



3rd Report of the

JOINT SELECT COMMITTEE ON

LAND AND PHYSICAL

INFRASTRUCTURE

THIRD SESSION (2017/2018), ELEVENTH PARLIAMENT

ON

**An inquiry into the strategies for diversifying the
type and number of agricultural commodities
produced locally**

February 2018

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The Joint Select Committee on Land and Physical Infrastructure

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THIRD REPORT
OF THE
JOINT SELECT COMMITTEE
ON LAND AND PHYSICAL INFRASTRUCTURE
(including Land, Agriculture, Marine Resources, Public Utilities, Transport and Works)
THIRD SESSION (2017/2018)
ELEVENTH PARLIAMENT

**An inquiry into the strategies for diversifying the type and
number of agricultural commodities produced locally**

Date Laid in HOR:

HOR Paper No.

Date Laid in Senate:

Senate Paper No.

Ordered to be printed

The Joint Select Committee on Land and Physical Infrastructure

Establishment

1. The Joint Select Committee on Land and Physical Infrastructure was appointed pursuant to section 66A of the Constitution of the Republic of Trinidad and Tobago. The House of Representatives and the Senate on Friday November 13, 2015 and Tuesday November 17, 2015, respectively agreed to a motion, which among other things, established this Committee.

Current Membership

2. The following Members were appointed to serve on the Committee:

- Mr. Stephen Creese – Chairman
- Mr. Rushton Paray – Vice Chairman
- Mr. Darryl Smith
- Mrs. Glenda Jennings-Smith
- Dr. Lovell Francis
- Mr. Franklin Khan
- Mr. Nigel De Freitas¹²
- Mr. Wade Mark³

Chairmanship

3. At its first meeting held on Wednesday December 02, 2015, the Committee elected Mr. Stephen Creese as Chairman, pursuant to Standing Orders 99(5) of the Senate and 109(5) of the House of Representatives.

¹ Mr. Nigel De Freitas replaced Mr. Rohan Sinanan w.e.f. 19.12.2016

² Mr Hafeez Ali was replaced by Mr. Rohan Sinanan w.e.f. 21.06.2016

³ Mr. Wade Mark replaced Mr. Daniel Solomon w.e.f. 22.03.2017

Functions and Powers

1. The Committee is one of the departmental select committees, the functions and powers of which are set out principally in Standing Orders 91 and 101 of the Senate and 101 and 111 of the House of Representatives. These are available on the Internet via www.ttparliament.org.

The Committee is mandated to inquire into areas related to Land, Agriculture, Marine Resources, Housing, Public Utilities, Transport and Works as listed in Appendix IV and V of the Standing Orders of the House of Representatives and Senate respectively.

Secretarial Support

2. Secretarial support was provided by Mrs. Angelique Massiah, who served as Secretary to the Committee, Ms. Kimberly Mitchell, Assistant Secretary and Mrs. Katharina Gokool, Research Assistant.

Contacts

3. All correspondence should be addressed to the Secretary to the Joint Select Committee on Land and Physical Infrastructure, Level 3, Tower D, Port of Spain International Waterfront Centre, 1A Wrightson Road, Port of Spain. The telephone number for general enquiries is 624-7275; the Committee's email address is jsclpi@ttparliament.org.

ACRONYMS AND ABBREVIATIONS

ABBREVIATION	ORGANISATION
ADB	Agricultural Development Bank
BPTT	British Petroleum Trinidad and Tobago
CARDI	Caribbean Agricultural Research and Development Institute
CGL	Caroni Green Limited
CSO	Central Statistical Office
E-IDCOT	Eco-Industrial Development Company of Tobago Limited
FDA	Food and Drug Administration
FSMA	Food Safety Modernisation Act
GAP	Good Agricultural Practices
GMO	Genetically Modified Seeds
HACCP	Hazard Analysis and Critical Control Points
IICA	Intern American Institute for Cooperation on Agriculture
MALF	Ministry of Agriculture Land and Fisheries
MIOA	Market Information Organisations of the Americas
NAMDEVCO	National Agricultural Marketing and Development Corporation
PSAEL	Palo Seco Agricultural Enterprises Limited
PSIP	Public Sector Investment Programme
RHA	Regional Health Authority
TAPA	Tobago Agro Processors Association
TTPS	Trinidad and Tobago Police Service
UK	United Kingdom
US	United States
USA	United States of America
UTT	University of Trinidad and Tobago
UWI	University of the West Indies

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Report Summary

1. At its Eleventh Meeting held on January 27, 2017, the Committee, after discussion agreed to inquire into the strategies for diversifying the type and number of agricultural commodities produced locally.
2. The Committee agreed that the objectives of the inquiry would be as follows:
 - i) To assess the type and output of agricultural commodities being produced in Trinidad and Tobago;
 - ii) To examine the programs and initiatives geared to encourage agricultural participation;
 - iii) To gain an understanding of the policies, plans and research being employed to expand the types and quantity of agriculture commodities produced locally;
 - iv) To identify the challenges faced by the MALF and the major stakeholders in the agricultural sector in attempting to increase crop diversity.
3. The Committee thereafter sought to amass information on the subject matter through request for written submissions from external sources.
4. After thorough review of the written submissions, the Committee agreed to engage in one (1) public hearing on the subject matter on February 21, 2017, with the following officials:

MINISTRY OF AGRICULTURE, LAND AND FISHERIES

Mrs. Angela Siew	Permanent Secretary
Mrs. Patricia Maharaj	Chief Technical Officer
Ms. Neela Maharaj	Dir. Agricultural Planning Division
Ms. Patricia La Borde Grant	Technical Adviser, Policy & Planning

CARONI GREEN LIMITED

Mr. Sharma Lalla	Chief Executive Officer
Ms. Savitri Ramgoolam	Accountant
Dr. Bibi Ali	Consultant
Mr. Dinesh Goolcharan	Farm Operations Coordinator

NAMDEVCO

Mr. Dennis Ramdeen	Chairman
Mr. Wayne Inniss	Deputy Chairman
Ms. Juliana Davis	Board Member
Mr. Ayoub Mohammed	Chief Executive Officer Ag.

5. The Minutes of the meetings in connection with the above hearings are attached as *Appendix I* and the Verbatim Notes are as *Appendix II*.

Summary of Recommendations

- 1. Recommendations to remedy issues regarding the type and output of agricultural commodities being produced in Trinidad and Tobago**
 - A. We recommend that the MALF review its approach to farming by:
 - (i) Rebranding the image of agriculture;
 - (ii) Presenting agriculture as a business; and
 - (iii) Encouraging technological advancements in farming.**
 - B. We recommend that the MALF revisit its Land Distribution Policy with a view to producing crops that can serve as import substitutes and can be exported.**
 - C. We further recommend that the NAMDEVCO take up its mantle to explore the available opportunities for the export of crops with a view to encouraging sustainability of the agricultural export sector.**
 - D. We recommend that the MALF implement a greenhouse programme with an aim to end importation of crops and for the exportation of these crops. We propose a pilot project of the greenhouse programme to be implemented one year subsequent to the laying of this report. The pilot project should be monitored to determine whether the production levels necessary for export and import substitution are being achieved.**
 - E. We further recommend that the MALF explore other methodologies for farming and determine the feasibility of implementing such methodologies in Trinidad and Tobago to improve the agricultural sector and farming.**
 - F. We recommend that the MALF approach the banking sector with a view to encouraging investments in agriculture by providing funding for farming related businesses.**

- G. We further recommend that the MALF approach the business sector by way of stakeholder consultation to determine their level of interest in the development of agribusinesses.
- H. We recommend that the MALF operationalize its current facilities at Brechin Castle, Couva and Brickfield, Tabaquite before considering additional facilities.
- I. We also recommend that the MALF examine the feasibility of implementing additional post-harvest facilities which should be located in close proximity to the ports and the airport.
- 2. Recommendations to improve the programs and initiatives geared to encourage agricultural participation**
- J. We recommend that the MALF embark on an exercise to re-evaluate its current incentives being provided to farmers. The new incentives should be specifically designed and directed at motivating old and budding young farmers respectively.
- K. Being mindful that young people in particular do not qualify to become farmers unless they are in receipt of a parcel of land and that they are unable to access agriculture lands because of the process involved, we recommend that the MALF provide an opportunity for the youth to access smaller parcels of land to engage in farming by way of a Land Distribution Programme for Young Persons between the ages 18-35.
- L. We recommend that the Permanent Secretary, MALF collaborate with the relevant Ministries regarding the re-implementation of youth camps.
- M. We further recommend that the MALF engage all stakeholders by way of consultation to determine the types of incentives being demanded. As well, the MALF should consider the incentives being offered in other CARICOM Countries for example, Jamaica in its deliberations.

- N.** Given that the cost of agricultural inputs such as fertilizers, pesticides and seeds is one of the major costs that contributes to the high cost of production, we recommend that the MALF examine the models for the local production of these fertilizers to reduce and eventually eliminate import of these inputs.
- O.** We recommend as facets of reaching the youths to agriculture and to improving agriculture's image that the MALF engage in an exercise to link social media to agriculture such as Facebook, Twitter, Instagram and its Website. These mediums of communication should also be used to transmit information on the agricultural incentives available through the MALF.
- P.** We also recommend that the MALF embark on a Nationwide Youth Agricultural Programme which targets Students in Forms 5 and Forms 6 to present Agricultural Entrepreneurship as a prospective career. The MALF can also use this opportunity to obtain feedback from the students on the types of incentives being demanded by youths. As well, information on youths interested in pursuing Agricultural Entrepreneurship should be gathered in the course of the programme.
- Q.** We recommend that the MALF should prepare feasible and potentially profitable Agricultural Business Models inclusive of Green Houses to be presented to prospective farmers as well as prospective students from the Nationwide Youth Agricultural Programme.
- R.** We recommend that the Permanent Secretary and the Commissioner of State Lands meet to discuss the feasibility of utilizing vacant and available agricultural Crown Lands for feasible agricultural enterprises. These lands should also be offered as part of the Agricultural Business Model package so that rents can accordingly be collected from these lands.
- S.** We recommend that an incentive to potential farmers should include the provision of basic equipment necessary for farming. As well, the PS, MALF should consult with the

Agricultural Development Bank (ADB) for loan facilities to be made available for advanced agricultural equipment particularly for farmers utilizing the Agricultural Business Models offered by the MALF.

- T. We further recommend that the MALF streamline all its processes to allow for the immediate access to the incentives by both young and old farmers.
- U. The Committee concurs and recommends that a division within the MALF be established to specifically safeguard the welfare of farmers: the Farmers Welfare Division. We further recommend that the MALF implement a system of Crop insurance to reduce the negative impact on farmers such as in cases of flooding. The Committee is cognizant that such systems are utilized by many countries, for example the U.S. crop insurance program and Canada's AgriInsurance.
- 3. Recommendations to the polices, plans and research being employed to expand the types and quantity of agriculture commodities produced locally**
- V. We recommend that the MALF establish monthly meeting with the entities falling under its purview.
- W. We further recommend that the MALF examine the proposal of the CGL for the creation of a strategic, innovative and sustainable agro-based industry for its possible implementation.
- X. We recommend that the MALF engage in stakeholder consultations with a view to revisiting its Agriculture Policy to ensure that all facets of the policy are aligned and coordinated.
- Y. We recommend that the MALF utilise its website and that of the entities falling under its purview to expend useful research information on agriculture and agricultural crops.

- 4. Recommendations to address the challenges faced by the MALF and the major stakeholders in the agricultural sector in attempting to increase crop diversity**
- Z.** We recommend that the MALF institute a Strategic Plan that adequately takes into account existing infrastructure that can be beneficial to utilise for agriculture. The Strategic Plan should be submitted to the Parliament six (6) months subsequent to the laying of this report.
- AA.** We recommend that the MALF collaborate with the Municipal Corporations regarding the use of its services to assist with praedial larceny issues.
- BB.** We also recommend that the MALF seek collaborations with Public/Private Security Companies to curb praedial larceny issues.
- CC.** We recommend that the MALF implement an incentive for farmers to assist with the cost of obtaining security cameras and other technological security tools such as drones to assist with praedial larceny.
- DD.** We recommend that the MALF engage in a programme of Good Agricultural Practices which should also include a monitoring component to ensure that these practices are being continued. The MALF should also institute the necessary programmes so that farmers and farms can be adequately certified especially for export purposes.

1. Introduction

1.1 Trinidad and Tobago's agricultural sector has been showing a steady decline, this is evident by their contributions to GDP over the years 1995 to 2016 in Table 1 below:

Table 1
Agricultural Output for the years 1995 to 2016

Date	GDP at Market Prices - Agriculture (TT\$ Mn)	GDP at Constant 2000 Price - Agriculture (TT\$ Mn)	QGDP Index (2010 =100) - Agriculture	Real GDP Growth - Agriculture
1995	733.1	622.7	305.7	n.d.
1996	721.1	665.5	316.1	6.9
1997	777.4	752.8	253.9	13.1
1998	783.4	698.3	226.8	-7.2
1999	830.3	714.1	254.0	2.3
2000	697.2	697.2	258.0	-2.4
2001	707.6	757.7	253.4	8.7
2002	787.2	823.7	281.8	8.7
2003	674.6	698.0	236.8	-15.3
2004	637.0	459.1	213.3	-34.2
2005	487.3	434.1	198.8	-5.4
2006	657.3	390.1	208.8	-10.1
2007	509.0	475.1	182.2	21.8
2008	640.7	511.4	174.5	7.6
2009	721.8	345.9	173.4	-32.4
2010	734.8	456.9	100.0	32.1
2011	744.2	458.3	92.8	0.3
2012	770.1	400.4	88.8	-12.6
2013	795.7	377.3	83.3	-5.8
2014	768.9	383.7	88.6	1.7
2015	761.0	388.2	91.5	1.2
2016	750.5	364.8	n.d.	-6.0

Source: Central Bank of Trinidad and Tobago *DATA CENTRE Economic Block*

1.2 Additionally, information from the Central Statistical Office (CSO) showed that food prices increased by 0.3 per cent in July 2016 and 1.3 by December 2016.⁴

⁴ <http://cso.gov.tt/data/?productID=2-Index-of-Retail-Prices>

- 1.3 The Budget Statement, 2016 also disclosed that, *“In recent years, agricultural production has been averaging just about 0.5 percent of GDP.”*⁵
- 1.4 The Social Sector Investment Programme indicated that, *“agriculture makes the relatively smallest contribution (0.6%) to the Gross Domestic Product (GDP) of the country. However it employs some 4% of the population and is key to the rural socio-economy.”*⁶
- 1.5 Also stated in the Social Sector Investment Programme 2016 was that *“In 2013, Trinidad and Tobago was identified as the second largest importer of agricultural products from outside the region accounting for 20% of total regional imports, amounting to US\$950 million. The country was also identified as the sixth biggest food importer on a per-head-of-population basis.”*⁷ The document also mentioned that, *“At approximately \$4 billion, one economist has said: “The food import bill is one that will be unmanageable over the next few years especially if it continues to progress in the same direction.”*⁸
- 1.6 Given the foregoing, and considering the need to ensure that Agricultural State Lands are being maximized in terms of output, the Committee resolved to hold this inquiry.

⁵ Page 14 Budget Statement 2016 <http://finance.gov.tt/wp-content/uploads/2015/10/Budget-Speech-2016.pdf>

⁶ Page 89 Social Sector Investment Programme, 2016

⁷ Page 88 Social Sector Investment Programme 2016

⁸ Ibid

2. Keys Issues, Findings and Recommendations

2.1 Key issues regarding the type and output of agricultural commodities being produced in Trinidad and Tobago

Type of Agricultural Commodities Produced in Trinidad and Tobago

2.1.1. According to the Ministry of Agriculture, Land and Fisheries (MALF), the types of Agricultural commodities being produced on State and private lands are:

Crop Commodities

- Vegetables – tomatoes, melongene, cabbage, cucumbers, bodi, ochro, lettuce, watermelon, hot peppers;
- Root crops – cassava, sweet potato, dasheen, eddoes, ginger;
- Legumes & Pulses – pigeon peas, corn, beans;
- Staples – rice;
- Fruits – paw paw, pineapple, citrus;
- Tree Crops - cocoa, coconuts.

Livestock Commodities

- Milk;
- Meat – broilers, pork, goat, sheep, beef & rabbit.

2.1.2. Details of the Production of Agricultural Commodities for the years 2011-2015 submitted by the MALF are at Appendix III.

2.1.3. CGL submitted a summary of the crops cultivated and harvested during the period October 1, 2015 and September 30, 2016 in Table 2 below:

Table 2

Summary of crops cultivated and harvested by CGL during the period 1st October 2015 and 30th September 2016

TYPE OF PRODUCE	WEIGHT (lbs.)	TYPE OF PRODUCE	WEIGHT (lbs.)
Hot peppers	497,746	Dasheen Bush	4,452

TYPE OF PRODUCE	WEIGHT (lbs.)	TYPE OF PRODUCE	WEIGHT (lbs.)
Tomato	61,272	Pimento	766
Paw Paw	140,313	Pigeon Peas	291
Pumpkin (Regular)	56,624	Dasheen	1,426
Pumpkin (Antiguan)	14,618	Sweet Peppers	289
Pumpkin (Chinese)	2,148	Sweet Potato	6,191
Plantain	13,506	Corn (COBS)	15,602

Source: Prehearing submission from CGL dated February 8, 2017

The Role of the MALF in Determining the Type of Crops Being Produced

2.1.4. The Committee was informed that the MALF is able to influence the type of crops grown on Agricultural State Lands through its Land Distribution Policy. The MALF determines the selection of crops as priority for development as applicants are required to complete a Programme of Development which identifies the type of agricultural activities to be taken on the land. The agricultural activities must be in alignment with the policy of the MALF.

Food Crops That Local Producers Have a Competitive/Comparative Advantage in Producing

2.1.5. The MALF submitted the following food crops that local producers have a competitive/comparative advantage in producing:

- cocoa;
- green vegetables (christophene and water cress – micro-climate/agronomic conditions);
- root crops (sweet potato and cassava);
- coconuts;
- honey;
- plantain;
- watermelon;
- shadon beni.

2.1.6. The MALF indicated that the following initiatives were being undertaken to increase production of these crops on the local market:

- extension training;

- infrastructure development;
- Agriculture Incentive Programme; and
- the promotion of support agencies.

2.1.7. NAMDEVCO also submitted information on the food crops that local producers have a competitive/comparative advantage in producing:

- hot peppers;
- pumpkins;
- watermelons;
- cassava; and
- pineapples.

2.1.8. NAMDEVCO advised that these commodities are not imported which demonstrates that they are sustainable in production. The following initiatives were being undertaken by NAMDEVCO to increase the production of these commodities:

- The establishment of Commodity Value Chains;
- Provision of market facilitation by way of wholesale and farmers' markets;
- Research and sourcing of market opportunities through buyers and sellers' forum, Red Book subscription and updated listings.

The Most Economically Profitable Agricultural Commodities to Produce Locally, Regionally and Internationally

2.1.9. Both the MALF and NAMDEVCO submitted information stating that the agricultural commodities most profitable to produce locally for the local, regional and international markets were cassava, sweet potatoes, hot peppers, pimento, callaloo bush, cabbage, lettuce, pumpkin, sweet pepper, tomatoes, cucumber, pawpaw, pineapple, watermelon, melongene, butternut squash, plantain (ripe), dried coconuts, papaya and citrus. The submission received from Caroni Green Limited (CGL) indicated that in addition to these crops, cantaloupe, mangoes, avocado, soursop, broccoli, kale, carrots, dasheen and onions are also profitable to produce locally for the local, regional and international markets.

- 2.1.10. CGL also submitted that there is value added potential in the manufacturing of precut root vegetables for example cassava flour and French fried cassava and sweet potato.
- 2.1.11. NAMDEVCO also proffered that larger returns on investments can be derived from watermelons, paw paws, pineapples, sweet peppers and tomatoes as these are demanded both locally and regionally.

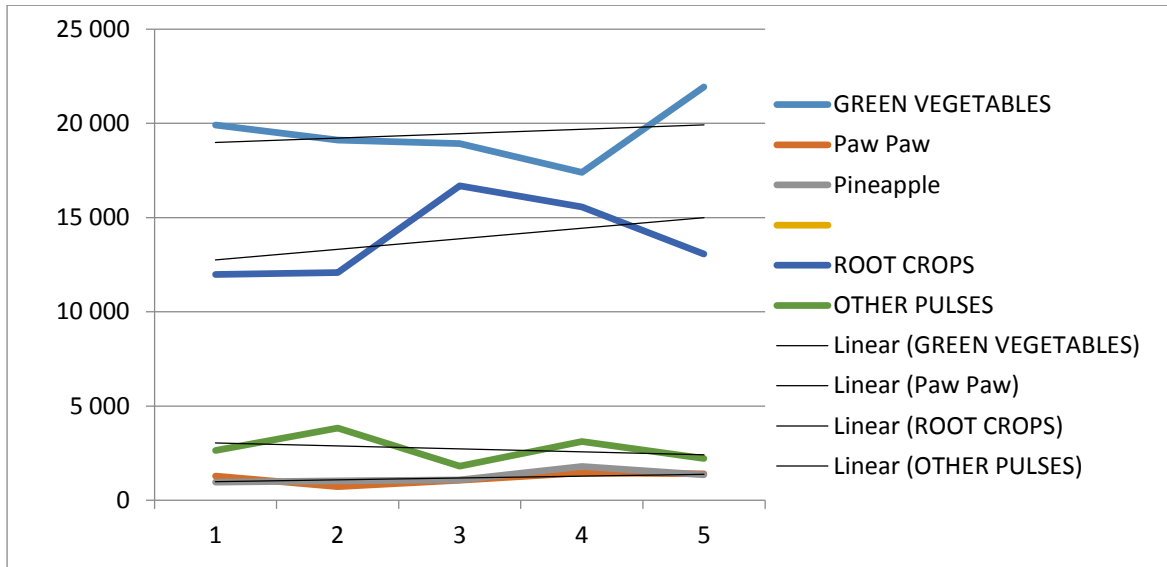
Main Agricultural Commodities Being Demanded

- 2.1.12. The Committee received information from the MALF on the main agricultural commodities being demanded locally, regionally and internationally as at Appendix IV.
- 2.1.13. In its submission to the Committee, NAMDEVCO indicated that a National Crop Production Survey undertaken in 2014, identified the top ten commodities under production in Trinidad which were also discovered to be the same commodities being demanded locally, regionally and internationally. See Appendices IV and V for details.
- 2.1.14. NAMDEVCO also indicated in its submission that pumpkins are highly demanded locally, regionally and internationally which shows its competitiveness and profitability in production.
- 2.1.15. CGL submitted a summary of agricultural commodities that are being produced in Trinidad and Tobago and are categorized according to end use with respect to import substitution, export and value added production at Appendix V. The summary comprises data obtained from MALF's Action Plan 2012 to 2015.

Supply of Agricultural Crops

- 2.1.16. The information received by the MALF included an analysis of the supply of agricultural crops for the years 2010-2015 as illustrated in Chart 1. The information in the Chart exemplified that the supply of green vegetables and root crops were trending upwards while pineapple, pulses and pawpaw were stable. The MALF also submitted further information on the supply of agricultural commodities over the period 2011-2015 (Trinidad only) at Appendix VI.

Chart 1 - Supply of Agricultural Commodities 2010-2015



Source: MALF

Exports

2.1.17. The MALF submitted information on the top five (5) commodities being exported by value and quantity for the period 2010-2014 in Table 3.

Table 3 - Top Agricultural Commodities Exported (2010 – 2014)

Year	Commodities	Quantity (kgs)	Value (\$'T)
2010	cocoa beans	536,400	14,433,038
	fish	605,404	10,352,005
	vegetables fresh/ chilled	691,875	5,180,710
2011	cocoa beans	351,659	8,103,149
	fish	991,804	18,385,456
	vegetables fresh/ chilled (pumpkins)	1,719,861	8,103,149
2012	cocoa beans	368,663	10,944,711
	fish	1,079,625	23,035,196
	vegetables / chilled vegetables	752,345	7,271,429
2013	cocoa beans	364,323	11,118,737
	fish	612,633	9,983,312
	vegetables/ chilled	825,683	8,018,326
2014	cocoa beans	381,988	11,933,046
	fish	1,282,321	18,746,617
	vegetables fresh/ chilled	698,593	7,538,354

Source: MALF

2.1.18. The MALF indicated that apart from these commodities, it was considering the export of pawpaw, dasheen bush, pumpkin and watermelon. The MALF also indicated that it was considering the export of pimentos and melongene through CGL.

2.1.19. NAMDEVCO advised that cocoa, coffee and honey could be considered for export to the United Kingdom (UK) market. However, the lack of Good Agricultural Practices (GAPs), a cold chain, post-harvest facilities and production protocols were impediments to producing such commodities locally.

2.1.20. NAMDEVCO also indicated that regionally, Barbados is the main importer of fresh produce from Trinidad and Tobago and internationally, hot peppers and pumpkins were the two commodities that are demanded by the United States of America (USA). Table 4 outlines information submitted by NAMDEVCO from the CSO on the local agricultural products that were exported, the corresponding quantities and the prices at which they were sold in the past five (5) years ending 2015.

Table 4

CENTRAL STATISTICAL OFFICE

TRADE WITH SELECTED H.S ITEMS FOR THE PERIOD 2012-2015 JAN-SEP

Flow	2012		2013		2014		2015	
	EXPORTS		EXPORTS		EXPORTS		EXPORTS	
HS \ Indicators	TT\$	KGS	TT\$	KGS	TT\$	KGS	TT\$	KGS
07099030:PUMPKINS FR\\CH	4,701,558	1,099,878	5,940,353	1,306,300	3,207,245	742,238	900,888	236,991
09041100:PEPPER NOT CRUSHED OR GROUND	169,079	10,996	19,312	853	40,464	1,762	128,299	7,705
09041200:PEPPER CRUSHED OR GROUND	314,551	6,918	370,947	7,738	468,879	11,155	305,541	9,020

Source: CSO as submitted by NAMDECO

2.1.21. The representative of the CGL informed the Committee that the company has been exporting hot peppers at a varying price of US\$.80 to US\$1. per pound and recently commenced the export of pawpaw at US\$.60 per pound to markets located in the USA, Canada and the UK. However, CGL indicated that it satisfies less than five (5) percent of the demand for hot

peppers in Miami and New York. CGL also indicated that it has been receiving enquires as far as Australia for scorpion peppers at US\$20. per pound.

2.1.22. CGL indicated that based on CARICOM reports on agriculture and market opportunity dialogue with stakeholders, it is evaluating the feasibility of producing the following crops for the purpose of export and import substitution outlined in Table 5.

Table 5
Proposed crops for import substitution and export by CGL

Crop	Import substitution	Export
cantaloupe	✓	
passion fruit	✓	✓
slicer tomatoes	✓	
sweet corn	✓	
coloured bell peppers	✓	
scorpion peppers		✓
shado beni		✓

Source: Prehearing submission from Caroni Green Limited dated February 8, 2017

The Need for a Consistent Supply of Export

2.1.23. The need to provide a consistent supply of commodities for export was underscored by CGL. The representative of the CGL indicated that export is customarily not conducted as a sustainable industry because farmers opt for higher prices at local markets and overlook the export market which results in sporadic shipments. Notwithstanding, for the first time in twenty-five (25) years, Trinidad and Tobago has been able to satisfy the requirements for the export of hot peppers by ensuring a consistent supply of the commodity for 16 to 18 months to the USA, Canada and the UK, via the CGL.

The Need for Land to Facilitate a Consistent Supply for Export

2.1.24. CGL underscored the need for hundreds of acres of land to facilitate consistency in exports and for the sector to prepare itself for the levels of production necessary to make a significant contribution to the foreign exchange situation.

NAMDEVCO’s Strategies to Increase the Quantity of Agricultural Commodities Produced Locally

2.1.25. The immediate short terms strategies that are currently implemented by NAMDEVCO to increase the number of agricultural commodities produced locally entails the Farmers Markets and the Market Information dissemination. The long term strategies of NAMDEVCO include Global GAP and Product Development.

Import Substitution

2.1.26. CGL’s submission dated February 8, 2017 indicated that the company has employed a holistic approach to understanding the crops that can be grown locally to facilitate import substitution. Accordingly, the company engaged stakeholders such as supermarkets, exporters and restaurateurs for their input. CGL’s submission also indicated that it is guided by recommendations in the Food Action Plan and the CARICOM/CARIFORUM⁹ Fresh and Processed Produce Market Opportunity Study. Based on market research, CGL identified the following crops in Table 6 to be assessed for local production.

Table 6
Crops for assessment for local production based on market research

Vegetables	Roots and Tubers	Fruits	Spices
cabbage, lettuce, broccoli, tomatoes (slicer), sweet corn, portobello and button mushrooms, bell peppers and cauliflower.	sweet potatoes, dasheen, white irish potatoes, french fries, yam.	coconuts (water, milk, oil and copra), soursop and passion fruit	ginger

Source: Prehearing submission from Caroni Green Limited dated February 8, 2017

2.1.27. CGL advised that many of the crops in Table 6 can be produced locally by employing greenhouses.

⁹ The Caribbean Forum of the African, Caribbean and Pacific Group of States

The Need for Investments in Agriculture

2.1.28. CGL underscored the need for investments in agriculture. Additionally, CGL indicated that import substitution of many of the crops in Table 6 can be facilitated by capital investment either through government or private sector partnerships and the provision of attractive incentives to farmers.

2.1.29. At the public hearing CGL informed the Committee that an investor from the Netherlands is keen to assist in the production of bell peppers, to end its importation. However, there is need to remove the bureaucratic obstacles to facilitate such investments.

2.1.30. The following impediments to producing the commodities outlined in Table 6 baring pests and diseases were submitted by CGL:

- Disorganised, unplanned production- which leads to overproduction and eventual glut on the local market resulting in depressed prices and financial losses by farmers/producers;
- Lack of guidance and assistance for farmers and producers- in terms of finding the appropriate market for their produce;
- Insufficient education of farmer and producers about the financial benefits further up the value chain;
- Absence of GAP, Hazard analysis and critical control points (HACCP)¹⁰ and other official certification standards required to meet international standards; and
- Inadequate adoption or adaption of appropriate technology in the agriculture sector.

2.1.31. The MALF also provided information in Table 7 on the agricultural commodities that can be grown locally to substitute imports.

¹⁰ A systematic preventive approach to food safety from biological, chemical, and physical hazards in production processes that can cause the finished product to be unsafe, and designs measurements to reduce these risks to a safe level. https://en.wikipedia.org/wiki/Hazard_analysis_and_critical_control_points

Table 7
Agricultural commodities that can be grown locally to displace or substitute imports

Imported Product	Products to targeted to displace/substitute
Starchy Carbohydrates <ul style="list-style-type: none"> • white potatoes • wheat flour • rice 	sweet potato, cassava flour rice cassava, eddoes, breadfruit
Sweeteners (sugar and artificial sweeteners)	sugar, honey
Edible Oils	coconut oil
Meat and Processed Meat	beef, pork, poultry, goat, duck, rabbit, sausages, patties

Source: Prehearing submission from MALF

2.1.32. The MALF also submitted information concerning the impediments to producing these commodities:

- Inability to adapt to local climatic conditions;
- Limited Resources – capital, technology, infrastructure and labour;
- High risks exacerbated by lack of crop insurance, praedial larceny, lack of market data;
- Limited availability of Land – insecurity of Land Tenure;
- High capital cost of protected agriculture;
- Lack of a GAP programme;
- Lack of operational post- harvest handling facilities;
- Lack of production protocols;
- Insufficient research and transfer of technology and information regarding growth and production of displacement commodities;
- Labour Shortage and High labour cost;
- Limited access to finance and credit;
- Incidence of pest and disease;

- Unavailability of Germplasm suited to local conditions;
- High Cost of Production; and
- Low level of mechanization or technology use.

The Dominant Pattern of Farming in Trinidad and Tobago

2.1.33. Based on evidence received from the MALF, the dominant pattern of farming in Trinidad and Tobago continues to be the traditional family farm. However, the MALF indicated that farming has been generally dwindling because of the lack of continuity by youths. An official of Caroni Green Limited (CGL) indicated that there is need to find *“novel approaches to getting back that young blood into the sector.”*

Findings and Recommendations

2.1.34. Based on the information provided by the stakeholders present at the hearing, the Committee concluded that:

Commodities being produced and demanded

1. Although there is an analogy between commodities being produced and those being demanded, the production of agricultural commodities has been generally declining which evidently is attributed to a reduction in farming.
2. Trinidad and Tobago continues to operate with a primitive form of farming and this dominant pattern of farming is contributing negatively to the output and types of commodities being produced.
3. The Committee noted from the evidence that this is largely attributed to the lack of continuity in the sector.
4. There is a low number of farmers registered as companies. The Committee is therefore of the view that the degeneration of such an important sector should not be allowed to persist.
5. The Committee noted that there is need to implement the different methodologies to boost farming.
6. There is need for a change in the approach to farming, one that is business oriented. Farming should be encouraged as a career, the MALF should accordingly provide the

necessary lands, funding and advise farmers in agriculture entrepreneurship.

The Role of the MALF in determining the type of crops being produced

7. The MALF has a primary role in determining the type of crops being produced in Trinidad and Tobago. There is need for the MALF to revisit the type of crops being produced. In this regard, consideration should be given to crops that can serve as import substitutes and can be exported.

Exports

8. The Committee notes the opportunities available for the export at various locations that can yield high returns but are not being explored.
9. The Committee also notes the need for a consistent supply of commodities for exports.
10. There is a clear need for **sufficient lands** to provide the levels of supply necessary for export.
11. NAMDEVCO must act to fulfil its mandate with regard to the export of commodities.

Import Substitution

12. The Committee observed that there are opportunities to end the importation of some agricultural commodities but these are not being employed. The Committee therefore concurs to the use of green houses to produce crops. The MALF should further explore this initiative with an aim to end importation of crops and for the exportation of these crops.
13. There was general consensus regarding the impediments to producing certain crops. We noted that some of the overarching impediments underscored by the stakeholders were:
 - the absence of a GAP programme;
 - the lack of operational post-harvest handling facilities; and
 - the lack of production protocols.

Investment in Agriculture

14. The Committee recognises and agrees that capital investment is required to advance

agriculture in Trinidad and Tobago. The Committee also concurs to the use of private sector partnerships to assist in these investments. The MALF should therefore take the initiative to explore and implement this proposition.

- A. We recommend that the MALF review its approach to farming by:**
- (iv) Rebranding the image of agriculture;**
 - (v) Presenting agriculture as a business; and**
 - (vi) Encouraging technological advancements in farming.**
- B. We recommend that the MALF revisit its Land Distribution Policy with a view to producing crops that can serve as import substitutes and can also be exported.**
- C. We further recommend that the NAMDEVCO take up its mantle to explore the available opportunities for the export of crops with a view to encouraging sustainability of the agricultural export sector.**
- D. We recommend that the MALF implement a greenhouse programme with an aim to end importation of crops and for the exportation of these crops. We propose a pilot project of the greenhouse programme to be implemented one (1) year subsequent to the laying of this report. The pilot project should be monitored to determine whether the production levels necessary for export and import substitution are being achieved.**
- E. We further recommend that the MALF explore other methodologies for farming and determine the feasibility of implementing such methodologies in Trinidad and Tobago to improve the agricultural sector and farming.**
- F. We recommend that the MALF approach the banking sector with a view to encouraging investments in agriculture by providing funding for farming related businesses.**

- G. We further recommend that the MALF approach the business sector by way of stakeholder consultation to determine their level of interest in the development of agribusinesses.
- H. We recommend that the MALF operationalize its current facilities at Brechin Castle, Couva and Brickfield, Tabaquite before considering additional facilities.
- I. We also recommend that the MALF examine the feasibility of implementing additional post-harvest facilities which should be located at in close proximity to ports and the airport.

2.2 Key issues regarding the programs and initiatives to encourage agricultural participation

MALF's Programmes

2.2.1. MALF submitted the following information on the programmes and initiatives aimed at the development of the agriculture sector:

- **Training Programmes:**
 - ✓ *Farmers Training Programme.* Courses are conducted in Crop Production, Agroforestry, Agro processing, Aquaponics, Repairs and Maintenance of small gas engines, Pest and Disease Management, Home Gardening, Ornamental Production and Landscape Management and Livestock Production and Forage Management.
 - ✓ *Community Based Training* – involving Carrera Prison, Blind Welfare Association and Farmer groups.
 - ✓ *Training for Extension Officers* of the ministry.
- **Agriculture Incentive Programme (AIP).** The AIP provides a range of financial support to farmers, foresters and fisher folks in Trinidad and Tobago.
- **Agricultural Infrastructure Programme.** The provision of Agricultural Access Road, Flood and Irrigation Control Project to the farming community.

- **Farmers' Registration Programme:** All farmers are required to register to access the Ministry's programmes and services.
- **Disaster Assistance Programme.** This programme provides financial relief to farmers to assist them to restart production after a flood. The procedure for accessing this programme involves the MALF seeking out farmers or fisherfolk who were affected by some natural disaster, information on the impact of the disaster being quantified and a mathematical figure with regards to compensation is derived at to ensure that there is equity in the process. The process can take between three (3) to six (6) months.
- Provision of breeding stock, plants, crop extension and veterinary services at highly subsidized prices to the farmer.

2.2.2. MALF also has an ongoing programme for the development of access roads additionally, under its Water Management Programme, a Public Sector Investment Programme (PSIP) project, sluice gates as well as channel systems like culverts are provided to farmers. The Committee was advised that tenders have already been invited and a sluice gate for the Orange Grove and Plum Mitan projects and eight (8) access roads are scheduled for the year 2017.

2.2.3. To qualify for these programmes, farmers are required to send their requests to the agricultural extension offices through the regional administration office that is closest to where they reside.

Promoting Agriculture for the Youth

MALF's Initiatives

2.2.4. The Committee was informed that a list of incentives for youths was implemented by the MALF with a view to sustaining agricultural farming. MALF also partnered with British Petroleum Trinidad and Tobago (BPTT) on a workshop where approximately sixty (60) adolescents participated in a pilot project involving agricultural entrepreneurship. Further, the Committee was advised that the MALF's focus is on technologies and the implementation of Information Communication Technology (ICT) in agriculture.

2.2.5. MALF also admitted that it was unable to offer substantial acreages to young entrepreneurs to facilitate certain production types because of its aim to provide land to a wider variety of

people. As it pertains to maximizing on larger acreages, the MALF indicated that it is seeking to encourage mixed farming on larger acreages.

NAMDEVCO's Initiatives

2.2.6. NAMDEVCO indicated that its Farm to Table initiative includes discussions with 4H Clubs which focuses on the youth in schools. Additionally, NAMDEVCO has been devising ways to engage youths and has considered implementing a programme where farmers interact with school children on agricultural practices as well as education on agricultural entrepreneurship and the respective marketing process with the aim of engaging them in the farmers markets.

2.2.7. However, NAMDEVCO indicated that the following were obstacles to farming:

- (i) land tenure- approximately 100 leases were given to farmers some whom have been waiting for decades as much as 30 years;
- (ii) accessibility to credit- young farmers face many obstacles to accessing credit facilities;
and
- (iii) a lack of capital and training- there is a perception that farming does not require any capital, or training.

2.2.8. NAMDEVCO indicated that until these are corrected encouraging young farmers to commit to farming will remain difficult. NAMDEVCO also called for a division within the MALF to be dedicated to safeguarding the welfare of farmers.

CGL's Initiatives

2.2.9. CGL indicated in its submission to the Committee that it makes its contribution to training through collaboration including visits to and hands on training at its two farms to agricultural entrepreneurs, farmers and farmer groups. Additionally, CGL indicated that it has been using its hot pepper production to provide guidance and mentorship to individuals, NGO's and seasoned farmers in the production of hot peppers and the plethora of opportunities available on the export and domestic markets and value chain.

2.2.10. Notwithstanding, CGL indicated that it is at a disadvantage as it has to try to share its knowledge and continue to engage in production given very limited resources. However, the company is showing significant gains in terms of training through its partnerships.

The Lend Programme

2.2.11. The LEND programme is an initiative of Atlantic LNG Company of Trinidad and Tobago (Atlantic). Discussions between CGL and Atlantic on the LEND programme commenced in November/December, 2016 and focused on the South-Western Peninsula of Trinidad. CGL is working with Atlantic to develop the business models for various crops. This includes, identifying the production cost per acre, income per acre and net profit that can be possibly obtained. It was indicated that the LEND programme was at the developmental stage, specifically, canvassing farmers in the area to identify their interests.

2.2.12. CGL also advised that it was working on obtaining lands through the Palo Seco Agricultural Enterprises Limited (PSAEL) for the LEND programme so that additional farmers can be included in the programme to increase production.

2.2.13. A similar programme to the LEND was also implemented by CGL which targeted Gasparillo, Wallerfield and Siparia farmers. CGL also indicated that it worked with farmers of the Tableland Pineapple Association and witnessed a significant increase in production particularly with hot peppers.

Collaborative Training for Farmers with PCS Nitrogen

2.2.14. CGL indicated that it had a formal collaboration with PCS Nitrogen for use of its training facilities at its Model Farm located in Union, Couva. The arrangement entails the provision of classroom type training at the PCS Nitrogen's training facilities (which are in close proximity to all CGL's farms) and practical training in agronomic practices on CGL's farms. A detailed table of Technical Training Programmes submitted by CGL is at Appendix VIII.

2.2.15. CGL admitted that unfortunately it has not done any extensive marketing of the available training for farmers via the PCS Nitrogen facilities because of constraints in its resources. Notwithstanding, CGL indicated that Atlantic was inclined to providing some resources to

assist in the area of marketing. In the interim, CGL works directly with various farmer groups and farmer cooperatives through its alliance with PCS Nitrogen.

Farmers' Cooperative Arrangements

2.2.16. The MALF indicated that its meetings involving farmer groups, cooperative representatives, members of the MALF and member representatives of other groups are held at the various districts once per quarter.

2.2.17. CGL informed the Committee that its company advises farmers on economies of scale and establishing a cluster of farmers to collaborate in production and through its various farmer groups, CGL has been able to put approximately 200 acres of land into production.

2.2.18. Additionally, part of CGL's strategy involves trying to find innovative ways of consistently reducing the cost of production to make a farmer financially sustainable and independent. CGL indicated that there is need to devise creative means to move the sector forward with very limited resources.

Efforts to Promote Consumer Acceptance and Market Assurance

2.2.19. The MALF advised that it met with the Supermarkets Association of Trinidad and Tobago and also partnered with the Massy Group for its "Walk/Run for Food" in 2016 and obtained the assurance from the Association that Supermarkets would be willing to accept local produce and market some products. It was also indicated that the Massy Group was engaging in consultancy with regards to the production of local vegetables. Some farmers indicated their interest and began partnering with supermarkets for instance, for the supply of tomatoes and the lettuces. The MALF also indicated that it received feedback from supermarkets regarding their observation of consumers' willingness to purchase local produce. MALF also embarked on a buy local campaign and continues to encourage consumers to purchase local produce mainly for food safety and health purposes.

2.2.20. NAMDEVCO indicated that it established direct links with its stakeholders. For example, through expanding its farm situation programme, NAMDEVCO assisted its farmers in

partnering with some Regional Health Authorities (RHAs), to supply produce to hospitals and related health institutions. There are also plans to establish direct links with the school feeding programme.

2.2.21. On this matter, the Committee was informed by CGL that subsequent to training, the company establishes linkages with export markets for farmers. As a result of this initiative, CGL has observed the spawning of a new cadre of entrepreneurs who purchase products from the farmers locally as import substitution.

2.2.22. CGL also indicated that it has been collaborating with Eco-Industrial Development Company of Tobago (E-IDCOT) Limited and met with the Tobago Agro Processors Association (TAPA) regarding a solution to an inconsistency of supply and quality peppers and pepper mash for their line of gourmet pepper sauces sold in Tobago.

MALF's Incentives for Agro-Processing

2.2.23. The following were the stipulated incentives being provided by the MALF for agro-processing:

1. fifty percent (50%) to a maximum of \$50,000 for facilities;
2. fifty percent (50%) to a maximum of \$20,000 for the refurbishing of facilities; and
3. in terms of the packaging material of fifty percent (50%) to a maximum of 15,000 for agro-processing.

Findings and recommendations

Based on the evidence received the Committee made the following observations:

Incentives

1. Despite incentives being provided by the MALF, there continues to be a pattern of decline in interest in agriculture.
2. There is need to engage and encourage new farmers whether young or old.
3. There is need for a business model to be presented to prospective farmers similar to that currently being done by CGL. The Committee also noted the lack of feasibility studies available to young farmers via the NAMDEVCO.

4. There is need to provide farmers with sufficient lands. The Committee was concerned that the MALF was unable to assure potential young farmers substantial acreages despite having access to Crown Lands that are available for feasible agricultural enterprises.
 5. The Committee also noted that there does not seem to be a sustained approach on the part of the MALF to coordinate lands with potential young farmers.
 6. The MALF's sole focus appears to be on established farmers.
 7. There is clear need for the return of the youth camp approach given the clear need to link the youth to farming. This will provide youths with not only basic agricultural extension officer-type training, but the required basic trade skills.
 8. Some land base provision such as for the establishment of greenhouses are still required.
 9. Apart from the need of assurance of some quantum of land, the Committee is also of the view that at least some quantum of equipment should be made available for new farmers.
 10. The Committee also noted and agreed that there is need for a division to specifically safeguard the welfare of farmers. Furthermore, the need for a system of Crop insurance is noted.
- J. We recommend that the MALF embark on an exercise to re-evaluate its current incentives being provided to farmers. The new incentives should be specifically designed and directed at motivating old and budding young farmers respectively.**
- K. Being mindful that young people in particular do not qualify to become farmers unless they are in receipt of a parcel of land and that they are unable to access agriculture lands because of the process involved, we recommend that the MALF provide an opportunity for the youth to access smaller parcels of land to engage in farming by way of a Land Distribution Programme for Young Persons between the ages 18-35.**
- L. We recommend that the Permanent Secretary, MALF collaborate with the relevant Ministries regarding the re-implementation of youth camps.**
- M. We further recommend that the MALF engage all stakeholders by way of consultation to determine the types of incentives being demanded. As well, the MALF should**

consider the incentives being offered in other CARICOM Countries for example, Jamaica in its deliberations.

- N. Given that the cost of agricultural inputs such as fertilizers, pesticides and seeds is one of the major costs that contributes to the high cost of production, we recommend that the MALF examine the models for the local production of these fertilizers to reduce and eventually eliminate import of these inputs.
- O. We recommend as facets of reaching the youths to agriculture and to improving agriculture's image that the MALF engage in an exercise to link social media to agriculture such as Facebook, Twitter, Instagram and its Website. These mediums of communication should also be used to transmit information on the agricultural incentives available through the MALF.
- P. We also recommend that the MALF embark on a Nationwide Youth Agricultural Programme which targets Students in Forms 5 and Forms 6 to present Agricultural Entrepreneurship as a prospective career. The MALF can also use this opportunity to obtain feedback from the students on the types of incentives being demanded by youths. As well, information on youths interested in pursuing Agricultural Entrepreneurship should be gathered in the course of the programme.
- Q. We recommend that the MALF should prepare feasible and potentially profitable Agricultural Business Models inclusive of Green Houses to be presented to prospective farmers as well as prospective students from the Nationwide Youth Agricultural Programme.
- R. We recommend that the Permanent Secretary and the Commissioner of State Lands meet to discuss the feasibility of utilizing vacant and available agricultural Crown Lands for feasible agricultural enterprises. These lands should also be offered as part of the Agricultural Business Model package so that rents can accordingly be collected from these lands.

- S. We recommend that an incentive to potential farmers should include the provision of basic equipment necessary for farming. As well, the PS, MALF should consult with the Agricultural Development Bank (ADB) for loan facilities to be made available for advanced agricultural equipment particularly for farmers utilizing the Agricultural Business Models offered by the MALF.
- T. We further recommend that the MALF streamline all its processes to allow for the immediate access to the incentives by both young and old farmers.
- U. The Committee concurs and recommends that a division within the MALF be established to specifically safeguard the welfare of farmers: the Farmers Welfare Division. We further recommend that the MALF implement a system of Crop insurance to reduce the negative impact on farmers such as in cases of flooding. The Committee is cognizant that such systems are utilized by many countries, for example the U.S. crop insurance program and Canada's AgriInsurance.

2.3 Key issues regarding the polices, plans and research being employed to expand the types and quantity of agriculture commodities produced locally

Draft National Food and Nutrition Security and Agricultural Development Policy

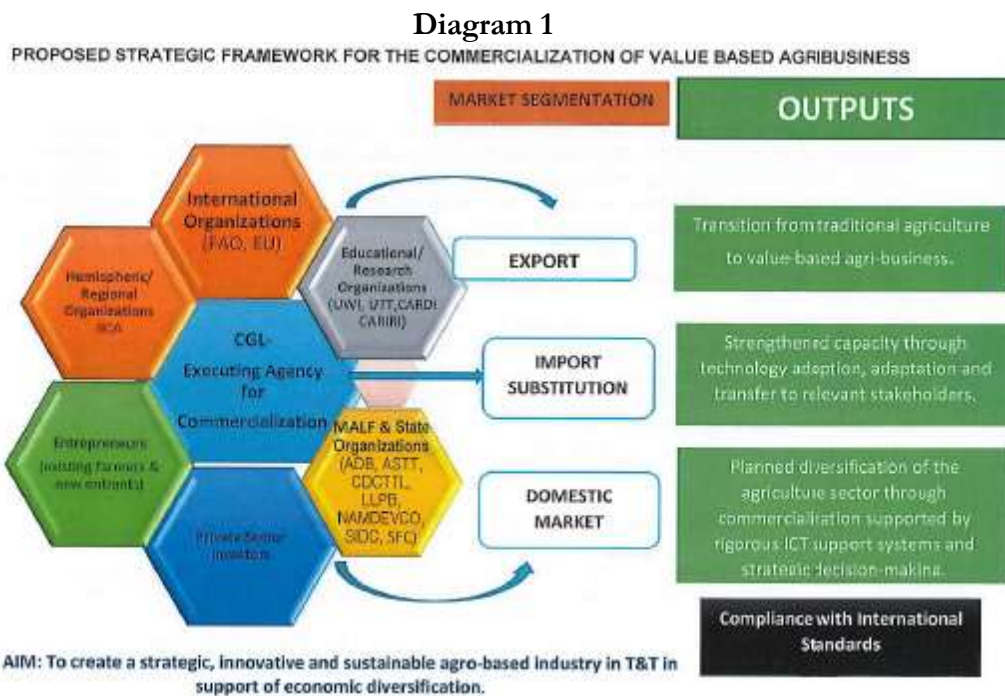
- 2.3.1 As a strategy for developing the agriculture sector, MALF developed "*The National Food and Nutrition Security and Agricultural Development Policy and Action Plan 2016-2020*" (FNSADP/AP). The plan replaces the expired National Food Production Action Plan 2012-2015 and involves the rapid transformation of the rural and agricultural sector and its renewal as a vibrant and productive economic sector with the aim of contributing to the diversification of the national economy. At the time of the hearing, the MALF indicated that it was about to engage stakeholders by way of consultation to assist in the development of the final plan. It is envisaged that as a result of the policy/plan, the sector will:

- evolve as an important driving force in expanding the livelihoods for people residing in rural areas;
- enhance employment and income opportunities; and
- improve food security and the nutritional status of the entire population.

2.3.2 MALF’s PSIP programmes therefore are focused on infrastructure development, research and development, provision of planting material, quality breeding stock, training programmes for farmers as well as trainers, and the sustainable management of the fisheries and forestry resources.

CGL’s Proposed Strategic Framework for the Commercialisation of Value Based Agribusiness

2.3.3. The Committee was informed by the CGL by written submission that the company has formulated a draft proposal of a strategic framework for the development of the sector through the commercialisation of value-based agribusiness as illustrated in Diagram 1 below:



Source: CGL

- 2.3.4. The primary objective of CGL's proposal is to create a strategic, innovative and sustainable agro-based industry in support of economic diversification at the national level. It is based on the recognition that all the aforementioned stakeholders are custodians and repositories of key elements such as research information, international best practices, technological advances as well as institutions vested with policy-making authority for the sector.
- 2.3.5. Notwithstanding, CGL submitted that the challenge with implementing this proposal lies with harnessing stakeholders interest in a coordinated manner which will provide the following outcomes:
- a. Planned diversification of agriculture sector through commercialization supported by rigorous ICT support systems and strategic decision-making;
 - b. Strengthened capacity in the sector through appropriate technology adoption, adaption and transfer to relevant stakeholders;
 - c. Modernisation of the sector by transitioning from traditional agriculture to value-based agri-business.

The Need for a State Supported Execution Agency

- 2.3.6. CGL underscored the need for a state-supported execution agency with a mandate to coordinate all available resources for the commercialization of value-based agribusiness in Trinidad and Tobago. CGL indicated the proposal for a state-supported executed agency was necessary because:
- an examination of the local agriculture sector revealed the need for a redefinition of roles within the sector to avoid overlapping and ineffective utilisation of resources;
 - currently most Ministries are not equipped to implement some programmes related to agriculture;
 - it was found that institutional frameworks were present in other countries where the agriculture sector was making a meaningful impact on GDP; and
 - there is a lack of collaboration which is required to move the agriculture sector forward.

2.3.7. The Committee was also informed by submission from the CGL that although a developmental model being proposed suggest the development of the sector entirely by the private sector with little or no State involvement, a Report from the Inter-American Development Bank (IDB) concluded that the private sector in Trinidad and Tobago *“is not up to the challenge of supporting economic growth, creating employment, contributing to government revenues in a significant way or improving the economic welfare of the nation’s citizenry.”* The Report also noted *inter alia* that:

1. Private sector involvement in the local agriculture sector has been limited to in large measure the importation and supply of agricultural inputs and commodities; and
2. In some respects, private sector interest may be counter to the State’s interest in developing the sector as an economic diversification measure.

MALF’s Relationship with NAMDEVCO and CGL

2.3.8. MALF indicated that it has a relationship with NAMDEVCO where it encourages the farmers’ market. The location of one of the farmers market is located at the MALF’s new offices in Chaguanas. The MALF collaborates with NAMDEVCO to assist farmers in selling produce.

2.3.9. However, in terms of MALF’s relationship with CGL, MALF indicated that it was in the process of re-evaluating the mandate of the company because its focus was limited to the export of hot peppers only although its business plan had indicated that it had increased food production and reduced food price inflation. In the first year of its operations, CGL was provided with funding by the MALF with the intent that it would subsequently become self-sufficient. The MALF indicated that it has to examine a policy decision of CGL’s capability for the export of other crops.

2.3.10. However, CGL indicated by written response and at the public hearing that it does not only produce hot peppers, but other crops such as, tomato, pawpaw, pumpkin, plantain, dasheen bush, pimentos, pigeon peas, and sweet potatoes. As well, sweet corn was produced as an import substitution. CGL submitted that it has access to one hundred (100) acres of land at MALF’s Mon Jaloux Farm in Cunupia and another hundred acres of State Lands at Union, Couva.

2.3.11. Further, CGL in its prehearing submission to the Committee described its relationship with its line ministry as dysfunctional and ineffective as evidenced by:

- CGL has been operating without a Board of Directors since October, 2015 which is in violation to Section 60 of the Companies Act Chapter 81:01 (“the Act”)
- There appears to be some ambiguity regarding the reporting relationship between the CGL and the MALF. For example, CGL is not included as one of MALF’s Agencies and Partners
- MALF has excluded CGL from its annual budget. The Company has not received a budget allocation or financial support from the MALF for fiscal years 2015/2016 and 2016/2017.
- CGL’s attempts to obtain policy guidelines or strategic direction from the MALF has been unsuccessful.

Lack of Cohesive One-Direction Policy

2.3.12. Both NAMDEVCO and CGL indicated that MALF drives the policy of agriculture in Trinidad. NAMDEVCO also indicated that although it has a certain amount of farmers under its purview the MALF is responsible for all farmers in Trinidad and Tobago. NAMDEVCO indicated that its Board was given a very clear mandate which mainly denotes the Farm to Table Programme. The other responsibilities of NAMDEVCO includes improving the physical facilities at Macoya and Debe as well as in Orange Valley for example by extending parking facilities at the Macoya and Debe markets. However, the evidence received from NAMDEVCO indicated that its mandate does not speak to the wider issues in agriculture and that there is not enough interface with the MALF. NAMDEVCO’s drive leans towards marketing development and less on origination. Further, NAMDEVCO indicated that there is a lack of clarity in the strategic direction.

Health Policies to Ensure the Safety of Commodities

2.3.13. NAMDEVCO indicated that it is seeking to ensure that its facilities are in sync with other national programmes that promotes the platform for the development of agriculture by being both an enabler in terms of marketing intelligence and by using its export platform to represent

modern agriculture. According to NAMDEVCO, MALF clearly indicated that food safety is a priority. Accordingly, NAMDEVCO's Board directs resources such as field officers, holds meetings and seeks advice on food safety from international bodies. NAMDEVCO also indicated that the Ministry of Health instituted an ongoing programme to encourage the safety of fish by icing.

Safety Standards at NAMDEVCO's Packing Houses

2.3.14. NAMDEVCO indicated that its packing house continues to be the only certified FDA¹¹ facility. Additionally, NAMDEVCO progressively seeks compliance with the HACCP standards for its packaging house. NAMDEVCO indicated that given a few additional resources it will be able to move agriculture to the next level.

Promoting GAP

2.3.15. Through the NAMDEVCO's PSIP projects, farmers are mandated to engage in GAP programmes. In 2005, NAMDEVCO introduced farmers to the concept of GAP. Some training was done in Tobago through the Inter American Institute for Cooperation on Agriculture (IICA). It was indicated that resistance from Trinidadian farmers was considerably more than resistance from Tobagonian farmers. An official of NAMDEVCO indicated that from his observation if the GAP approach is adopted it can become a competitive advantage to farmers domestically and for export. By building such an awareness there would be more demand for local produce rather than foreign produce. Notwithstanding, it was indicated that there is some work to be done with regards to achieving GAP.

National GAP Standard

2.3.16. NAMDEVCO indicated that it is currently revisiting a former national initiative undertaken in 2012/2013 to develop a national GAP standard involving all key stakeholders. NAMDEVCO further advised that the model GAP that is being considered for certification is a "TriniGAP" that is benchmarked against Kenya's GAP rather than the GlobalGAP¹² or

¹¹ Food and Drug Administration

¹² https://www.globalgap.org/uk_en/

EuroGAP¹³. The model will provide for monitoring the standard via first, second and third party audits by the farmers themselves, through the farm situation programme and through NAMDEVCO acting as the external agency respectively.

The Need for Markets to be HACCP Compliant

2.3.17. NAMDEVCO advised that there is a need for markets to be HACCP compliant to food safety from biological, chemical, and physical hazards in production processes that can cause the finished product to be unsafe and much training is needed for both farmers and staff as it pertains to post harvest technology and production techniques. These training programs are necessary for the transfer of knowledge and skills to get the set duties done efficiently. NAMDEVCO further reiterated that there can be success if agricultural and fish markets are modernise and are HACCP compliant facilities.

MALF's Role to Ensure Farmers Adopt GAP

2.3.18. MALF's Extension Officers assist farmers with implementing GAP and are located at the various districts managed by the Regional Administration North and Regional Administration South.

MALF Policy for Grades and Standards

2.3.19. The IICA is assisting the MALF with training for a cadre of persons who would be able to certify the quality of agricultural products. Persons to be trained would encompass the Research and Development Division of the MALF.

Agriculture Statistics among CARICOM Countries

2.3.20. CGL advised that in terms of some key statistics such as, average real contribution of agriculture to GDP, Trinidad and Tobago is rated as the worst performing country in CARICOM given its lowest contribution of less than .8 per cent of GDP, compared to 7 per cent in Jamaica and 26 per cent in Guyana and internationally, 7 per cent in Canada.

2.3.21. CGL also indicated that Trinidad and Tobago also decreased its contribution of agriculture to

¹³ <http://www.eurogap.cz/en/>

GDP by approximately, 76.5 per cent. It was noted that a significant portion of the decrease was attributable to the decline of the sugar industry. In comparison, Jamaica's decline over the same period has been a mere 2.5 per cent.

2.3.22. Additionally, an analysis of the countries that are significantly contributing to agriculture such as Canada, Jamaica, Guyana, indicated that they all have a strategic plan that can be accessed via websites. For example, Canada's Strategic Plan spans from 2013 to 2018. It was also indicated that Canada has already held meetings regarding its future plan beyond 2018. Guyana's Strategic Plan spans from 2013 to 2020, and addresses the technological advancements that are required. Jamaica also has a Vision 2030 document. On the contrary, Trinidad and Tobago is still operating with an action plan that is dated 2012 to 2015 and is not keeping pace with other member countries in the region.

2.3.23. CGL also provided some common themes that exists among the strategic directions of the countries that are significantly contributing to agriculture which Trinidad and Tobago lacks. These were:

- Building a competitive, profitable, innovative and environmentally sustainable sector;
- Placing emphasis on non-traditional commodity value chains;
- Building capacity among the producer organizations;
- Fostering partnerships and strategic alliances;
- Establishing the institutional frameworks for agribusiness and enterprise development.

Research into Developing Plans for Crop Diversification

2.3.24. The MALF submitted that it works in close collaboration and utilizes all research work conducted by Caribbean Agricultural Research and Development Institute (CARDI), the University of the West Indies (UWI), IICA, NAMDEVCO and Food and Agriculture Organization (FAO). For example, it collaborated with CARDI on several regional and national projects with respect to development and technology transfer as well as technical assistance. Some activities included: sweet potato production technologies, training staff in protected agriculture, provision of high quality hot pepper seeds to farmers and collaboration on the Caribbean Coconut Development Project.

- 2.3.25. NAMDEVCO indicated that research was conducted by the MALF and subsequent review and discussion were held with NAMDEVCO regarding twenty-five (25) different varieties of Cassava. Caribbean Research Institute (CARIRI) also engaged in research to determine the best suited varieties with a protein content of 11 – 13% for use in production of cassava flour and other products such as cereal and baked goods. Research was also conducted into the diversification of cassava (logs, grated, flour) at the Piarco Packing House.
- 2.3.26. NAMDEVCO also collaborated with the Market Information Organisations of the Americas (MIOA) and the UWI (Department of Food and Agriculture) and developed a curriculum for the formation of professionals in all aspects of Market Information System and Market Intelligence. NAMDEVCO was also the project leader for a project initiated by the MIOA and funded by the United States Department of Agriculture Foreign Agricultural Service. The project involved three additional universities, Zamarono University– Honduras, Earth University - Costa Rica, ESALQ University-Brazil. The goal of the project was to strengthen the capacities of the next generation of agri- entrepreneurs in all aspects of Market Information Systems and Market intelligence.
- 2.3.27. NAMDEVCO also signed a memorandum of understanding with the UWI (Department of Computing and Mathematics) for the development of the AgriNeTT project which is an Agriculture ICT project of the St. Augustine campus of the UWI. The project was geared toward research and development on Intelligent Decision Support for Enhancing Crop Management.
- 2.3.28. CGL executed a technical services contract with the CARDI and has been collaborating with the UWI and the University of Trinidad and Tobago (UTT) with respect to crop diversification to determine the agricultural crops best suited for Trinidad and Tobago’s climate and soil types. CGL also has an effective relationship with the UWI’s Faculties of Food and Agriculture and Engineering and the University is currently assisting with the improvement of post-harvesting handling to improve the life of the peppers for exportation.
- 2.3.29. CGL partnered with the UWI’s Faculty of Agriculture and has gained access to their alliance

with the China Agricultural University. The UWI dean of Agriculture indicated that the information exist but there is a lack of capacity to transfer the information to the farmers. Therefore, there is need for a mechanism within the structure of the industry to transfer the academic research to farmers.

Findings and Recommendations

Based on the evidence, the Committee concluded that:

1. There appears to be some synergy between the MALF and NAMDEVCO but a clear disconnect between CGL and the MALF pending the re-evaluation of its mandate. There is a clear need for closer collaboration between the Ministry, NAMDEVCO and CGL.
2. Although the MALF indicated that generally the agencies have the same goal which is to look after the main stakeholders, the farmers and that this goal is considered when establishing projects, there was a lack of cohesiveness amongst the entities examined. Unfortunately the lack of cohesiveness stems from the absence of integrated policy direction.
3. There is a lack of clarity in the strategic direction attributed to the lack of collaboration amongst the entities.
4. There is a lack of coordination amongst the entities examined. Evidently, CGL indicated that save for the public hearing it has never had a meeting with both NAMDEVCO and MALF. Additionally, it was noted that conversations prior to the hearing between NAMDEVCO and CGL disclosed that there is overlap in some of the functions which if are pooled can be more effective.
5. The Committee notes the proposal of the CGL for the creation of a strategic, innovative and sustainable agro-based industry.
6. There is a wealth of research available but an issue lies with transmitting the information to farmers.

- V. We recommend that the MALF establish monthly meeting with the entities falling under its purview.
- W. We further recommend that the MALF examine the proposal of the CGL for the creation of a strategic, innovative and sustainable agro-based industry for its possible implementation.
- X. We recommend that the MALF engage in stakeholder consultations with a view to revisiting its Agriculture Policy to ensure that all facets of the policy are aligned and coordinated.
- Y. We recommend that the MALF utilise its website and that of the entities falling under its purview to expend useful research information on agriculture and agricultural crops.

2.4 Key issues regarding the challenges faced by the MALF and the major stakeholders in the agricultural sector in attempting to increase crop diversity

Farmer's Attitude towards Diversification of Agricultural Produce

- 2.4.1. Evidence taken from NAMDEVCO indicated that producers have expressed their adversity towards diversification and that traditional farmers remain loyal to certain crops while younger farmers and newcomers to the agricultural field are stymied by the lack of access to resources and guidance on the type of crops they should grow and the market that they should target.
- 2.4.2. However, CGL indicated that upon meeting with several farmer groups from across the country it was ascertained that local farmers are very open to diversification of agricultural produce because they recognise the need for National Food Security and the generation of foreign exchange and are desirous of becoming knowledgeable about modern agricultural practices. Further, CGL indicated that two farmer groups have committed acreages in excess of two hundred acres for the production of hot peppers for the purpose of import substitution

and export with an aim of pushing the agriculture sector forward.

Challenges in Achieving Greater Diversity

2.4.3. NAMDEVCO submitted that it faces the following challenges with increasing the output of farmers and achieving greater diversity:

1. Price fluctuations- major losses are incurred sometimes in the field when the cost of production exceeds market prices. Farmers sometimes leave the produce abandoned on the field due to such a strain;
2. The inability of farmers to penetrate new markets- Competition is stiff in the market due the lack of information to farmers as to the commodities to grow;
3. The high cost of labour- some farmers work alone which contributes to a significantly decreased output;
4. The lack of land tenure and land availability;
5. Praedial larceny- greater praedial larceny laws and patrols needs to be implemented to alleviate such;
6. Technical challenges- Innovation and creativity in farming is limited due to such and more traditional means of farming are usually implemented; and
7. Lack of support services to farmers- which in the long term causes farmers not to be fully invested in the field of agriculture; and
8. Climate change- in terms of growing specific commodities successfully.

2.4.4. CGL also submitted information on the challenges facing food producers in achieving greater diversity in agriculture:

- Availability and high cost of labour;
- Inadequate production systems for seeds and seedlings to meet market demand;

- Uncompetitive freight rates to key export destinations;
- Inadequate holding facilities for fresh agricultural produce at airport;
- Limited local testing facilities for issues such as residual pesticide levels, at competitive prices;
- Inadequate infrastructure and resources for export market development;
- High cost of inputs to agricultural production;
- Praedial larceny;
- Access roads;
- Access to water for irrigation purposes;
- Disorganised, unplanned production;
- Limited alignment between production and market requirements;
- Absence of quality assurance systems, adherence to GAP, HAACP, BRC Global Food Safety and EuroGAP, official standards for grades, traceability systems and facilities for product and residue testing;
- High cost of certification and conformance to international standards;
- Non-integration of small farmers in the commercial marketing systems;
- Limited Intra Regional transportation;
- Unavailable finance;
- Inconsistent quantities of supply throughout the year;
- Inconsistent quality of vegetables and other commodities;
- Misuse of pesticides;
- Inadequate training;
- Lack of transfer and demonstration of new technology;
- Absence of systems for proper protected agriculture (especially given climate change, increasing pest pressures, praedial larceny and the need for better controlled production systems);
- Absence of ICT in agriculture;
- Generally, low regard for farming and the concept that farming is laborious work and a high risk venture;

- Difficulty to access land, labor, capital, technology and opportunities for innovation;
- A legacy of chemical-based farming and “instant farming” and a lack of appropriate and new technical training;
- Lack of access to markets and marketing skills; and
- Lack of programmes and working conditions for women in agriculture.

2.4.5. Evidence taken from CGL indicated that farmers are expected to bear all of the risks associated with agriculture such as praedial larceny, flooding and natural disasters. CGL referred to the Jamaican government’s substantial investments in agro-parks which are equipped with the necessary infrastructure including irrigation systems and access roads. CGL also referenced the Trinidad Guardian Newspaper dated December 29, 2016 with heading “*Jamaica combats climate change Drip irrigation boosts crop production*” as a comparison of one of the areas of support which the Jamaican Government is giving for the development of its agricultural sector.

NAMDEVCO’s Challenges with its Farmers Markets

2.4.6. Currently, there are nine (9) farmers’ markets that are expanding, as more farmers are opting to utilise the markets to sell their produce. However, some of the constraints of NAMDEVCO are:

- The need to expand some markets;
- The need to modernise markets;
- The need to make markets more compliant with modern trends of food quality and food safety.

Challenges Confronting NAMDEVCO in its Efforts to Develop and Expand Markets and Marketing Opportunities

2.4.7. NAMDEVCO indicated that it faces the following challenges in developing and expanding markets and marketing opportunities:

- The lack of empirical and supporting data for market opportunities that is required for NAMDEVCO to successfully infiltrate markets;

- The issue with competitive freight rates, freight carriers and landing site- restricts NAMDEVCO's efforts to expand marketing opportunities; and
- The lack of trans-shipments and production capacity which reduces NAMDEVCO's ability to gain a market edge and capture new opportunities.

2.4.8. NAMDEVCO proffered that, strengths and weaknesses must be identified to properly secure markets in the future.

Genetically Modified Seeds

2.4.9. MALF produces specific locally adapted crop/vegetable type seeds for farmers. Genetically Modified Seeds (GMOs) are hybrid seeds that are imported. However, it was indicated that there are no restrictions to imported GMO seeds. NAMDEVCO submitted that it is challenged with sourcing genuine planting materials and at times the quality of produce are questioned due to the source of seeds and materials. Unsuitable plant varieties results in poor quality produce that cannot properly be marketed and branded.

Certifying Farms to Engage in Export

2.4.10. NAMDEVCO indicated that pumpkin and hot peppers, the two (2) primary commodities exported to the North American Market have been reduced due to a standard requirement for the Food Safety Modernisation Act (FSMA) Final Rule on Produce Safety that the US market has implemented.

2.4.11. NAMDEVCO also indicated that some farms in Trinidad and Tobago have some farm certification based on the Barbados protocol. However, in order to engage in export to certain markets, GAP's are mandatory. As such, NAMDEVCO is examining its strategic plan, and is firstly examining its Farm to Table initiative. It is expected that there would be some initial resistance to new practices from some farmers. With regards to training, NAMDEVCO also indicated that it has begun to train its field officers who are involved in the farm situation programme in areas such as irrigation, plant/doctor training. It was mentioned that in order to capture foreign markets that there is need for more persons to be trained in GAP.

Cold Chain Farm

2.4.12. The lack of a cold chain farm has been underscored as an impediment to producing certain commodities by the entities present at the hearing. In terms of a strategic way forward to export, NAMDEVCO indicated that it would be feasible to have a cold chain farm in close proximity to where products are exported. In this regard, the facility at Piarco was proposed given that it is strategically located to airfreight produce closer to Piarco and can be utilised for export, and public/private partnership. NAMDEVCO indicated that it was seeking to acquire expression of interest and had some discussion with local businesses who import fresh produce and are recognising the value of utilising local produce and the facility. The NAMDEVCO also indicated that it is working with the Ministry of Finance to determine whether to proceed with the venture and is seeking to build the capacity amongst farmers to be able to supply these value added products.

The Value Added Processing Chain

2.4.13. According to CGL, farmers are not being included in the value-added processing chain. It was indicated that there is need for agencies such as the ADB to provide financing to farmers for agro processing facilities as there are numerous benefits to be derived from implementing the value added chain for example raw peppers are sold on the export market at US\$1. per pound whereas it is sold at US\$12 per pound in its mash stage and at US\$20 in its dried stage.

2.4.14. CGL also advised that Trinidad and Tobago lacks the production capability to support agro processing. There is clearly need for resources to process the peppers. It was indicated by CGL that this type of business was successfully implemented in Jamaica and that companies such as VEMCO Limited imports pepper mash at TT \$40million annually. CGL underscored that there is no need to import pepper given the sustainable level of production through CGL and that the private sector can invest in its processing.

Status of Packing Houses

2.4.15. The Committee was informed that the packing houses at Brickfield, Tabaquite and Brechin Castle, Couva are currently non-operational. It was indicated that they were opened but were

not outfitted with the necessary infrastructure. However, there are plans to establish public/private partnerships to treat with those facilities. MALF also indicated that it is in discussions with the Ministry of Finance regarding the same.

Praedial Larceny

2.4.16. The MALF indicated that there is a Praedial Larceny Squad of one hundred and thirty two (132) that have been policing different areas. The MALF also has estate constables who assist farmers with security. As well, the squad collaborates with the Trinidad and Tobago Police Service (TTPS) for assistance in security. Farmers are also allowed a grant of up to 50% of the cost of up to a maximum of \$30,000 for a security system through the MALF's incentive programme.

2.4.17. Notwithstanding, the need for more Praedial Larceny Officers was underscored by the entities in attendance. It was indicated that the Praedial Larceny Squad has had some impact with regard to treating with praedial larceny over the last three to four years. The MALF also indicated its consideration to have one unit to encompass all the areas of security to treat with the various areas of praedial larceny which would require collaboration with the Ministry of National Security given that the Office of Law Enforcement Policy trains Praedial Larceny Officers and Fisheries Monitoring and Forestry Rangers.

2.4.18. CGL indicated the authorities are recruiting one hundred (100) municipal police per municipality therefore nationally there would be some one thousand, four hundred (1,400) municipal police, most of whom would be located in rural areas outside of Port of Spain, Arima, Point and San Fernando. There is however need to redefine roles for these rural municipal police particularly as it pertains to the dealing with the praedial larceny issue. Therefore, the MALF in keeping along the broader issue of collaboration, inter agency and intra state collaboration can utilise some of the services from the municipal police.

2.4.19. NAMDEVCO indicated that there might be some new technological intervention that may allow for better management of praedial larceny in a much different way, using the squads, but in addition to other things, other kinds of support by using for example drones, or cameras

on farms. However, it was indicated that NAMDEVCO has not been submitting its need for an increase in security to the Ministry.

2.4.20. The MALF indicated that the Commissioner of State Lands has a working relationship with Estate Management and Business Development Company Limited (EMBD) and the EMBD has been lending assistance with regard to land security

Findings and Recommendations

From the evidence the Committee deduced that:

International grades and standards for export

1. Trinidad and Tobago's agricultural produce may not meet the grades and standards and the food safety requirement for export.

Packing Houses

2. The packing house is currently underutilised particularly for exporting purposes.

Lack of capability of agro processing

3. The country does not have the production capability to support agro processing. CGL offers a sustainable model for export.

The use of GMO seeds for production

4. It was of concern to the Committee that there are no restrictions to imported GMO seeds therefore the quality of commodities being produced is questionable.

Praedial Larceny

5. A recurring challenge mentioned by the entities was that of Praedial Larceny. A multi-sectoral approach is required to treat with the issue. Public Private Partnerships can be beneficial in assisting with alleviating praedial larceny. There may be need for some incentive to assist farmers in securing their lands.

Need for infrastructure

6. Also underscored, was the need for infrastructure. The Committee noted the Jamaican model which allows for substantial investments in agro-parks to provide the necessary infrastructure for agriculture. However, the Committee is of the view that the institution of agro parks in this country is superfluous given that substantial infrastructure already exists that can be easily converted to accommodate agriculture. In this regard, reference was made to the former Caroni lands where the old Tasker Road systems much of which have since been developed into secondary roads and spans thousands of miles that lead to oil, gas and water wells, some of which are serviced with electricity. The Committee is adamant about the need for the MALF to institute a Strategic Plan that adequately takes into account existing infrastructure that can be beneficial to utilise for agriculture.

Z. We recommend that the MALF institute a Strategic Plan that adequately takes into account existing infrastructure that can be beneficial to utilise for agriculture. The Strategic Plan should be submitted to the Parliament six (6) months subsequent to the laying of this report.

AA. We recommend that the MALF collaborate with the Municipal Corporations regarding the use of its services to assist with praedial larceny issues.

BB. We also recommend that the MALF seek collaborations with Public/Private Security Companies to curb praedial larceny issues.

CC. We recommend that the MALF implement an incentive for farmers to assist with the cost of obtaining security cameras and other technological security tools such as drones to assist with praedial larceny.

DD. We recommend that the MALF engage in a programme of Good Agricultural Practices which should also include a monitoring component to ensure that these practices are being continued. The MALF should also institute the necessary programmes so that farmers and farms can be adequately certified especially for export purposes.

Your Committee therefore respectfully submits this Report for the consideration of the Houses.

Mr. Stephen Creese
Chairman

Mr. Rushton Paray, MP
Vice-Chairman

Mr. Franklin Khan, MP
Member

Mrs. Glenda Jennings-Smith, MP
Member

Dr. Lovell Francis, MP
Member

Mr. Darryl Smith, MP
Member

Mr. Wade Mark
Member

Mr. Nigel De Freitas
Member



APPENDIX I

MINUTES OF PROCEEDINGS

**MINUTES OF THE TWELFTH MEETING OF THE JOINT SELECT COMMITTEE ON
LAND AND PHYSICAL INFRASTRUCTURE, HELD IN THE ARNOLD THOMASOS
ROOM (EAST), LEVEL 6, AND IN THE J. HAMILTON MAURICE ROOM, MEZZANINE
FLOOR, TOWER D, THE PORT OF SPAIN INTERNATIONAL WATERFRONT CENTRE, 1A
WRIGHTSON ROAD,
PORT OF SPAIN ON FEBRUARY 21, 2017**

Present were:

Mr. Stephen Creese	-	Chairman
Mr. Rushton Paray, MP	-	Vice-Chairman
Mrs. Glenda Jennings-Smith, MP	-	Member
Mr. Nigel De Freitas	-	Member
Mrs. Angelique Massiah	-	Secretary
Ms. Kimberly Mitchell	-	Assistant Secretary
Ms. Katharina Gookool	-	Graduate Research Assistant

Excused were:

Mr. Franklin Khan	-	Member
Mr. Darryl Smith	-	Member
Mr. Daniel Solomon	-	Member

Absent was:

Dr. Lovell Francis	-	Member
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Also present were:

Officials from the Ministry of Agriculture, Land and Fisheries (MALF):

Mrs. Angela Siew	-	Permanent Secretary (Ag.)
Mrs. Patricia Maharaj	-	Chief Technical Officer
Ms. Neela Maharaj	-	Director, Agricultural Planning Division
Ms. Patricia La Borde Grant	-	Technical Advisor, Policy and Planning

Officials from Caroni GREEN Ltd. (CGL):

Mr. Sharma Lalla	-	Chief Executive Officer (CEO)
Ms. Savitri Ramgoolam	-	Accountant
Dr. Bibi Ali	-	Consultant

Mr. Dinesh Goolcharan - Farm Operations Coordinator

Officials from the National Agricultural Marketing and Development Corporation (NAMDEVCO):

Mr. Ayoub Mohammed - Chief Executive Officer (CEO) (Ag.)
Mr. Dennis Ramdeen - Chairman
Mr. Wayne Inniss - Deputy Chairman
Ms. Julianna Davis - Board Member

7.2 The meeting resumed at 10:10 a.m. in the J. Hamilton Maurice Room *in public*.

PUBLIC HEARING

8.1 The Chairman welcomed the officials of the Ministry of Agriculture, Land and Fisheries, Caroni GREEN Ltd., and the National Agricultural Marketing and Development Corporation (NAMDEVCO).

8.2 Introductions were exchanged.

8.3 Brief opening remarks were made by the Permanent Secretary (Ag.), MALF, the CEO, CGL, and the CEO (Ag.), NAMDEVCO.

8.4 Detailed hereunder are the questions and concerns raised:

- (i) The relationship among MALF, NAMDEVCO and CGL;
- (ii) The policy directive of the MALF, NAMDEVCO and CGL;
- (iii) The procedure and qualifying mechanism for accessing the Disaster Assistance Programme;
- (iv) The MALF's engagements in stakeholder consultations for example with supermarkets and other actions taken to improve consumer acceptance and market assurance, such as the buy local campaign, and assistance provided to farmers as it concerns the export of produce;
- (v) Establishing an organisation to certify farms;
- (vi) Training for farmers;

- (vii) Major obstacles to farmers are the issues of land tenure and land ownership;
- (viii) The measures taken by the MALF to ensure that farmers adopt GAP;
- (ix) MALF's focus on technology and ICT in agriculture;
- (x) The need for modern methods of crop insurance;
- (xi) The status of the packaging houses located at Tabaquite and Brechin Castle;
- (xii) The need to build capacity, establish value chains, foster strategic alliances and partnerships in order to improve the agricultural industry;
- (xiii) The LEND programme and advertisement of the programme in rural communities;
- (xiv) The mechanisms used by the CGL to gauge success of the LEND programme;
- (xv) Whether the CGL markets the LEND programme;
- (xvi) The number of access roads provided under the Agriculture Infrastructure Programme;
- (xvii) The qualifying mechanism for the Agriculture Infrastructure Programme;
- (xviii) Whether the MALF has been reviewing legislation to strengthen manpower in the Praedial Larceny Unit;
- (xix) The need for Inter-agency and Inter-State collaboration to improve the agricultural sector;
- (xx) The average dominant farm in Trinidad and Tobago is that of family farms;
- (xxi) Mechanisms to increase participation and to incentivise farmers, such as increasing land acreage beyond five acres;
- (xxii) Cooperative arrangements that allow for collaborative meetings with the MALF;
- (xxiii) The need for the establishment of a Division with MALF to deal specifically with the welfare of farmers;
- (xxiv) How the MALF is dealing with the issue of imported meats;
- (xxv) How the mandate of the CGL differs to that of NAMDEVCO;

- (xxvi) The need to take into account the existing infrastructure which can be utilised as agricultural access roads for example the Taska and Oil Field Roads in south Trinidad;
- (xxvii) The reason for the lack of coordination, in terms of policy direction and strategies;
- (xxviii) The MALF's position on genetically modified seeds;
- (xxix) CGL's attempts to find innovative ways to assist farmers to become financially sustainable through the development of business models where farmers can have a stake in the value added processing;
- (xxx) The need to engage new farmers and the marketing policy in place to advertise farming as a profession; and
- (xxxi) Changing the approach used to present farming as a profession by, for example, registering farming companies instead of farmers as a means to attract young persons in the sector.

(For further details, kindly see the Verbatim Notes.)

ADJOURNMENT

9.1 The Chairman thanked all Officials and Members of the Committee and adjourned the meeting.

9.2 The adjournment was taken at 12:25 p.m.

I certify that these Minutes are true and correct.

Chairman

Secretary



APPENDIX II

NOTES OF PROCEEDINGS

**VERBATIM NOTES OF THE TWELFTH MEETING OF THE JOINT SELECT COMMITTEE
APPOINTED TO INQUIRE INTO AND REPORT ON LAND AND PHYSICAL
INFRASTRUCTURE HELD IN THE ARNOLD THOMASOS ROOM (EAST), (IN CAMERA),
SIXTH FLOOR, AND J HAMILTON MAURICE ROOM, MEZZANINE FLOOR, (IN PUBLIC),
TOWER D, PORT OF SPAIN INTERNATIONAL WATERFRONT CENTRE, #1A WRIGHTSON
ROAD, PORT OF SPAIN, ON TUESDAY, FEBRUARY 21, 2017 AT 9.09 A.M.**

Present were:

Mr. Stephen Creese	-	Chairman
Mr. Rushton Paray, MP	-	Vice-Chairman
Mrs. Glenda Jennings-Smith, MP	-	Member
Mr. Nigel De Freitas	-	Member
Mrs. Angelique Massiah	-	Secretary
Ms. Kimberly Mitchell	-	Assistant Secretary
Ms. Katharina Gookool	-	Graduate Research Assistant

Excused were:

Mr. Franklin Khan	-	Member
Mr. Darryl Smith	-	Member
Mr. Daniel Solomon	-	Member

Absent was:

Dr. Lovell Francis	-	Member
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Also present were:

MINISTRY OF AGRICULTURE, LAND AND FISHERIES

Mrs. Angela Siew	Permanent Secretary
Mrs. Patricia Maharaj	Chief Technical Officer
Ms. Neela Maharaj	Dir. Agricultural Planning Division
Ms. Patricia La Borde Grant	Technical Adviser, Policy & Planning

CARONI GREEN LIMITED

Mr. Sharma Lalla	Chief Executive Officer
Ms. Savitri Ramgoolam	Accountant
Dr. Bibi Ali	Consultant

Mr. Dinesh Goolcharan Farm Operations Coordinator

NAMDEVCO

Mr. Dennis Ramdeen	Chairman
Mr. Wayne Inniss	Deputy Chairman
Ms. Juliana Davis	Board Member
Mr. Ayoub Mohammed	Chief Executive Officer Ag.

Mr. Chairman: Good morning, the 12th meeting of the Joint Select Committee on Land and Physical Infrastructure is hereby reconvened.

I would like to welcome our public audience as well as our house audience in the meeting's resumption. I would like to remind everyone to please turn off your cell phones or at least place them on silent.

This hearing is of course being broadcast live on the Parliament Channel 11, Parliament Radio 105.5 FM and the Parliament YouTube channel *ParlView*. I would like to welcome members of the viewing public. Please feel free to send comments via email at parl101@ttparliament.org or on our Facebook page at [facebook/TTParliament](https://www.facebook.com/TTParliament) or at [Twitter@TTParliament](https://twitter.com/TTParliament).

I would like to take this opportunity to welcome the officials of the Ministry of Agriculture, Land and Fisheries, Caroni GREEN Limited and NAMDEVCO. I would ask you now to introduce yourselves in that order: Ministry of Agriculture, Land and Fisheries, Caroni GREEN and NAMDEVCO.

[Introductions made]

Mr. Chairman: I am Mr. Stephen Creese, Chairman of the Joint Select Committee Land and Physical Infrastructure.

[Introductions made]

Mr. Chairman: Thank you all very much. Just by way of reminder, the objectives of this enquiry are firstly:

- to assess the type and output of agricultural commodities being produced in Trinidad and Tobago;
- to examine the programmes and initiatives geared to encourage agricultural participation;
- to gain an understanding of the policies, plans and research being employed to expand the types and quantity of agricultural commodities produced locally; and

- to identify the challenges faced by the Ministry of Agriculture, Land and Fisheries and the major stakeholders in the agricultural sector attempting to increase crop diversity.

I would like to acknowledge receipt of the written submissions from the Ministry of Agriculture, Land and Fisheries dated February 13th, from Caroni GREEN Limited dated February 9th and NAMDEVCO dated February 8th in response to the lead questions which we had sent for written responses.

I would now like to invite the Permanent Secretary, Ministry of Agriculture, Land and Fisheries to make some opening remarks.

Mrs. Siew: Good morning again, Chairman and members as well as the other agencies. It is a pleasure to be here to provide information to this Committee that would assist in its mandate. The agriculture sector represents a critical component of any country in its impact on national development. It is with this in mind that we have developed a draft national food and nutrition security and agricultural development policy and action plan as one of our strategies for development of the centre.

We are about to enter our second phase where we will, among other activities, engage stakeholders at consultations to assist in the development of the final plan. The policy plan envisions a rapid transformation of the rural and agricultural sector and its renewal as a vibrant and productive economic sector with the aim of contributing to the diversification of the national economy.

The sector is envisaged to evolve as an important driving force in expanding livelihoods for rural people, enhancing employment and income opportunities and improving food security and the nutritional status of the entire population. The Ministry's role therefore is to provide the enabling environment, including the policy direction, the legislative and regulatory framework and supporting programmes.

The plan is to grasp the opportunities using the sector's strength while reducing threats and challenges. As such, our PSIP programmes are focused on infrastructure development, research and development, provision of planting material, quality breeding stock, training programmes for farmers as well as trainers, and the sustainable management of the fisheries and forestry resources. This we believe will contribute to the comprehensive development of the sector, as well as the economy as a whole.

With this, we welcome your questions which we know will assist you in your deliberations. Thank you for having us.

Mr. Chairman: Mr. Lalla, do you care to comment?

Mr. Lalla: Morning Chairman. Caroni GREEN Limited, just for the benefit of the attendees, would be a relatively new state enterprise. It was only incorporated in December 2013 and actually began operations in 2014.

In a very short space of time, we are trying to fulfil our mandate, which is to bring idle or

underutilized lands into active production. But I think in looking at the development strategy for the company, we necessarily have to look at—I think it is very important that we understand where we are before we determine where we are going.

I have looked at some data that has been published by the FAO that deals with our position as a country with respect to agricultural development. I think that should inform the direction as we move forward. When you look at some very key statistics, the average real contribution of agriculture to GDP among Caricom countries, Trinidad and Tobago is the lowest among all Caricom countries. We are less than .8 per cent, whereas you have Jamaica about 7 per cent, Guyana about 26 per cent, and we have also researched the Canadian model and they are about 7 per cent of GDP.

Another very important statistic is what has happened to the sector over the period 1990 coming forward, and again we are rated as the worst performing country among Caricom, in that, we have had the highest reduction in the contribution off agriculture to GDP. Our percentage from the time the measurement started to now, we have decreased by about 76.5 per cent. A significant portion of that is attributable to the decline of the sugar industry. By comparison again if we look at Jamaica, their decline over the same period has been a mere 2.5 per cent.

What that tells us is that we really have a very long way to go in terms of trying to capture some kind of comparative status among even our Caricom members, and more so the job is even more Herculean when you look at some of the more developed countries. When you try to understand the rationale about where we are again—and I want to just premise my contribution, Chairman, that we are making this contribution really with the benefit of being able to make a meaningful contribution to development of the sector. I think it is important that we face what the reality is, and that is why I am sharing these statistics.

The other very significant observation that I have made is that when you look at some of the countries where agriculture is making a bigger contribution, Canada, Jamaica, Guyana, we have looked at those, and on every one of those websites you can go and see a strategic plan. In the case of Canada, they have got one 2013 to 2018. What is instructive is that they are meeting already to take it beyond 2018. When you look at Guyana, they have one 2013 to 2020, and it deals with all of the technological advancements and so on that are required.

The story is the same in Jamaica. Jamaica is very, very well developed. In fact they have got a Vision 2030 document. Unfortunately in our case, we are still dealing with the documents with an action plan that is dated 2012 to 2015, so it says that we are really not keeping pace with even what is happening among member countries within our own region. Having recognized that that is where we are, we can then look at what is required to achieve the mandate for the development of the sector.

There are some common themes that exist among the strategic directions that all of these countries are doing, and they are looking at building a competitive, profitable, innovative and environmentally sustainable sector. They are putting a lot of focus on non-traditional commodity value chains. They are building capacity among the producer organizations. Very, very importantly, they are fostering partnerships and strategic alliances and, again, they are establishing the institutional frameworks for agribusiness and enterprise development. In many respects when you scan our local sector, many of these ingredients are missing, and it is important that we recognize that and we take the appropriate corrective action.

We at Caroni GREEN have started off, and in analysing our mandate we have tried, with very, very limited resources, to make a contribution to the sector. I think it is important to note that we have not received any kind of government support since 2014. So that the 2015/2016 fiscal year has gone by, 2016/2017 has gone by and we have not received any financial support. But despite those major constraints I am very proud of the company's achievements, some of which are, for example, in October of 2016 we crossed the landmark for production of hot peppers of 500,000 pounds, which is a first in Trinidad and Tobago. We are now over 700,000 pounds, and we expect that before June of this year we will cross the landmark of one million pounds.

The pepper was selected on the basis of scanning the needs of the country, and those needs clearly identified that our country is facing a very significant foreign exchange crunch, so we looked for commodity that could generate foreign exchange, as well as import substitution and conserve foreign exchange. I think we have done a reasonably good job of that. I am also very proud to say that in October of last year, we also participated in the Trade and Investment Convention that is run by the Trinidad and Tobago Manufacturers' Association, and as a small entity we came out a winner among the small business category at that convention, which was dominated by the private sector.

It also gives me great pleasure to inform this Committee that despite all of these very tight challenges, I am proud to say that for the first time in this fiscal year that ended September 30, 2016, the company would have generated a profit. We expect to continue along those lines. Our major request is that we could make a much more significant contribution to development of the sector, but I think clearly the authorities need to see that infrastructure development, investment in systems such as irrigation and so on, are way beyond the capability of our resources. If as a country we make a determination that we want to see the sector grown, I think that we have to make an appeal for some kind of further support to make it happen.

I think our results to date demonstrate that we can do it, and we are committed at Caroni GREEN Limited to continue to make that contribution. Thank you.

Mr. Chairman: Can I hear from Mr. Ayoub Mohammed, CEO of NAMDEVCO.

Mr. Mohammed: Good morning again. Our company is National Agricultural Marketing and Development Corporation. We were established by an Act of Parliament in 1991 to provide an enabling environment for the sector. We have a couple platforms that we use to do that. We have wholesale market facilities, both for fresh produce as well as fish. We have a service component where we provide some marketing intelligent information as well as we operate an e-platform, NAMIS, which gives us price and volume data that is shared with the rest of the country, and we have a new initiative out of the Ministry that is called “Farm-to-Table”. We have couched the Farm-to-Table initiative using some of the modern trends in the industry, good agricultural practices, to develop some of the other platforms, including school feeding, the health authorities, north-west, south-west.

The third platform would be working with the security services, as well as working with the exporters to see how best—so the different prongs are going to target different ends of the market. One for export, and three of them institutional, as well as provide farmers with a direct opportunity to sell their produce outside of the wholesale market situation by operating our farmers’ market. Currently, we have nine farmers’ markets that are expanding, in terms of we have gone from awareness to having more of our farmers choosing that direct opportunity to use those markets to sell their produce.

Some of our constraints at this point would be we would like to expand some of our markets. We would like to modernize some of our markets, to make them more compliant with some of the modern trends. Two of those trends would be food quality and food safety. So the Ministry of Health had a constant programme of encouraging fish, for example, to be iced. We want to make sure our facilities are in sync with the rest of the national programmes that allow us to build a platform for agriculture, both by being an enabler in terms of our marketing intelligence, as well as our physical and our export platform to represent modern agriculture.

I think we are positioned to do that, despite the challenges, and as we continue to develop our mandate and continue to see agriculture at the next level, we are in a position, with a few additional resources, to be able to make that happen.

I think at this point we have already started to look at establishing direct links with all of the other players. So we have an invitation with South-West Regional Health Authority to speak to them on getting our farmers to provide their suppliers with produce, because they are dealing with patient, immune-compromised persons, and NAMDEVCO, through expanding our farm situation programme, we can make a greater contribution in ensuring that our hospitals, for example, have fresh produce which meets the requirement for that particular end of the market.

We are also hoping to do the same with school feeding. We were supposed to meet them yesterday with the CEO of school feeding, she had to attend an emergency. I am sure that meeting is going to happen sometime soon. So those are the kinds of linkages I think NAMDEVCO, together with other sectors in the industry, can use to modernize our agricultural sector. Thank you.

Mr. Chairman: Thank you, CEO. We will begin our formal questioning now. What would normally obtain is that the questions would be directed through me to the Ministry of Agriculture, Land and Fisheries, and then the subsidiary agencies would be afforded an opportunity to reply, and whatever information is supplied by the Ministry—unless of course a question is directed specifically to an agency.

Mr. Paray: Thank you very much, Mr. Chairman. Through you to Madam PS. The Ministry of Agriculture, Land and Fisheries in my view as a policy driver/policy director in terms of our agricultural platform in Trinidad and Tobago. What is the relationship between the Ministry of Agriculture, Land and Fisheries, NAMDEVCO and Caroni GREEN at this time?

Mrs. Siew: With regard to NAMDEVCO we have a relationship where we encourage the farmers' market. As a matter of fact, we have had the location of the farmers' market at our new offices in Chaguanas, as well as weekend gone we had it at the head office where we are at now.

Basically, we are trying with them to assist farmers in being able to sell their produce. NAMDEVCO has a certain amount of farmers and the Ministry is responsible for farmers in general in Trinidad and Tobago. NAMDEVCO has particular farmers. So it is really to encourage them so that farmers would be able to have their produce sold.

Also through our PSIP project they are supposed to engage in good agricultural practices, programmes, which they would be training farmers in the production of commodities.

Mr. Paray: And is it the same for Caroni GREEN?

Mrs. Siew: With regard to Caroni GREEN, we are reviewing what it is doing. Caroni GREEN in its business plan had indicated that they had increased food production, increase in the national food bill, reduce food price inflation, et cetera, et cetera. But what we have noted is that with regard to Caroni GREEN, the focus really is on the export of hot peppers only. So we have to look at this entity to see whether we could look at other produce and so on. That of course would be a policy decision. Caroni GREEN as far as I am aware was provided with funding, I believe in the first year of its operation, and the idea was for them to become self-sufficient after that, maintaining their own business and so on. Because of that, we have to look at it now in different eyes if we want to like at the diversification.

Mr. Paray: Just a follow-up to that. In terms of the policies for both NAMDEVCO and Caroni GREEN, does the Ministry decide the policy of those two agencies or do they operate their own policies in terms of

moving forward? I am trying to understand if there is a synergy between the Ministry being the driver of the sector, and you have two important agencies, NAMDEVCO being the marketing arm and so on, marketing, packaging and so on, and Caroni GREEN being an arm of, if you call it agricultural engineering. Is there a synchronization of policies among those two agencies and the Ministry or do they operate independently outside of the directive of the Ministry of Agriculture, Land and Fisheries?

Mrs. Siew: There is some synergy with regard to the agencies, in that, we generally have the same goal, and it is looking after our main stakeholders, which are the farmers. So with regard to that, when we are preparing our projects and so on we keep that in mind with regard to that.

With regard to Caroni GREEN though, as I said, we are in the process of evaluating what they do and we are looking for a way forward with regard to that.

Mrs. Jennings-Smith: I am directing my question to Madam Permanent Secretary. You stated quite clearly earlier in your presentation your Ministry's agenda and objectives. It is all about creating an environment to encourage agriculture in Trinidad and Tobago.

I want to direct my question to the recent disaster faced by many farmers especially on the north-east coast, and ask you to describe for me the procedure for accessing this programme. I also want you to describe the qualifying mechanism for this programme.

Mrs. Siew: We have a Disaster Management Assistance Programme. What we do is where we have found that there have been persons affected, farmers, fisherfolk, whatever it is, by some natural disaster, we go to them and, of course, we have to take the information from them as to what impact the disaster would have had on them. That is to be quantified. That information is quantified, how much they would have lost and so on, and on the basis of that we come up with a mathematical figure with regard to how they would be compensated.

Mrs. Jennings-Smith: That does not answer my question. Can you give some more details as to what a farmer can expect when they face a disaster? And I am speaking specifically to our recent disaster, and there was disaster as far as back as 2015 to which farmers have not been given a response. Can you give me some specifics relative to that? At this point in time, they are accustomed to people visiting and taking information but nothing after. Can you tell me what really happens after?

10.40 a.m.

Mrs. Siew: Well, I do not know that we could say that, because everything is a process, and once it involves funding we have to be careful how we go about the process to ensure equity, to ensure that people are not favoured and all of that, and the gathering of the information is an important process in that regard. The information comes back to us, we have to assess that information, we have to determine whether in some

cases what they are saying happened really happened based on the disaster. Because as you would imagine there may be people trying to do, you know, “try something”. So, when that information comes to us we have to really look at it with a fine-tooth comb, and based on the assessment and the funding that we have, we come up with a formula for the payment.

Mrs. Jennings-Smith: Madam PS, can you give us an approximate time that this process can take, one year, two years?

Mrs. Siew: I would say between three months and six months.

Mrs. Jennings-Smith: Thank you.

Mr. De Freitas: This question is for—morning again—the Ministry. In your submission you identified the challenges facing food producers in achieving greater diversity in agriculture, one challenge identified was consumer acceptance in market assurance. Has the Ministry engaged in stakeholder consultation, for instance, with supermarkets to improve this area? And, what other actions has the Ministry undertaken to improve consumer acceptance and market assurance?

Mrs. Siew: Could you repeat please?

Mr. De Freitas: The first question is, has the Ministry engaged in stakeholder consultation, for instance, with supermarkets to improve this area that would be consumer acceptance and market assurance? That is the first question.

Mrs. Siew: Let me ask my Director, Agricultural Planning to take this.

Ms. Maharaj: Good morning, again, and your answer would be, yes. Last year the Ministry would have met with the Supermarkets Association of Trinidad and Tobago, we also partnered with the Massy Group for our “Walk/Run for Food” last year, and we did get the assurance that they would be willing to take on local production to display some of the products that they are importing, and I know that Massy is doing a consultancy right now with respect to seeing how they themselves could get into the production of some local vegetables, to this place. So, yes, is the answer to your question.

Mr. De Freitas: And, based on the consultations you have had, or you have seen, are you seeing any benefits coming out of it thus far?

Ms. Maharaj: Well, the thing is, with agricultural production, you know it takes time for when you have to plant. Some farmers had indicated an interest in partnering with the supermarkets and they have started doing so already, specifically for some of the vegetables, the tomatoes, the lettuces, so some work has started among the farming group.

Mr. De Freitas: And you expect to see an increase in production based on this linkage, because one of the things that happens, especially when you link with supermarkets or these entities, if the produce is of a high

quality they tend to increase the demand based on the other end of the chain, which is the consumer asking for more of that product, so are you starting to see any increase in production so far?

Ms. Maharaj: Yes, we have and the supermarkets have indicated that they are seeing a willingness of the consumers to purchase the local produce because they tend to be more certain what they are getting from the local producers rather than the imported products.

Mr. De Freitas: The second question was, what other actions are being taken just outside of the stakeholder consultations to increase or improve consumer acceptance and market assurance, are there any other actions being taken?

Ms. Maharaj: The Ministry had embarked on a buy local campaign, and we continue encouraging the consumers, especially for food safety and for health, to buy local produce.

Mr. De Freitas: What about assistance in regard to exporting, which would also help to increase production locally, regionally, let us say, or internationally, is there any assistance, or training, or anything of that sort to sort of open up the market for local farmers?

Ms. Maharaj: Well, I know NAMDEVCO is the arm of the Ministry, to assist the farmers in terms of their export to the region. So, perhaps NAMDEVCO could explain what they have been doing with the farmers.

Mr. De Freitas: Maybe NAMDEVCO could elaborate, what other initiatives have been taken in that respect? Just your export.

Ms. Maharaj: The export currently, out of Trinidad, is down. If you look at some of the data I presented, there are two commodities that we were primarily exporting into the North American market, pumpkin and hot peppers. Those are down for some specific reasons. In terms of the regional exports, we still have some regional exports. Some of it goes out of our packing house at Piarco, some of it are done by independent packing houses. Some of that data we have not been able to capture. I have been hearing for the last—I am at NAMDEVCO for the last seven months. In terms of the international markets, we are going to find ourselves in a situation—we have found ourselves in a situation where those markets are now, especially the US market, they now have a rule called the FSMA Final Rule on Produce Safety, and in the Food Safety Modernization Act, and they are now making good agricultural practices, it is no longer a voluntary requirement but it is fast becoming a standard.

Our farms at this point, we have some farm certification, which is really the Barbados protocol. When we got mealy bug we had a protocol in place that allowed us to export into Barbados, so there were certain pesticides and those things that we could not have used. In terms of those foreign markets, in order to capture that end of the market, the good agricultural practices will almost become mandatory for us. In terms of what we are doing, currently we are looking at our strategic plan to put gap at the front

of those, the Farm to Table initiative, as I have mentioned before.

We are going to face some resistance, because it is going to be asking for some new practices for some farmers. Some are going to be able to still get into that market, some clearly would need some additional work in terms of training. On the training end, we have started a training, at least in the last—in this month we have started to train our field officers who work with us as part of our farm situation programme, to bring them up to scratch.

So, we have done some training on irrigation, we have done some training—a plan/doctor training so they will understand that it is not business as usual. You cannot apply some of the pesticides that we are accustomed. If you go back into the *Hansard* when they were establishing NAMDEVCO, in 1991, there was that issue about—reference is made to cabbages almost looking blue, the perception that it was being sprayed with too much pesticides, so that it has to be something strategic. I came from the Ministry of Agriculture and I was the one who was in charge of the Agricultural Practices Programme. We are going to need more people who are trained in that area to be able to capture that end of the market, because it is not simply a matter of taking produce, put it in a box, get it on an aircraft and get it to a foreign market.

Mr. De Freitas: I like what you are saying in the sense of good agricultural practices. One of the things that I know in certain industries is that there are bodies, internationally, that certify farms based on good practices in that particular industry. Are you all looking at any kind of body to be set up in Trinidad and Tobago that can certify these farms that may be equal to international bodies? Or, if we do not want to reinvent the wheel in that aspect, have some sort of a linkage where these bodies can come down and certify the farms. So you will still do the training, but you at least have a benchmark by which these farms can achieve and actually have a document that says that they are certified which might make it easier for them to export at that point in time. Are you looking at certification at all?

Mr. Mohammed: We have looked—in fact, in 2012/2013 thereabout, there was a national initiative to bring to the table all of the players to develop a national good agricultural practices standard, we are now revisiting that particular initiative. In terms of our end, our facility at the packing house we are still the only certified FDA facility in terms of that end of the bargain. We are trying to get the packing house more and more compliant with HACCP standards, and in terms of feeding—so you have a packing house that is FDA approved, that is trying to get more into the HACCP end of it. But on the other end, the GAP end there is some work—the honest truth is, there is some work still to be done. In terms of becoming either certified against GlobalGAP, or EuroGAP—the model that we were looking at actually was “TriniGAP” benchmarked against KenyaGAP, which sort of mimic what we do in that we are using practices, or you are encouraging practices that are easy for our farmers, in our particular circumstance, to be able to follow.

So that the model would have said, we, NAMDEVCO would be monitoring the standard, so we would be in a sense second party audit. You train the farmers so they can be the first party audit, himself to himself; NAMDEVCO through our farm situation would be the second party audit, and an external agency will do the third party audit.

Mr. De Freitas: Very good. What do you expect the acceptance of that training would be? Because one of the most difficult things is that as farmers they have a particular practice that they have been using for years and you are now coming to say, well, you have to sort of change that in order to export products and make more money, but sometimes the acceptance of that is not great. What do you expect the acceptance of that training and certification to be with farmers in Trinidad and Tobago?

Mr. Mohammed: If I may just back up a bit, in 2005 we had introduced farmers to the concept of GAP. We had done some training in Tobago out of AICA, there was far more resistance from our farmers than we had in Tobago. Just before I left the Ministry I was teaching some courses, and I would have made mention of GAP, and from that feedback it would appear there is a greater amount of interest now in adopting, or at least becoming more aware of good agricultural practices. I think as a country we are becoming, even from our own health—even in terms of our own health we are making a bigger link between something that says NAMDEVCO certified good agricultural practices and consumer acceptance.

And if there is that pull, if there is a market pull in terms of what consumers are now looking for, or if you can build awareness from that end, then I think it would be easier. I have not tested it, I do not have any empirical data at this point to support what I am saying, but from my observation, from where I see the market is going, and I also believe that if we adopt that approach then GAP becomes a competitive advantage to farmers, because there is a market readily available for them. If I can just make one other intervention, there was an initiative at Piarco packing house, at that time there was a view that the packing house should encourage some amount of business activity to change the way produce was being marketed, and we took on a cucumber project to supply to a particular group of sandwich outlets, 34 of them in all. And we, at the end of the first year, by changing that model, by adopting a different production practice, adopting a system where we assisted the farmers, so we supplied you with the crate, we washed and sanitized the crate, we brought it to our packing house, put it through a chlorination treatment to ensure that the product had a particular level of safety, and a particular quality. In one year we were able to get that entire market.

So that I think even so domestically, apart from the export, if you are able to build that kind of awareness in terms of how we eat what we do—we eat our foods. At the end of that first year that the company was so pleased they said look, we are willing to stop taking foreign tomato. If you can get farmers

to do what you have done with the cucumbers, if you as NAMDEVCO can get them to grow it with these particular set of practices, if you can operate the ripening rooms for us, then we would be more than happy to take local produce rather than use the foreign one. And if you look at the foreign import, the food import bill, I would have given you some data, it is about \$9million, average, that we would have imported in tomato alone on a one-year basis.

So, the opportunities are there, there is some work to be done, but I think NAMDEVCO has taken the right set of steps to get good agricultural practices in place, and I think it can have a beautiful spin-off effect if we—as I made in my opening remarks—modernize our markets, our fish markets. It would not be called good agricultural practices, those would be HACCP compliance facilities. So, you are building a future industry based on food safety and food quality.

Mr. De Freitas: Thank you.

Mr. Paray: I have two questions, one to Madam PS, in light of what Mr. Mohammed spoke there concerning GAP, what is the Ministry doing in terms of ensuring that our farmers adopt that GAP system and so on? Is there a policy that we are driving into our agricultural sector, that farmers adopt that type of policy? Is there anything along that line?

Mrs. Siew: Generally we have in our training element in the Ministry, we have our extension officers and so on who assist farmers with regard to the good agricultural practices. We have them in the different districts, it is managed by the Regional Administration North and Regional Administration South. So that we go out to people as well as people come in to us with regard to that training.

Mr. Paray: Is the Ministry doing anything with regard to the adoption of grades and standards of these produce for our farmers? Is there a policy around grades and standards?

Mrs. Siew: What is happening is that AICA is assisting us with training a cadre of persons who would be able to certify the products. Those persons to be trained would be within our research and development division, so that we would have a body of people who can actually certify, you know, to the quality of the product and so on.

Mr. Paray: So that is something that will be coming on stream?

Mrs. Siew: It will be coming on stream.

Mr. Paray: Okay.

Mrs. Siew: As a matter of fact AICA is having a close-out programme in which they are going to identify the different things that they are going to do for the different countries that will be attending, and for us it would be that certification.

Mr. Paray: Okay. So, our grades and standards, our GAP, these things are moving along well with our

farmers. Mr. Mohammed, through NAMDEVCO, you spoke about the packing houses, what is the current status with the two packing houses, the one in Tabaquite and the one in Brechin Castle, are they operational at this time?

Mr. Mohammed: No, they are not operational at this time. The plan is to get into public/private partnerships with those facilities. We would have had some interest on the part of some of our entrepreneurs who are involved in the agricultural sector to utilize those facilities, and that is where we are at this point. We are in discussion with the Ministry of Finance, we have met with them, they would have asked us for some additional details on some of the technical and financial feasibilities, but that is the plan with those facilities.

Mr. Paray: Would you agree then that those facilities, and I note in the 2016/2017 budget they spoke about an additional four of these packing houses being built, but would you agree that those houses are absolutely critical to our export push in terms of our diversification in the next couple years, and should there be a greater push towards getting these things operational? Because, you know, from 2015 the conversation has been getting these packing houses going, and we are in 2017, and, you know, nothing has happened with those two, and as far as I understood, those two facilities, I think they are outfitted and they are ready to go.

I also note in your presentation also, there was an issue around the ability for cold storage in terms of being able to hold on to farmers produce during the packaging process to get it going, would these facilities not assist in getting the cold storage requirement that the farmers need?

Mr. Mohammed: Well, those facilities at this point they were opened but they were not outfitted, so they are not at this point operational. In fact, there is still a fair amount of work to be done in both Brickfield and Brechin Castle. If I had to give you a strategic way forward in terms of the export, it would be—when I made reference to the cold chain, I meant from farm to where we currently export from. Because that facility at Piarco was strategically located to airfreight produce closer to Piarco. The moment you start, let us say you decide that you are going with Brickfield and you have a catchment area there, and you are dealing with fresh produce, there is always—if you take fresh produce and you move it within Trinidad, maybe you might get away with it. The moment you start packaging, get it unto an aircraft, you have to deal with delays. If the cold chain is not there, and if you do not follow the practices, you as a farmer, or you as an exporter, you do not see the problem here, you see it on that end.

So, I am thinking in terms of the cold chain that we look to ensure that the Piarco facility, which is an FDA approved facility, that we utilize that for export, and the public/private partnership, depending on how that arrangement eventually works itself out, can get those facilities operational with an entrepreneurial model that allows other aspects of the agricultural sector, depending, as I said, on what comes out of it to

allow other aspects of the industry itself to go forward.

Mr. Paray: You seem to have a clear idea of what is needed, who should you be articulating that to? Because, I am not seeing it reflective in terms of the budgetary allocations, and from what you are saying it is absolutely critical, and I agree with you totally. What is the next step then? We are heading into 2017, I suspect when we come back here in 2018, we are going to ask you the same question. What is the next step for NAMDEVCO to get to push some changes, those same things that you have identified? What are you doing about it in terms of your conversation with the Ministry, the line Minister, the agencies that support you? What is your step to move forward in this area?

Mr. Mohammed: We have reached the stage where we are looking to get expression of interest. There has been some discussions with some of our local businesses who are currently involved in—who are import based fresh produce businesses. They now would like to have greater strategic alliances between farmers and their operation, because they are realizing it is a difficult thing getting US dollars, and their operation, in order for them to expand the operation, they are looking at opportunities that may exist in utilizing these facilities.

So that, that is one option in terms of getting them operational. The other option, again, as I said, it is open to discussion. It might very well be that someone comes up with a business plan that says, as would have been discussed in the past, that we want to commercialize cassava flour. NAMDEVCO would have done some of the work in terms of—we have gotten to the stage of getting to a cereal, a cassava based cereal, I do not know if I can say this, it is a Cheerios—it is a loop looking product, built on cassava. There was some discussion with NFM to make a composite flour. So, maybe there is an option there for some of those facilities to be given to some budding entrepreneur to be able to take that part of the industry, NAMDEVCO to the farmers, and build capacity amongst farmers to be able to supply these value added products.

When I say value added, value added in terms of the processing end of the chain. So, there are options on the table, but at this stage we are working with the Ministry of Finance and looking at the expression of interest as to how we go forward with it. From where I sit we do not have the kind of production for export. Maybe the packing house at this point is underutilized in terms of us being able to do the kinds of exports that we want to, because we simply do not have the kind of production. We may have production. So, you might be able to sell a product in the Macoya market, or in the Debe market, those may not meet the grades and standards, and the food safety requirement for export.

Mrs. Jennings-Smith: I am still on the whole concept of agriculture, and what are we doing to really encourage more participants? And when I say more participants I am referring here to the young people in

our society. Because this morning we are speaking and we are hearing reports, and yet still production is low. We need to get foreign income, we need to get—in relation to foreign income we are still looking at a high import bill with regard to agricultural products, and I want to direct this question to CGL, you have partnered with Atlantic LNG through the LEND programme to provide technical support, training and marketing assistance to young persons interested in entering the agricultural sector, so can you tell me if the LEND Programme is advertised in rural communities? And if so, when did this programmed commence?

Mr. Lalla: Chair, through you, the LEND programme is an initiative of Atlantic LNG, and they heard about our successes and we had a meeting. So, it is a programme that has been in existence, I think, a couple years now. We have only entered into discussions with them over the past three months or so, and basically it is focused towards the south-western peninsula of Trinidad, where that company, the Atlantic LNG is trying to make an impact like what BP did in the south-eastern end of Trinidad.

We are working with them in developing various types of models that their farmers could implement and make a decent living out of it. And I want to correct a statement earlier, Caroni GREEN Limited does not produce only hot peppers, we produce tomato, pawpaw, pumpkin, plantain, dasheen bush, pimentos, pigeon peas, sweet potatoes, we have even done sweet corn as an import substitution. And I also want to correct the misconception that Caroni GREEN Limited does not only produce on its own. What we have done extensively over the last year in particular is to establish stakeholder relationship with farmer groups. So, we have various farmer groups that—we also have an alliance with PCS Nitrogen. The way that works is that we have been able to develop our two farms quite successfully, so we bring the farmer groups into looking at our farms and our agronomic practices and so on, and then PCS Nitrogen offers us their training facilities. So, we do the classroom type training through PCS Nitrogen, because it is in close proximity to all our farms, and then we do the hands-on training at our farms to the farmers.

So, to date we have gotten commitments in excess of 200 acres of additional production in hot peppers, and what we are doing with LEND programme, as well as we recently implemented a similar programme with some Gasparillo farmers, is that we will have those farmers come to our farms, we will teach them the practices that we are doing, they will observe—it is an interactive process. We will learn from them too, and then they go back out. What we are also working on with LEND is to obtain some lands through PSAEL, because PSAEL is the other state enterprise, Palo Seco Agricultural Enterprises Limited, and the intent is that PSAEL will make some lands available to the LEND programme and then we will work with the farmers and bring them on board to increase production.

I think it is very important for us to understand, in Trinidad, we are talking about agro-processing

but we do not have the production capability to support agro-processing. So, it is like putting the cart before the horse, and I think a major thrust in the country has to be that we get our act together in terms of production, and production according to international standards and so on. So, what we have done through the one initiative with pepper, which is our greatest success to date, is that we have for the first time—our importers tell us for the first time in 25 years, we are able to satisfy the requirements of the exporters.

11.10a.m.

So there is consistent supply. What has happened, as Mr. Mohammed had mentioned before, you would have sporadic shipments by farmers, and if they get a higher price at Macoya Market, they forget the export market. So that it was not done in a way as a sustainable industry. The fact that we have been able to maintain an export presence in the US, Canada and the UK, consistently over the past about 16 to 18 months, shows that we have found a formula and a business plan that is workable. I am not suggesting it is perfect.

It is still being fine-tuned but at least it gives the industry that level of sustainability that is required if we have to move forward. And that is why we continue to do, with our very limited resources, these outreach programmes like LEND, the Gasparillo farmers, the Wallerfield farmers, the Siparia farmers. We also dealt with the Tableland Pineapple Association and working with those farmers. And that interaction has worked very great for us and we have seen production increase significantly, particularly in the area of hot peppers.

What we do, we play the role and we try not to make money off of farmers. So we will bring them and expose them to what we have done successfully and then we also establish linkages with the export markets. So that you have the farmers getting the direct benefit of participating in these markets where there is a guaranteed kind of income and what we have also seen is the spawning of a new cadre of entrepreneurs in Trinidad who will buy products from us and start processing as import substitution.

If you look at the importation of pepper mash, which is the ground pepper, into Trinidad alone, which is done by companies like VEMCO, and so on, what is happening, we obtained some data on that importation and the value of that business is of the order of TT \$40million annually. And I am suggesting that there is no reason why we as a country should still be importing peppers into Trinidad. What we are doing now is creating, because you have that sustainable level of production, now people can make investments. The private sector can make investment in the processing side of it. And in the same way we are trying to extend that kind of capability to the regular farmers.

Because in Trinidad, my knowledge of the sector tells me that we talk a lot about commercial production. When we talk about a big farmer in Trinidad, somebody who is producing two acres or five

acres consider themselves a big farmer. That is not commercial agriculture and if we are talking targeting the export markets you have to move in the hundreds of acres, the thousands of acres, and that is a whole different kettle of fish which I do not think we have prepared ourselves adequately for, and I think the sector can make a significant contribution to the foreign exchange situation in the country but the State needs to make that investment in order to get a return later down.

Mrs. Jennings-Smith: As you satisfied or do you have a mechanism by which you can gauge participation, for example how many participants, how many new persons you have brought into this concept through the LEND programme and also through your collaboration with PCS, with regard to your training programmes?

Mr. Lalla: Yes, I can quantify with respect to the farmers. We have had, through the various farmer groups that we have had some kind of collaboration with, they have put approximately 200 acres of land into production. The LEND programme is still at its developmental stage. So we have not implemented any projects to date. The status we are with that programme is that Atlantic LNG's theme of LEND, they are now canvassing the farmers in the area, identifying what their interests are. And what we are doing at CGL, we are developing the business models for the various crops. So we have a business model that identifies, this is the production cost per acre, this is the income per acre and this is the net profit you can derive from that, and we are doing that for several different crops. So that we are giving the farmers an opportunity to make a selection now. This is what you can gain and you do it together.

We are also advising them, in terms of economies of scale. So if you want to a particular crop and we are seeing it makes no sense, you do less than five acres of that, then what LEND is doing, they are pooling those different resources and saying X has one acre, X can do two acres, the other one can do one acre and we are forming a cluster where those farmers can come together and produce.

Mrs. Jennings-Smith: Sir, I have a short question for you. In your submission you said that you all have forged a relationship with PCS Nitrogen model farm to train persons interested in agricultural production. Right? Do you all market this training mechanism? And if so, what is the procedure for accessing this training?

Mr. Lalla: Unfortunately, we have not done any extensive marketing. We are working directly with various farmer groups and farmer cooperatives. Our major constraint is that we have very little resources and, obviously, I have to take my very limited resources to continue doing production while we are trying to share our knowledge. So that I do not have, for example, a facility like what exists at the Ministry, where there are extension officers who I can send out to these groups. So I am limited because of the very tight resources that we have. But yet still, we are seeing significant gains, so that in the case of LEND, for example, LEND, Atlantic LNG is prepared to make some resources available to us where they can help to

fill some of those gaps.

Mrs. Jennings-Smith: Okay. Thank you. I have another question but this is directed to the Ministry. I want to find out from you, you spoke of an agriculture structure programme. How long has this programme been in existence? Again, is there a qualifying mechanism for this programme? Could you provide information as to the number of access roads undertaken since this programme started?

Mrs. Siew: We have on an ongoing basis a programme of development of access roads. Also, under our water management programme, we provide sluice gates as well as channel systems like culverts and so on. It is a PSIP project. For this year, we are going to do eight access roads. We have already invited tenders, and so on, as well as sluice gates for Orange Grove and Plum Mitan projects.

Your question with regard to how you access?

Mrs. Jennings-Smith: I want to find out from you if there is a qualifying mechanism, because we have farmers throughout Trinidad and Tobago and we heard about this agricultural infrastructure programme. So I would like to know from you: what is the mechanism for farmers qualifying within a particular area?

Mrs. Siew: For qualification, you would have to send your request through the region, regional administration north, regional administration south and that depends, of course where you live, the one closest to where you live and that will be reviewed and they will guide you as to what you would be able to get out of it.

Mrs. Jennings-Smith: So, should this application be made from farmers direct to the agricultural extension offices?

Mrs. Siew: Yes.

Mrs. Jennings-Smith: Last question. Now, there are many things that affect farmers. You speak of access roads. We speak of support. You speak about protection.

I want to refer now to the whole issue of praedial larceny that affects farmers and I want to ask your Ministry if you have been reviewing legislation to provide stronger legislation in aiding farmers with regard to the whole question of praedial larceny, as well as the strengthening of our manpower and your policing of farming areas to assist in the reduction of the offences of praedial larceny.

Mrs. Siew: Okay. We have a Praedial Larceny Squad, as you may well know and they have been policing different areas. Of course, we need to get more staff on board, with regard to that. But with the amount of staff that we have now on the Praedial Larceny Squad, they police different areas. They cover a wide variety in Trinidad.

Mr. Lalla: Could I interrupt? What is the strength of that staff?

Mrs. Siew: We have "130-something" I believe it is.

Mr. Lalla: I did not get the number.

Mrs. Siew: We have “130-something”, 132.

Mrs. Jennings-Smith: I am aware too that, you know, you have your praedial larceny unit covering a broad area. For example, the eastern area you have that unit being covered from somewhere in the Curepe area or something like that. Are you satisfied with the present arrangement, because farmers are constantly complaining about praedial larceny? Are you satisfied with that present arrangement? And are you looking into legislation for greater protection of farmers?

Mrs. Siew: Well, I would not say that I am satisfied with the amount of staff that we have. But what has been happening is that we work closely with the police, national security policing. We also have our own estate constables as well, attached to the Ministry. So that, despite the number of persons we have on the Praedial Larceny Squad we get the assistance from the police service, which beefs up the security thing.

Now, with regard to the legislation, we are reviewing. Several parts of the Ministry have enforcement persons, so you have fisheries monitoring. You have praedial larceny, forestry rangers, et cetera, et cetera. The idea was to look at it holistically so that we could have one unit which would satisfy all the different areas where praedial larceny could occur. That would require collaboration with the Ministry of National Security. Because OLEP is the one that trains the people, and so on.

Mrs. Jennings-Smith: My question to you, really was if your Ministry is engaging in any discussion with regard to looking at the whole praedial larceny arrangement and if it is indeed impacting upon the safety of crops for farmers throughout Trinidad and Tobago?

Mrs. Siew: Well the praedial larceny report indicates that they have made some inroads into praedial larceny. They have, however, indicated that, you know, they need the beefing up of the staff. So the Praedial Larceny Squad has made some impact with regard to praedial larceny over the last three to four years.

Mr. Lalla: On the area of praedial larceny, we did not want to start there, but since that is on the table, and why I had asked you to repeat the figure as to the size of the policing squad that you have, is to point you in possibly a new direction, in the sense that, on the table right now, I think the authorities are recruiting of the order of 100 municipal police per municipality. Good? Compare that figure to 130 in our entire squad. So we are talking like nationally you are looking at some 1,400 municipal police, most of whom would be in rural years, outside of Port of Spain, Arima, Point and San Fernando, the other corporations are largely rural corporations. And, therefore, the possibility of some amount of collaboration and redefinition of roles—because of what use is a rural municipal police if they are not going to deal with the praedial larceny issue.

So I am suggesting that there is room for collaboration between the Ministry and NAMDEVCO

because you all would have a concern with praedial larceny because there is nothing to pack if it is all stolen, and similarly for Caroni GREEN, that that kind of collaboration ought to be pursued. Because you may not be able to get hundreds of police the way the municipalities are about to recruit. But certainly, you could avail yourself of their services. Because they would be working the same communities. So it is something I would want to throw out, along with the broader issue of collaboration, inter-agency and, you know, intra-state collaboration.

11.25 a.m.

Because mention has been made of EMBD, mention has been made of PSAEL, and between those two agencies and your good selves, the majority of arable land in Trinidad and Tobago resides. So the extent that we are talking about boosting agricultural production, are we, in fact, engaged in any discourse with EMBD, with PSAEL and the question of the lands that they control being much more available to potential farmers?

Mrs. Siew: Well, there is a discussion with the Commissioner of State Lands with EMBD. As a matter of fact, the Commissioner has a working relationship with EMBD at this point in time in that they are lending assistance with regard to the actual land security, land tenure issues. There is a collaboration among EMBD, the COSL and the Commissioner.

Mrs. Jennings-Smith: I want to ask a question, Chairman. I want to go back because on NAMDEVCO's submission, quite clearly, they said and I quote:

Praedial larceny is a major problem currently faced by food producers in Trinidad and Tobago. It is demotivating to farmers and greater praedial larceny laws and patrol needs to be implemented to alleviate such.

Now, I listened to your response a while ago and, quite clearly, there seems to be a problem with collaboration or responses to questions, because I want to know—now, again, I would put to you, have you seen the need for improved praedial larceny laws and patrols as a Ministry? I want to ask NAMDEVCO: Did you communicate to the Ministry and what was the Ministry's response because clearly this was your submission? I want to know if you communicated that to the Ministry and what was the Ministry's response.

Mr. Mohammed: In terms of communicating the praedial larceny issue, at the point of us submitting our documentation to the Parliament, we have submitted the responses to the Ministry, but that time frame in terms of that communication would have happened in a very short space of time, maybe a few days apart. In terms of the praedial larceny as a problem, I think that is a problem that has been plaguing farmers for a much longer time than what would have—it just came out in documentation here, but it is a pretty old problem and it needs addressing. That is a given, but it is not a problem that we would have just identified

in the recent past. It has been there for quite some time.

And maybe in terms of us dealing with praedial larceny purely in terms of Praedial Larceny Squads, there might be some new technological intervention that may allow us to manage praedial larceny in a much different way, using the squads, but in addition to other things, other kinds of support. I am just saying maybe drones, maybe cameras on farms. There might be other initiatives. In fact, there was a farm in Princes Town at one time and that farm would have used some initiatives to be able to manage praedial larceny without having a physical presence of patrol.

Mrs. Jennings-Smith: So are you saying that since you have been on your board that this is the first time that you are looking at this problem officially between yourself and the Ministry?

Mr. Mohammed: When the question was asked of us, it is the first time that I would have written a response to the Parliament about it. It would have made mention of praedial larceny in addition to the other problems. What would have happened before, I imagine that the issue of praedial larceny would have been addressed on several different occasions prior to my coming into NAMDEVO for the seven months. I am sure about that. Specifically, when and where, I would not be able to tell you, but it has been an ongoing problem.

Mrs. Siew: May I, Chair?

Mrs. Jennings-Smith: So, Madam PS, could you respond again bearing in mind this information I am putting publicly to you?

Mrs. Siew: Okay. Praedial larceny, it is a bugbear. As Mr. Mohammed was saying, it is not a new thing. It has been going on for years. The Praedial Larceny Squad was introduced three to four years ago to alleviate some of that burden with regard to theft of products and so on. I recall in 2014 that the legislation was looked at and there were some increases in the fines associated with theft of products. Apart from that, in our incentive programme, we have a provision for security. I believe it is security systems, 50 per cent of the cost up to a maximum of \$30,000. So that is one of the ways we seek to assist the farmer in terms of security.

Mrs. Jennings-Smith: Can you enlighten us a little more on that arrangement?

Mrs. Siew: All right. It is what it is. If you want a security system and you purchased a security system, we will grant you 50 per cent of the cost up to \$30,000, a maximum of \$30,000. We have a whole list of incentives that the Ministry offers, and this one relates to security. So that will also assist together with the collaboration between the police and the Praedial Larceny Squad and this security system. That is an incentive.

Mr. Chairman: I wanted to just shift the focus a bit to the question of sustainability, particularly on the issue of the demographics of it all. What is the average farm like? Is it family farms, mega farms? What is

the dominant pattern?

Mrs. Siew: The dominant pattern it would appear to be family farms.

Mr. Chairman: Are you all satisfied that that arrangement appears to be sustainable, in other words, father to son, mother to daughter and that sort of thing? Is it continual or is it dwindling?

Mrs. Siew: From our records, I believe it is dwindling, because of the youth element not wanting to continue in that particular career.

Mr. Chairman: So what is the Ministry's response? Because if we are talking about pushing production up so that these packing houses would have utility that Caroni GREEN Limited would make sense, then the incentive for that has to come out of the Ministry of Agriculture, Land and Fisheries.

Mrs. Siew: Yes.

Mr. Chairman: So what is on the table to make farming a sustainable activity?

Mrs. Siew: Actually, we have a whole list of incentives. So that if a young person—

Mr. Chairman: But clearly it is not working because you tell me the pattern is one of decline then that list is of little consequence.

Mrs. Siew: We also have training programmes for the young people. Recently, last week, we were in a partnership with BPTT where they had a workshop with about 60 participants to choose—it is a kind of pilot project—and this is really to assist young people in becoming entrepreneurs. So they are looking at that and we are hoping out of that it will encourage other people as well, other young people as well to go into business.

Mr. Chairman: Okay, let me put it this way. I think it was the CEO of Caroni GREEN Limited who indicated a while ago that sustainable farm holdings cannot be two to five acres, it needs to be more. Am I correct, Sir?

Mr. Lalla: Yes.

Mr. Chairman: And, therefore, in our message to potential young farmers, are we saying that we are in a position to assure them acreages above that for production types that require substantial acreages? Is that what is being offered?

Mrs. Siew: At this time no, no.

Mr. Chairman: So then it is just more of same which is less.

Mrs. Siew: The focus really is the technologies and ICT in agriculture.

Mr. Chairman: But even with technology, there still needs to be some land base even if it is greenhouse. There still needs to be some assurance that some quantum of land, if not quantum of equipment is going to be available for these new way farmers.

Mrs. Siew: You were focusing on more than five acres you said.

Mr. Chairman: Then we are about to set up borderline farmers, farmers who are inevitably doomed to fail if the acreages are going to be five-acre plots. I do not think what Caroni Green Limited is saying is that that is the way to go between the size of the acreage or the engineering technology involved.

Mrs. Siew: But remember we want to have as many people as possible, and it may not be possible to give a wide variety of people large parcels of land.

Mr. Chairman: The last time I flew over south Trinidad, to me, when you leave San Fernando you are flying over Petrotrin land all the way to Point and all the way down to Cedros. All these farmhouse they do in the oil sector is, in fact—as a matter of fact, that whole belt, if you draw a line from San Fernando to Rio Claro, anything south of that is Petrotrin land. You have no other significant landholders in that belt.

Mrs. Siew: But we have to remember—

Mr. Chairman: So it is crown lands, Petrotrin lands and as you drift further north into central it is former Caroni lands. So we do not seem to have a problem in finding acreages of the magnitude that Caroni GREEN Limited was suggesting about feasible enterprises.

Mrs. Siew: But how many people we would be able to give large portions of land that is the question?

Mr. Chairman: And, to me, the question answers itself. If Caroni GREEN Limited is saying to us five acres and under is a waste of time, clearly the young people realized that. So if you are offering five acres, I mean, you are about to waste a young man's time. You are about to send him on a course. That is really just wasting time.

Mrs. Siew: But we have to consider as well that we would want to encourage mixed farming as well and, you know, with regard to the amount of land that we give that is a consideration as well.

11.40a.m.

Mr. Chairman: But again, any map of south Trinidad shows you thousands of acres of land that are not in production and that for whom PSAEL and EMBD are in fact the land owners, and therefore the rest is Crown lands. So the whole thing does not seem to make much sense in terms of the State—as a quasi-state agency or the Sub-Intendant of Crown lands. The landholder and the people, some who are brave enough to capture some of those lands, are short-term entrepreneurs, but it does not seem to be a sustained approach on the part of the Ministry to bring the idle hands and the idle lands together.

Mrs. Siew: I would not say that. Another thing we have to consider is the capability of the land—is it fertile? You know, you have to do tests and so on. Some of those lands you would find that the fertility of the soil is not, you know, what we would want to work with.

Mr. Chairman: I will leave that there for the time being, but I know people who have substantial planting

holdings in the Forest Reserve area. I say no more on that for this time being.

The other thing I wanted to draw attention to was whether our social values, our mores and so on are part of the problem keeping back agricultural expansion. In the sense that, are we collaborating with the Ministry of Labour and Small and Micro Enterprise Development in terms of promoting cooperative activity in the farming sector?

Mrs. Siew: The farmers' groups were introduced to the cooperative arrangement, and it is on an ongoing basis that we encourage farmers' groups to do that.

Mr. Chairman: But are there programmed meetings between the Cooperative Division and your Ministry and the other para-state agencies, in terms of, you know, exploring the possibilities in that area? Are there scheduled meetings? Is there any ongoing conversation?

Mrs. Siew: There are meetings in the districts. You have the farmers' group meetings in the district and they meet with cooperative representatives, members of the Ministry of Agriculture, Land and Fisheries, member representatives of other groups that they may want to invite. Generally it is supposed to be at least one meeting per quarter.

Mr. Chairman: The other area I wanted to focus some attention on is the question of meat production. I could not help but notice over the Christmas period huge billboards advertising imported pork at \$9.99, while in the markets, NAMDEVCO's markets and so on, pork averaged \$18 to \$21. How is the Ministry viewing that and what plans are in place to deal with that? Because at the end of the day that \$9.99 pork is imported and therefore foreign exchange is being depleted. So could you all respond, between the Ministry and the two agencies, as to what you all have in place to treat with that?

Mrs. Siew: Well, we recognize it as a trade issue, and the product is being allowed to come into the country. We have legislation that could allow or not allow certain products to come in. So that what happens is that dependent on the product and where it is going to be imported from we do a risk assessment to see whether it could land in this country, and because we are in a free trade market, once we have identified that there is no risk involved it is allowed to come.

Mr. Chairman: But do you think prohibition is the way to go?

Mrs. Siew: We cannot go with prohibition because we have a free market.

Mr. Chairman: Why I said prohibition is because we are that close to Venezuela, so anything you prohibit comes through Cedros.

Mrs. Siew: If you would have noticed in the past we are generally on to that, because recently we had some coming through Icos, I believe it was, and the Praedial Larceny Squad—it was reported and we were able to intercept together with the police, and those animals were destroyed.

Mr. Paray: A couple of questions for Caroni GREEN. In your submission, Mr. Lalla, you indicated that, and I could quote here:

CGL is therefore proposing that there is need for a state-supported execution agency with a mandate to coordinate all available resources for the commercialization of value-based agribusiness in Trinidad and Tobago.

How does that mandate differ from NAMDEVCO's role and function?

Mr. Lalla: When we look at the local sector I think there is a need for a redefinition of roles within the sector, and we need to be very precise about which agency is doing what, because there may be overlap and an ineffective utilization of resources. But when you look at the sector as it is, what we have happening—and when you do a comparison with those countries where the agriculture sector is making a meaningful impact on GDP, what you find is that they always talk to the institutional framework to execute. I mean, with the greatest of respect to not only the Ministry of Agriculture, Land and Fisheries, but most Ministries are not geared up to implement some of those programmes. And, what you find in the more established countries is that they have these various institutional entities that will implement various aspects of it.

I think that without a doubt, for example, if we look at what you are asking. Today is the first day within my tenure as CEO of Caroni GREEN Limited that I am sitting in the same room with NAMDEVCO, myself and the Ministry. In my opinion, that says a lot, because it means that the collaboration that is required to move the sector forward is not happening. We need to recognize these issues. In my conversation with the CEO of NAMDEVCO this morning, we realized that there may be things he is doing that I am also doing, and there has to be a mechanism whereby all of the resources are brought together.

When you look at the way the model works effectively in other countries, you have various stakeholders within the sector. You have, for example, agencies like UWI, UTT, CARDI, which embody a tremendous amount of research information that is available. We have been talking to UWI for example, and we have partnered with UWI Faculty of Agriculture, and what that has done for us is given us access to their alliance with the China Agricultural University. What the dean of the faculty said to me is that we have all this wealth of information, but we do not have the capability to get it down to the farmers. So there has to be that mechanism within the entire structure of the industry to translate that academic research into getting it workable for the farmers.

In a similar way we have NAMDEVCO, we have the ADB. We have, for example, suggested some proposals that could respond to the Chairman's earlier question—what are we doing about getting young people into the sector? Part of our strategy at CGL is trying to find innovative ways of bringing your cost of production down on a consistent basis, so that people can make a decent living.

I must say that I am heartened that we have seen in the recent past at least three UWI graduates who have gotten into farming and have started utilizing some lands that their parents had that were not under production, and we tried to reach out that information all over so that we could get as many people interested. And, we have to understand again—I was CEO at Caroni (1975) Limited, and I will tell you out of the 5,000 cane farmers, the message that was being preached to their children was that, “We will do everything to ensure that you do not remain in this sector”, and that is the reality of what we are facing. We have to find novel approaches to getting back that young blood into the sector. That is why we have to look at all of the models and decide that we want to revamp them.

Part of our plans, for example, that we are trying to develop is how do you make a farmer financially sustainable on his own? The problem that exists in the current model is that we expect farmers to take all of the risks of praedial larceny, of floods, of all of the natural disasters and he must bear all of that risk. Then there is tremendous potential in the value added chain, but we are not involving the farmers in the value-added chain. I am saying that if we develop a business model that takes the farmer having a stake in the value-added processing—and this is where another agency like ADB can come in. ADB can now finance our farmers to get an equity investment into an agro-processing facility. So the farmer is now going to make some money in his actual production. He is going to make money in the value-added processing.

This is where the real money is in agriculture. I will tell you from some research that we have done. When we sell pepper as raw peppers on the export market, we sell it at US \$1 per pound, but if take that to the stage of mash, that goes to US \$12 a pound. If we take it to the stage of dried peppers, it goes to US \$20 a pound. When you look at the industrial base that Trinidad has, there is absolutely no reason why we cannot take the products up the value chain. I think that has to be the model that we look at, where our farmers are not limited to only the high risk area, but they participate in an equity manner at the value-added processing.

So if there is a loss to sustain for whatever natural disaster at the production site, then you have some kind of compensatory mechanism there. When you do that you would find that young people are saying, “This ting is beginning to make a lot of sense now”. I think, Chairman, through you, we have to make an appeal that we bring the resources together and we have to brainstorm and try to find creative means of how do we move the sector forward with our very limited resources.

The potential is there. What we are doing in the export market, with respect to the export of hot peppers, is less than 5 per cent of just the demand in Miami and New York, and we have enquiries now from all over. We have enquiries as far afield as Australia where they are telling us, “We will pay you US \$20 a pound to send scorpion pepper to Australia”, but I have to have the process to dry it; I have to have

the resources to process it. What we have to do is to pattern what has been very, very successfully done in Jamaica. And, the question about maintaining small farm holdings, the way the Jamaicans do it, the Government of Jamaica has made substantial investments in what they call agro-parks. So they take these extensive thousands of acres and they develop the agro-parks throughout the country. They pay for the infrastructure, they pay for putting in access roads.

I sent a communication recently to the Ministry showing where the Government of Jamaica is paying for the irrigation systems for all the farmers. So when you put in all of this infrastructure and you have the Government's support for all of the other mechanisms, then you are going to get people attracted to agriculture. If you leave it as it is—because people complain now. The reality is yes we have a list of incentives programmes at the Ministry, but you ask the average farmer, “Are you accessing that and are you getting back your thing?”—and the answer is no, for whatever reason.

11.55 a.m.

And, I am saying, now is not the time to make excuses. Now is the time that we need to pool our resources to find the answers as to how we can do it, and there are so many examples right around us. Go to Jamaica, see what it is they have done, and how effectively they have done it in getting their agricultural sector to contribute 7 per cent of GDP, and there is nothing in their model that we “copy” implement locally. So that, we have room in the model for a farmer who wants to do five acres, we have room in the model for somebody who wants to do 50 acres, and what we are doing is taking the available land resources and developing it in a way that we can have different scales of farming.

For example, if you want to do a project that is ripe for Trinidad to do, is to stop the importation of all those bell peppers that are selling in PriceSmart and Massy Stores, and so on, but we need to do that, for example, under greenhouse conditions. That do not need 50 acres. The Ministry had put on an investor from Netherlands to me, and he is very, very keen in coming and setting it up, but we have to find ways of breaking down the bureaucracy to make that investor—make the whole situation very investor friendly. So, you want to come and invest, this is what we could do to facilitate you and get you up and running as quickly as possible. As a country we cannot move forward if we are not prepared to make that investment in the development of agriculture.

Mr. Chairman: But, I want to point something out, this is why I keep harping on the infrastructure that is there, we are just not seeing in. In the former Caroni lands there are the old Tasker Road systems, much of which has since been developed into secondary roads. In the oil belt, there are the oilfield roads, thousands and thousands of miles of roadway; at one stage it was equivalent to what exists in the municipal system, with all these oilfield roads are there, so therefore the question of agricultural access does not exist if we

were to turn around our perspective at those leasehold lands that are the property of Petrotrin, and under the control of PSAEL. There are miles and miles of access roads and roads that were leading to oil wells, and to gas wells, and so on, and to water wells even that are there that exist, and that in most cases are served with electricity because the wells utilized electricity in order to pump.

So, substantial infrastructure exists, so you do not even necessarily have to create agro-parks, we in effect have an infrastructure that could be easily converted. There are lots of freelance farmers who have captured, including oil workers, those lands, so that is why I am trying to direct the Ministry's attention that we really need to have a strategic plan that takes into account what exists, and there are thousands of miles of roads that exist that are the property of the oil company.

Mrs. Jennings-Smith: I want to—

Mr. Paray: I just want to finish out the question that I had.

Mrs. Siew: If I may, Chair—

Mr. Paray: You want to respond to the Chairman?—go ahead.

Mrs. Siew: I just wanted to add something to the mix. With regard to agro-processing we also have some incentives with regard to that, and it is the establishment of facilities—we have a 50 per cent to a maximum of 50,000; refurbishing of facilities, 50 per cent to a maximum of 20,000; and the packaging material of 50 per cent to a maximum of 15,000 for agro-processing.

Mr. Paray: Just to follow up with Mr. Sharma there again, I am both happy and a bit sad based on one of the comments that you made that; I am happy that the JSC was able to bring you here today that you could have met NAMDEVCO to have a simple conversation, but it is telling in terms of the relationship of the various state agencies that fall under the Ministry of Agriculture that more conversation, if not prior to the challenges we are having now with the fall in the oil revenue, but, clearly, from the opening comment that I made in terms of who is driving policy, is policy communicated from the Ministry of Agriculture down to its state agencies, its partner agencies.

But, if that is on the surface that conversations were not happening, because I like what I am hearing from you Mr. Sharma as a proponent of technology, technology solves a lot of the problems, a lot of the challenges in terms of land, in terms of vertical farming, in terms of soil-less farming, in terms of, you know, a lot of the modern-day processing and agricultural processing that you see happening in some of the developing countries, my challenge is, why—and probably anybody could answer—why is there, to me from what I am hearing, a lack of coordination in terms of the various, even the three bodies sitting here today, in terms of the language, in terms of the policy direction, in terms of the strategies, why up to today there still seems not to be a cohesive one-direction policy for these agencies, and knowing that, I would say

this falls in the lap of the Ministry being the policy director here, to lead Trinidad and Tobago in terms of agricultural sector, why is that not happening?

Mr. Ramdeen: Chairman, members, NAMDEVCO as a board, I am very clear who drives the policy of agriculture, and that would be the office presently located in St. Clair called the Ministry of Agriculture, Land and Fisheries. The Minister very early through the leader of that particular Ministry, the line Minister, would have given the board which came into being, the current board, I think it is the Thirteenth Board, in December of 2015 a very clear mandate of what our priorities should be. So, we have not run off as a board and tried to do our own thing. I would want to share with you what are the buckets, three or four of the buckets of that mandate, and the biggest bucket is the Farm-to-Table Programme.

So, if I could just stress before I go on with the buckets, that we do not speak to the wider issues that are in agriculture which are plenty and have been around for many, many years, that we can give inputs as a board to the line Minister, or through representatives of the Ministry, that happens from time to time. Does it happen often enough? Probably not, but to say that there is no interface would not be correct.

Back to our mandate. Our main reason why we come together as a board and meet once a month is to drive the Farm-to-Table methodology, and put very simply, it is about getting a better value for our farmers for what they put into their work as farmers. There are other people in the chain who may be benefiting, or let me put it this way, the farmer may be, we believe, benefiting disproportionately to his or her effort. So that the Farm-to-Table is our main priority as a board. That, as the Acting CEO mentioned earlier, has several legs to it. One of them is the farmers' markets which bring the farmer in direct contact with the consumer, and we have those across the country, Friday, Saturday and Sunday every week. And when you go there, not just—I would say it is fair to say, across the country—the age demographic of the farmer definitely is north of 40, but you do see some glimmers of hope in terms of young farmers that at most times are third and fourth generation farmers, but you are also having new farmers without any history or legacy coming into farming, because young people if they see opportunity they pursue it, and there is no doubt that if we could improve things in terms of how we provide the facilities and the infrastructure for farming that it will become more attractive.

The other legs of Farm-to-Table, mentioned very quickly, are value added as well as—and that would be facilitated through the packing houses. We met recently with the Ministry of Planning and Development and they have a clear protocol on how they want to pursue that, so that we have a sustainable solution and not something that we cannot see going on for some time and reaping benefits. Export is also a leg of that as well as sales to and through institutional markets. So Farm-to-Table, as I said, just to stress, is the clear directive from the Ministry of Agriculture, Land and Fisheries through the line Minister.

The other priorities that have been given to us in terms of a mandate, and it was very clear, is improving the physical facilities at Macoya and Debe in particular, as well as in Orange Valley. So that in terms of a project turns into, in both the case of Macoya and Debe, in extending parking facilities which will make it far more comfortable and less disruptive of those persons who are using roads and highways close to the markets; currently, it is no secret that that has been an issue, particularly in Macoya.

Thirdly, in terms of identifying priorities, the Ministry has clearly indicated that food safety is a priority, and that receives the attention of the board in terms of directing resources of field officers and having meetings and getting advice from international bodies in that area.

So those would be a few of the expressions of the mandate that we have received from our Minister. We are very clear that Farm-to-Table is our number one reason for being, and are we moving fast enough to make improvements for our farmers? No. But are we focused on them and making some progress? We believe, yes, and we just have to continue in that direction.

Mr. Paray: Are you satisfied with the current resources that are allocated to NAMDEVCO in terms of accomplishing that objective of the Farm-to-Table Programme at this time?

Mr. Ramdeen: Well, I would say that NAMDEVCO has a budget and we have to make the best use of that budget. I come from private enterprise, I did not have an agriculture bone in my body before that, but I have a marketing bone, and NAMDEVCO is about marketing. This is about enabling opportunities for farmers.

12.10p.m.

Part of our responsibility as a board and as a management in NAMDEVCO is to take the resources we have and make the best use of them. And from where I stand, as the Chair, certainly I believe I reflect the view of the board, we have to become more customer-focused as an organization, as NAMDEVCO, and that shows itself in doing a lot more listening and doing a lot more responding to what farmers want, but also our customers who come to our markets. So in terms of resources, you could always have more resources. We know the reality of the country and I would prefer to leave resource allocation discussions to the Ministry of Agriculture, Land and Fisheries, and we will lobby for what we want, but whatever we get we have to make best use of it.

Mr. Paray: Mr. Chair, just one question again that I want to just pose to the Ministry and perhaps Caroni GREEN, and it is along the lines of genetically modified seeds. What is the Ministry's position in terms of the use of, and the keeping of those genetically modified seeds? Have they been in use in the past? Is there any plan to use them? And for Caroni GREEN, is that something that has been part of your pursuit in terms of a policy, looking at these as part of the improvement in the sector in terms of higher productivity, higher yields and so on? So perhaps the Ministry could—

Mrs. Siew: I will ask the Acting CTO to answer that.

Mrs. Maharaj: Good afternoon, everyone. With respect to GMO seeds, we have to look at the Ministry—we produce seeds for farmers but we produce specific crop seeds, locally adapted seeds. Now when you look at GMOs, most likely, I mean, we do not do that type of work here. It is really hybrid seeds and they are brought into the country to probe and draw huge seed companies that make them in more developed parts of the world. And therefore those seeds are mainly vegetable types which, corn, of course, would be one that is highly—you know, one of those crops that lend to that type of activity.

So, yes, there may be—I think there is a stipulation that those types be adequately labelled as such, but with respect to the Ministry limiting the importation of those seeds, no, and we do have seeds for farmers but based totally on locally adapted types.

Mrs. Jennings-Smith: I want to kind of summarize on what happened this morning to lay my question. Quite early this morning the PS mentioned the objective of the Ministry is to enhance employment and income opportunity, policy direction, regulatory framework in providing opportunities for persons. I was just moved by the Chairman's contribution when he spoke about marketing. My concern, really, is that we have a situation with low production, high import bill, and there is a need to engage and encourage new farmers—young farmers, new farmers, whether they be young or old. And I am just asking NAMDEVCO, what is their focus with respect to engaging these new farmers in terms of marketing? And I know I have heard a lot of ideas, innovations—innovative ideas—especially coming from Caroni GREEN. Is it Caroni GREEN? And I want to ask Caroni GREEN also: How long have you been in existence?

I want to point to the last question I asked when I asked you if there was a mechanism in place where you could gauge your success rate with regard to what you have been doing. And also I asked you: what was your impact in rural communities? Because I am from a rural community and I have never heard of some of the things that I now know of with regard to your presentation. So I want to ask two questions here. I want to ask to Caroni GREEN: What has been happening? How long have you been around and why have there not been a greater impact? What were the encumbrances that you encountered that we did not see that presence manifested in more farmers and the interest in farmers and the interest in young people, seeing farming as a way out, as a way to make a livelihood?

So all in all, I am asking NAMDEVCO in their marketing engagements if there is anything there to engage young people and other people who may be interested in farming to come on board; what kind of engagement marketing policy. Because we have heard a lot about "Farm-to-Table". Quite clearly, that has been successful. All I want to know is what you are doing also to encourage other people who we now know, not as farmers but as persons farming. Because we know too that there is something called a farmer

and there is something called persons who engage in farming. How do we move people from just engaging in farming to embrace farming as a profession, as a way of life and to make a livelihood for their farmers and to improve on our food import bill, to lessen that food import bill and also to attract more foreign exchange into the country?

Ms. Davis: If I may, I am part of a committee on “Farm-to-Table” for NAMDEVCO and it is very interesting that you raised that point because it is an important factor for the country to encourage additional production through our youth. Whilst we understand—it was made clear to us that NAMDEVCO’s drive is more on marketing development and less on origination. We do see its value, its merit, and part of our “Farm-to-Table” initiative that we are working on is, we have engaged discussions with 4H which focuses on the youth in schools and we have had a number of meetings with them, actually, and started fleshing out a plan where we could engage the students who are of a reasonable age to understand, have farmers go to schools, have interactions with the children, have a plan for how they will grow certain crops, educate them about certain crops, educate them about the process and the marketing process also, ideally with the focus of having them engaged in farmers’ markets.

So we have existing farmers’ markets where we bring existing farmers to the market, but what we wanted to get at is that—especially in rural areas because this is where we are focusing with the youth—in rural areas where everyone has a kitchen garden. We want to also bring the children in the schools from an educational perspective, educate them about growing crops and having it as an entrepreneurial activity and get them linked with farmers, get them exposed to technology and bring the youth’s produce to a farmers’ market and encourage development in rural areas in that manner. That is NAMDEVCO’s initiative in trying to get the youth involved.

Mr. Inniss: I would just like to make a small contribution. In terms of the obstacles facing young people and farmers, generally, one of the major obstacles is land tenure. And for those of you who have been following the current Minister of Agriculture, Land and Fisheries for the last year and a half, at almost every opportunity he got, he mentioned land tenure and land ownership as the biggest obstacle facing farmers—farming in Trinidad and Tobago. Only recently he distributed something like about 100 leases to farmers, some of whom have been waiting for decades—30 years. That is one of the major obstacles.

Secondly, credit facilities. The perception is that farming does not require any capital, any training, and you could not be more wrong. The access to credit facilities, capital for young farmers, the bars are too high, and that is a major distraction, and until we fix that, encouraging young people to commit to farming will remain difficult. We have to fix that. There are several other issues. The third one, in my view, is farmers’ welfare. It is critical that a division in the Ministry of Agriculture, Land and Fisheries be dedicated

to farmers' welfare. You cannot be giving farmers, or expecting farmers to live below a living wage. So you need to have a division specifically designed to look after farmers' welfare. And I think those three major areas, if we pay some attention to them, will go a long way in increasing our agricultural GDP.

Mr. De Freitas: I just want to make a comment based on all of the comments made thus far from the three individuals. I hear what you are saying with land tenure and also in regard to some of the obstacles by way of credit facilities for entry of new farmers into farming. I just want to ask a question, because I like what was said in regard to working with 4H and getting young people entrepreneurially minded in regard to farming. I am wondering if one of the problems that we are having in regard to attracting individuals, especially young people into farming, is the approach that we are taking in regard to how we present farming. I will give you an example. How many farmers in this country are registered companies? Are they just registered farmers? Or are they going to register the company and therefore use a business model by way of hiring individuals to expand that company? That would take care of the credit facility obstacle that you just indicated.

In regard to land tenure, if you are entrepreneurially minded, there are always going to be obstacles, no matter what business. It could be IT; it could be computers or it could be farming. There will always be obstacles. Once you have an entrepreneurial mind you are going to look to overcome those obstacles. For example, a lot of the major countries in the world are moving away from this idea of needing hundreds, 500,000 acres of land and they are moving into 3D farming, whereby they would use 1,000 square feet and go up. So you would have different levels of crops being grown and they are controlling everything in those rooms in order to increase production.

That is just one example of an entrepreneurial mind overcoming an obstacle such as land tenure. So what I want to say is if you are trying to attract young people, young people right now are thinking about money. How can they make money? How can they survive? You mentioned a career in agriculture. Why is it that a farmer cannot register a business and have that business as his career?

So for NAMDEVCO, specifically, if you are presenting farming in that manner—I am just giving another example—how many feasibility studies have been done on a particular crop so that if I, as a young person, want to get into farming—let us use an example, tomato—you can give me a feasibility study as to how much money I can make in Trinidad and Tobago growing tomato and you are selling it as a business whereby you can make money, through a feasibility study. Because this is what young people want to find out: how much money am I going to make doing this? And if it is presented in that manner by way of feasibility studies for every single crop that you can get your hands on in Trinidad and Tobago, you may find that regardless of the obstacles, they decide that they want to get into this. Just throwing out those

ideas.

Mr. Chairman: I think we need to wrap up at this point, so I want to thank the Permanent Secretary and her staff, the Chairman of NAMDEVCO and his staff. I want to thank Caroni GREEN for the response to our questions and if further to this day, there are any additional submissions you think you would like to share with us, please feel free so to do. Because I think we all agree we are doing this, not for ourselves and our particular careers but for the benefit of the wider country. So, again, I want to thank you all for sharing with us this morning and hope that we ourselves, in our report, would be able to capture what you have presented to us and bring some further relief to the farmers and the national community as a result of our deliberations this morning.

So, again, thank you all so much for your contributions here and this meeting now stands adjourned.

Thank you.

12.25 p.m.: *Meeting adjourned.*



APPENDIX III

PRODUCTION OF AGRICULTURE COMMODITIES 2011-2015

PRODUCTION OF AGRICULTURE COMMODITIES 2011-2015

Type of Crop	000kgs					Percentage			
	2011	2012	2013	2014	2015	Increase/ decrease (Yr on Yr)			
	(1)	(2)	(3)	(4)	(5)	2012	2013	2014	2015
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
GREEN VEGETABLES	23,449	19,878	19,772	15,904	20,188	-15.23	-0.54	-19.56	26.94
Tomato	1,510	1,470	1,501	1,416	2,698	-2.65	2.11	-5.66	90.54
Cabbage	787	1,123	336	344	594	42.69	-70.08	2.38	72.67
Cucumber	1,193	1,355	1,217	1,185	1,173	13.58	-10.18	-2.63	-1.01
Melongene	1,577	1,285	1,113	1,165	906	-18.52	-13.39	4.67	-22.23
Bodi	314	1,260	1,146	980	1,262	301.27	-9.05	-14.49	28.78
Ochro	1,400	1,383	1,411	977	1,027	-1.21	2.02	-30.76	5.12
Lettuce	1,927	2,188	2,073	2,062	2,810	13.54	-5.26	-0.53	36.28
Pumpkin	4,818	2,537	2,751	2,094	3,279	-47.34	8.44	-23.88	56.59
Patchoi	1,037	1,970	1,752	663	1,905	89.97	-11.07	-62.16	187.33
Water Melon	818	376	294	475	747	-54.03	-21.81	61.56	57.26
Sweet Pepper	526	245	47	525	490	-53.42	-80.82	1017.02	-6.67
Celery	1,362	1,323	1,090	764	1,152	-2.86	-17.61	-29.91	50.79
Cauliflower	127	132	215	107	199	3.94	62.88	-50.23	85.98
Chive	4,284	2,255	2,988	2,016	716	-47.36	32.51	-32.53	-64.48
Hot Pepper	491	350	726	314	398	-28.72	107.43	-56.75	26.75



Dasheen									
Bush	381	245	198	58	235	-35.70	-19.18	-70.71	305.17
Sorrel	441	55	41	324	78	-87.53	-25.45	690.24	-75.93
Christophene	456	326	873	435	519	(28.49)	167.42	(50.11)	19.32

Type of Crop	000kgs					Percentage			
	2011	2012	2013	2014	2015	Increase/ decrease (Yr on Yr)			
	(1)	(2)	(3)	(4)	(5)	2012	2013	2014	2015
	(1)	(2)	(3)	(4)	(5)	(6)	(6)	(6)	(6)
ROOT CROPS	9,038	8,637	11,249	10,754	9,732	-4.44	30.24	-4.40	-9.50
Cassava	3,031	1,861	3,092	3,152	2,294	-38.60	66.15	1.94	-27.22
Dasheen	2,741	2,804	3,427	4,060	1,917	2.30	22.22	18.47	-52.78
Yam	78	33	7	79	3	-57.69	-78.79	1028.57	-96.20
Tannia	-	-	-	24	-				
Eddoes	1,566	2,179	2,285	918	2,505	39.14	4.86	-59.82	172.88
Ginger	417	512	616	672	539	22.78	20.31	9.09	-19.79
Sweet Potato	1,205	1,248	1,822	1,849	2,474	3.57	45.99	1.48	33.80
OTHER PULSES	2,639	3,804	1,776	3,083	2,169	44.15	-53.31	73.59	-29.65
Green Corn	1,567	2,208	844	861	373	40.91	-61.78	2.01	-56.68
Dry Corn	-	3	1	4	-	0.00	-66.67	300.00	-100.00
Beans	39	61	161	162	109	56.41	163.93	0.62	-32.72

Pigeon Peas	1,033	1,532	770	2,056	1,687	48.31	-49.74	167.01	-17.95
RICE (PADDY)	2,663	2,122	2,859	2,912	1,900	-20.32	34.73	1.85	-34.75
FRUITS	2 242	1 752	2 134	3 227	2 727				
Pineapple	1,283	725	1,054	1,428	1,372	(43.53)	45.39	35.52	(3.94)
PawPaw	959	1,027	1,080	1,799	1,355	7.14	5.13	66.58	(24.68)
TOTAL FOODCROPS	37,333	34,441	35,656	32,218	33,470	-7.75	3.53	-9.64	3.89

Percentage

ITEMS	UNIT	PRODUCTION					Increase/ decrease (Yr on Yr)			
		2011	2012	2013	2014	2015	2012	2013	2014	2015
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TREE CROPS										
Cocoa	KGS	338,984	438,192	293,535	328,008	169,173	29.27	(33.01)	11.74	(48.42)
Coffee	KGS	943	6,521	1,001	2,459	139	591.52	(84.65)	145.65	(94.35)
Copra	KGS	29,528	20,088	45,900	44,011	44,567	(31.97)	128.49	(4.12)	1.26
LIVESTOCK										
Milk	LITRES	4950,027	4206,893	5097,578	3941,758	3730,649	(15.01)	21.17	(22.67)	(5.36)
Broilers	KGS	58327,000	59385,800	58114,200	58826,682	15248,097	1.82	(2.14)	1.23	(74.08)
Eggs	DOZENS	5498,000	5508,000	5361,000	5583,374	4799,745	0.18	(2.67)	4.15	(14.04)



Pork	KGS	3334,200	3961,500	2666,000	2574,400	658,284	18.81	(32.70)	(3.44)	(74.43)
Goat Meat	KGS	42,839	32,286	66,600	34,726	53,666	(24.63)	106.28	(47.86)	54.54
Mutton Meat	KGS	175,197	76,046	197,216	74,162	77,271	(56.59)	159.34	(62.40)	4.19
Rabbit Meat	KGS	4,350	7,592	15,600	11,952	8,570	74.53	105.48	(23.38)	(28.30)
Beef & Veal	KGS	405,735	257,000	307,600	326,329	287,108	(36.66)	19.69	6.09	(12.02)

Source: CSO Trade Database, Food Crop and Livestock Surveys

Prepared by MALF, APD, ADIU
2,2017



APPENDIX IV

COMMODITIES DEMANDED BY THE LOCAL, REGIONAL AND INTERNATIONAL MARKETS

Commodities Demanded by the Local, Regional and International Markets

Commodity	Local	Regional	International
VEGETABLES			
Pumpkin	✓	✓	✓
Tomatoes	✓		
Ochro	✓		✓
Cucumbers	✓	✓	
Hot Peppers	✓		✓
Sweet Peppers	✓	✓	
Pimento	✓	✓	
Lettuce	✓		
Patchoi	✓		
Cabbage	✓		
Dasheen Bush	✓	✓	✓
Watermelon	✓	✓	
Melongene	✓	✓	
Squash		✓	
Plantain (Ripe)	✓	✓	
ROOT CROPS			
Cassava	✓		
Sweet Potato	✓		
Dasheen	✓		
Eddoes	✓		
Yam	✓		
Ginger	✓		
	✓		
LEGUMES			
Pigeon Peas	✓		
Bodi	✓		
Seim	✓		
Carilli	✓		
TREE CROPS			
Cocoa			✓
Coconuts	✓	✓	
Rice	✓	✓	
FRUITS			
Pineapple	✓	✓	

Pawpaw	✓	✓	
Citrus	✓	✓	
LIVESTOCK			
Chicken meat	✓	✓	
Beef (frozen)	✓	✓	
Pork	✓	✓	
Goat	✓		
Milk	✓	✓	
Other Commodities			
Milk & cream	✓	✓	
Sauces & preparations	✓	✓	
Dried fish	✓	✓	
Canned fish	✓	✓	

APPENDIX V

AGRICULTURAL COMMODITIES FOR IMPORT SUBSTITUTION, EXPORT & VALUE ADDED PRODUCTION SUBMITTED BY CGL DATED FEBRUARY 8, 2017



An inquiry into strategies for diversifying the type and number of agricultural commodities produced locally.

APPENDICES

APPENDIX A: AGRICULTURAL COMMODITIES FOR IMPORT SUBSTITUTION, EXPORT & VALUE ADDED PRODUCTION.

Commodity	Rationale	Use	Present Production (2013) tonnes	Proposed Production (2013-2015) tonnes	Present export (tonnes)	Requirements (ha) Open field	Protected Agriculture
1.0 STAPLES							
Rice	Import substitution (wheat & white potato); Export potential (regional market, UK export)	Fresh, snacks, cereals, flour	2,984	11,575		1700	0
Cassava		Pre-cut (fries, cubes, logs, grated), snacks, cereals, flour	5,455	18,181		405	0
Sweet Potato		Pre-cut (fries, cubes, slices), snacks, purees, cereals, flour, beverages	3,272	8,818		121	0
Cashew		Pre-cut chunks, snacks, cereals, flour	909	1,818		81	0
Eddoes		Fresh, snacks, cereal, flour	727	1,090		121	0
Breadfruit		Primary	10,000 trees	100,000 trees		x	
Yam						x	
2.0 VEGETABLES							
Tomato (traditional)	Domestic, regional market	Fresh, purees, ketchup, beverages, sauces	2,144	3,100	493	0	10
Hot pepper	UK & Canada export	Fresh, sauces	710	1,800	360	20	5
Cucumber (traditional)	Domestic, regional market	Fresh, cured (pickles), sauces, beverages	1300	1760	249	0	10





An inquiry into strategies for diversifying the type and number of agricultural commodities produced locally.

Pumpkin	USA export	Fresh, frozen (cubes & slices), purees, ketchup, snacks & cereals, flour, beverages	1,773	1,950	1,287	0	0
Okra	Niche market (USA export)		926	926	4	0	0
Sweet pepper (Traditional)	Domestic	Fresh, Chilled convenience packs	343	2633		0	10
Patchoi	Domestic	Fresh, Chilled convenience packs	518	570		0	0
Cabbage (mixed varieties)	Import substitution					x	x
Lettuce (mixed varieties)	Import substitution	Fresh	1394	1500		0	7
Brassoli	Import substitution						x
Melongene	Domestic, USA export	Fresh, chilled convenience packs	533	586		0	0
Dasheen Bush	niche export		329	329			x
Carrots	Import substitution, Regional market					x	x
Onions	Import substitution, Regional market					x	x
Sweet corn	Import substitution	Fresh, chilled	981	2481		47	0
Tomato (slicers)	Import substitution						x
Bell Peppers (colored)	Import substitution						x
Washimama (Portobello & button)	Import substitution						x
Cauliflower	Import substitution						x
3.0 LEGUMES & PULSES							



An inquiry into strategies for diversifying the type and number of agricultural commodities produced locally.

Black eye	Domestic	Fresh, frozen & canned (green & dry), animal feed	13	500		X	
Pigeon pea	Domestic	Fresh, frozen & canned (green & dry), animal feed	103	802	325	X	
Bodi	Domestic	Fresh, chilled, blanched frozen	970	928	1353	X	
4.0. FRUITS							
Citrus	Domestic, Regional market	Fresh, purees, snacks, beverages, jams & jellies, canned, oils & fragrances etc.	3000	4000		X	
Coconut	Domestic demand, Regional market, USA & Canada export	Water, milk, oil, copra	Replant the present 5000a			X	
Banana	Domestic demand	Fresh, purees, snacks		480a		X	
Plantain	Domestic demand	Fresh, purees, snacks		120a		X	
Avocado				1300a		X	
Pineapple	Domestic & Regional market(USA, Canada, EU, Panama, Costa Rica)	Juice	600a	1000a		X	
Watermelon	Domestic & Regional market, FTA	Fresh, jams & jellies, flavorings, beverages	50a	50a		X	
Mango	UK, USA & Canada export	Fresh fruit table varieties		500a		X	



An inquiry into strategies for diversifying the type and number of agricultural commodities produced locally.

		(High demand); Fresh, jams & Jellies, flavorings, beverages					
Pineapple	Domestic & Regional market, FTA	Fresh, canned, animal feed	50a	100a		x	
Dwarf Pomegranate			150a	330a		x	
Guava				900 acres		x	
Carambola						x	
Wt Cherry						x	
Common Plum						x	
Jamaican Plum						x	
Pomegranate						x	
Wax Apple						x	
Soursop	Domestic & Regional market	Juice				x	
Passion Fruit	Domestic & Regional market, USA export	Juice				x	
Cantaloupe	Import substitution					x	x
Cocoa	Export	Liquor, chocolate, nutraceutical s, cosmetics, fertilizers & feeds	600	3000	3000	x	
Honey		Fresh, nutraceutical s, cosmetics	45,000 l		200,000 l		
S.S OTHER							
Ginger	Domestic					x	



APPENDIX VI

TOP TEN COMMODITIES UNDER PRODUCTION IN TRINIDAD



TOP TEN COMMODITIES UNDER PRODUCTION IN TRINIDAD

COMMODITY	PROJECTED YIELD (Kg)	ACREAGE (Acres)
CASSAVA	11,828,355	1,253
PLANTAIN	5,865,833	1,235
ORANGE	6,335,813	693
COCONUT	22,811,940	575
SWEET POTATO	5,102,859	518
PUMPKIN	3,155,631	517
DASHEEN	4,385,494	495
WATERMELON	4,458,033	451
CORN	2,365,866	386
HOT PEPPER	4,354,224	360
OTHER		4,795
TOTAL		11,277

Source: NAMDEVCO 2014



APPENDIX VII

SUPPLY OF SELECTED FOOD ITEMS 2010-2015

Supply of Selected Food Items 2010-2015
(Trinidad Only)
000s Kgs

Commodities Demanded Locally, Regionally and Internationally	SUPPLY (Production + Imports)				
	2011	2012	2013	2014	2015
GREEN VEGETABLES	19 905	19 105	18 918	17 391	21 934
Bodi	314	1 260	1 146	980	1 262
Cabbage	2 812	3 253	2 329	2 391	2 941
Cauliflower	311	422	525	488	597
Celery	1 491	1 482	1 275	962	1 365
Cucumber	1 193	1 355	1 217	1 185	1 173
Hot Pepper	516	401	745	393	434
Lettuce	2 781	3 222	3 289	3 354	3 993
Melongene	1 577	1 287	1 113	1 165	906
Pumpkin	4 818	2 537	2 751	2 094	3 279
Sweet Pepper	804	566	567	1 000	1 044
Tomato	2 465	2 914	3 646	2 883	4 113
Water Melon	824	407	315	497	828
FRUIT					
Paw Paw	1 283	725	1 066	1 461	1 400
Pineapple	967	1 031	1 080	1 802	1 355
Commodities Demanded Locally, Regionally and Internationally	SUPPLY (Production + Imports)				
	2011	2012	2013	2014	2015
ROOT CROPS	11 989	12 079	16 679	15 564	13 061
Cassava	3 034	1 868	3 105	3 164	2 308
Dasheen	3 773	3 780	5 272	5 913	3 074
Eddoes	2 373	3 230	3 949	2 505	3 577
Ginger	760	1 075	1 306	1 201	1 015
Sweet Potato	1 865	1 979	2 831	2 452	2 896
Tannia	27	27	69	104	44
Yam	157	120	147	226	146
OTHER PULSES	2 653	3 834	1 807	3 115	2 222
Beans	49	85	184	185	124
Green Corn	1 571	2 217	853	870	411
Pigeon Peas	1 033	1 532	770	2 056	1 687



Source; CSO Food Crop Survey, Trade database

APPENDIX VIII

TECHNICAL TRAINING PROGRAMMES



TECHNICAL TRAINING PROGRAMMES	
Caribbean Agricultural Research and Development Institute (CARDI)	Specialty courses based on funding
Caribbean Industrial Research Institute (CARIRI)	Business incubator
Caribbean Network for Empowerment Through Training (CNETT) NGO	Fully integrated training, technical-vocational training, agri-business development, agri-hub
Caroni Green Limited (CGL)	Demonstration and On-Farm Training
Food and Agriculture Organization of the United Nations (FAO)	Speciality training based on projects
Inter-American Institute for Cooperation in Agriculture (IICA)	Technical & business training



Ministry of Agriculture Land & Fisheries	<ul style="list-style-type: none"> ETIS Extension Training and Information Services/ FTC-Farmers Training Centre <ul style="list-style-type: none"> Regional Offices YAPA- Youth Apprenticeship Programme in Agriculture, Agriculture Now Training Unit 2012-2015
Ministry of Labour and Enterprise Development	FAIRSHARE, IBIS, NEDCO, Agri Labour Programmes
PCS Nitrogen Potash Corp	<ul style="list-style-type: none"> Primary production and related courses <ul style="list-style-type: none"> Demonstration
Schools - Primary	Agricultural training – Home gardening
Schools - Secondary	CXC, CAPE
University of the West Indies (UWI)	Diplomas & Degrees & Certificate courses (crop, animal, ornamental horticulture)
University of Trinidad and Tobago (UTT)	Diplomas & Degrees (crop, animal, forestry)
Youth Training and Employment Partnership Programme (YTEPP)	Technical-vocational training in primary production and agro processing
Other	<ul style="list-style-type: none"> Small companies offering training courses via advertising on Social Media – aquaculture, aquaponics, hydroponics, vertigrow systems, animal production (meat & milk) Private/ civic/ religious organizations – Lions Club, Rotary Club, Seven Days Adventist
AGRI-BUSINESS TRAINING	
National Entrepreneurship Development Company Limited	Business Management
Youth Business Trinidad & Tobago (YBTT)/ NGO with funding from SHELL	Start and Expand Agri-businesses
FINANCING	
Agricultural Development Bank Ltd (ADB)	Loans
Commercial Banks	Loans
Credit Unions	Loans
Loan for Enterprise and Network Development Agency (LEND/ Atlantic LNG)	Micro-loans
National Entrepreneurship Development Company Limited	Micro-loans
Youth Business Trinidad & Tobago (YBTT)	Loans (up toTT\$30,000)