



*National Strategy for Agro-Processing and Food  
Production for Small Entrepreneurs in Belize, with the  
Central Farm Agro-processing Unit as a Fundamental  
Support Framework.*

**2019-2023**

## Table of Contents

Table of Figures.....	3
Table of Tables .....	3
ACKNOWLEDGEMENT.....	4
FOREWORD.....	5
ACRONYMS AND ABBREVIATIONS .....	6
EXECUTIVE SUMMARY .....	8
1.1 Belize: Background and Rationale for an Agro-Processing Strategy.....	14
1.2 The CFAPU in Belize .....	16
1.3 Strategy Linkage to the Business Plan and Investment Proposal .....	22
CHAPTER 2: THE CONTEXT .....	23
2.1 The External Environment .....	23
2.1.1 Geographic Location .....	23
2.1.2 Political.....	23
2.1.3 Economic.....	23
2.1.4 Social .....	25
2.1.5 Global Engagements .....	27
2.1.6 Regional Environment.....	28
2.2 The Internal Environment .....	29
2.3 Government Policy.....	31
2.4 Potential for agro-processing in Belize .....	34
CHAPTER 3: THE PROBLEM STATEMENT .....	37
3.1 Macro level Issues.....	38
3.2 Sub – Sector Issues.....	40
CHAPTER 4: STRATEGIC PILLARS AND INTERVENTIONS.....	43
Pillar I – Creating an enabling environment to support agro-industry development .....	44
Pillar 2 – Transformation of the agro-processing sector .....	52
Pillar 3 – Agro-industry entrepreneurial development.....	55
CHAPTER 5: IMPLEMENTATION PLAN.....	60
5.1 Implementation of the Strategy .....	60
CHAPTER 6: ROLE AND RESPONSIBILITIES .....	70
6.1 The Role of MAFFSD.....	70
6.2 The Role of Other Government Ministries .....	71

6.3	The Role of Financial Institutions.....	71
6.4	Agro-processing and food production sector coordinating group .....	71
6.5	The Role of CFAPU .....	72
6.6	The Role of None Governmental Institutions .....	72
6.7	The Role of Development Partners and Regional Cooperation Agencies.....	73
CHAPTER 7: MONITORING AND EVALUATION.....		74
4.3	Monitoring .....	74
4.4	Evaluation.....	74
References .....		75
ANNEX I - METHODOLOGY.....		76

#### Table of Figures

Figure 1: AGRO-PROCESSING VALUE CHAIN.....	16
Figure 2: Inflation Rate for the period 2008-2017; <i>Data source - SIB</i> .....	25
Figure 3: Estimated Mid-Year Population by Age (2018); <i>Data source - SIB</i> .....	26
Figure 4: Exports by Sector 2017-Data; <i>Data source: SIB</i> .....	29
Figure 5: Major Domestic Imports 2017 – <i>Data source - SIB</i> .....	30

#### Table of Tables

Table 1: Strategies Identified by MAFFSD.....	21
Table 2: School-age population by education level; <i>Data source - SIB</i> .....	26
Table 3: Commodities Produced in Each District of Belize ( <i>Source - BELTRADE</i> ) .....	30
Table 4: MSME Definition and Criteria –MSME Policy .....	48

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## ACRONYMS AND ABBREVIATIONS

ACP	African, Caribbean and Pacific group
BAHA	Belize Agricultural Health Authority
BBS	Belize Bureau of Standards
BCCI	Belize Chamber of Commerce and Industry
BELTRAIDE	Belize Trade and Investment Development Service
BMDC	Belize Marketing and Development Corporation
BRIC	Brazil, Russia, India and China
CARDI	Caribbean Agricultural Research and Development Institute
CARIBCAN	Canada's Caribbean-Canada Trade Agreement
CARICOM	Caribbean Community
CARIFORUM	The Body comprising Caribbean ACP States
CARIRI	Caribbean Industrial Research Institute
CBERA	Caribbean Basin Economy Recovery Act
CBI	United States Caribbean Basic Initiatives
CDB	Caribbean Development Bank
COP	Cost of Production
CPI	Consumer Price Index
CBTPA	Caribbean Basic Trade Partnership Act
CET	Common External Tariff
CFAPU	Central Farm Agro-processing Unit
CIL	Central Investigation Laboratory
EPA	Economic Partnership Agreement
EU	European Union
FAO	Food and Agriculture Organization of the UN
FTAs	Free Trade Agreements
FY	Financial Year
GDP	Gross Domestic Product
GMPs	Good Manufacturing Practices

GOB	Government of Belize
GSP	Generalized System of Preferences
HACCP	Hazard Analysis Critical Control Point
ICT	Information and Communication Technology
IDB	Inter-American Development Bank
IMF	International Monetary Fund
ISO	International Organization for Standardization
LAC	Latin America and the Caribbean
LDCs	Least Developed Countries
LPG	Liquefied Petroleum Gas
MAFFSD	Ministry of Agriculture, Forestry, Fisheries, and Sustainable Development
MOE	Ministry of Education
MOUs	Memorandum of Understandings
MSMEs	Micro, Small and Medium Enterprises
PCB	Pesticide Control Board
PPP	Public Private Partnerships
PSAs	Partial Scope Agreements
R&D	Research and Development
ROC	Republic of China
SBDC	Small Business Development Centre
SIB	Statistical Institute of Belize
SICA	Central American Integration System
SOPs	Standard Operating Procedures
SPS	Sanitary and Phytosanitary Issues
SVEs	Small and Vulnerable Economies
UB	University of Belize
USFDA	United States Food and Drugs Administration
WTO	World Trade Organization

## EXECUTIVE SUMMARY

Agriculture and food processing play an important role in the Belizean economy. Presently the agriculture and the food sector is the largest contributor to GDP at 10-13% and to the labour force at 6-10%. Agriculture and food account for more than 80% of Belize's exports.

The agriculture sector in Belize is characterized by three main sub-sectors: (i) a fairly well organized traditional export sector for sugar, banana, citrus and marine products, (ii) a more traditional, small-scale farm sector, producing mainly for local consumption, and supplying raw material inputs for agro-processing (iii) a well-integrated large-scale commercial sector operated mainly by the Mennonites, a religious grouping.

The CFAPU, a multi-service unit of the MAFFSD addresses product research and development (R&D) for the transformation of local agricultural produce into value added products as well as the transfer of technology for agri-business development to improve income generation and food security. This multi-service unit also provides training and technical assistance for the creation and expansion of micro-, small and medium (MSMEs) in Belize. The CFAPU comprises an administration unit, which addresses livestock, crops, research and development, agro-processing and agricultural engineering.

Despite significant progress in agriculture and food and nutrition security, MSMEs in Belize face a number of challenges. These include:

- Lack of access to finance - credit at affordable interest rates is not readily available to MSMEs and agro-processors are not educated and trained in regulatory aspects of business establishment and are unable to access business financing.
- Lack of market information to support agro-processors.
- High cost of doing business.
- Lack of business support services, including lack of education and training, technical assistance and extension services in agriculture.



- High requirement of working capital.
- Limited and inadequate infrastructure (transportation, electricity, irrigation, networks) to support development of the agricultural sector.
- Unavailability of sufficient and reliable laboratory equipment and instruments for testing.
- Inadequacy of regulatory agencies to support food safety and plant and animal health;
- Remuneration in the sector is less attractive for talent in comparison to contemporary disciplines.
- Inadequate value chain development.
- Lack of a skilled and knowledgeable labour force.

The strategic vision of the Government of Belize (GOB) is to transform the rural based agro-processing MSME sector into a sustainable and prosperous sector with export oriented potential that will contribute to job creation, poverty alleviation and improved food and nutrition security as well as overall economic growth. An enabling environment must be created for MSME agro-processors to thrive as they are unable to compete fairly in the current market.

Against this background, building on the achievements of the CFAPU and MAFFSD, and within the framework of an FAO Technical Cooperation Project, **TCP\BZE\3601: *Developing and Enhancing Small Scale Agro-processing Capacity in Belize***, with the Government of Belize, FAO, through a Letter of Agreement, engaged the support of the UTT to develop “A National Strategy for Agro-processing and Food Production for Small Entrepreneurs in Belize, with the CFAPU as a fundamental support framework”. A technical team from the UTT comprising of experts in Food Science and Technology, Research, Quality Assurance, Postharvest Technology, Business Management, Strategy Development and Project Management undertook strategy development. The team engaged in a number of consultative sessions and workshops with the CFAPU, MAFFSD, Belize Agricultural Health Authority (BAHA), Belize Marketing and Development Corporation (BMDC), University of Belize (UB) among other stakeholders and public and private agencies, in the course of strategy development.

Cognizant of the issues highlighted in the various consultative sessions, and in line with the strategic vision of the GOB, this strategy seeks to support MSME development and assist in meeting the country's national development goals and objectives as outlined in the National Development Framework for Belize (2010-2030). The strategy accordingly articulates modalities for governmental support and development of the agro-processing and food production sectors with a focus on MSMEs, through the creation of an enabling environment that is both conducive and supportive to growth and development of the raw material base and the agro-processing. It identifies options and pathways for expanding entrepreneurial activities for rural MSMEs in order to contribute to job creation, poverty alleviation and to enhancing food and nutrition security in rural areas.

The strategy is built on three pillars with a focus on MSMEs:

- **Pillar 1 – Creating an enabling environment to support the development of micro, small and medium agro-enterprises.**
  - **Capacity Building**
    - (i) Facilitate access for MSME agro-processors to business development services such as legal, accounting and related services;
    - (ii) Support for R&D;
    - (iii) Development of laboratory services for quality food testing at the CFAPU;
    - (iv) Support technical and managerial training of MSME entrepreneurs;
    - (v) Facilitate access to finance.
  - **Development of supporting infrastructure**
    - (vi) Improvement and strengthening of infrastructure to support the agro-processing sector;
    - (vii) Contribute towards and facilitate access to public incentives and support packages to stimulate entrepreneurship by MSME agro-processors; and
    - (viii) Promote food safety regulations and quality standards related to agro-processing;

- **Promotion of career options and human resource development**
  - (ix) Enhance agricultural extension and education;
  - (x) Provision of scholarships;
  - (xi) Implement needs based professional training;
  
- **Pillar 2 – Transformation of the agro-processing sector**
  - **Improving Market Access**
    - (xii) Facilitate value-chain linkages to ensure that agriculture commodities have access to markets, while at the same time ensuring a reliable supply for MSME agro-processors;
    - (xiii) Provide training and advisory services to support agro-processing value chains inclusive of postharvest handling and market access;
    - (xiv) Assist agro-processors to access market information such as prices and quality requirements;
    - (xv) Facilitate formation of agro-processors groups to take advantage of group learning, value addition and collective purchasing, branding and marketing;
  
  - **Technology and knowledge transfer**
    - (xvi) Facilitate access to appropriate levels of sustainable, innovative technologies to enable productive activities by MSMEs.
  
- **Pillar 3 – Agro-industry Entrepreneurial Development**
  - (xvii) Contribute towards and facilitate investment in an enabling environment that encourages profitable, market-oriented agro-processing businesses;
  - (xviii) Building capacity for agro-industry entrepreneurship and promoting and fostering partnerships with training institutions;
  - (xix) Entrepreneurial skills development via facilitating access to networks;

- (xx) Collaborating with agro-processing organizations, government agencies and private entities to support MSMEs entrepreneurial ventures;
- (xxi) Creation of incubation programmes that will offer individual support to the MSME agro-processors.

Implementation of this strategy requires the commitment and involvement of all the MAFFSD stakeholders. The pillars, sub-pillars and interventions will be developed into a series of operational plans, which will include more specific actions, timelines, resources and performance indicators. It will also identify the stakeholders and functional areas or units responsible for implementing aspects of the plan related to their work. The operational plan will be reviewed and updated annually over the next five years.

In the immediate term, and within the framework of **TCP\BZE\3601**, implementation will focus on building capacities to address the seven commodities prioritized by the MAFFSD in its 2017/2018 Strategic Planning exercise for the CFAPU.

The medium term interventions will seek to improve and enhance R&D in agro processing, improve access to finance, infrastructure, public incentives and support packages, access to agricultural extension and education, provision of scholarships, professional training, value chain linkages, training and advisory services, access to markets, formation of agro processors groups, access to technologies, capacity building for the agro processor industry, entrepreneurship, promoting and fostering partnerships with training institutions. Collaboration with agro processing organizations, government agencies and private entities to support MSME entrepreneurial ventures, will take place as well as the creation of incubation programmes that will offer individual support to the MSME agro-processors.

Long term interventions include:- R&D to generate new products, test methods and packaging enhancements, all of which are relevant and in keeping with the global economy. The development of the laboratory services will strengthen quality control and product development. Enhanced infrastructure as well as access to markets will ensure that the products will be of an international standard to meet the market demands and regulatory requirements. The access to technologies will create an avenue for products to be marketed, improved and enhanced.

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## CHAPTER 1: INTRODUCTION

### 1.1 Belize: Background and Rationale for an Agro-Processing Strategy

Belize is an independent country located on the Southeastern edge of the Yucatan Peninsula (Northern Central America), bordered to the North by Mexico, to the South and West by Guatemala and to the East by the Caribbean Sea. The climate is sub-tropical, with temperatures ranging from 21°C from October to February, and increasing to 32.2°C during May to September. Belize has a small open economy, the structure of which has changed over the last twenty (20) years, principally owing to the decline within its primary sector. Over the past five (5) years, the largest contributors to gross national income were private service (16%), wholesale and retail trade (14%), agriculture (14%), taxes on products (16%), and manufacturing/mine/quarry (11%). Agriculture in Belize is characterized by three (3) main sectors: i). a fairly well organized traditional export sector for sugar, banana, citrus, and marine products, ii). a more traditional, small-scale farm sectors, producing food mainly for local consumption, and iii). a well-integrated large-scale commercial sector operated by the Mennonites (CARDI Strategic Plan, 2019).

According to statistics from the Statistical Institute of Belize (SIB), over the past fifteen (15) years the agriculture and food sector has played an important role in Belize's economy, contributing almost 10 – 13% to GDP and employing about 6 – 10% of the population in 2018. The manufacturing sector contributes approximately 6% to GDP. When compared to the period 2002 – 2011, the manufacturing sector in 2018, experienced a decline in the contribution to GDP. The major domestic exports continue to be sugar, bananas, orange juice and live animals with the United Kingdom, United States of America and CARICOM being the major export markets. The agriculture and food sector is the main growth pillar of the Belizean economy contributing to GDP, employment and food security and is a major contributor to the macroeconomic growth and development of the country.

The GOB has prioritized the agriculture and food sector for the economic transformation of Belize. Within this context, agro-processing and food production have been identified for transformation. The development of these sectors could provide an offset market for local

farmers' produce and encourage broad-based access to agriculture. These sectors are major contributors to development of the agricultural sector and are important to the economy of Belize, not only through value addition and the addition to productive capacity; but they will also create employment and income generating opportunities through continued growth and expansion. Upgrading the agriculture and food sector will contribute to:- a reduction in imports of semi-processed raw material and the strengthening of the local food production sector, while providing under-resourced MSMEs, the opportunity to enter into the food processing sector and to access international markets.

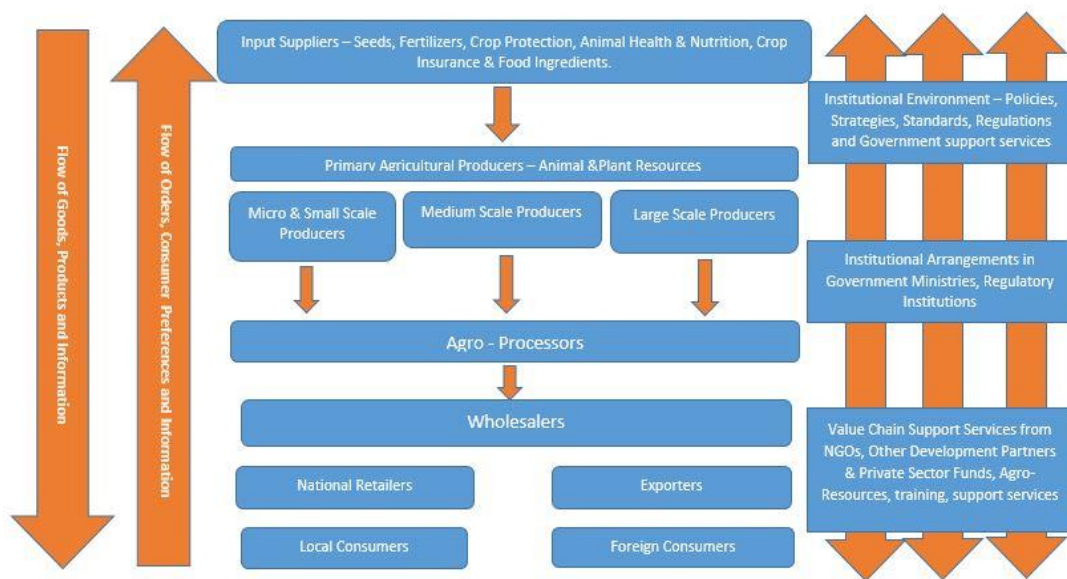
The *National Agro-Processing and Food Production Strategy (2019-2023)* for small entrepreneurs in Belize will seek to expand the entrepreneurial efforts of its citizens and to transform the agro-processing and food production sector. The focus will be on accelerating the diversification of local/export-oriented agriculture and promoting the development of agro-processing and value addition as a means of expanding opportunities and increasing rural incomes. Trade expansion will be promoted both locally and internationally, to increase the efficiency, profitability and competitiveness of the agro-processing and food production sector, while improving and conserving the natural resource base to ensure long-term viability.

This strategy will guide the activities of the CFAPU for the next five (5) years to ensure that it serves as the main hub of knowledge, advice, innovation, capacity building and training in agro-processing in Belize within an economically, environmentally and socially sustainable framework. This *National Agro-Processing and Food Production Strategy (2019-2023)* will assist in meeting the country's food needs, creating employment, and providing foreign exchange earnings. Annex I elaborates on the methodology used for developing the strategy.

**FIGURE 1: AGRO-PROCESSING VALUE CHAIN**

**A typical Agro-processing Value Chain**

The agro-processing value chain is the entire range of activities required to bring a product from the initial input-supply stage, through various phases of production, to its final market destination. Strengthening the food value chain is one of the most important pathways to alleviate poverty. Figure 1 represents a typical agro-processing value chain which comprises upstream and downstream industries. Upstream industries include the primary processing of agricultural commodities such as rice and flour milling whilst the downstream industries include the processing of intermediate products from agricultural materials such as bread making. Backward and forward linkages within the value chain are crucial; backward linkages include activities such as the purchase of agricultural inputs from farmers whereas forward linkages involves activities to transfer the products to the consumer. Sustainable value chain development is essential for the advancement of the agro-processing and food production sector.



**1.2 The CFAPU in Belize**

The CFAPU is a unit of the MAFFSD. The unit started as an Ex-servicemen Rehabilitation Scheme on the 20th of October, 1948. It was later converted to an Experimental Station. Over the years, the station has developed into what it is now, a centralized station comprising five (5) main sections: Administration, Livestock, Crops, Research and Development (R&D), Agro-processing and Agricultural Engineering (Central Farm Agricultural Station, 2018).



The CFAPU started operations as a pilot project in 1999 with the collaboration of the Republic of China (ROC), Taiwan Technical Mission in Belize. The main objective of the CFAPU is to provide training and technical assistance for the creation and expansion of MSMEs. The unit focuses on product R&D for the transformation of local produce into value added agricultural products as well as the transfer of technology for agri-business development to improve income generation and food security (Ago-processing, 2018).

The main activities performed by the CFAPU are:

- Coordinating of training in the areas of Food Safety and Quality, Labelling and Packaging of products.
- Performing basic quality control checks and laboratory tests for clients.
- Collaborating and advising clients on increasing variety and improving the variety and quality of agro-based processed products on the local market.
- Encouraging the participation of a number of MSMEs involved in the processing of agricultural commodities.

The main services provided by the Unit are:

- The production of enriched, flavored, banana porridge for distribution to the school feeding program in targeted schools.
- Preservation and value addition of surplus quantities of specific local agricultural commodities to produce condiments.
- The production of flours from traditional commodities such as cassava and banana used in bakery products (bread, pastries).
- The processing and packaging of dairy products.
- The production and packaging soy milk and soy sauce using improved technologies.
- Capacity development inclusive of university students, women's groups, farmers and other stakeholders on various agro-processing techniques.
- Advising clients on quality and safety standards.

The MAFFSD in its 2017/2018 Strategic Planning exercise identified seven (7) strategic objectives for the CFAPU. A summary of the objectives and deliverables are summarized in Table 1 below.

Target	Objective	Pillars	Components	Deliverables
Commodity				
<b>Vegetables</b>	Minimize food loss and increase farmer household income through value addition	Pillars 1,2,3	<ol style="list-style-type: none"> <li>1. Product research and development</li> <li>2. Ensure the use of good manufacturing practices for product development</li> <li>3. Reduce Cost of Production (COP)</li> <li>4. Provide technical support for the development of small-medium scale processors</li> <li>4. Ensure consumer acceptability</li> </ol>	<ol style="list-style-type: none"> <li>1. Report on the feasibility of 3 new products</li> <li>2. Standard Operating Procedures (SOPs) for new/potential products</li> <li>3. SOPs for existing products</li> <li>4. A training package and technical support on value addition</li> <li>5. A report on detailed COP for new and existing products</li> <li>6. Report on Consumer sensorial analysis for new products</li> </ol>
<b>Coconut</b>	Increase income through value addition	Pillars 1,2,3	<ol style="list-style-type: none"> <li>1. Product research and development</li> <li>2. Ensure the use of good manufacturing practices for product development</li> </ol>	<ol style="list-style-type: none"> <li>1. SOP for coconut oil, water and milk.</li> <li>2. COP for the processing of coconut oil, water and milk.</li> <li>3. A list of small-scale processing equipment to</li> </ol>

			<p>3. Ensure efficiency in the manufacturing process</p> <p>4. Ensure consumer acceptability</p>	<p>increase processing efficiency.</p> <p>3. A training package and technical support on the processing of coconut products using GMP.</p> <p>4. A report on consumer sensorial analysis for coconut milk</p> <p>5. A report on the extended shelf life of product.</p>
<b>Soursop</b>	Increase income through value addition	Pillars 1,2,3	<p>1. Promote value addition of sour sop</p> <p>2. Ensure GMP during value addition process</p> <p>3. Ensure cost effectiveness of soursop value addition</p>	<p>1. A SOP for soursop pulp production</p> <p>2. A training package and technical support on GMP for the production of soursop value added products.</p> <p>3. A report on COP for soursop pulp.</p> <p>4. A report on consumer sensorial analysis for soursop pulp</p>

				5. A report on the extended shelf life of product.
<b>Banana</b>	Minimize wastage of local banana	Pillar 2	<p>1. Promote processed green banana as an alternative base product.</p> <p>2. Promote the use of green bananas as nutritious food alternative</p>	<p>1. Feasibility study on the potential of banana flour as a base product.</p> <p>2. SOP for the production of banana flour and banana meal (gungude)</p> <p>3. COP for banana flour and banana meal (gungude)</p> <p>4. A training package and technical support on the processing of green banana following GMP</p> <p>5. A report on the sensorial analysis of banana based products</p>
<b>Honey</b>	To support development of honey value added products for the local market.	Pillars 1,2	<p>1. Research and development of value added products.</p> <p>2. Build capacity in the production of value added products.</p>	<p>1. A survey of value added products in the market.</p> <p>2. A report with recommendations and requirement for honey value addition</p>

<b>Pineapple</b>	To support the development of pineapple value added products.	Pillars 1,2	1. Research value addition of pineapple	1. A report on the potential for the value addition of pineapple both as fresh fruit and processed.
<b>Entrepreneurial Development</b>	To support emerging and existing agro-processors in product development	Pillar 3	1. Avail an incubator facility for agro-processing ventures. 2. Strengthen the sustainability of the Agro-processing unit.	1. Protocols developed for the use the facility. 2. Business plan developed for the Agro-processing Unit.

**TABLE 1: STRATEGIES IDENTIFIED BY MAFFSD**

The GOB has identified the following market opportunities:

- a) Need for bulk processed products for public institutions
- b) Need for specialty products for the tourism market
- c) Increasing local preference for minimally processed, convenience agriculture based products.

The BMDC and CFAPU have developed a joint marketing logo, *Baking Pot Foods* for the development, diversification and promotion of high quality, local, agriculture based and processed products, thereby reducing postharvest losses and providing new income generation avenues for farmers and agro-processors to improve their livelihood, as well as contribute to the food and nutrition security of Belize.

### 1.3 Strategy Linkage to the Business Plan and Investment Proposal

This strategy will focus on a comprehensive set of pillars needed to transform the rural based agro-processing MSME sector of Belize into a sustainable and prosperous one with export oriented potential that will contribute to job creation, poverty alleviation and improved food security and overall economic growth. A business plan and investment proposal for the operation of the CFAPU is being separately developed to support the implementation of the three (3) pillars.

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## CHAPTER 2: THE CONTEXT

### 2.1 The External Environment

#### 2.1.1 Geographic Location

Belize is situated on the eastern coastline of Central America, adjacent to the Caribbean Sea. It is bordered on the north by Mexico, on the west and south by Guatemala, and on the east by the Caribbean Sea. It is separated by sea from its neighbour to the southwest, Honduras. The total land area of Belize is 22,960 km<sup>2</sup> (8,867 m<sup>2</sup>) of which 95% is registered mainland and the remaining 5% distributed amongst more than 1,060 islands coastal cayes. Belize's coast extends for 280 km (168 m) and is host to the Belize Barrier Reef Complex - the second largest in the world and the largest in the northern hemisphere. Belize is divided into six (6) districts: Belize City, Cayo, Corozal, Orange Walk, Stann Creek and Toledo.

#### 2.1.2 Political

Belize is a practicing democracy, which attained independence from the United Kingdom in 1981. Its constitution and political system is that of a parliamentary democracy. The National Assembly is a two-tiered legislature with an elected House of Representatives and an appointed Senate. Ministers of Government are appointed from among the members of the House and the Senate. The Cabinet, which consists of the Prime Minister and the Ministers, directs the policy of the Government and is collectively responsible to the National Assembly. Belize traditionally enjoys one of the most stable political environments in the region.

#### 2.1.3 Economic

Since May 1976, Belize has maintained a fixed exchange rate of BZ\$2.00 to US\$1.00. The fixed exchange rate is a cornerstone of macroeconomic stability, anchors inflation expectations and affords a stable environment for investment initiatives. The country's GDP for 2017 was \$1.838 billion dollars, with a GDP per capita of \$4,905.5 million BZ dollars. Belize's economy experienced a mild recovery in 2017 with real GDP growing at an estimated 1.2% and contributing to the decline in unemployment to 9.3% in 2017 (from 9.5% in 2016). Increased tourism supported by improved airlift services resulted in service sector expansion, notably in retail trade and

transport. In the medium term, economic expansion is projected to accelerate to around 2% per year (The World Bank in the Caribbean, 2018). The most recent data published by the SIB shows the total level of economic activity increased by 3.3% in comparison to the same three (3) months of 2017. The primary and tertiary sectors experienced growth rates of 6.3% and 3.7% respectively. The secondary sector, on the other hand, contracted by 2.6% during the quarter (GDP 4th Quarter, 2018).

According to a recent IMF report (IMF Communications Department, 2018), Belize's economic recovery is strengthening, supported by a favorable global environment. Real GDP is estimated to have increased by 1.4% in 2017, and recent data indicate an acceleration in economic activity. This acceleration reflects growth in the tourism and agricultural sectors, on the back of economic expansion in Belize's trade partners, expanded capacity, and foreign direct investment. Unemployment decreased to 9.4% in April 2018 from 9.7% six (6) months earlier, the current account deficit narrowed to 7.6% of GDP in 2017 from 8.4% of GDP in 2016, and the financial sector is strengthening. The government delivered a significant fiscal adjustment in Financial Year (FY) 17/18, with a primary fiscal balance surplus of 1.3% of GDP.

For the month of November 2018, the SIB reported that the All-Items Consumer Price Index (CPI) stood at 105.13, an almost imperceptible decrease of 0.02% from 105.15 in November 2017. On average, Belizean households experienced a 0.02% decrease in the cost of regularly purchased goods and services, as higher prices for home rentals, doctor consultations, and Liquefied Petroleum Gas (LPG) were balanced out by lower transport costs when compared to November 2017. For the first eleven (11) months of the year 2018, the cumulative inflation rate stood at 0.3% (Consumer Price Index November, 2018). The inflation rate in Belize averaged 1.8% from 1992 until 2018, reaching an all-time high of 6.4% in 2008 and a record low of -1.1% in March of 2009. Figure 2 shows the inflation rate of Belize for the period 2008-2017.



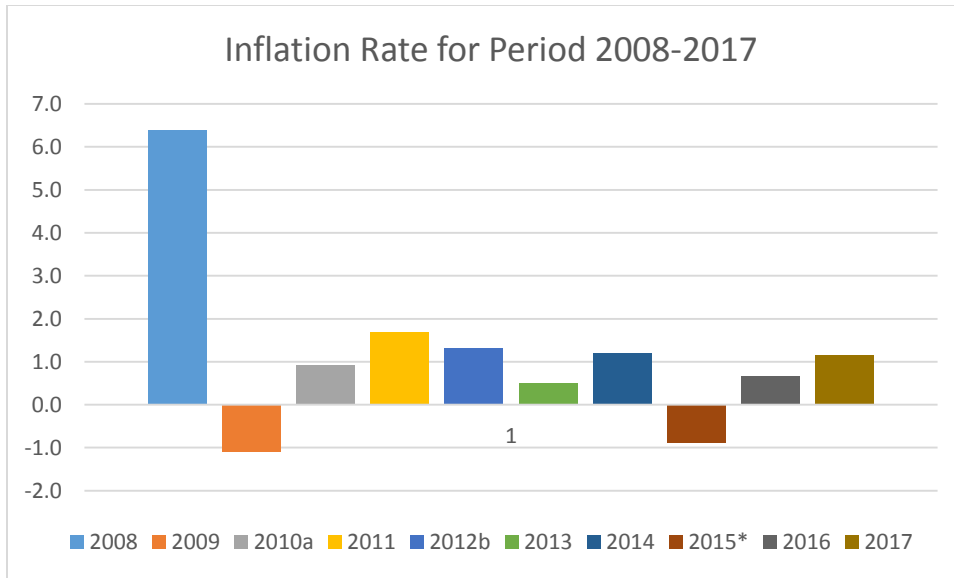
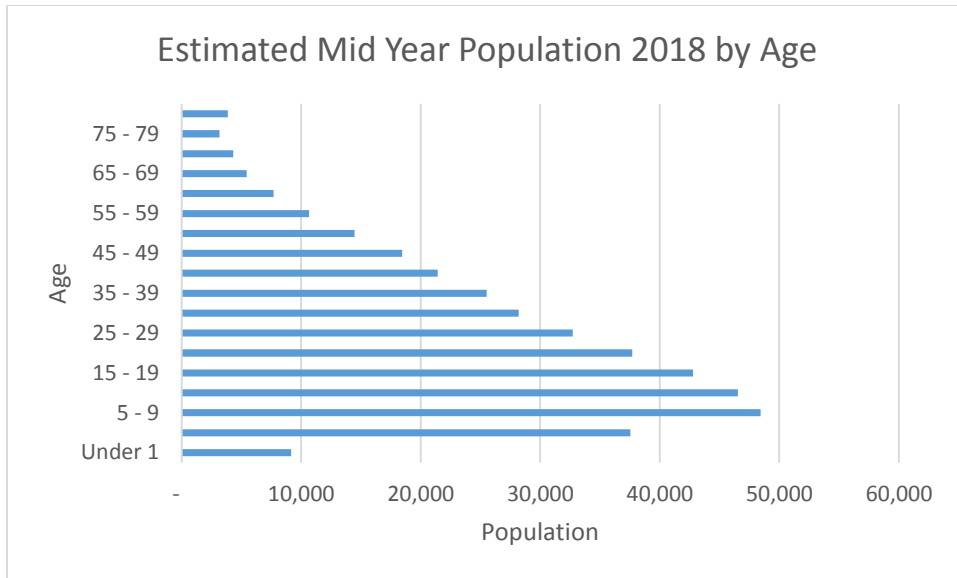


FIGURE 2: INFLATION RATE FOR THE PERIOD 2008-2017; DATA SOURCE - SIB

#### 2.1.4 Social

According to the SIB, the country’s estimated mid-year population for 2018 was 398,050. Figure 3 represents the estimated mid-year population for 2018 by age. Based on the statistics, the labour force summed to 172,086 and approximately 36% of the population (141,581) is under the age of 15. As such, the youth-dependency ratio i.e. the number of young persons that are likely to be dependent on the support of others for their daily needs to the number of those who are capable of providing such support is high. Preliminary findings from the SIB’s April 2018 Labour Force Survey, showed that the country’s unemployment rate increased slightly to 9.4% from 9% in April 2017, despite a net increase of over 5,800 jobs in April 2018. The SIB attributes this marginal growth in the overall unemployment rate to a sharp rise in the level of unemployment in the Cayo and Toledo districts, where the data indicates that persons were joining the labour force at a faster pace, than that at which jobs were being created.



**FIGURE 3: ESTIMATED MID-YEAR POPULATION BY AGE (2018); DATA SOURCE - SIB**

The distribution of the school-aged population in accordance with education levels is summarized in Table 2. Approximately 10% of the population is currently at the post-secondary level.

<b>Pre-primary (3-4 years)</b>	15,532
<b>Primary (5-10 years)</b>	45,472
<b>Secondary (11-16 years)</b>	47,224
<b>Tertiary (17-21 years)</b>	38,181

**TABLE 2: SCHOOL-AGE POPULATION BY EDUCATION LEVEL; DATA SOURCE - SIB**

Due to the high unemployment rate, approximately 16% of the population has immigrated. The country also has a 15% rate of immigrants from countries such as Guatemala, El Salvador and Honduras. The largest ethnic group in the country is now Mestizos. These immigrants have been mainly residing in rural areas. Immigration accounts for an increasing share of Belize's population growth rate.

### 2.1.5 Global Engagements

Belize is a member state of all major international organizations and has legally binding commitments under the various treaties and agreements. Belize's trade policy is guided by the multilateral principles of the World Trade Organization (WTO). It became a contracting party in 1985 and a full member of the WTO when it was formed in 1994. Belize is a member of the following WTO groups: the African, Caribbean and Pacific (ACP) group, G-90 [(ACP, African Group and Least Developed Countries (LDCs)], G-33 (agriculture), the "W52" sponsors (geographical indications), and the small and vulnerable economies (SVEs) group (Belize Country Commercial Guide, 2019). The country has Bilateral Investment Treaties with Austria, Cuba, El Salvador, Italy, the Netherlands, the ROC - Taiwan and the United Kingdom. Belize engages in unilateral trade agreements with:

- **United States' Caribbean Basin Initiative (CBI)**, which aims to facilitate the economic development and export diversification of the Caribbean Basin economy. The CBI was launched in 1983 through the Caribbean Basin Economic Recovery Act (CBERA), the initiative was expanded in 2000 through the US-Caribbean Basin Trade Partnership Act (CBTPA), and it was again strengthened through the US's Trade Act of 2002. The CBI allows beneficiary with duty-free, quota free access to the United States' market for most goods.
- **Canada's Caribbean-Canada Trade Agreement (CARIBCAN)** trade agreement between Canada and the commonwealth Caribbean countries was established in 1986. The aim of the agreement is to promote trade, investment and facilitate industrial cooperation via preferential market access from the Caribbean to the Canadian market. Negotiation is currently underway to expand the scope of the agreement.
- **Generalized System of Preferences (GSP)** - Belize enjoys preferential market access to nine (9) countries under the GSP. The GSP is a preferential tariff system which provides for a formal system of exemption from the more general rules of the WTO, usually extended unilaterally from a developed country to a single or group of developing countries; especially the LDC including Australia, Canada, Japan, New Zealand, Norway, Russia, Switzerland, Turkey and USA.

### 2.1.6 Regional Environment

The bilateral and multilateral trade agreements that Belize is party to, are significant to achieving growth in demand for food exports. Belize is a founding member of the Caribbean Community (CARICOM) and its tariff schedule is based on CARICOM's Common External Tariff (CET). CARICOM has negotiated five (5) bilateral trade agreements with other countries in the Western Hemisphere specifically in Latin America. They are classified as bilateral because they are undertaken as a single entity or party – as the Caribbean Community (CARICOM). The agreements fall into two (2) sub-categories: partial scope agreements (PSAs) and Free Trade Agreements (FTAs). The following is the list of bilateral trade agreements of CARICOM:

- CARICOM – Dominican Republic Free Trade Agreement
- CARICOM – Costa Rica Free Trade Agreement
- CARICOM – Colombia Agreement on Trade and Technical Cooperation
- CARICOM – Cuba Trade and Economic Cooperation Agreement
- CARICOM – Venezuela Agreement on Trade, Economic and Technical Cooperation.

Belize is a party to the Economic Partnership Agreement (EPA) between the European Union and CARIFORUM. The EPA is a trade and development partnership agreement within the framework of the Cotonou Agreement, between 15 CARIFORUM Countries and the 28 European Union (EU) Member States. The EPA establishes a comprehensive trade agreement not limited to trade in goods to promote sustainable development, improving CARIFORUM access to the EU market while granting EU imports improved access to CARIFORUM's market.

Belize also engages at a political level in the Central American Integration System (SICA). Negotiations on a Partial Scope Agreement (PSA) with El Salvador were launched in 2013 but have since stalled. Belize is also exploring the possibility of establishing a PSA agreement with Mexico. These trade agreements are beneficial to Belize in easing trade between two regions or countries and have assisted in reducing barriers to trade, and encourage the unrestricted flow of goods and services between countries. A major challenge facing smaller economies like Belize which participates in foreign trade is the competition from larger economies such as Brazil, Russia, India and China (BRIC) that enjoys special and differential treatment. In order to remain

competitive in the international arena, domestic producers must ensure that their products meet the quality and safety requirements of international markets, have access to better and affordable financing options and a reduced cost of doing business.

## 2.2 The Internal Environment

The agriculture sector plays a significant role in the economy of Belize with fresh food and live animal exports accounting for more than 80% of total exports (Figure 4). The main traditional commodities produced in Belize are sugar, bananas, citrus, and marine products (mainly lobster). The major domestic exports include sugar, banana, grapefruit and orange concentrate and marine products (Figure 5). Other minor exports include corn, rice, beans, papayas, marine products and cattle. The country is becoming self-reliant in the production of corn, beans, chicken, eggs, beef and pork and has a high level of self-sufficiency in rice, potatoes, onions and vegetables.

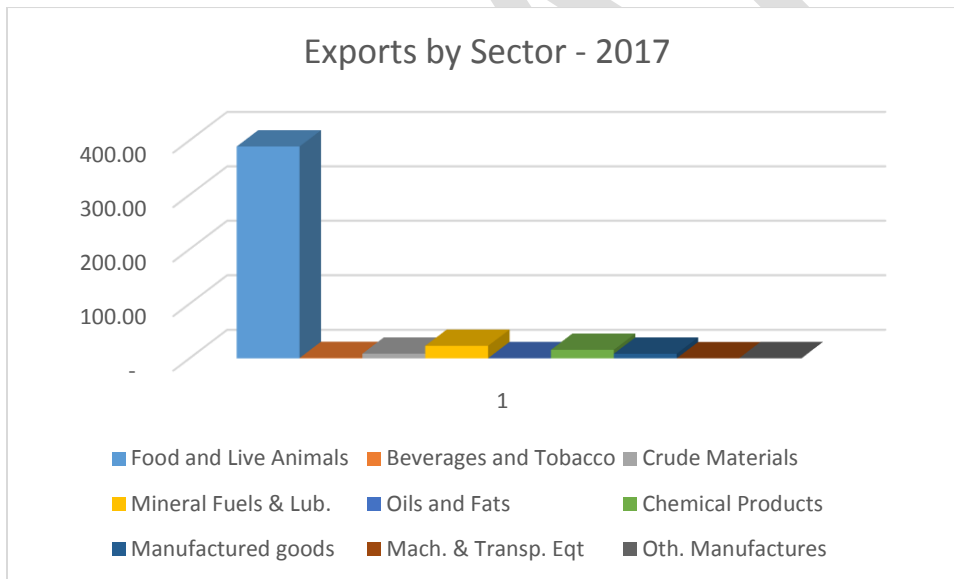
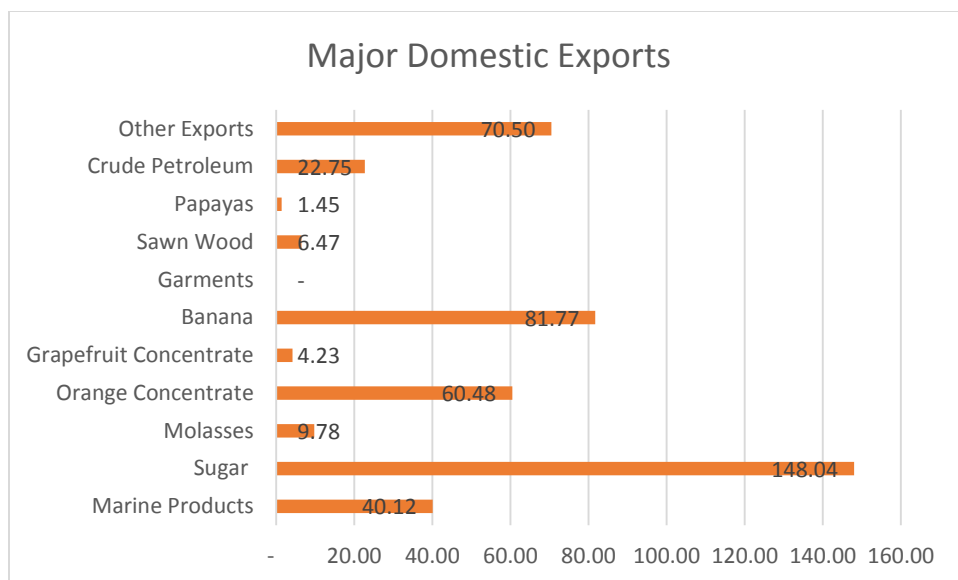


FIGURE 4: EXPORTS BY SECTOR 2017-DATA; DATA SOURCE: SIB



**FIGURE 5: MAJOR DOMESTIC IMPORTS 2017 – DATA SOURCE – SIB**

Each of the six (6) districts in Belize engages in the production of various commodities to support the agriculture sector (Table 3).

DISTRICT	COMMODITIES
Corozal	Black Beans, Red Kidney Beans, Yellow Corn, White Corn, Sorghum, Sugar Cane, Papaya, Peanuts, Plantain, Honey
Orange Walk	Red Kidney Beans, Black Eye Peas, Yellow Corn, Rice, Sorghum, Soy Beans, Sugar Cane, Hot Pepper, Papaya, Peanuts, Plantain, Cattle, Milk, Honey, Cotton
Belize	Coconuts, Cashews
Cayo	Red Kidney Beans, Black Eye Peas, Yellow Corn, White Corn, Rice, Sorghum, Soy Beans, Peanuts, Plantain, Coconuts, Cattle, Milk, Honey, Tilapia, Bio-Diesel
Stann Creek	Black Beans, Hot Pepper, Orange, Grape Fruit, Banana, Coconuts, Shrimp
Toledo	Black Beans, White Corn, Rice, Hot Pepper, Cacao, Cattle
Offshore / Water Areas	Cobia, Lobster, Conch, Fin Fish, Crabs, Sea Cucumber

**TABLE 3: COMMODITIES PRODUCED IN EACH DISTRICT OF BELIZE (SOURCE - BELTRADE)**

The country's growth and expansion depends on the agriculture sector and must include an increase in the production and export of traditional and non-traditional commodities. It is therefore vital that the country's agro-industry is well positioned to exploit an increasingly sophisticated and consumer-oriented market locally as well as to capitalize on the growing demand for food in external markets.

The agro-processing and food production sector of Belize is seen as one of the major economic growth pillars through its contribution to GDP. This industry is of huge significance to Belize's development because of the vital linkages and synergies it promotes within the value chain. The agro-processing and food production sector however is in its developmental phase and is one of the high priority areas as identified by the GOB, with a number of fiscal relief and incentives, to encourage commercialization and value addition.

Opportunities exist in the local market for fresh and processed commodities. The school feeding programme is a major market in which MSMEs can tap into with their commodities. The GOB has recently expanded the school feeding programme to all districts in Belize with the aim of providing healthy and nutritious foods to school-aged children. The supermarket sector is another feasible niche market for such commodities whereby the GOB can reduce its food import bill. By having greater linkages with the tourism sector, agro-processors can capture this market for their commodities. According to the SIB 4th quarter GDP report, the hotel and restaurant sector expanded by 7.4% and got a boost from the 9.6% increase in tourist arrivals due to the addition of more direct flights to Belize. This sector represents an export market, by marketing locally produced fruits/vegetables for local consumption and processed food products as souvenir products.

### 2.3 Government Policy

Among the objectives of Belize's *National Agriculture and Food Policy (2015 – 2030)* are improving the competitiveness of agricultural products from Belize, with particular emphasis to raising the level of productivity of small holders, supporting market driven production, promoting

domestic and regional trade opportunities, increasing resilience of the sector to both natural and economic shocks and building accountability through better governance of the sector (Belize Country Programming Framework 2016 – 2019, 2015). The GOB also currently offers a number of incentives targeted to larger scale organized businesses: Fiscal Incentives Program, Export Processing Zone Program, Commercial Free Zone Program, Designated Processing Area and Qualified Retired Persons Program which are made accessible to larger enterprises involved in primary production. Currently there are no support programmes for MSME agro-processors.

In Belize, several government agencies are responsible for the food laws. The MAFFSD is legally responsible for food safety and quarantine. The Ministry of Economic Development, Commerce, Industry and Consumer Protection has the responsibility in terms of local production and import quotas and the Belize Bureau of Standards (BBS) is responsible for all food standards and labelling laws. It was only in April of 2000, under accordance with Section 86 of the Belize Agricultural Health Act No. 47 of 1999, BAHA was created. BAHA was created with the intention to incorporate and modernize the plant and animal health and quarantine services of Belize. Exporters must deal directly with BAHA when shipping U.S. food and agricultural products. BAHA deals with all the sanitary and phytosanitary (SPS) issues. They are also responsible for approving the import procedure, and when needed, it will process import applications with other agencies for approvals.

Under Belize laws, there are requirements for labelling, food additives, pesticides and other contaminants. Food additives fall under the responsibility of the BBS. The BBS follows the Codex Alimentarius standards as a reference. The United States Food and Drug Administration (USFDA) additives standards are also approved. The Pesticide Control Board (PCB), an agency with the MAFFSD, regulates pesticides. Belize uses internationally accepted standards, and pesticides, which enter the country and must be registered at the PCB located in Central Farm, Cayo District, Belize. When importing, an import license must be obtained from the Ministry of Economic Development, Commerce, Industry and Consumer Protection for certain products that are



considered by the government to compete with local production. The license is issued when there is a shortfall between local production and demand.

In the last three (3) years, entrepreneurial development in Belize has increased, in which there is an optimistic atmosphere in the entrepreneurial support institutions, giving priority to the public and private agenda under the leadership of BELTRAIDE. BELTRAIDE has a great interest in strengthening the National Entrepreneurship Ecosystem, generating an entrepreneurship culture and encouraging the creation of entrepreneurship centers in the country, among others. To coordinate these activities, the National Entrepreneurship Committee, where the policy is being designed, and in Congress, the draft law is currently under the legislative procedure. Belize does not have a legal or regulatory framework that supports and encourages the process to establish new businesses. Currently there are no legal incentives framed in any regulation that promotes technical assistance or financing of MSMEs. Based on the analyses, the most suitable decision for Belize in areas of entrepreneurship is to create a climate to promote a culture of entrepreneurship in the country and mandatory entrepreneurship should be implemented as a subject in educational system at all levels, it should also reduce the external debt, attract investment because as long as debt is high, people will not want to start new businesses because high costs and taxes to be assumed. The National Entrepreneurship Strategy for Belize prepared by BELTRAIDE identified five (5) main factors to develop a country strategy:

1. Define clear regulations on the subject of entrepreneurship, designing ethical policy support to boost the promotion and financing of entrepreneurship during each of the stages of the country's growing ecosystem.
2. Additionally, it is important to generate participation and commitment from public and private institutions, and in support of entrepreneurship, creating an open, agile, effective and clear ecosystem, and prospective approach.
3. The third element focuses on Education and Culture generated around entrepreneurship, through strategic training and associated with the academia possibly a model called "educating entrepreneurs."

4. Knowledge management is an essential element, through the creation of networks to promote and transfer knowledge and helping to make it better, with the participation of all stakeholders, focusing the effort towards a transparent working policy and institutional support.

It is expected that the national entrepreneurship strategy will raise the response capability and the institutional strengthening in the entrepreneurship ecosystem for the support industry, financial instruments, institutional articulation, mentality and culture and education system.

#### 2.4 Potential for agro-processing in Belize

In Belize, the agro-processing and food production sector currently focuses on fruits and vegetables, dairy, and bakery products. Based on the country's current production of meat, poultry, honey, marine products and fruits and vegetables products and feedback given at the stakeholder consultation workshop, Belize can focus on processing of these products to generate revenue. Agro-processing and food production sector offers high potential for growth and socio economic impact. It leads to income generation, reduction of wastage, value addition and foreign exchange earnings and enhancing manufacturing competitiveness. With proper investment in food processing, technical innovation and infrastructure for agro-processing, Belize can begin to reap its benefits. A strong and dynamic agro-processing and food production sector can play a significant role in diversification of agricultural activities in Belize by improving value addition opportunities and creating export opportunities for agro-food products. This sector is the most appropriate sector for creating jobs and income generation in rural areas. The multiplier effect of investment in the food processing industry on employment generation, is also higher than any other sector. Rapid and sustained poverty reduction requires economic growth, which is inclusive, and the one that allows people to contribute to and benefit from it.

Agro-processing and food production sector plays a role in enhancing food and nutrition security in Belize. It helps to reduce the wastage of fresh produce while enhancing the year-round availability of foods that are seasonally available. The various food processing techniques employed can contribute to enhancing the nutritional quality of locally produced food.

The climatic conditions of Belize support a diverse raw material base suitable for food processing businesses. However, a very small percentage of raw materials produced are processed into value added products and as such, leaves opportunity for expansion of the value added sector. Many potential market opportunities exist for agro-processing and value-added products as evident by:

1. **Growth in tourism.** In 2018, tourism arrivals in Belize showed steady growth with an increase in overnight and cruise ship visitors. The tourism sector represents a market for fresh and processed food products for local consumption as well as for souvenirs. The hotel and restaurant sector will continue to demand these products. As such, this is an opportune time farmers and agro-processors to increase production.
2. **Latin America and the Caribbean (LAC) Market.** According to the World Bank, in 2017 LAC reported total imports valued at US 898,563,908. There are thirty-three (33) countries in the LAC, which are potential emerging markets for market access. The GOB should place special focus on these countries as a potential for export of its processed products.
3. **Demand for processed/convenience food is constantly increasing.** Increase in population size, the increase in tourism and the change in demographics of the population have contributed to an increase in demand for processed and convenience foods.
4. **Low labour cost.** The relatively low cost of labour in Belize can contribute to reducing the cost of production for both domestic and export markets.
5. **Incentives.** The current incentives provided by the GOB such as the fiscal incentive programme, export processing zone programme and the commercial free zone programme for the agro-processing and food production sector provide a good enabling environment for investments and exports in the sector.
6. **Value-added meat, poultry and marine products.** The country has a comparably high production output of meat, poultry and marine which are consumed primarily in the fresh state thus value addition can be explored. The total marine production was estimated at 950 tonnes in 2016 (FAO Fisheries and Aquaculture Department, 2017).

7. **Strategic location.** Belize is situated within close market proximity to North American, Central American, South American, and the Caribbean markets. The geographic proximity to these markets allows for greater market access, transfer of technology and export.
8. **Land Availability.** In Belize over 1,998,230 acres (38%) of the total land area are considered agriculturally suitable. There is potential for the intensification and expansion of agriculture and food production.
9. **Diversification.** There is potential for Belize to develop an organic agriculture industry. The country is well-positioned for organic and eco-labeled production: branded with an aura of quality and distinctiveness pursued by consumers in the new era. The country needs to take advantage of this market opportunity catering for international markets, the tourism sector and local markets.
10. **Stable foreign exchange rate:** Belize's exchange rate is fixed (pegged) to the US dollar since 1978.
11. **Trade Agreements.** Belize has favourable trading agreements with the European Union (EU), CARIFORUM, the Americas, Central America and CARICOM. These agreements have opened up new market opportunities and market access for food products.

### CHAPTER 3: THE PROBLEM STATEMENT

Approximately 40% of the total population of 398,050 in Belize (The Borgen Project - Latest News, 2018), is characterized as being poor. This comparably high level of poverty, coupled with the high level of unemployment have been a major obstacle in addressing the national development goals of Belize. The poverty situation has worsened following the recent, but prolonged global economic and financial crisis and the consequential adjustments, which have affected agricultural exports. In addition, income inequality in Belize is amongst the highest in the Caribbean. This is also expressed as inequality in consumption, where the increase in poverty has magnified the challenge of enhancing food and nutrition security. The high level of poverty has also resulted in limited purchasing power, and the consequential stagnation in local domestic demand for agriculture and food products. The high level of poverty, therefore, continues to be a significant constraint to the expansion of the local market. The implication is that the external market will have to be the main driver of demand growth. The issue of Belize's ability to compete in those markets then becomes one of strategic importance.

Whilst Belize has a suitable climate for agriculture as well as an abundance of water resources, its agricultural sector is underperforming. Approximately a quarter of potential farmland is in use in Belize, i.e. 78,000 hectares of 800,000 hectares of total farmland. The low rate of utilization of arable land is due mainly to the high input cost required to develop the land, provide potable water and electricity, construct irrigation facilities, and in some instances clear the land, without interfering with protected areas. The lack of secure markets and profitable new farming options contribute greatly to the apparent underutilization of the land resource. Analysts have attributed the constraints on the agricultural sector's expansion to limited and inadequate infrastructure (transportation, electricity, irrigation, networks) that reduces expected returns on private sector agricultural investments.

Other constraints to investing in the agricultural sector include government policies and the weakness of support agencies, e.g. sanitary and phyto-sanitary inspection services. According to (Martin & Manzano, 2010) Belize's current system for gathering statistical information is weak

and could be improved by using scientific sampling methods. It is therefore difficult to assess the quality of estimates on crop production, area planted, input use, farm and farm worker income, and other indicators necessary to assess productivity and household welfare. According to the 2002 Farmers' Registry, Belize has fewer than 10,000 farms, a quarter of which had less than 5 acres and 57% of which had fewer than 20 acres (Analysis of Agricultural Policies in Belize). The registry also showed that there were fewer than 500 farms with more than 100 acres. Larger-scale agriculture tends to be technically and commercially sophisticated and oriented toward both domestic and export markets to take advantage of economies of scale.

The building of an agro-processing sector from local agriculture can pose a challenge if the macro-level problems that confront the agro-processing sector in Belize are not addressed.

### 3.1 Macro level Issues

#### 1. Employment

The labour force in Belize is largely unskilled with approximately 52% of employed persons engaged in sales or other elementary work occupations. The education system is poorly equipped in preparing labour force entrants to become entrepreneurs and adapt to a technology-driven global environment. Employers in the agriculture sector tend to use temporary workers even for jobs that are not temporary in nature. These jobs may be opened to workers from Central American countries and may be attributed to a shortage of local labour force in the rural areas where these jobs are concentrated. In general, there are no restrictions on employers adjusting their labour force in response to fluctuating market conditions.

#### 2. Access to Credit

The majority of credit from the commercial banks and the Government's main development bank is used for the stable and less risky activities within the agriculture sector (main traditional exports), where repayment periods are short and there is no transparency of the borrower's activities. This has thus made it difficult for MSME farmers to access credit. Current lending practices discriminate against subsistence farmers, new farmers, women/youth and those without land ownership rights.

Another constraint is the access to export credit. MSMEs are unable to access credit for expanding production. Since they require immediate cash flow, the intermediaries/exporters are compelled either to sell on credit to a local distributor or to export markets. The lack of export credit facilities needs to be addressed through development of appropriate policies and frameworks.

### **3. Organization within the agri-food sector**

The food import bill for Belize was an estimated BZ \$120 million Belize dollar (BZ) in 2011, while agriculture imports were valued at BZ \$38.5 million (BZ). The total agriculture and food imports amounted to \$159.2 million (BZ). This is relatively small when compared to other CARICOM countries like Bahamas, Barbados, Guyana, Haiti, Jamaica and Trinidad which contribute to approximately US\$ 4.5 billion importation bill (CARICOM Food Import Bill, Food Security and Nutrition, 2013). There is potential for Belize to reduce its food import bill through import substitution with locally produced animal feed, fruits and vegetables and some processed agriculture products. Better linkages are required between the small farmers and agro-processors so as to ensure consistency of raw material supplies for the production of quality value added products. The introduction of contract farming is one option that might be explored toward the development of a guaranteed market.

Currently there is lack of organization amongst producers' associations, cooperatives and other organized farmer groups which does not allow for the production and marketing of their products to be economically viable. Greater harmonization will ensure efficient use of capital investments such as machinery and infrastructure for storage, irrigation, drainage, land preparation, processing, marketing and harvesting. Consumers must be encouraged to purchase locally produced products. Currently, local products are perceived to be inferior in terms of safety and quality, when compared to imports.

#### **4. Infrastructure**

A lack of efficient and sufficient infrastructure leads to high production cost and limits the growth of agriculture and agro industrial production. This often results in low quality crops that are not competitive. The high cost of fuel, utility and telecommunications also create constraints. Further, the rural areas have limited feeder roads which constrains access to production areas during the rainy season.

#### **5. Incentives and agro-processing support**

One of the major constraints to agro-processing and the production of value added products in Belize is access to, and the high cost of imported packaging. This is due to the lack of economies of scale in importing small quantities of packaging and the lack of supplier knowledge equipment/ machinery for their respective product lines. Small processors are not eligible for development concession (tax concession) and/or export processing zone designation since; initially they just cater to the local market. Therefore, MSMEs are at a disadvantage compared to large producers as they also have to compete with imported products. These issues explain why Belize continues to be a large producer/exporter of primary products and importer of processed agriculture products.

### **3.2 Sub – Sector Issues**

#### **1. Marketing**

The marketing of fruits and vegetables in Belize lacks organization. Further, a stable, quality year round supply of fresh fruits and vegetables is not readily available owing to the seasonality of production, lack of irrigation, production and postharvest technologies, poor bulk packaging, limited capacity for processing and value addition, inadequate market standards and grades, lack of adequate marketing agencies, lack of or inadequate storage facilities and deficiencies in the transportation system.



## **2. Small holders and Family Farmers**

Small farmers also known as Milipa producers, who practice shifting cultivation and permanent cultivation account for 50 – 60%, of rice and corn production. They are mainly engaged in production for the domestic market and for their own consumption. A majority also produce sugar cane and citrus. Approximately 92% of all small citrus farmers account for less than 20% of total production while about 98% of all sugar cane small farmers produce the bulk crop. Most farmers in Belize are described as poor due to limited access to inputs/credit and to a lack of good distribution networks, including limited access to support facilities for processing, testing and transportation (Belize Country Programming Framework 2016 – 2019, 2015).

The majority of the farmers in the South (Toledo District) still practice milipa 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 and 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 (National Food and Agriculture Policy , 2002-2020).

## **3. Research and Development**

Relatively little R&D activities are carried out on the crops produced by small farmers. R&D is urgently needed for 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. The farmers' extension staff require knowledge and training.

## **4. Technology**

Most farmers continue to use outdated production practices or equipment. Training and demonstration are required on improved farming practices with emphases on current Good Agricultural Practices (GAPs) inclusive of postharvest practices. Technology needs to be incorporated on the farm so that farmers can enhance productivity to become more competitive.

## **5. Packaging**

Inadequate or lack of bulk packaging as well as the failure to meet market standards for quality and safety, limit opportunities for small holders marketing fresh produce. The lack of retail packaging and proper labeling also poses a challenge for MSMEs. Education and access to sustainable packaging options for local and for export markets are a key requirement.

## **6. Land**

Land security poses a major constraint to small farmers, as most of them do not have adequate land title of which they occupy. Due to the limited resources of the government's land administration, they are unable to address this problem in an expeditious and affordable manner. This has resulted in the present land titling system being overburdened with numerous conflicting and overlapping claims and farmers not being able to access capital for investment due to lack of collateral. In spite of the small population base, land for agricultural development is limited. For example, 44% of land consists mainly of steep slopes of the Maya mountains and lime karst which are best suited for forest. Another 20% of land has very poor drainage, is shallow and therefore subject to drought, and is thus best suited for forest management and production.

## CHAPTER 4: STRATEGIC PILLARS AND INTERVENTIONS

The *National Agro-Processing and Food Production Strategy (2019-2023)* for small entrepreneurs in Belize with the CFAPU as a fundamental support framework will seek to provide the following benefits:

- Enhance the enabling environment in Belize to support micro and small agri-business development, through:
  - Improving the infrastructure for agro-processing.
  - Promoting investments in the agro-processing and food production sector to help reduce postharvest losses and assist in value creation.
- Create backward and forward linkages along the agribusiness value chains.
- Increase prioritization of entrepreneurship and advancement as a means of achieving economic growth and development.
- Create jobs in rural areas and the development of the rural economies through investment and development.
- Contribute to rural transformation.

The strategy accordingly articulates modalities for governmental support and development of the agro-processing and food production sector with a focus on MSMEs, through the creation of an enabling environment that is both conducive and supportive to growth and development of the raw material base. It identifies options and pathways for expanding entrepreneurial options for rural MSMEs in order to contribute to job creation, poverty alleviation and to enhancing food and nutrition security in rural areas.

### **Strategic Vision**

The Government of Belize seeks to transform the rural based agro-processing MSME sector into a sustainable and prosperous sector with export oriented potential that will contribute to job creation, poverty alleviation and improved food and nutrition security as well as overall economic growth.

## **Strategic Pillars:**

The Strategy is built upon three pillars:

- Pillar 1 – Creating an enabling environment to support agro-industry development
- Pillar 2 – Transformation of the agro-processing and food production sector
- Pillar 3 – Agro-industry entrepreneurial development

### **Pillar 1 – Creating an enabling environment to support agro-industry development**

An enabling policy and business environment refers to the policies, institutions and support services that creates a suitable business climate for business start-up, development and survival.

The GOB plays an important role in creating the “enabling environment” for economic progress.

Elements of this pillar include:

#### Capacity Building

##### **I. Facilitate access for MSME agro-processors to business development services**

Business Development Services includes accounting, finance, marketing, economics, law, entrepreneurship, ICT and other technical expertise. Building capacities in business development will be critical to the success of agro-processing in MSMEs. In this regard, it will be necessary to mobilise existing capacities at the MAFFSD, SBDC- BELTRAIDE and the UB to contribute to building capacities of farmers (especially young farmers and women), MSMES, the CFAPU and extension staff. In addition to the formal academic training, experiential knowledge is of importance. Experiential knowledge is obtained from actual experience via mentoring or informal consultation with other MSME agro-processors. This strategy will ensure that a broad range of training programmes will be developed and made available via the CFAPU to agro-processors and their employees.

##### **II. Support for R&D**

Agriculture and agro-processing research is critical to increasing productivity and assists with food security. The triple helix model of academia, the public sector and private institutions play

a critical role in R&D. As part of this strategy, the MAFFSD via the CFAPU should enhance collaboration with the UB and private institutions to foster and implement R&D initiatives that benefit development of the MSME sector in terms of product innovation, process development, efficient technologies, improved packaging and value addition. R&D with respect to food additives, food colouring agents, preservatives, pesticide residues, chemical contaminants, microbiological contaminants and naturally occurring toxic substances is of high importance. The MAFFSD should seek assistance from its partners to fund its R&D activities.

Strengthening R&D and innovation capabilities of the CFAPU will assist with monitoring and creating new global trends. Product formulation can be enhanced towards food safety and the nutritional quality of foods. The development of innovative products will be encouraged in order to create market competition on a local and regional scale. In order to improve the R&D and innovation capabilities of CFAPU, the following should be implemented:

- Expand the knowledge and training of the CFAPU employees in the areas of product development, formulations, laboratory testing, quality and food safety standards and GMPs.
- Strengthen expertise in agri-business, agro-processing and food science/technology.
- Develop pilot facilities in critical areas needed and upgrade laboratory physical capabilities to support outputs of pilot plants.
- Undertake product development using local raw material and promote and popularize these products.
- Advise agro-processors on improvements and innovations to their existing raw and packaging materials, processes and products for commercialization purposes.
- Encourage innovation amongst agro processors through government incentives and benchmarking of best practices.

### **III. Development of Laboratory Services for Quality Food Testing at the CFAPU**

Quality and food safety is dependent upon monitoring, testing and assurance. Currently the CFAPU conducts limited microbiological and physicochemical testing on food products. The unit, lacks the capacity and capability to conduct chemical (proximate and nutritional) as well as key

microbiological analysis of food products. The CFAPU is unable to perform critical laboratory tests on food products to ensure their compliance with standards and requirements for the regional and global export markets. Whilst other laboratories are available in Belize such as the Central Investigation Laboratory (CIL) under the Food Safety Services of the BAHA, these laboratories are new and several tests are subcontracted from other countries and/or the United States. Due to the high cost of conducting laboratory tests abroad, this can be a major deterrent to agro-processors and entrepreneurs in ensuring quality and safety of their food products.

Some ways in which the CFAPU can develop and improve their laboratory services are to:

- Create a database of the various types of foodborne illnesses and foodborne pathogens associated with the local commodities of Belize.
- Assess the technical capacity of the laboratories and the equipment status.
- Develop SOPs and update Test Methods.
- Train staff to conduct the various food and packaging tests (physical, chemical, microbiological and sensory).
- Recruit new staff with expertise in laboratory testing, management and accreditation.
- Provide incentives to agro-processors who are HACCP or GMP Compliant.
- Work with the other laboratories in the country (UB and BAHA) to sub-contract laboratory testing services which CFAPU is unable to perform.
- Follow the ISO 17025 and other certification standards to ensure that the laboratory services offered at CFAPU meets the requirements for export.

#### **IV. Support technical and managerial training of MSME entrepreneurs**

The competitiveness of the food processing sector is greatly influenced by technical and managerial capacities. Towards that end, it will be necessary to tailor the work of CFPAU to better function as a training/consultancy support facility. This will necessitate that equipment available at the CFAPU to be of an appropriate scale to support training of MSMEs, and to process a broad range of commodities of raw materials – milk, cocoa, coffee, etc. into a diverse range of products.

#### Recommended actions:

- Assess the current infrastructure of the CFAPU and outline its needs and requirements to improve its services.
- Assess and audit the equipment and laboratory facilities at the CFAPU.
- Develop specifications and acquire new equipment through grant funding for example for the exploration of novel food product categories.
- Assess, improve and upgrade the current CFAPU facilities to promote training, development and entrepreneurship.
- Adopt the use of green energy in processing operations – implement renewable energy such as solar power and the use of solar dryers or solar water heaters where appropriate to keep energy costs low and demonstrate these to processors.
- Work in collaboration with the UB for students at their independent project stage or student undertaking internship projects to conduct research in the fields of Food Science and Technology/Agro-Processing/Agri-business at the CFAPU and UB.
- Use ICT– including informative Apps to improve and promote agro-processing in Belize.

#### **V. Facilitate access to finance**

A review of Belize's economy reveals that limited access to finance is a major constraint for business start-up, operation and expansion. MSMEs usually have difficulty in accessing capital for new ventures or expansion of existing businesses. MSMEs find it difficult to access finance and may depend on personal or family savings. Most MSMEs are unable to access any type of fiscal incentives or through formal financial institutions, due to the legal requirements that stipulate that the business must be registered or the administrative requirements which require for example business and tax registration. Due to the high risk associated with MSMEs, there is a high collateral requirement to qualify for loans. Special attention must be given to these MSMEs. The Belize MSME policy and strategy report (Michael M. Seepersaud, 2012) defines MSME as illustrated in table four (4):

Type of Enterprise	a. Employees (Full Time)	b. Annual Sales (Belize \$)	c. Investment	d. Manufacturing Space (m <sup>2</sup> )
Micro (a or b or c)	Owner manager - <5 employees	<100k	<50k	Na
Small (a or b and b and c)	5 – 19 employees	<500k	<150k	<372
Medium (a or d and b or c)	20 – 50 employees	<1.5 million	<500k	<557

**TABLE 4: MSME DEFINITION AND CRITERIA –MSME POLICY**

Recommended actions:

- Simplify business registration processes and the legal and regulatory requirements of MSMEs in order to assist with the approval and disbursement of loans.
- Promote the growth of micro financing facilities at most financial institutions by offering low interest loans, reduced collateral requirement and simplified paperwork for loan applications
- Promote equity financing.
- Encourage the introduction credit guarantee schemes, micro leasing and credit union/cooperative programs.
- Access grant and low cost funding from external sources such as International Development Bank (IDB), Caribbean Development Bank (CDB) and FAO to support MSME development.
- Conduct training and provide technical assistance to MSMEs on the importance of credit, business plan preparation, business accounting, business taxation etc.
- Increase the outreach of financial institutions and agricultural financial service delivery to rural areas.

**VI. Improvement and strengthening of infrastructure to support the agro-processing sector.**

A sound infrastructural support base is key to the development of economic activity. Poor quality roads and inadequate road networks especially in rural areas are a major impediment to agricultural producers and agro-processors. Rural communities continue to suffer from inefficient connectivity, low electricity coverage, inadequate water supply and sanitation services. Lack of refrigerated storage at port facilities also pose a constraint in handling the trade



of perishables. These infrastructural problems result in high transaction cost for agro-processors. Investment in infrastructural improvement is important in creating an enabling environment for stimulating agro-processing entrepreneurship.

Recommended actions:

- Identify and prioritize areas for infrastructure development and improvement in order to support the development and growth of the MSME agro-processing sector.

**VII. Contribute towards and to facilitate access to public incentives and support packages to stimulate entrepreneurship by MSME agro-processors;**

The GOB currently offers the following incentives: Fiscal Incentives Program, Export Processing Zone Program, Commercial Free Zone Program, Designated Processing Area and Qualified Retired Persons Program which are made accessible to larger enterprises involved in primary production. There are no support programmes for MSME agro-processors.

Recommended actions:

- Develop an incentive programme geared toward supporting MSME development.

**VIII. Promote food safety regulations and quality standards related to agro-processing**

Competitiveness in the agro-processing and food production sector hinges on the capacity to assure both the quality and safety of fresh produce and processed products. In Belize, the MAFFSD is responsible for food safety whilst the Belize Bureau of Standards (BBS) is mandated to establish and monitor requirements for food standards, labeling, packaging, metrology, and consumer protection. All locally manufactured and imported goods must adhere to mandatory minimum quality standards for products to be legally traded and sold in the Belize market. BAHA has the responsibility for import and export of food products.

Recommended actions:

- Enhance support to agro-processors to facilitate their awareness of, and compliance to various food quality and safety standards.
- Ensure that appropriate standards are set by MAFFSD, agro-processors are trained to conform to these standards and that these are enforced- MAFFSD.
- Train agro-processors on food safety principles and their implementation– jointly by the CFAPU, the BBS and BAHA.

#### Promotion of career options and human resource development

##### **IX. Enhance Agricultural Extension and Training**

Agricultural extension involves the application of scientific research and knowledge to agricultural services through farmer education. By improving agricultural extension services, farmers will become more productive, thereby creating a thriving agricultural sector in Belize. Whilst agricultural extension services deals with disseminating knowledge to farmers and agro-processors in the rural areas, education affects every level of the value chain. A society educated in agriculture and related fields such as food technology will help to diversify a nation. Therefore, agriculture and agro-processing or food science and technology should be introduced into the school curriculum at the primary, secondary, technical and vocational and tertiary levels in Belize. Agricultural extension and education also has a major role to play in supporting farmers and agro-processors.

##### Recommended actions

- Identify the capacity gaps in the Extension Service;
- Support long term programmes at colleges and universities with a focus on agro-processing and entrepreneurship;
- Support short-term courses for extension officers in food science and technology.

##### **X. Provision of Scholarships**

Belize's growth and expansion is dependent on the agricultural sector and in particular the agro-processing sector. It is imperative that attention be paid to human resource capacity

development in this sector. For the country to progress and make meaningful development and change, the sector requires a pool of trained managers, professionals, technicians, workers and agro-processors. Individuals need to be trained in all areas of the food value chain.

Recommended actions:

- Prepare a human resource development plan to address gaps in the agriculture and food sector.
- Identify public sector employees in the agriculture and food sector as part of capacity building initiatives for the provision of scholarships and capacity building programmes in agriculture and food science and technology.
- Award of scholarships for undergraduate and postgraduate students based on the country's needs.
- Use existing partnerships with countries that offer development aid and mechanisms for training and development of human resources and the provision of scholarships.

#### **XI. Implement needs based professional training**

Human resource development is essential for sustainable development of the sector, and emphasis must be placed on the needs of the country.

Recommended actions:

- Develop and implement a programme to assess the human resource requirements and the levels and types of training required to meet those needs.
- Offer training at vocational training schools - both private and public - in the fields of farming, food safety, food preparation, product and packaging development and quality assurance.
- Establish collaboration between UB and the CFAPU to support academic training in specific areas – e.g. training in HACCP, current GMPs, Food Product Testing, Product Formulation and Food Packaging.

- Develop collaborative programmes on Food Science and Technology at the Certificate and Postgraduate Diploma levels which involves internships that allow graduates to get on the job training experience and exposure.

## Pillar 2 – Transformation of the agro-processing sector

### Improving Market Access

#### **XII. Facilitate value chain linkages to ensure that agriculture commodities find a market, while at the same time ensuring reliable supply for MSME agro-processors;**

This intervention will seek to focus on efficient value-chain linkages which are essential to ensure that agricultural commodities find a market and at the same time ensure reliable supply of raw materials to MSME agro-processors. The promotion of value chain linkages by investments in all stages of the food value chain can resolve all critical constraints that delay production and productivity, including infrastructure, research and development, technology transfer and food quality and safety standards. Creating linkages between farmers, producers and markets are essential in accessing domestic and international markets.

#### Recommended actions:

- Promote value-chain coordination mechanisms such as the use of formal agreements/contracts to enhance supply chain transactions.
- Create farmers' organizations that allow small scale family farmers to bulk produce.
- Promote contract farming between farmers/organized groups of farmers and agro-processors to support agro-processing and value added production.
- Establish production clusters for small scale farmers and agro-processors to promote viable agro-processing food chains, increasing farm productivity, production and marketable volumes of selected agricultural commodities in districts throughout Belize.
- Promote and facilitate communication and collaboration amongst value chain stakeholders.

**XIII. Provide training and advisory services to support sustainable agro-processing value chains inclusive of postharvest handling and market access.**

Training and advisory services at all levels in the agro-processing value-chain are an important component of this strategy. Focus will be on each area of the value chain such as production, processing, wholesaling and retailing with the aim of increasing competitiveness and productivity of the agro-processing sector. Knowledge about current market and marketing information, access to modern agricultural knowledge and the use of modern technologies need to be encouraged and promoted.

Recommended actions:

- Provide small producers and agro-processors information on market opportunities for fresh and processed products.
- Provide post-harvest training to small holders in quality management of produce from harvest to the target market-agro-processor/supermarket/institution/hospitality sector/export market.
- Provide training on packaging, labeling, branding, positioning and marketing for different target markets – institutions/ supermarket shoppers/tourists/export.
- Support product and process innovation.

**XIV. Assist agro-processors to access market information including prices and quality requirements of the market.**

Market information such as product, price, place, promotion, and quality and quantity requirement of the market is required for market access and penetration. All stakeholders along the value chain require different types of information for the success of their business. BMDC, BELTRAIDE and Belize Chamber of Commerce can assist agro-processors along the marketing chain. BMDC mandate is to assist in the economic development of Belize by ensuring food security, enhancing product development, providing marketing services for small agro-businesses, and operating on an environmentally friendly, sustainable and viable basis.

Recommended actions:

- Conduct training workshops for agro-processors on understanding marketing information and good marketing practices.
- Support market research geared toward identifying the economic sectors and sectors to focus on, along with price and quality requirements.

**XV. Facilitate formation of agro-processors groups and cooperatives to take advantage of group learning, value addition, market access and collective purchasing and marketing.**

Developing economies of scale will necessitate better organization at both the producer and processor level, through the formation of agro-processor groups and cooperatives. Better organization within both sectors will improve the bargaining power of producers and agro-processors when dealing with other businesses; improving their purchasing power through bulk purchasing inputs – fertilizer, seeds, packaging, etc.; facilitate market access and/or broaden market opportunities and improve products or service quality.

Recommended actions:

- Support and facilitate the creation of agro-processor and producer groups.
- Provide incentives for the operation of producer and processor groups.
- Mentor and support producer and processor groups.
- Creation of a database to monitor and track agro-processors and producer groups.

Technology and Knowledge Transfer

**XVI. Facilitate access to appropriate levels of sustainable, innovative technologies to enable productive activities by MSMEs;**

An assessment of the existing technologies used in MSMEs to support agro-processing and quality management within that sector revealed the widespread use of rudimentary

technologies. MSMEs in Belize, in general, lack access to information about appropriate levels of technology that are suited to their scale of production and are hesitant to adopt improved technologies in their processing operations. Exposing MSMEs to improved technologies and facilitating their access to these technologies will, therefore, be critical to upgrading the quality and consistency of their outputs. A long-term goal of the agro-processing sector is for larger enterprises to export, as such these enterprises must be well trained and equipped to conform to ISO and HACCP certifications. These are largely tied to the ability to efficiently employ technology in the production process inclusive of simple technologies such as cellular phones and GPS.

Recommended actions:

- Equip the CFAPU to support MSMEs in identifying appropriate levels and scales of technologies to support their operations.
- Equip the CFAPU to support demonstration and training sessions on appropriate levels of processing technologies.
- Develop support services for the local maintenance and repair of technologies.
- Ensure subsidies, credit programs and incentives to facilitate the adoption of improved technologies that are energy efficient or which employ the use of sustainable technologies – solar energy, and other forms of renewable energy.
- Facilitate and support linkages to the Mennonite community to facilitate access to information on agro-processing machinery and equipment.

### **Pillar 3 – Agro-industry entrepreneurial development**

Entrepreneurship refers to the process of creating a new enterprise and bearing any of its risks, with a view to making a profit. It is an act of seeking investment and production opportunity, developing and managing a business venture, so as to undertake production function, arranging inputs like land, labour, material and capital, introducing new techniques and products, identifying new sources for the enterprise. The GOB has identified and prioritized

entrepreneurship in the agriculture and food production sectors for the development of the economy in Belize. Entrepreneurial development for MSME agro-processors is of great importance in developing the agro-industry in Belize.

**XVII. Contribute towards and facilitate investment in an enabling environment that encourages profitable, market-oriented agro-processing businesses.**

Recommended actions:

- Implement the National Entrepreneurship Strategy in order to strengthen institutions and capacities in the entrepreneurship ecosystem, with a focus on MSMEs.
- Develop and implement an appropriate legal framework to support small-scale farmers and agro-processors in developing their businesses.
- Upgrade the facilities of the CFAPU to provide education and training to enhance technical knowledge and practical skills needed to promote entrepreneurship in agro-processing.
- Provide information, advice and support services to agro-processors for identifying, preparing, designing and implementing efficient agro-processing operations.
- Facilitate access to markets through the BMDC. This will necessitate addressing the current constraints of ineffective communications, infrastructure and marketing facilities, lack of reliable and timely market information, limited purchasing power and negative attitudes of buyers.

**XVIII. Building capacity for agro-industry entrepreneurship and promoting and fostering partnerships with training institutions.**

There are three main approaches to building entrepreneurial capacity: formal education, formal training programmes and non-formal capacity building programmes. Primary schools, secondary schools, colleges and universities in Belize play an important role in nurturing entrepreneurial knowledge, skills, attitudes and behaviour. These institutions can play a critical role in orienting students toward undertaking farming and agro-processing as viable career options.



Recommended actions:

- Introduce entrepreneurship skills development in school curricula through collaboration between the MAFFSD and the MOE, as well as improve and expand entrepreneurship courses at the UB.
- Facilitate formal training programmes such as workshops and short courses in entrepreneurship, through the SBDC and BMDC.
- Provide support to farmers and agro-processors in accessing training on entrepreneurship, through the extension services of MAFFSDD.

**XIX. Entrepreneurial Skills Development via facilitating access to networks.**

Networks that connect entrepreneurs, governments, businesses and institutions, facilitate collective action, communication and synergies that boost entrepreneurship. Networking can help entrepreneurs achieve their business and professional objectives through access to information, shared knowledge, opportunities and connections. Networking also builds confidence, access to new clients and access to people with similar business interests. Business networking is the most effective technique to create referrals and build a sustainable and successful business.

Recommended actions:

- Support the formation of an agro-processing networks that bring together new entrants, successors, advisors, researchers and other relevant stakeholders.
- Support the participation of agro-processors and key concerned officials in local, national, global and international meetings and trade fairs on agro-processing.

**XX. Collaborating with agro-processing organizations, government agencies and private entities to support MSME entrepreneurial ventures.**

The establishment of Public-Private Partnerships (PPPs) has several benefits inclusive of cost savings; increased synergies with each organization focusing on their core competencies; greater consensus and partnerships.

#### Recommended actions

- Engage with other national agro-processing organizations in the region with government agencies and with larger private entities to facilitate access to inputs – packaging, equipment and ingredients- and allow for the sharing of experience and developing partnerships.

#### **XXI. Creation of incubation programmes that offer individual support to the MSME agro-processors.**

Business incubators are designed to assist the development of new enterprises. They help entrepreneurs by providing them with services which support and compliment their own talents and abilities. Agro-processing incubators may offer a number of services to their small business clients, including floor space, venture capital and financial services, business development, market access and technology assessment services; and mentoring and networking. In addition, shared facilities and equipment are often provided to incubated firms. Incubators assist start-up and emerging businesses to develop ideas from conception to commercialization. The goal of business incubators is to create jobs and increase economic activity.

#### Recommended actions:

- Allow the CFAPU to function as an incubator that works in collaboration with UB in facilitating access to agro-processing support services. This would provide the physical space, and infrastructure for food processing, packaging and marketing. The facility would also provide an avenue for new business incubation / commercialization with minimal capital outlay. In addition, CFAPU would provide the full range of technological support services, including testing and quality management.

- Formalize a MOU between the CFAPU and UB for the creation of a business incubator programme. Establish networks with the agro-processing association for absorption of MSME agro-processors that are ready and available for incubation.

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## CHAPTER 5: IMPLEMENTATION PLAN

### 5.1 Implementation of the Strategy

Implementation of the strategy will be supported through advocacy on improving the quality and standards of agro-processing and processed outputs, in order to increase consumption of processed products on local markets, and in facilitating their access in export markets. Implementation of this strategy requires the commitment and involvement of all the MAFFSD and the CFAPU. The pillars and sub-pillars will be developed into a series of operational plans for the immediate, medium and long term, which will include more specific actions, timelines, resources and performance indicators. It will also identify the stakeholders and functional areas or units responsible for implementing aspects of the plan related to their work. In the short-term focus will be on a few initiatives with potential for significant impacts and those that have relatively low budgetary requirements. For actions that require larger quantum of funding this will be classified as long-term and donor funding or technical assistance will be sought.

Key Actions include:

- CFAPU in partnership with UB to offer short courses at a minimal cost in different districts in various agro-processing areas such as the production of wines, honey, condiments and bakery products, the use of packaging to enhance shelf-life, Labeling to meet regulatory compliance, quality and food safety requirements in the handling of food products.
- CFAPU to provide consultancy services to agro-processors in areas of agri-business and marketing inclusive of access to regional and international markets, nutritional content for labels.
- MoE to enhance both primary and secondary school's curriculum with agriculture, food production, nutrition and health and entrepreneurship as additional subject areas.
- UB to use labs and model farms to support CFAPU for training in Good Agricultural Practices (GAPs), HACCP, Product Formulation and Quality Control Laboratory testing.
- UB to introduce a programme in Food Technology at the Certificate and Postgraduate Diploma level for those students with a strong science background

- Develop a registry of agro-processors by commodity type for consideration of provision of incentives to enhance skills and facility for agro-processing and those that foster product or process innovations
- Expand knowledge and skills base of current CFAPU employees as well as recruit new talent in areas that are deficient
- Review and amend policies and strategies for agro-processing

The MAFFSD and the CFAPU will have the overall responsibility for implementation of this strategy. In order to successfully achieve the goals in this strategy a clear implementation plan is required. The implementation plan will include the following components.

- Formation of an agro-processing and food production sector coordinating group comprised of key stakeholders from the agriculture and food sector to spearhead the implementation of the strategy. The group will coordinate the efforts of Ministries and other stakeholders towards implementing the pillars and develop the operational plan. The operational plan will identify the resources required for major actions and initiatives, establish implementation timelines, and develop additional performance measures and targets.
- The MAFFSD will need to build awareness and sensitize all stakeholders of this strategy. This sensitization process will inform all stakeholders of the future plans of the CFAPU and to foster a “buy-in” of the strategy. This can be achieved through the development of brochures and short videos about the strategy.
- The MAFFSD will develop operational plans to accompany the implementation of this strategy. The MAFFSD will implement its immediate term goals and identify the medium and long term goals that will need collaboration with other ministries, the private sector and international partners.
- The MAFFSD will need to engage its stakeholders continuously for input and feedback on the strategies and actions. An annual work plan should be constructed based on the operational plans which will provide the specifics on the activities to be executed, targets to be achieved with relevant performance indicators and resources to be allocated.

Intervention	Activities	Output	Role Players	Period		
				Short	Med.	Long
Access to business development services	Facilitate the provision of subsidized training to agro-processors	Training provided to agro-processors.	CFAPU SBDC – BELTRAIDE UB	√		
	Facilitate mentoring or informal consultation with other MSME agro-processors.	Mentoring and informal consultation provided.		√		
Research and development	Facilitate the signing of MoUs between academia, government and private institutions to facilitate R&D.	MoUs signed between academia, government and private institutions.	MAFFSD UB FAO IDB CARDI	√		
	Seek funding from partners and donor agencies for R&D activities.	Funding sourced.			√	
	Strengthen R&D capabilities at the CFAPU.	CFAPU redesigned and equipped for R&D.				
Development of laboratory services	Facilitate the development and improvement of laboratory services at CFAPU.	New equipment sourced.	CFAPU BAHA CIL			√

<b>Technical and managerial training of MSME entrepreneurs</b>	Facilitate the signing of MoUs between academia and other training agencies.	MoUs signed with academia and training agencies	UB SBDC - BELTRAIDE	√		
<b>Access to finance</b>	Facilitate compilation of agro-processing business plans for funding consideration.	Viable business plans developed.	Banks Credit Unions Donor Agencies Private sector	√		
	Facilitate submission of agro-processing business plans for screening and funding consideration.	Bankable business plans submitted.	Government agencies MAFFSD	√		
	Monitor the implementation of the funded agro-processing projects.	Implementation of funded agro-processing projects		√	√	
<b>Infrastructure</b>	Facilitate the identification of Infrastructure required by MSME agro-processing Enterprises	Collaborate with other ministries responsible for infrastructure development.	Ministries Private sector CFAPU Donor agencies Private sector	√	√	√
	Facilitate the implementation of infrastructure projects	Projects implemented.				√
<b>Access to public incentives and support packages</b>	Facilitate the creation of incentive programmes for micro and small enterprises.	Incentive programmes created for MSMEs	MAFFSD		√	

<b>Food safety regulations and quality standards</b>	Facilitate training of agro-processors on food quality and safety standards.	Training provided on food quality and safety standards.	BBS BAHA MSME agro-processors	√		
	Facilitate the training, implementation and enforcement of standards.	Training, implementation and enforcement of standards conducted.		√		
<b>Enhance agricultural extension and education</b>	Identify capacity gaps in extension training.	Gaps identified.	MAFFSD MoE UB	√		
	Facilitate the training of extension officers.	Training provided.	External training agencies		√	
<b>Provision of scholarships</b>	Facilitate the development of a human resource development plan.	HRD created.	MoE MAFFSD UB Donor agencies		√	
	Identify public sector employees for scholarships in agriculture and food.	Scholarship awardees identified.	Universities	√		
	Facilitate the signing of MoUs that focuses on formal training and development.	MoUs signed for formal training and development.		√		
<b>Professional training</b>	Identify the human resources needs of the sector.	Human resources needs of the sector identified.	MoE MAFFSD		√	



	Facilitate the provision of training at vocational schools.	Training provided at vocational schools.	UB Vocational Schools		√	
	Facilitate the signing of MoUs with UB for a model farm.	MoUs signed.		√		
<b>Value-chain linkages</b>	Facilitate contract farming.	Contract farming facilitated.	MAFFSD CFAPU		√	
	Facilitate forward and backward linkages.	Linkages established.			√	
<b>Training and advisory services</b>	Facilitate the identification of value chain enterprises and personnel for training and advisory services.	Value chain enterprises identified with the provision of training and advisory services.	MoE UB SBDC - BELTRAIDE		√	
<b>Access to markets</b>	Facilitate the identification MSME agro-processing enterprises for integration into mainstream markets	Database of SME agro-processing Enterprises identified for market linkages.	MAFFSD CFAPU SBDC – BELTRAIDE BMDC	√	√	
	Facilitate the identification of mainstream markets and provide information on market standards, price and quality.	SME agro-processing enterprises complied with standards required by the market.				√

	Facilitate markets standard compliance by MSME agro-processing enterprises	Market contracts signed				√
Formation of agro-processors groups	Facilitate the conduct of a needs analysis to identify the requirements of a cooperative.	Requirements for cooperatives identified.	MAFFSD MSME agro-processors	√		
	Identify a steering committee for developing a cooperative.	Steering Committee developed.			√	
	Facilitate the formation of agro-processor producer groups.	Agro-processor groups formed.		√		
Access to technologies	Identification and selection of appropriate agro-processing technology for transfer to MSME agro-processing enterprises	Appropriate technologies identified and selected.	CFAPU MAFFSD Ministries Private sector		√	
	Facilitate the signing of MoUs with technology institutes and companies	MoUs signed.			√	
	Monitoring the transfer of agro-processing technology	Agro-processing technology transferred to SME				√

	Monitoring trends in agro-processing industry	agro-processing enterprises		√		
	Conducting demand and opportunity driven research	Quarterly and annual industry reviews				√
Investment in an enabling environment	Facilitate the review of regulatory framework for entrepreneurship.	Regulatory frameworks reviewed.	BELTRAIDE MAFFSD Ministries	√		
	Facilitate the provision of advisory and support services to entrepreneurs.	Advisory and support services provided.		√		
Building capacity for agro-industry entrepreneurship and promoting and fostering partnerships with training institutions	Facilitate the identification of MSME agro-processing enterprises requiring entrepreneurial training.	SME agro-processing enterprises requiring entrepreneurial training identified	MAFFSD Academia MoE BELTRAIDE	√		
	Facilitate the signing of MoUs with and training agencies.	Facilitate access to entrepreneurial support programmes for SME agro-processing enterprises		√		

	Facilitate access to entrepreneurial support programmes for SME agro-processing enterprises.	Entrepreneurial support programmes accessed by SME agro-processing			√	
<b>Entrepreneurial skills development via facilitating access to networks</b>	Facilitate access to business networks	Business networks identified.	MAFFSD Ministries BELTRAIDE CFAPU Private sector Academia		√	
<b>Collaborating with agro-processing organizations, government agencies and private entities to support MSME entrepreneurial ventures</b>	Facilitate the signing of MoUs with agro-processing organizations, government agencies and private entities	MoUs signed.	MAFFSD Ministries BELTRAIDE CFAPU Private sector Academia		√	
	Facilitate access to entrepreneurial support programmes for MSME agro-processing enterprises	Entrepreneurial support programmes facilitated.				√
<b>Creation of incubation programmes that will offer individual support to the MSME agro-processors</b>	Facilitate the identification of SME agro-processing enterprises that requires incubation	MSME agro-processing enterprises that require incubation identified.	MAFFSD Ministries BELTRAIDE CFAPU Private sector Academia		√	
	Facilitate the signing of MoUs	MoUs signed.	Academia		√	

	<p>Incubators</p> <p>Facilitate access to incubation programmes by MSME agro-processing enterprises</p>	<p>Incubation programmes accessed.</p>			<p>v</p>	
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## CHAPTER 6: ROLE AND RESPONSIBILITIES

### 6.1 The Role of MAFFSD

The MAFFSD has a strategic role to play in promoting advocacy for the implementation of the national strategy for agro-processing and food production. The two main departments of the MAFFSD, the Agriculture department and the Cooperatives department and four (4) statutory bodies, will play a central role in providing strategic support to achieve success. The role of MAFFSD is as follows:

1. In collaboration with the FAO of the United Nations to launch and operationalize the National Strategy for Agro-processing in Belize;
2. Developing a National Communication Strategy that presents the national strategic pillars and interventions and the activities and approaches to achieve objectives within the defined time frame and which links the strategy to national development objectives on economic growth, sustainable development and poverty reduction as well as employment of youth and women in agriculture.
3. Formation of an agro-processing and food production sector coordinating group comprised of key stakeholders from the food value chain to spearhead the implementation of the strategy. The group will coordinate the efforts of Ministries and other stakeholders towards implementing the pillars.
4. Endorsement of an integrated knowledge management platform for agro-processing support. The platform will enable all stakeholders to collaborate from a single platform. All activities with respect to agro-processing will be channeled through this platform. This will ensure that there is greater efficiency, effectiveness, transparency, and accountability in the technical and administrative processes.
5. Restructure the MAFFSD, CFAPU and its statutory bodies for improved coordination in the implementation of the strategy;
6. Strengthen public-private partnerships.
7. Provide resources both financial and non-financial to implement the agro-processing strategy.

## 6.2 The Role of Other Government Ministries

The *National Agro-Processing and Food Production Strategy (2019-2023)* will be implemented through the established structures of Government Ministries operating at the national, district, and community level. The MAFFSD will work with other government ministries to promote and garner support for this strategy. These ministries will assist in creating the enabling environment for the agriculture and food sector. Each ministry will be tasked with incorporating activities into their medium term plans. Some of these activities include:

1. Facilitate improvements to infrastructure such as roads, electricity and water.
2. Enhance entrepreneurial support and development.
3. Facilitate the ease of registering legal entities of MSMEs.
4. Improve and intensify formal market access linkages for MSMEs.
5. Facilitate the promotion of aggregated exports to meet the minimum order requirement of importers

## 6.3 The Role of Financial Institutions

Financial institutions are expected to perform the following functions:

1. Enhance and broaden financial assistance to MSME agro-processors
2. Revise qualifying parameters for agro-processing enterprise financing.
3. Serve as efficient disbursement institutions for financial resources from the state
4. Make financial resources available towards the implementation of the various programmes in this strategy

## 6.4 Agro-processing and food production sector coordinating group

The Agro-processing and food production sector coordinating group will be comprised of key stakeholders from the agriculture and food sector. The group will act as the project team responsible for coordinating the activities involved in implementing the strategy. The group will liaise with Ministries, the CFAPU, donor agencies and other stakeholders in implementing the interventions. Some of the group's deliverables will include:

- Monitor implementation of the activities in the national strategy.

- Collaborate with Ministries and other stakeholders regarding the implementation of the interventions in the strategy.
- Liaise with key stakeholders to fast track implementation.
- Undertake continuous monitoring and evaluation to assess the impact of the strategy.

#### 6.5 The Role of CFAPU

1. CFAPU to play a leadership role in MSME agro-processing and to be the key contact or focal point.
2. Develop a database of agro-processing enterprises that is regularly updated periodically to ensure that progress is monitored.
3. Develop a procedure for agro-processing business development areas such as feasibility assessment, business models, funding model, financial plan, marketing plan, operational plan, human resources plan, raw material procurement plan, plan to access support, training, business development services (legal, accounting, etc.).
4. Develop and implement training plans within the framework of **TCP\BZE\3601: *Developing and Enhancing Small Scale Agro-processing Capacity in Belize*** for key crops and products identified in the market survey in the context of the on-going TCP project.
5. Undertake technical research in collaboration with other relevant institutions regarding agro-processing.
6. Assist in the identification and implementation of agro-processing initiatives.
7. Contribute towards the development and review of the strategy
8. Investigate agro-processing infrastructure gaps experienced by MSME agro-processors in collaboration with key stakeholders.

#### 6.6 The Role of None Governmental Institutions

This strategy will be implemented through public-private partnerships that include but are not limited to institutions such as government, donor agencies, universities, associations/producer groups, banks and other financial institutions, processors, marketing agencies and supermarkets.



These institutions will provide support as it relates to infrastructure, production, processing, marketing, imports and exports, financial and other services.

#### 6.7 The Role of Development Partners and Regional Cooperation Agencies

Development partners and regional cooperation agencies have a critical role to play in the development and implementation of projects. Donor agencies can be approached for technical assistance or financing of the interventions.

DRAFT

## CHAPTER 7: MONITORING AND EVALUATION

It is proposed that a monitoring and evaluation committee be established and quarterly meetings convened to review progress and challenges.

### 4.3 Monitoring

Holistic and continuous monitoring processes will be carried out in order to attain two major goals: to monitor progress of the National Strategy activities and to enable partnerships by providing tools to agree on, track and adjust objectives and processes. As part of the monitoring process, periodic report on the activities will be produced and submitted. Indicators for monitoring of activities will be developed at two levels, quantitative and baseline indicators. These will be carried through to subsequent documents for precise results.

### 4.4 Evaluation

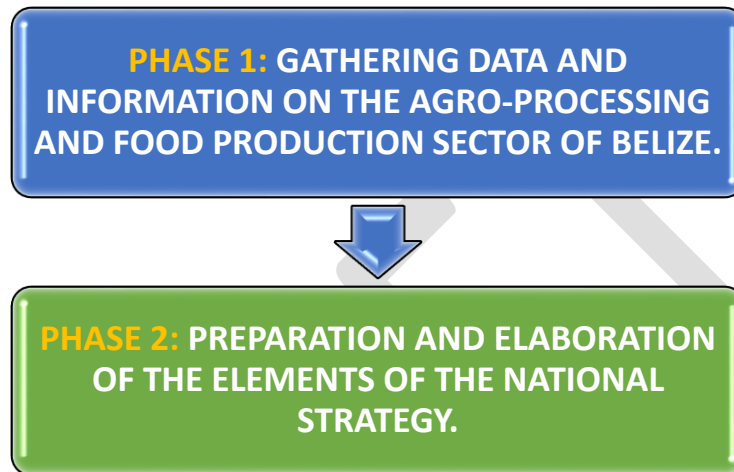
Implementation teams will carry out regular evaluation of activities and program in order to ensure they are adequate and have attained the set targets. A situational analysis will be conducted prior to the implementation of the activities and program in order to establish a baseline. Program documents will be reviewed on a quarterly basis determine whether priorities should be adjusted. Long-term program will be reviewed mid-course to ensure they are delivering results, in line with the stated objectives and targets.

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## ANNEX I - METHODOLOGY

The methodology for the formulation of the *National Agro-Processing and Food Production Strategy (2019-2023)* involves two main phases:



Phases of Methodology.

### **PHASE 1: Gathering and information on the agro-processing and production sector of Belize.**

1. Disseminate survey instruments to agro-processors, key stakeholders listed below and public and private agencies to gather data and information on the current status of agro-processing and packaging in the country.

- Ministry of Agriculture
- Ministry of Health
- Belize Agriculture and Health Authority
- Caribbean Agricultural Research and Development Institute
- Pesticide Control Board
- University of Belize
- Ministry of Education
- Belize Marketing Development Cooperation
- Belize Bureau of Standards

- Agencia Mexicana de Cooperacion Internacional para el Desarrollo
- BELTRAIDE
- Producer Group Representative
- Supermarket Association Representative
- Belize Chamber of Commerce
- Hotel and Restaurant Representative

2. Conduct surveys and interviews with the CFAPU to assess the status of the CFAPU.

3. Meet and conduct workshops with advisory group listed below to assess the status of the technical support institutions to the agro-processing sector. The advisory group was chosen based on their involvement with the agro-processing sector.

- Ministry of Agriculture
- Ministry of Health
- Ministry of Education
- Ministry of Economic Development and Petroleum
- Ministry of Investment, Trade and Commerce
- Belize Agriculture and Health Authority
- Caribbean Agricultural Research and Development Institute
- Pesticide Control Board
- University of Belize
- Belize Marketing Development Cooperation
- Belize Bureau of Standards
- Agencia Mexicana de Cooperacion Internacional para el Desarrollo
- BELTRAIDE
- Producer Group Representative
- Supermarket Association Representative
- Belize Chamber of Commerce
- Hotel and Restaurant Representative

4. Conduct a comprehensive assessment of existing equipment to support processing and quality control in both the public and private sectors in Belize.

5. Meet with officials of the BMDC to assist with the development of a feasibility and market assessment that includes an assessment of trade implications for commercial agro-processing sector products and food production systems.

**PHASE 2: Prepare and elaborate the elements of the National Strategy.**

1. Prepare a draft strategy document with a 5-year horizon for expanding and enhancing agro-processing and food production, through the CFAPU.

2. Prepare an investment proposal and business plan for the operation of the CFAPU.

3. Prepare a technical report on the findings of the assessment of existing equipment to support processing and quality control.

4. Revise, amend and further elaborate the draft strategy document based on data obtained from stakeholder workshops and meetings.

5. Finalize and submit the final draft strategy to FAO for review and clearance.

6. Prepare a final strategy endorsed by the GOB.