@yahoo.com	Agriculture
113	Winston	Henderson	Sr. Supervisor	NDFB	#2882 Coney Drive	Belize City		Belize	233-1132	223-1195	ndfbze@btl.net	Cooperative
114	Zenaida	Moya	Registrar of Cooperatives	Ministry of Agriculture, Fisheries & Cooperatives	West Block Building	Belmopan		Belize	822-2241	822-2409	zmoya@yahoo.com	Cooperatives
115	H. L.	Haney					P. O. Box 238	Belize	523-7001			Fisheries