

GRENADA

NATIONAL AGRICULTURAL

PLAN



2015 - 2030

FINAL REPORT

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Preface

Support for the development of the National Agricultural Plan was provided by the CARICOM Secretariat under Component 1 of the 10th EDF Agricultural Policy Programme (APP). This component focuses on strengthening the regional agricultural development strategy through inter alia providing support for the development and implementation of national and regional agricultural sector development policies, including the CARICOM Community Agriculture Policy (CAP).

This initiative is intended to facilitate the development of national agriculture policies, action plans and incentive regimes targeting small producers/entrepreneurs linked to regional policy/strategies. Specific focus of the programme is on: creating awareness primarily of the CAP especially as it relates to small producers/ entrepreneurs; developing/strengthening national policies consistent with the overall regional (CAP) policy, and developing the framework to facilitate the alignment of national with regional policy and the establishment of a Planners Forum (virtual and face to face meetings and participation in international fora).

List of Abbreviations

AFRP	Agriculture Feeder Road Project
BNTF	Basic Needs Trust Fund
CARICOM	Caribbean Community and Common Market
CAP	Common Agricultural Policy
CCI	Caribbean Challenge Initiative
CDB	Caribbean Development Bank
CIDA	Canadian International Development Agency
CPA	Country Poverty Assessment
ECCB	Eastern Caribbean Central Bank
ECCU	Eastern Caribbean Currency Union
EDF	European Development Fund
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
GAC	Grenada Agricultural Census
GCA	Grenada Cocoa Association
GCNA	Grenada Cooperative Nutmeg Association
GDB	Grenada Development Bank
GDP	Gross Domestic Product
GFNC	Grenada Food & Nutrition Council
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GMO	Genetic Modified Organism
GOG	Government of Grenada
GPRS	Growth & Poverty Reduction Strategy
HAACP	Hazard Analysis & Critical Control Points (HACCP)
ICT	Information Communication Technology
IFAD	International Fund for Agricultural Development
IICA	Inter-American Institute for Cooperation on Agriculture
IUU	Illegal, Unregulated, and Unreported Fishing
JICA	Japan International Cooperation
MALFFE	Ministry of Agriculture Lands Fisheries, Forestry & the Environment
MAREP	Market Access & Rural Enterprise Development Project
MCMS	Minor Spices Marketing Society
MCS	Monitoring, Control, & Surveillance Assessment
MNIB	Marketing & National Importing Board
MPA	Marine Protected Area
NAP	National Agriculture Plan
OECS	Organisation of Eastern Caribbean States
PSIP	Public Sector Investment Program
SDG	Sustainable Development Goals

TNC	The Nature Conservancy
UK	United Kingdom
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Program
USA	United States of America
USAID	United States Agency for International Development
WHO	World Health Organization
WISI	West India Spices Inc.

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1. EXECUTIVE SUMMARY

Support for the National Agricultural Plan (NAP) was provided by the CARICOM Secretariat under the 10th EDF Agricultural Policy Program. A key requirement under the terms of reference for the development of the NAP was alignment with national and regional agricultural policies and national, regional and international development priorities.

Methodology: The methodology applied involved desk review of existing national and regional agricultural and related policy and strategy documents, review of grey literature on the sector, analysis of the latest available economic, trade, and other sector related statistics, review of international development priorities, and consultations with industry experts and stakeholder, culminating with a national stakeholder's consultation which was held on July 16, 2015.

Situation Analysis: The NAP was informed by a rigorous analysis of the situation in the sector and its performance focusing on: economic, social and environmental issues; structural, institutional and considerations; and the policy framework, and development priorities.

Among the highlights from the analysis were the following:

- Although the national economy was showing signs of recovery it was still reeling from the protracted recession following the 2008 financial crisis;
- Access to development financing was limited by weak current account surplus, inability to access loans at commercial rates under the three year home grown structural adjustment program which was implemented in 2014, and difficulty in accessing grants and concessionary financing because of Grenada's designation as an upper middle income country;
- During the last decade growth in the agriculture sector surpassed growth in the national economy with the contribution of the sector to real GDP increasing from 4% in 2008 to a projected 5.7% in 2015;
- Growth in exports were driven mainly by increased prices. The main exports were nutmeg and mace, fish, milling products, cocoa, and fruits;
- Food imports declined between 2010 and 2014 driven mainly by increased prices. Meat imports, however, showed a steady increase. The main imports were meats (mainly chicken), cereals and cereal preparations, and dairy products which together accounting for over 60% of food imports. Fruits and vegetables accounted for only 3% of food imports;
- More than 70% of the food consumed was imported.
- There was significant decline in the amount of lands under agriculture (24%) and number of farmers (22%) between 1995 and 2012. The largest decline was in farms larger than 25 acres. Based on the 2012 GAC, 25% of the available agricultural lands were uncultivated in 2012. Average farm size also dropped slightly from 2.62 acres in 1995 to 2.54 in 2012;
- The agriculture sector accounted for 9.6% of the labour force in 2012. However there was a decline in direct employment (73% compared to 1995) which was directly correlated with increased use of farm machinery and equipment;

- Agro processing was carried out mainly at a cottage level but recently there has been significant private investments in cocoa and nutmeg processing;
- Thirty eight percent (38%) of farmers reported that they do not sell produce in 2012. Most of the farmers who sold produce was for export;
- There has been a decline in the use of agricultural inputs (fertilizer, herbicides, etc.) but increased use of farm machinery and equipment;
- Most of the investments in agriculture over the past 5 years were in farm and feeder roads, and in fisheries processing facilities. However, there was concern about the impact of feeder roads on agricultural production versus real estate development;
- The sector is highly vulnerable to climate change, and increased incidence of natural disasters and other extreme weather events. It also impact the environment based on the system of agriculture applied.
- Implementation of approved national policies, strategies and plans needed to be strengthened.

National Agriculture Plan: The vision for the NAP is *‘an agricultural sector that is globally competitive; contributes to economic growth, enhanced national food and nutrition security, poverty alleviation and social wellbeing, and conservation of the natural environment; and that is aligned to regional and international agricultural policies and strategies that are beneficial to the country’.*

Its overall goals of the NAP is *to stimulate economic growth in the agriculture sector through the development of a well-coordinated planning and implementation framework that is interactive and effective, and involve the full participation of the stakeholders, and which promotes food security, income generation and poverty alleviation.*

Strategic focus, Strategic Objectives and Priority Actions of the National Agriculture Plan: Based on the analysis done and consultations with stakeholders the following strategic priorities and objectives were identified for the NAP:

Strategic Focus Area	Strategic Objectives
<p>1. Increasing agriculture contribution to national economic growth, employment creation, poverty reduction and rural development;</p>	<p>1. Increase exports of traditional crops, fish, fruits, vegetables, root crops, minor spices, and value added products to international and regional markets.</p> <p>2. Increase production & sales of targeted fruits, vegetables, root crops, herbs and minor spices for targeted domestic markets</p> <p>3. Increase production of livestock for the domestic markets and bee and bee products for the domestic market and export</p> <p>4. Leverage opportunities in the tourism sector to strengthen the linkage between agriculture and tourism</p>
<p>2. Enhancing National Food Security;</p>	<p>1. Reduce dependence on food imports and imported staples in particular and increase availability of local fresh and fresh processed products.</p> <p>2. Increase economic access to food by vulnerable persons and their capacity to address their food and nutrition needs.</p>

Strategic Focus Area

Strategic Objectives

- | | |
|--|--|
| <p>3. To strengthen the agricultural sector’s resilience to climate change and natural disasters, reduce its adverse impact on climate change and the environment, and ensure that development is socially, economically, and environmentally sustainable</p> | <p>3. To improve the health status and wellbeing of the Grenadians through the consumption of nutritious and safe foods.</p> <p>1. Build climate resilience to avoid, prevent, or minimize climate change impacts on agriculture (including forestry and fisheries), the environment and biodiversity; improve preparedness for climate change impacts and extreme events; enhance the country’s response capacity in case of extremes; and facilitate recovery from impacts and extremes</p> <p>2. Reduce the impact of land based agriculture on climate change and the environment.</p> <p>3. Preserving and optimizing resources (Land, Sea, Genetic);</p> |
| <p>4. Investments for the Development of the infrastructure; physical resources; Research & Development, institutional and human resource capacity of the sector;</p> | <p>1. Additional investments in economic infrastructure for increased contribution of the agricultural sector to economic growth, poverty alleviation and environmental sustainability.</p> <p>2. Additional investments in institutional and human resource capacity development in the agricultural sector to improve governance and efficiency.</p> <p>3. Investment in upgrading agricultural research and development capacity</p> |
| <p>5. To foster mutually beneficial partnerships with our regional counterparts and development partners</p> | <p>1. Achieve greater collaboration in regional and international trade for agricultural products.</p> <p>2. Create framework for donor and development partner coordination in providing support for the agriculture sector.</p> |

Recommended strategies are aligned with the CARICON Agricultural Policy, and other sector policies and the Post 2015 Sustainable Development Goals (SDG’s).

For each strategic objective the NAP outlines the rationale, priority actions, expected outcomes, indicators, baseline, and timeframes for implementation. Time frames for implementation are indicative. This takes into consideration the uncertainty relating to the mobilization of financial resources in the current financial situation.

Priority Commodities: The priority agricultural commodities recommended in the NAP are summarized below. These are aligned to the CARICOM priorities and thematic priorities.

Priority Commodities	Food Security	Utilization		
		Hotel Tourism	Export	Import Substitution
<u>Tree Crops</u>				
Cocoa			X	
Nutmeg & Mace			X	
<u>Fruits</u>				

Priority Commodities	Utilization			
	Food Security	Hotel Tourism	Export	Import Substitution
<u>Tree Crops</u>				
Soursop	X	X	X	
Mangoes	X	X	X	
June Plums	X	X	X	
Breadfruit	X	X	X	
Bananas	X	X		
Coconuts	X	X		
Salad Fruits				
<u>Root Crops</u>				
Dasheen	X	X	X	
Sweet Potatoes	X	X	X	
Yellow Yam	X	X	X	
Cassava	X			X
<u>Vegetables</u>				
Lettuce	X	X		
Hot Peppers	X	X	X	
Carrots	X	X		X
Onions	X	X		X
<u>Herbs & Spices</u>				
Cinnamon	X	X	X	
Cloves	X	X	X	
Ginger	X	X	X	
Turmeric	X	X	X	
<u>Fish</u>				
Tuna	X	X	X	
Lobsters		X	X	
<u>Livestock</u>				
Chicken	X	X		X
Pigs	X	X		X
Goats	X	X		X
Sheep	X	X		X
Bees	X	X	X	X
Forestry	X	X		

Implementation Monitoring and Evaluation: The Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment has overall oversight for the implementation of the NAP. Other stakeholders including the Social Partners, Statutory Bodies, other Ministries, and development partners will all be engaged in the monitoring process.

1. INTRODUCTION

1.1. NATIONAL VISION FOR AGRICULTURE SECTOR

Grenada's primary natural resources are its fertile arable lands, forests, and marine resources. The agriculture sector is the main user of these resources and is a major contributor to the country's economic and social development. Activities in the agriculture sector also have significant impact on the sustainability of the resources it uses.

Following the protracted economic recession between 2008 and 2012, Government placed priority on the resumption of economic growth in a sustainable, inclusive and resilient manner. A competitive and robust Agriculture sector was critical to achieving this goal. The agriculture sector is therefore expected to play an important role as a source of employment, particularly in rural communities, food and nutrition security, increased international trade, and for creating opportunities for linkages with other areas of economic activity such as tourism and health in particular.

Taking the Government's priority into consideration, the National Agricultural Plan (NAP) is guided by the challenges and opportunities identified for the sector, the 2015-17 Corporate Plan of the Ministry of Agriculture, the national priorities outlined in the 2015 -2019 Growth and Poverty Reduction Strategy, the CARICOM Community Agricultural Policy, the OECS Growth and Development Strategy and other relevant national and regional sector and thematic strategies and policies.

In line with the Ministry of Agriculture's Vision for the Agriculture Sector, the **Vision** for the NAP is *an agricultural sector that is globally competitive; contributes to economic growth, enhanced national food and nutrition security, poverty alleviation and social wellbeing, and conservation of the natural environment; and that is aligned to regional and international agricultural policies and strategies that are beneficial to the country.*

The NAP provides the framework for the development of the agriculture sector through the strengthening of linkages with other economic sectors and the alignment of national policies with regional and international policies and agendas for sustainable development.

The overall goals of the NAP is to stimulate economic growth in the agriculture sector through the development of a well-coordinated planning and implementation framework that is interactive, and effective, and involve the full participation of stakeholders, and which promotes food security, income generation and poverty alleviation.

1.2. COUNTRY CONTEXT (CURRENT REALITY)

Economy: Grenada's economy is slowly recovering from protracted recession following the 2008-12 global financial crises. The Eastern Caribbean Central Bank (ECCB) projects modest positive economic growth in the short to medium term averaging 2.6% between 2013 and 2015.

The protracted recession left Government with high public debt, current account deficit and limited fiscal space for financing public sector investments and development projects. Government therefore has to rely on grants and concessional financing for its capital and development investments as it is unable to

borrow at commercial rates. Grenada’s classification as a middle income country also limits its access to grants and concessional financing.

To cushion the effects of the natural disasters of 2004 and 2005 and the global crisis (2008-12), Government embarked on a 3 year home grown structural adjustment program which commenced in June 2014. The main pillars of the program include an ambitious fiscal adjustment effort supported by public financial management reforms and debt restructuring; structural reforms to promote a business-friendly environment, growth and job creation; and measures to strengthen financial system safety and stability. The recent positive economic performance reflects the impact of the program to date supported by improvement in the economic performance of major economies such as the United States with which Grenada’s economy is closely aligned. The agriculture sector has been one of the lead sectors contributing to the recent improved economic performance.



Figure 1

Economic Contribution – Agriculture Sector: Agriculture’s contribution to total real GDP averaged 5% between 2010 and 2014 increasing from 4.6% in 2010 to 5.5% in 2014. The crop sub- sector was the major contributor to agriculture GDP during that period accounting for 2.8% of total GDP followed by fishing (1.4%), livestock (0.5%) and forestry (0.2%).

Between 2010 and 2014 growth in the agricultural sector averaged 7.4% per annum compared to average real GDP growth of 1.5% during that period. Compared to the period 2000 to 2009, growth in the agricultural sector averaged -1.2% compared to average GDP growth of 2.2%. Overall the sector has been one of the major contributors to the recent improved economic performance.

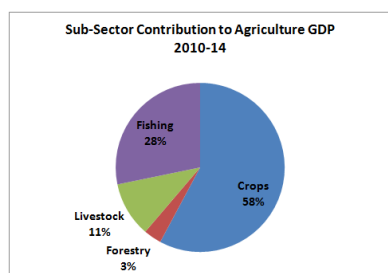


Figure 2

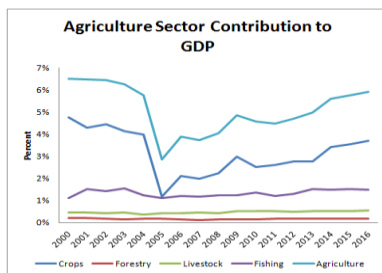


Figure 4

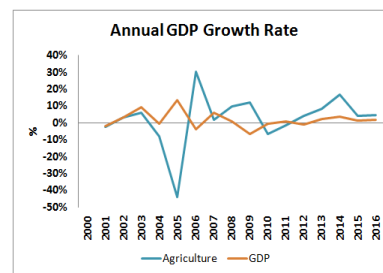


Figure 3

Land Resources: Both the amount of arable lands under agriculture and the number of farms are declining. Data from the 1995 and 2012 Grenada Agricultural Census (GAC), show that available agricultural lands declined from 60 thousand acres in 1960 to about 23.6 thousand acres in 2012 or about 1.2% per annum. Similarly the number of farms declined from just over 15,000 farms in 1961 to 9,300

farms in 2012 or by just under 1% per annum. The largest decline was in number of farms larger than 25 acres (48%) and farms under 0.5 acres (38%).

Between the 1995 and 2012 GAC the amount of lands under permanent and temporary crops declined by 49% whereas the amount of lands classified as forest/bush increased by 38%. Available lands for agriculture are also underutilized. Twenty eight percent (28%) of the agricultural lands were classified as uncultivated in the 2012 GAC.

Agricultural Employment: The agriculture sector accounted for 9.6% of the Labour force in 2013 and was the second largest employment source by sector. Only 2.4% of the unemployed were from the sector (2013 Labour Force Survey). Based on the 2012 GAC there were 9,206 farmers of whom 71% were males. The number of registered farmers with the Ministry of Agriculture is currently 6,078 with 78% males.

The 2012 Agricultural census shows a decline in direct employment on the farm (73% compared to 1995) with the largest decline in household members (92%) and unpaid workers (78%). This was directly correlated with increased use of farm machinery and implements.

The fisheries sector is comprised about 1,500 fisher folks most of whom are males and about 40 fish vendors most of whom are females.

The agro-processing sector is comprised of about 265 small and 9 medium size processors 65% of whom are females operating at the cottage level.

Agricultural Production & Productivity: Agricultural production activities are carried out mainly by low resource farmers on small farms averaging 2.54 acres based on the 2012 GAC compared to 2.62 in the 1995 GAC and 3.93 in 1961. The average acreage for food crop farmers was 0.27 acres and for permanent crops 2.1 acres. Based on the 2012 GAC, 25% of the agricultural acreage was under cocoa and nutmegs, 13% under fruits, vegetables and root crops and 1% under livestock.

At the level of technology currently applied and the low yields obtained, Grenada is considered a high cost producer of most crops. Additionally, prices demanded by farmers are based more on ‘Price Expectation’ rather than profitability.

Agricultural Exports: Agricultural exports accounted for 47% of total exports between 2010 and 2014 and are important for foreign exchange earnings and income generation for producers. Earnings from agricultural exports also averaged 41% the value of food imports between 2012 and 2014. Exports earnings have shown robust growth

since 2007 increasing at an average annual rate of 5.5% between 2007 and 2014. This growth has

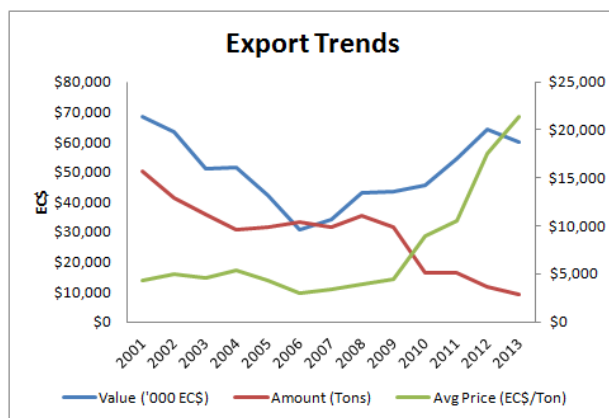


Figure 5

been fuelled mainly by increases in export prices.

Food Imports: Food imports have shown a declining trend in amount and value between 2010 and 2014. This has been driven mainly by increased prices and increased domestic consumption of local produce. The main food imports are meats (27%) (mainly chicken), cereals (20%) and cereal preparations (7%), and dairy products (13%). Together these items account for over 60% of food imports. Fruits, vegetables and roots and tubers accounted for less than 3% of total food imports.

While the import of fruits, vegetables and root crops showed an overall declining trend, the value of meat imports have increased steadily despite increases in average prices.

Food Security: In 2010, the food self-sufficiency index which measures the proportion of the available food supply provided from domestic resources was estimated at 26. The low self-sufficiency index highlights the heavy dependence on imports to meet national food requirements. More than 70% of the available food for consumption was from imports. Grenada was self-sufficient for nutmegs, mace and other spices, cocoa and fish with significant surplus for export. The self-sufficiency index was 96 for fruits, 94 for milling products (manufactured from imported cereals), 50 for vegetables and root crops, 18 for dairy products, and 14 for meats. All of the supplies of the other food categories namely cereals, sugar & confectionary, oil seed etc., cereal preparations, fats & oil, and miscellaneous edible preparations were imported i.e. a self-sufficiency index of 0 meaning that all of consumption of these items comes from imports.

Agro processing: The Agro-Processing Subsector is relatively small but growing and is made up of a few medium sized agro-processors and over 265 small agro-processors. The majority of agro-processors produce jams, jellies, confectioneries and sauces. Sixty-five percent (65%) of them are women. The subsector also generates self-employment and approximately 1,325 temporary jobs. It has been conservatively estimated that the sector generates about EC\$10.6 million per annum. Most of the products are sold on the local market but a number of agro-processors have been able to penetrate the export markets through formal and informal arrangements and through internet marketing.

More than 100 different types of agro-products are locally produced. These are categorized as: dry seasonings; wet seasonings and related products; wheat products; beverages, essence and alcoholic drinks; non-alcoholic bottled drinks and water; honey and honey products; confectionary, snacks and dried fruits; cassava products; meat and fish products; ice cream and dairy products; spice products and craft and cosmetic products. These are produced in small scale production units/operations concentrated in the rural communities under individual labels and brands.

The volumes currently traded are very small as raw material is not always available and the system of production is not well developed. In addition, the products need to be further developed in terms of hygiene standards, product packaging and product labelling which are essential features in the presentation and sale of the products. There is potential for the establishment of a sustained and viable centralized agro-processing facility to serve the small agro-processors. It is believed that there will be a more standardized product in terms of quality and presentation

Manufactured agricultural products are also an important subsector of the agriculture sector in Grenada for both domestic consumption and export. These items comprise mainly nutmeg products, flour, and

animal feed. With the exception of nutmeg products, all of the other products are manufactured from imported raw materials. Exports of manufactured products was dominated by flour and animal products and amounted to over EC\$11 million in 2011. Growth in this subsector has been relatively stagnant averaging 2.33% by value annually between 2000 and 2011. The growth was driven mainly by increased prices.

Recently there has been significant in the investment of chocolate products by the GCA and a private entity and the production of nutmeg based product by a number of private sector companies. Market responses to these products locally and overseas have been quite positive.

Market Alignment: Based on the 2012 GAC, 38% of farmers reported that they do not sell their agricultural production. Sales to the Commodity Associations for export (25%) was the major selling place.

Agricultural production inputs: Use of production inputs declined significantly during the period 2005 to 2009 in response to increased import prices. Overall average price increased 81% and amount purchased declined by 36%. Fertilizer prices increased 140% and purchases declined 58%. Pesticides prices increased 105% and purchases declined 41%. Packaging material prices increased 12%. Reduced use of production inputs would adversely affect productivity and quality in the absence of alternative treatments.

More farms were using farm machinery at the 2012 GAC compared to the 1995 GAC. Notable increases were in the use of seed planters (850%), brush cutters (770%), chain saws (556%), motor vehicles (166%), plucking machines (190%) and mist blowers (90%). The reduction in farm labour correlates with the increased use of farm machinery and equipment.

Poverty: Poverty levels in Grenada remain high. Based on the 2008 CPA 37.7% of the population was poor of which 2.4% were extremely poor and 35.3% deemed to be poor but not indigent. 14.6 percent of the population was classified as vulnerable. 11.3% of the poor were from the agriculture sector.

Praedial larceny: Praedial larceny continues to be an intractable problem for the agriculture sector and threatens to erode farmers' confidence in the sector resulting in reduced investments and consequently reduced output. It is estimated that some 20–25% of production is siphoned off by praedial activities. Praedial larceny proliferation is primarily driven by the increased demand for supplies in the domestic fresh food chains, where there are many opportunities for praedial activities to become a profitable business with its own set of dynamics in agriculture food distribution. Small and petty thieves, and organized systems for theft and disposal of food have become a part of what now appears to be a national system. The MALFFE has developed a Praedial Larceny Prevention Programme which is designed to look at all aspects of the value chain from farm to end user and address the challenges in a holistic manner. The implementation of this Programme will continue to be a joint effort between the Ministry, the Police, the Judiciary, Farmers and other stakeholders

Institutional Context: A number of public institutions and organizations provide services to and support for the agriculture sector. The sector is comprised mainly of private producers.

The Ministry of Agriculture, Forestry and Fisheries and the Environment (MALFFE) provides policy direction and a range of services and inputs. The range of services are provided through the following divisions: Administration; Agronomy; Bio Technology & Research; Extension; Fisheries; Forestry; Land Use; Farm Machinery/Mechanization; Pest Management; Produce Chemist Laboratory; Tissue Culture

Laboratory; Veterinary and Livestock; Lands and Surveys; and Environment. The MALFFE also provides inputs such as fertilizers for farmers at subsidized prices.

Grenada Cooperative Nutmeg Association (GCNA): The GCNA is a statutory cooperative established under the Nutmeg Industry Ordinance. The GCNA is the sole exporter of nutmeg and mace from Grenada. It purchases nutmeg and mace from producers, prepares the product for export and export to international markets. It is governed by a Board of Directors the majority of whom are elected by its members. The Government has three representatives on the Board. All nutmeg producers are required to be registered members of the GCNA.

Grenada Cocoa Association (GCA): The GCA is also a statutory body established by the Cocoa Industry Ordinance. It is the sole exporter of cocoa from Grenada. All producers of cocoa are required to be registered members of the GCA. Services provided include technical services, input supply, price setting, purchasing of cocoa from producers, fermenting and drying, credit, manufacturing of value added products and exporting cocoa beans to overseas buyers. The GCA operates under the Grenada Cocoa Act of 1st July 1989.

Minor Spices Cooperative: The Minor Spices Cooperative Marketing Society (MSCMS) came into existence through the passing of the Minor Spices Act by the Parliament of Grenada in October 1980. The Minor Spices Act made the Minor Spices Cooperative the sole exporter of minor spices. The Act also granted the Minor Spices Cooperative the power to grant annual permits to traffickers authorizing them to export spices to CARICOM countries. MCMS is a farmer's organization committed to the development of the Spice Industry in Grenada to ensure sustainable livelihoods for spice producers across Grenada but in particular producers from Marl Mount and Après Tout in the parish of St. David, where most of its suppliers/members reside. The cooperative has in excess of fifty 50 members, mostly small farmers supplying it with spices.

The Marketing & National Importing Board (MNIB) is a State Owned Enterprise established under the MNIB Act CAP 183 of 1990 to market produce of Grenada not marketed under any other statutory bodies. The MINB purchases produce from farmers and sell on the domestic and export markets. It operates its own retail outlets at various locations in Grenada. Services provided include farm gate procurement, input supply, and technical services.

Farmer/Fisher and Producer Groups: In Grenada there are various farmer, fisher and producer groups that advocate for the development and advancement of their members. These groups collaborate regularly with the Ministry of Agriculture and other local, regional and international development partners and sector stakeholders to plan, develop and implement developmental interventions. The majority of these groups/organizations are registered and operate with functional executives that oversee their affairs.

The most prominent of these groups are:

- The Grenada Federation of Farmers and Fishermen Organizations (GFAFFO)
- The North East Farmers Organization (NEFO)
- The Grenada Organization of Rural Women Producers (GRENROP)
- The Grenada Organic Agriculture Movement (GOAM)

- The Clozier Farmers Group (CFG)
- The Bee Keepers Organization (BKA)
- The Grenada Poultry Organization (GPO)
- The Carriacou Farmers Association (CFA)
- St. Patrick's Small Ruminants Farmers Association (SPSRFA)
- St. Marks/St. Johns Small Ruminants Farmers Association (SMJSRFA)
- Southern Fishermen Association (SFA)
- St. Johns Fishermen Association (SJFA)
- St. Andrews Fishermen Association (SAFA)

Key Regional and Multi-Lateral partners providing technical and financial resources for the sector include: the Organization of Eastern Caribbean States (OECS); Caribbean Development Bank (CDB); the Caribbean Community (CARICOM); CARDI; the Inter-American Institute for Cooperation on Agriculture (IICA); the Food and Agriculture Organization (FAO); the International Fund for Agricultural Development (IFAD); the United Nations Development Programme (UNDP), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ); United States Agency for International Development (USAID); Japan International Cooperation Agency (JICA); the Canadian International Development Agency (CIDA).

The governance framework for the sector is illustrated in the figure below.

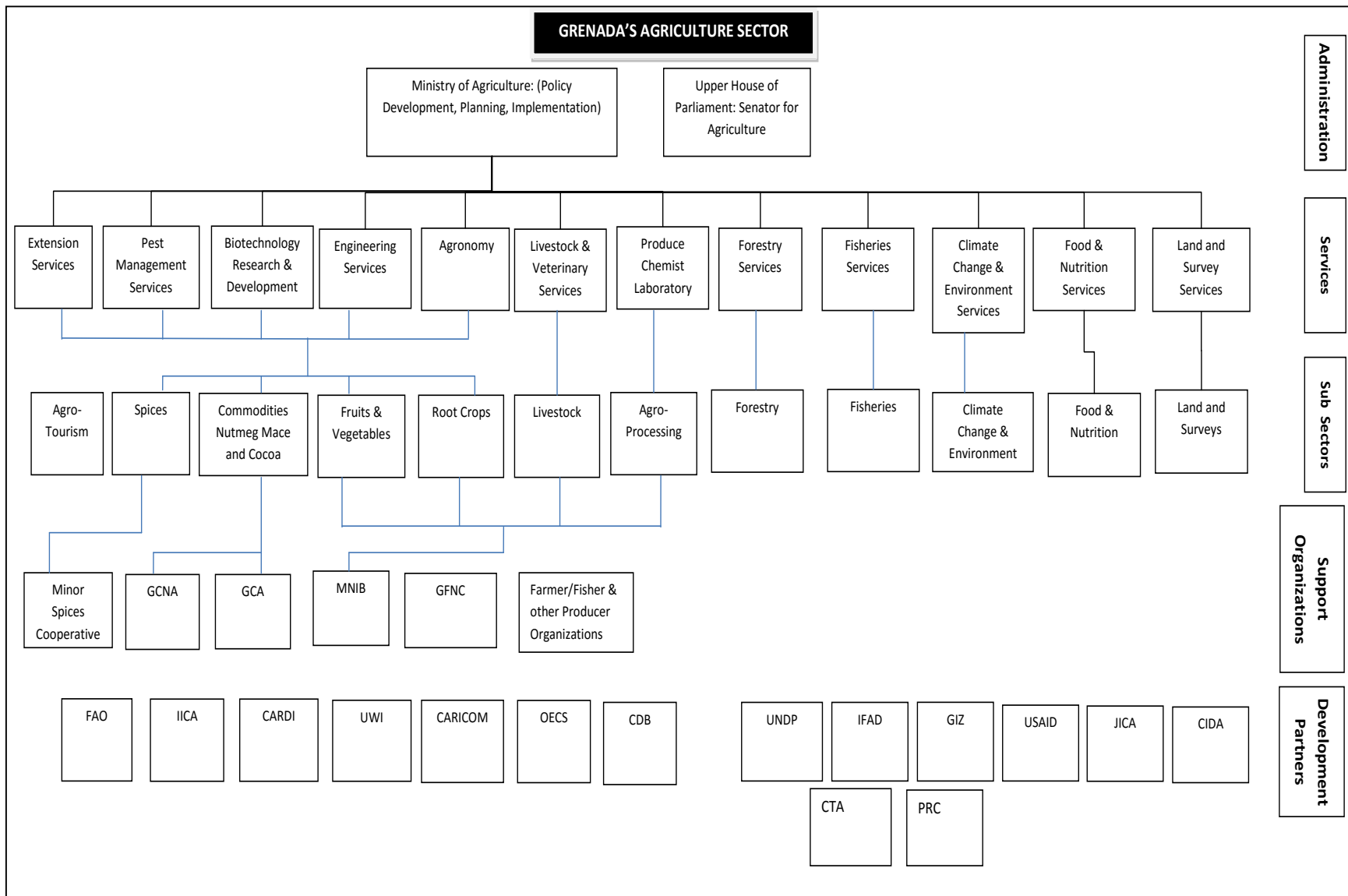


Figure 6

Investments/Infrastructure: Financing, Credit/loans to the agriculture sector for investments are provided by the public and private sector.

Public Sector – Central Government: Seventy nine percent (79%) of the capital budget for Agriculture in 2014 and sixty seven percent (67%) in 2015 were for infrastructure investment in Farm Roads and Fish Processing Facilities. Encroachment of real estate development in areas made more accessible by the farm roads is an area of concern.

The main sources of financing for public sector investments in the agriculture sector for the 2015 budget were: the Government of Grenada, the Government of Japan, the Kuwaiti/OPIC Fund, the GIZ, USAID, UNDP, FAO, the Government of Morocco, and the TNC.

Table 1: Allocation of Agriculture Capital Budget 2014/2015 ('000EC\$)

Division	2014				2015			
	Local Rev.	Grant	Loan	Total	Local Rev.	Grant	Loan	Total
Fisheries	\$725	\$51	\$0	\$776	\$994	\$12,268	\$0	\$13,262
Agricultural Engineering	\$3,130	\$0	\$12,631	\$15,761	\$95	\$1,079	\$3,500	\$4,674
Forestry	\$474	\$0	\$0	\$474	\$985	\$1,051	\$0	\$2,036
Administration	\$2,511	\$0	\$0	\$2,511	\$1,449	\$450	\$0	\$1,899
Agronomy	\$763	\$0	\$0	\$763	\$1,115	\$783	\$0	\$1,898
Environment	\$34	\$107	\$96	\$237	\$220	\$979	\$0	\$1,199
Pest Management Unit	\$135	\$0	\$10	\$145	\$645	\$0	\$0	\$645
Agricultural Extension	\$261	\$0	\$11	\$271	\$273	\$200	\$0	\$473
Produce Chemist Laboratory	\$0	\$0	\$0	\$0	\$0	\$350	\$0	\$350
Livestock and Veterinary Services	\$20	\$0	\$0	\$20	\$245	\$0	\$0	\$245
Lands and Surveys	\$0	\$0	\$0	\$0	\$60	\$0	\$0	\$60
Grand Total	\$8,053	\$158	\$12,747	\$20,958	\$6,081	\$17,159	\$3,500	\$26,740

The agriculture sector has also benefited from investment in the Market Access and Rural Enterprise Development Project (MAREP) financed by the Government of Grenada, and loans from IFAD and the CDB – farm roads, capacity development, and financing for enterprise development; and the BNTF financed by a grant from the CDB – rural infrastructure, capacity development, etc.

Table 2: Budget Allocations- Other Projects supporting Agriculture Sector 2014/15 ('000EC\$)

Project	2014				2015			
	GOG	Grant	Loans	Total	GOG	Grant	Loans	Total
BNTF Phases V/VI/VII	\$683	\$1,287	\$0	\$1,969	\$600	\$4,000	\$0	\$4,600
MAREP	\$686	\$0	\$923	\$1,610	\$1,042	\$0	\$2,276	\$3,318
Nutmeg value-added Prod.	\$0	\$0	\$0	\$0	\$0	\$488	\$0	\$488
Export Development	\$0	\$0	\$0	\$0	\$0	\$0	\$422	\$422
Institutional Support: GDBS	\$0	\$0	\$0	\$0	\$0	\$372	\$0	\$372
Food Security for the Hungry	\$0	\$0	\$10	\$10	\$0	\$230	\$0	\$230
Trade Logistics Project	\$0	\$0	\$0	\$0	\$10	\$100	\$0	\$110
Review of National Export Strategy	\$0	\$0	\$0	\$0	\$10	\$100	\$0	\$110
Made in Grenada/Buy Local Programme	\$9	\$0	\$0	\$9	\$25	\$0	\$0	\$25
Nutmeg & Spice Festival	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$25
Imp. Multilateral Trade Agreements	\$0	\$0	\$0	\$0	\$10	\$0	\$0	\$10
Imp. Quality Assurance Strategy	\$0	\$0	\$0	\$0	\$10	\$0	\$0	\$10
Export Promotion/1	\$1	\$0	\$0	\$1	\$5	\$0	\$0	\$5

Project	2014				2015			
	GOG	Grant	Loans	Total	GOG	Grant	Loans	Total
Grand Total	\$1,379	\$1,287	\$933	\$3,599	\$1,712	\$5,315	\$2,698	\$9,725

State Owned Enterprises/Statutory Bodies:

Grenada Development Bank (GDB): Twenty four percent (24%) of the loans approved in 2014 were for agriculture (EC\$1.1M) and 11% for fishing bringing its loan portfolio to 8.6% for agriculture and 1.8% for fishing.

Marketing & National Importing Board (MNIB): The MNIB has made significant investment in expanding its retail facilities (Grand Anse, St, George’s & more recently Grenville, St. Andrew) and in upgrading its packhouse at River Road, St. George’s.

Grenada Cocoa Association (GCA): The GCA has made significant investment in setting up a new chocolate manufacturing plant which became operational in 2014. The factory is the result of a partnership between LA Burdick Chocolate, the Grenada Cocoa Association, USAID and the government of Grenada.

Grenada Cooperative Nutmeg Association (GCNA): The GCNA is receiving funding from various development partners for the Implementation of the recently completed Nutmeg Industry Strategy.

Private Sector

Commercial Banks: Commercial Banks annual credit to the agriculture and fisheries sectors respectively averaged EC\$90M and EC\$11M annually between 2010 and 2014. This represented 1.2% (agriculture) and 0.1% (fisheries) of the commercial banks total credit portfolio.

Grenada Chocolate Factory: This is a local private sector investment in the production of chocolate for the local market and export

West India Spices Inc. (WISI): WISI is a private sector investment in the production of quality essential oils, oleoresins, ground spices and other spice products.

Climate Change, Natural Disasters and the Environment: As a small island developing state, Grenada is one of the world’s most at-risk countries to climate change (World Bank, 2014). The direct effects of rising sea levels on agriculture would be less severe as a result of the mountainous topography; therefore only leading to 3% of the agricultural land would be lost with a one meter sea level rise. On the other hand, widespread damage to agricultural systems is expected as a result of salt water intrusion into coastal aquifers and unfortunately this is already being experienced.

Although Grenada is located south of the hurricane belt, it was devastated by two major hurricanes in 2004 and 2005 after fifty years with no major hurricanes. Additionally, Grenada was hit by at least four major storms between 1990 and present (FAO, 2008). Currently, Grenada has become increasingly vulnerable to hurricanes due to increased intensity and changed distribution tropical cyclones associated with rising sea temperatures.

Total direct and indirect cost to the agricultural sector; inclusive of cropping, livestock, and fisheries sub-sectors after hurricane Ivan were EC\$55 million and EC\$46 million respectively. There was destruction

of 70% of the 550,000 nutmeg trees, considerable damage to the physical infrastructure supporting the nutmeg industry, physical infrastructure for the cocoa industry incurred damage of approximately EC\$1.8 million, and approximately EC\$10 million worth of damage to other crops. Ninety-one percent of forest land and watershed were stripped of vegetation. Destruction of housing infrastructure and loss of stock in the livestock sector incurred damage of EC\$9 million. A further one hundred and fifty miles of farm roads were damaged at an estimated reconstruction value of EC\$28.67 million.

Hurricane Emily hit just ten months after the passage of hurricane Ivan. The damage caused was not widespread but critically disrupted the recovery path of the sector. Approximately one quarter of the total damages occurred in the agricultural sector. The direct and indirect costs incurred were EC\$23 million and EC\$12 million respectively, resulting in an approximate total of EC\$35 million.

Additionally, the changing and increasingly erratic temporal rainfall patterns, higher temperatures, higher evapotranspiration, and longer and more severe dry seasons have also affected the agriculture sector. It is estimated that by 2090 annual rainfall could decrease up to 20%. These climatic changes could also push the nutmeg growing belt to higher elevations reducing the capacity of the water producing watershed (FAO 2008). More precipitation and higher wind intensity are also a threat to trees with shallow roots like the nutmeg tree since it can uproot easily. Intense rainfall can also lead to roots rotting and the risk of crop diseases is likely to increase during wet periods. In particular, Carriacou and Petite Martinique will be severely impacted by these conditions since there are few surface waters on these islands. These changes in rainfall and temperature raise serious concerns for water availability for the agricultural sector and increasing the need for irrigation (FAO, 2008). Furthermore, heavy rains erode agricultural soils and damage crops. It also increases fertilizer runoff, threatening the integrity of the country's marine protected areas, including the health of coral reefs which is critical for reducing wave energy. Long dry spells can lead to temporary food scarcity and reduced productivity of grazing pastures. Lower animal yields are expected especially in Carriacou due to reduced grass yields.

Apart from the pressures of climatic changes, the agricultural sector is contributing to land degradation. According to Baptiste (2014), although it is not extreme, it is widespread with it being most prevalent in perennial cropland in Grenada and pasture and grazing in Carriacou. While the sector is not the only contributor to land degradation, the following agricultural practices are the causes: excessive use of chemicals, clear-cutting and/or deforestation, farming on steep slopes and/or marginal lands, over-grazing, over-cultivation, excessive irrigation and poor cultural practices. The main impacts of land degradation are on food and livelihood security in Grenada and on livestock production in Carriacou.

The adoption of climate and disaster smart agricultural and sustainable land management practices will be important to successfully respond to challenges previously outlined.

1.3. POLICIES & DEVELOPMENT PRIORITIES – NATIONAL, REGIONAL, INTERNATIONAL

The National Agricultural Plan is guided by existing national and regional policies related to the agricultural sector as well as international development priorities that Grenada has signed on to.

Among the policies that are considered in the development of the plan are the following:

- a. The National Agricultural Policy;
- b. The National Water Policy;
- c. The Forestry Policy
- d. The Fisheries Policy

- e. The National Food and Nutrition Policy
- f. The Biosafety Policy
- g. The Nutmeg Industry Development Strategy.

National Agriculture Policy: The *Goal* of the National Agricultural Policy is “To improve the livelihood security and economy of the nation by building an efficient and internationally competitive agricultural sector through the promotion of economically viable farming enterprises at all levels and the development of interactive markets involving private sector investment and coordination, for the sustainable and effective use of our country's natural resources.”

The policy has not been updated since this draft was prepared.

National Water Policy: The **Goal** of the Water Policy is to provide a framework to maximize the contribution of the water sector to sustainable economic, social and environmental development in an efficient and equitable manner.

Forestry Policy: The **goal** of the forestry policy is to maximize the contribution of forests to environmentally-sound social and economic development.

National Biosafety Policy: The focus of the National Policy on Biosafety is on implementing the provisions of the Cartagena Protocol, in accordance with the objectives stated under Article 1, which is, to contribute to ensuring an adequate level of protection in the field of safe transfer, handling and use of GMOs resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking into account risks to human health and the environment, with specific focus on trans boundary movement.

Food & Nutrition Policy: The policy goals for National Food and Nutrition Security are as follows: **Availability:** creation of an enabling environment for the establishment of a system that is capable of providing sufficient nutritious foods at affordable prices to all persons in Grenada at all times; **Food Access:** creation of appropriate mechanisms that guarantee food and nutrition security for all Grenadians, especially vulnerable population, so that they would effectively enjoy their right to food at all times; **Utilization/Nutrition:** promoting the use of good quality food in adequate amounts that is affordable to meet nutritional requirements throughout the life cycle of all Grenadians; **Stability:** strengthening food production systems to build resilience to the threats of natural and manmade hazards events and climate change; and **Creation of an Enabling Environment:** establishment of a legislative framework that is applicable to all primary and secondary stakeholders which provides clear mandates and institutional responsibilities relevant to food and nutrition security

The CARICOM Common Agricultural Policy: The objectives CARICOM CAP outlines ‘a long-term vision, goals, broad policy areas, specific policy objectives, immediate priorities and an implementation strategy’ for agriculture in the region. In terms of underlying objectives, the policy vision is stated as being ‘to sustain a broad-based and balanced development of the agricultural sector in order to ensure food security and economic growth in the agricultural sector and to protect the natural resource systems, improve rural livelihoods and build an internationally competitive agricultural sector through the promotion of economically viable enterprises, in order to achieve overall economic growth, reduce poverty and ensure fiscal stability and sustainability’.

OECS Agriculture Policy: Key policy areas and actions under the policy are as follows: **Policy, Legislative, Institutional Reform** (Land use policy and planning, common Principles/framework to address land use; National policies, Review and assessment of the existing Agricultural legislation with a

view to harmonizing appropriate legislation across the OECS, strengthening the capacity of farmer/fisher commodity organizations, Integrated Land and Water Management (Land Resource Information System), Enhancing fisheries units capacities to effectively manage (strategic mgmt.) marine and inland fisheries resources; **Financial Options, Incentive Regimes and Insurance; and Product Development and Marketing**

National Export Strategy: The priority agricultural products identified in the strategy were Spices, Fruits and vegetables (including Bananas), and Fish

Growth and Poverty Reduction Strategy (GPRS) 2015-19: Under the Thematic Area 1: Building Resilience and Priority Area 3: Leveraging the Growth Sectors: Strategic Objective 2: Developing New Agriculture and Agribusiness outlines the actions proposed to transform the agriculture sector.

- 1) Develop and implement and/or strengthen program to promote potential benefits from farming and new/modern farming techniques amongst youth
- 2) Develop & implement programs to address barriers to success in farming, incl. Factor issues such as wages and output issues
- 3) Establish & manage agricultural research station on 10 acres of lands in Grand Bras
- 4) Review & reform archaic agribusiness arrangements & institutional structure for efficiency
- 5) Enhance growth & development in livestock industry
- 6) Strengthen marketing and agriculture financing arrangement
- 7) Create the environment to ensure food security

Climate Change Policy

Vision: An empowered Grenadian population capable of managing the risks from climate change, at the individual, community and national levels.

Objective: The strategic objective of the National Policy and Action Plan for the period 2007 – 2011 is “to lay the foundation for an organized long term response to Climate Change”.

This objective is based on the absence of specific analyses on which to plan response actions and the lack of capacity to conduct assessments and plan responses. One of the major outcomes of the Action Plan will therefore be the strengthening of the analytical and capacity building processes that have been initiated, thus enabling the development of a sustained national response to climate change.

The strategic objective of the National Policy and Action Plan for the period 2007 – 2011 is “to lay the foundation for an organized long term response to Climate Change”.

Sustainable Development Goals (SDGs): The Post 2015 SDGs that are specifically related to the agriculture sector are ticked out in the table below.

Table 3: SUSTAINABLE DEVELOPMENT GOALS		Agric
Goal 1	End poverty in all its forms everywhere	√
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	√
Goal 3	Ensure healthy lives and promote well-being for all at all ages	√
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	

Table 3: SUSTAINABLE DEVELOPMENT GOALS		Agric
Goal 5	Achieve gender equality and empower all women and girls	
Goal 6	Ensure availability and sustainable management of water and sanitation for all	√
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all	
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	√
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	√
Goal 10	Reduce inequality within and among countries	
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable	
Goal 12	Ensure sustainable consumption and production patterns	√
Goal 13	Take urgent action to combat climate change and its impacts*	√
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	√
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	√
Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	
Goal 17	Strengthen the means of implementation and revitalize the global partnership for sustainable development	

2. STRATEGIC FOCUS

2.1. Introduction

The development of the Grenada National Agricultural Plan (NAP) was guided by the challenges and opportunities identified for the sector, the 2015-17 Corporate Plan of the Ministry of Agriculture, the national priorities outlined in the 2015 -2019 Growth and Poverty Reduction Strategy, the CARICOM Community Agricultural Policy, and the OECS Growth and Development Strategy. This was complemented by review of the literature, feedback from stakeholders and reviews of the draft document by the MALFFE and the CARICOM Secretariat.

2.2. Stakeholders Consultation and Feedback

Stakeholders' consultation and feedback provided valuable feedback for the development of the plan. Key industry stakeholders were provided with a draft of the plan and invited to provide feedback and to participate in a consultation which was held on July 16, 2015. The draft of the plan was electronically circulated to a total of 30 stakeholders of which 17 attended the consultation (list of invitees and participants attached as appendix). A copy of the report of the consultation is attached. Stakeholders consulted included the Representative for Agriculture in the Upper House of Parliament, senior Government officers (Ministry of Agriculture, Forestry, Fisheries and the Environment; Ministry of Finance & Energy; Ministry of Economic Development), representatives of Non-Governmental Organizations (GFAFO, NEFO, GAOO, GOAM), and Development Partners (GIZ, IICA). Feedback was also received from stakeholders who were unable to attend due to other commitments. The feedback received was wide ranging and informed to a large extent the final output of the plan.

2.3. Priorities of the National Agriculture Plan

The main priorities of the NAP are;

1. To increase agriculture contribution to economic growth;
2. To increase exports through increased production of targeted crops and value added;
3. To optimize the utilization of available lands suitable for agriculture;
4. To enhance national food security;
5. To reduce costs of production and improve quality of agricultural produce for both domestic and international markets
6. To increase income earning opportunities of those dependent on agriculture and employment opportunities in rural communities;
7. To allocate resources based on priority areas;
8. To ensure that development is socially, economically, and environmentally sustainable; and to
9. To strengthen resilience capacity the sector

2.4. Strategic Focus and Objectives:

Based on the country differential diagnosis and in line with Governments vision for the agricultural sector the following five strategic focus areas are presented for the sector. These are aligned to the six (6) strategic objectives of the MALFFE:

Strategic Focus Area 1: Increasing agriculture contribution to national economic growth, employment creation, poverty reduction and rural development;

This focus area is aligned to Strategic Objective 2 (Supporting Investments in the Agricultural Sector) and 4 (Optimizing returns from the Fisheries Sector) in the MAFFFE Corporate Plan 2015-17.

Strategic Focus Area 2: Enhancing national food security;

This is the same as Strategic Objective 1 in the MAFFFE Corporate Plan 2015-17

Strategic Focus Area 3: Strengthening the sector's resilience to climate change and natural disasters and promoting development that is socially, economically, and environmentally sustainable;

This focus area is aligned to Strategic Objective 5 (Supporting climate resilience and environmental management) in the MAFFFE Corporate Plan 2015-17.

Strategic Focus Area 4: Investment for the development of the infrastructure; physical resources; and research and development, institutional, and human resource capacity of the sector;

This focus area is aligned to Strategic Objective 6 (Increasing Accountability, Efficiency and Good Governance) in the MAFFFE Corporate Plan 2015-17.

Strategic Focus Area 5: To foster mutually beneficial partnerships with our regional counterparts and development partners.

This strategic focus area is introduced to place higher priority on regional collaboration in the development of agriculture particularly in the area of trade.

2.5. Strategic Focus Areas

STRATEGIC FOCUS AREA #1: INCREASE AGRICULTURE CONTRIBUTION TO NATIONAL ECONOMIC GROWTH, EMPLOYMENT CREATION, POVERTY REDUCTION AND RURAL DEVELOPMENT:

Agriculture is one of the main drivers of economic growth in Grenada accounting for over 5% of real GDP in 2014. The sector provides employment for about 10% of the labour force, and most agricultural activities are carried out in rural communities where the highest levels of poverty occur. It has been demonstrated that development in the sector has the greatest impact on the livelihoods in rural communities.

Strategic Objective 1.1: Increase exports of traditional crops, fish, fruits, vegetables, root crops, minor spices, and value added products to international and regional markets.

Rationale: There is unmet demand for Grenada’s traditional crops in international markets where Grenada has unique competitive advantage for its products and increasing demand for fresh and fresh processed fruits and vegetable products as consumers adopt more healthy lifestyles and eating habits. Limited production, low productivity and consistent quality are major impediments to taking advantage of these opportunities. .

Priority Crops/Products: A SMART SPECIALIZATION approach is taken to identify the priority agricultural products to be recommended for export. Key factors considered are market opportunity, competitiveness, and production capacity.

The following are the priority products recommended for export:

<u>Traditional Crops</u>	<u>Fruits</u>	<u>Fish</u>	<u>Vegetables</u>	<u>Root Crops</u>	<u>Minor Spices</u>
Nutmeg	Soursop	Fresh Tunas	Hot Peppers	Dasheen	Cinnamon
Mace	Mangoes (Julie)	Lobsters		Sweet Potatoes	Clove
Cocoa	Breadfruit			Jamaican Yellow Yam	Turmeric
	Golden Apples				Ginger

Established markets for the priority export products are as follows:

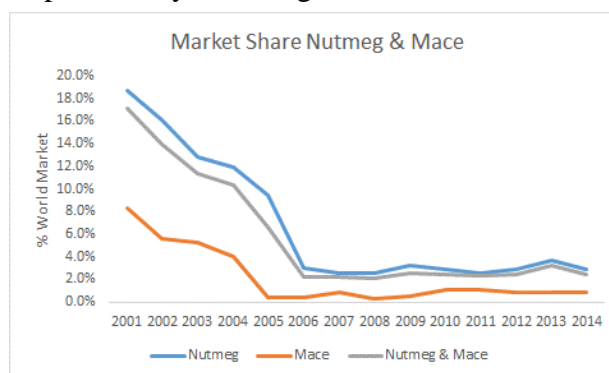
<u>Products</u>	<u>Market</u>
Nutmeg & Mace, & minor spices	Germany, Netherlands, Canada, Belgium, and the USA
Cocoa & Cocoa Preparations	Germany, Netherlands, France, UK, USA, Australia
Fruits, & Root Crops	USA, UK, Canada, OECS
Fish	USA, France, Canada, Barbados
Wheat Flour	OECS & other CARICOM Countries

Institutions, organizations involved in exports in Grenada are as follows:

<u>Product</u>	<u>Institution (s)</u>	<u>Type of Institution</u>	<u>Main Operations</u>
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<u>Product</u>	<u>Institution (s)</u>	<u>Type of Institution</u>	<u>Main Operations</u>
Nutmeg & Mace & Products	Grenada Cooperative Marketing Association (GCNA)	Statutory Cooperative	Procurement, Processing, Export
Minor Spices	Private Processors	Private	Processing & Export
Cocoa & Cocoa Products	Minor Spices Cooperative Grenada Cocoa Association (GCA);	Cooperative Statutory Cooperative	Export; Processing
Fruits, Root Crops & Value Added Products	Private Processors Marketing & National Importing Board (MNIB)	Private State Owned Enterprise	Processing & Export Procurement, Marketing, Value Addition, Development Support
Milling Products	Private Exporters Agro processors Caribbean Industries Ltd.	Private Agro-Private Company	Procurement, Export Import, Milling, Export

a. **Traditional Crops:** The traditional crops namely, nutmeg and mace, and cocoa constitute Grenada's primary exports. During the period 2010 to 2014 these commodities accounted for 47% of agricultural exports with nutmeg accounting for 32%, mace 3%, and cocoa 12%. Production of these crops provides a major source of employment in rural communities and income for rural producers.



Nutmeg & Mace: Nutmeg and mace are **Figure 7**

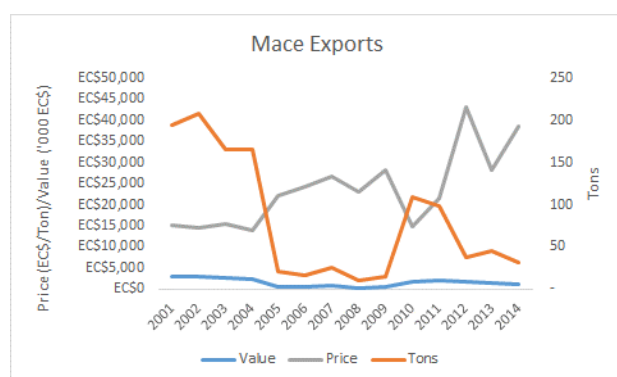


Figure 8

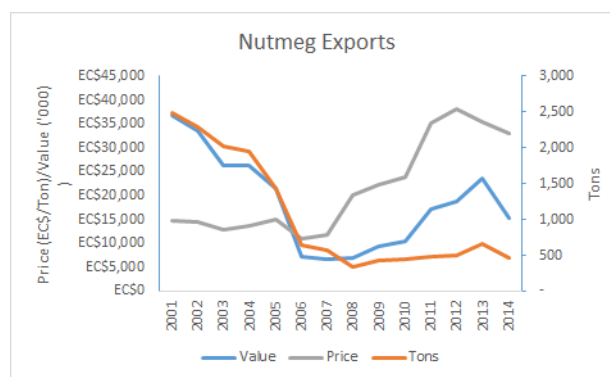


Figure 9

Grenada's largest export by value accounting for 23% of total exports and 42% of agricultural exports in 2013. Prior to the hurricanes in 2004 and 2005 Grenada was the second largest producer and exporter of nutmegs in the world. However, Grenada's market share declined significantly after the hurricanes and has shown little signs of recovery in relation to the volume of exports.

Earnings from exports of nutmegs and mace have shown significant increases since 2007, but this growth has been driven principally by price increases. Total exports by volume declined from an average of about 2,500 tons before the hurricanes to just over 500 tons between 2010 and 2014.

The decline in export volume was principally due to the extensive destruction of the tree stock by the hurricanes. GCNA data show that only 10% of the total estimated 555,000 nutmeg trees pre Ivan were not damaged. Some 30% were completely uprooted, about 30% partially uprooted while 30% remained upright but lost branches and leaves. The 2012 Grenada Agriculture Census (GAC 2012) show that at census date there were 198,798 bearing nutmeg trees (36% pre hurricanes level) the equivalent of 2,557 acres.

Employment in the sector has also declined with the devastation of the industry from over 7,000 active farmers' pre-2004 to about 2,500 active farmers in 2009.

Market prospects are positive and the strategic objective is to focus on increasing production and exports through aggressive replanting and increases in productivity. Grenada's competitiveness is the unique characteristics of its nutmegs which is free of aflatoxins and is the only country with #1 mace.

A comprehensive Nutmeg Sector strategy was developed in 2010 outlining the key strategies for revitalizing the sector and strengthening its contribution to socio economic development and improving the livelihood of the rural population:

Priority Actions for the Nutmeg Sector: In line with the recommendations of the sector strategy the following priority actions are recommended for the sector:

1. Implement Nutmeg Industry Strategy
2. Aggressive replanting of fields damaged by the hurricane – over 4,500 acres; Increased use of the marcotting technique for propagation is recommended to guarantee the gender of the plants and reduce time to bearing.
3. Increased investment in the production of valued added products such as nutmeg oil;
4. More aggressive marketing of nutmeg and mace including branding of Grenada's nutmeg using Geographic Indications for the European Market;
5. Continued investment in quality assurance to maintain current high quality ratings and ensure compliance with the Unites States Food safety Modernization Act of 2010;
6. Resumption of work on the Nutmeg Wilt Disease

Expected Outcomes:

1. Increased availability of nutmeg and mace for export, earnings from export, and contribution to GDP;
2. Increased production and export of value added products;
3. Increased employment in the sector and farmers earnings;

Indicators:

1. Changes in acreage under production;
2. Amount and value of exports of nutmeg and nutmeg value added ;
3. Employment in the sector

Cocoa: Cocoa exports accounted for 6% of total export earnings and 10% of agricultural exports in 2013. Grenada is also one of the few producers of fine or flavour cocoa in the world which accounts for just over five per cent of current annual production of cocoa. Chocolate manufacturers use fine or flavour cocoa beans in traditional recipes, mainly for a limited number of relatively expensive, up-market finished products. Recently the demand for fine or flavour cocoa started to grow very rapidly.

The following are the countries designated by the International Cocoa Organization (ICCO) as producers of Fine and Flavour Cocoa: Bolivia, Costa Rica, Dominica, Grenada, Jamaica, Madagascar, Mexico, Saint Lucia, Trinidad and Tobago (all 100%), Colombia (95%), Venezuela (95%), Papua New Guinea (90%), Peru (90%), Ecuador (75%), Dominican Republic (40%), São Tome and Principe (35%) and Indonesia (1%)

Grenada's annual exports of about 400 MTs per annum of cocoa beans accounts for less than 0.001% of global output. However, its "fine or flavour" cocoa is currently able to command a sizeable price premium. This level of output is also only about 50% of the pre Ivan export of about 800 MTs per annum. The increases in the value of cocoa exports after 2007 have been driven mainly by prices but there has also been some notable increase in the volume of exports. Prices have increased from an average of EC\$5,000/ MT pre Ivan to over EC\$12,000 per MT in 2014. There has also been an increase in the production and export of manufactured cocoa products.

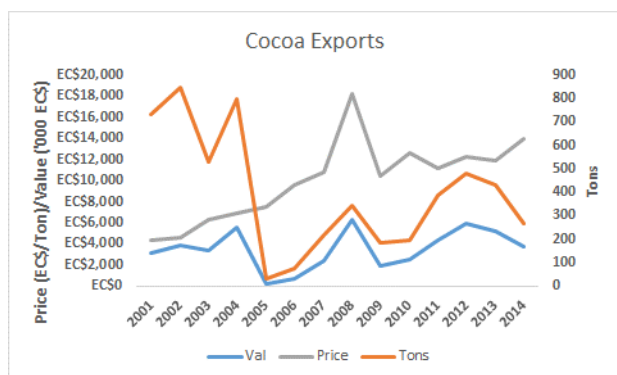


Figure 10

Current demand is estimated at over 1,000 MTs per annum.

Acreage under production pre 2004 was 8,000 acres. Based on data from the 2012 GAC there were 697,712 cocoa plants the equivalent of 3,172 acres on census date. This is equivalent to 40% of the pre hurricane level. About 68% of the cocoa fields in Grenada were damaged by the 2004/05 hurricanes. .

The sector provides employment for over 7,000 persons.

Recommended Strategies for the Cocoa Sector: Key issues affecting the industry are low production and availability of product to meet market demand, and low productivity which

affects profitability, marketing and quality control. The following priority actions are recommended to address these issues:

1. Aggressive rehabilitation of the over 5,000 acres damaged by the hurricane and still not yet in production. *Target is to increase cocoa production to 1,000 tons of dry cocoa per annum within the next 15 years. This should be achieved from increases in productivity and acreage in production. The required new plantings will be about 45,000 plants or 150 acres planted per year;*
2. Development of Tech Packs for the efficient production of Cocoa and promote use of available technology to raise productivity to an average of 1,500 lbs. dry cocoa per acre. *At the current average export of 400 tons with 3,172 acres under production this is equivalent to 278 lbs. dry cocoa per acre. The clones currently produced have the capacity to produce as much as 3,000/acre;*
3. Branding of Grenada's cocoa using Geographic Indicators;
4. Improved Marketing and the development and promotion of regional and international markets;
5. Increased investment in value added products and other niche products such as organic cocoa.

Expected Outcomes: These are similar to those for Nutmeg & mace.

1. Increased availability of cocoa and for export, earnings from export, and contribution to GDP;
2. Increased production and export of value added products;
3. Increased employment in the sector and farmers earnings;

Indicators:

1. Changes in acreage under production;
2. Amount and value of exports of nutmeg and nutmeg value added ;
3. Employment in the sector

b. **Non-Traditional Crops for Export:** The recommended priority non-traditional crops for export are fruits (soursop, golden apples, mangoes (Julie), and breadfruit), root crops (dasheen, sweet potatoes, and Jamaican yellow yam), and minor spices (Cinnamon, Clove, Turmeric, and Ginger). The major markets are the USA, the UK, Canada and the OECS. These products account for 3% of total exports and agricultural exports.

Rationale: Grenada has tariff free market entry to the major US and Canada markets and its products have a well-established market presence in those markets. There are phytosanitary restrictions on imports of golden apples (June Plums) and mangoes into the US market. However, demand is strong in those markets that the products can enter particularly among ethnic communities.

Soursop: Soursop is an emerging growth market (USA, Canada, UK, and Trinidad) with unmet demand for the fresh fruit. This growth is driven by: the curative properties of the fresh fruit; Market Entry advantage for Grenada as the only country from which the fresh fruit is presently allowed entry into the

United States; availability of land resource to rapidly expand production; its suitability for small farm production; the short development period of 18 months from planting to production; the availability of enterprise combinations to generate short term cash flow during development period; and opportunities for a wide range of value added products.

The Industry however is new and fragile and need to be protected from the introduction of notifiable pests (the Soursop wasp, and the Soursop moth); need coordinated research to develop new varieties and improve production management systems; to strengthen the supply base to meet current demand and to achieve economy of scale. There is also the opportunity to brand soursop from Grenada as unique.

In response to the emerging opportunity the MNIB and MALFFE has embarked on programs to promote the planting of new fields of Soursop. Between 2006 and 2012 a total of about 45,000 plants the equivalent of 250 acres were distributed to farmers and planted. Most of the current production is coming from the newly planted fields. Based on data from the 2012 GAC at census date there were 26, 867 soursop plants planted the equivalent of 110 acres.

Priority Actions for the Soursop Industry

1. Completion and Implementation of the Soursop Industry Development Plan.

The Plan addresses the following key areas for the development of the industry:

- Industry Governance;
- Sanitary & Phytosanitary protection of industry;
- Development of sustainable markets for industry products;;
- Increase supply & supply capacity for primary & value added products; and
- Industry Sustainability

Expected Outcome(s)

1. Well managed and more organized, innovation driven soursop industry;
2. Grenada market entry status to the United States and other international markets preserved. No new pest or diseases introduced and pest and disease levels kept below the economic threshold;
3. Increased earnings for rural farmers from exports and foreign exchange earnings for the country.
4. Plants available of new plantings and increased acreage under production of soursop.
5. Continuous growth and development of the Grenada soursop industry

Indicators

1. Soursop Industry Organization legally established in Grenada.
2. Legislation in place and enforced to prevent introduction of new notifiable pests and or diseases of soursop into Grenada through strict quarantine restrictions at all ports of entry.
3. Grenada Soursop established and recognized as a high quality Brand in all of the major international markets

4. Increased production and export;

Other Fruits: Grenada is a net exporter of fruits from 2011. From 2009 fruits exports have been showing strong growth in response to increased prices and increased demand for soursop in particular. In 2013 fruits accounted for 3% of agricultural exports.

The key fresh fruit exports are soursop, mangoes, and June plums (golden apples). Key markets are the United States, UK and CARICOM. Other fruits with export demand include avocados and breadfruit.

Fruit exports are carried out mainly by the MNIB and private exporters.

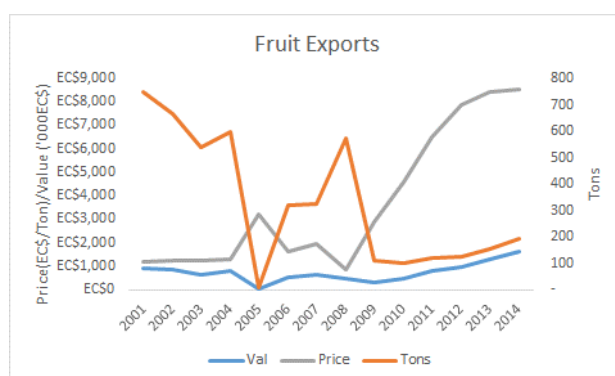


Figure 11



Figure 12

Priority Actions for Increasing Export of Fruits and fruit products

1. Provide support for increased production of targeted fruits by encouraging the establishment of orchards and maintenance of established fields supporting the nucleus farm concept engaging both large scale producers and small farms.
2. Registration and certification of all exporters in compliance with the Fresh Produce Act and also all producers for export;
3. Train producers for export in the principles of Good Agricultural Practices and introduce a system for monitoring compliance;
4. Develop capacity of exporters and producers to meet the requirements of the US Food Safety Modernization Act
5. Development of producer industries and industry plans for each of the flagship crops.
6. Market scan to establish compliance requirements for all of the focus crops in the targeted markets and development of protocols and procedures to consistently meet compliance requirement;
7. Conduct market research to identify and secure export market opportunities for value added fruit products;
8. Establishment of a Grenada Brand under which these and other local non-traditional products will be exported;

9. Provide support for producers such that they can develop and operate sustainable, profitable & competitive production enterprises;
10. Engagement of Grenada's High Commissions, Consulates, and the Diaspora in initiatives to promote Grenada's products in the markets that they serve;
11. Increased use of ICT and social media for export marketing;
12. Strengthening relationships with overseas buyers and better organization of distribution channels through more formal trading arrangements and promoting more interaction between buyers and local producers;
13. Improved logistic management particularly in the areas on input supply, harvesting and field transportation, post-harvest management, value addition, transportation and air freight, and information management;
14. Partnerships and collaboration with regional enterprises and organizations.
15. Policy support for the industry development initiative and formation of producer organizations.
16. Enforcement of strict quarantine and quality control measures to prevent the introduction of new notifiable pests, the export of contaminated products, compliance with importing requirements in countries to which products are exported;
17. Conduct research to improve the production and post-harvest handling of the flagship products;
18. Securing development financing for the development of the non-traditional agricultural export sector;
19. Monitor compliance of commercialized Government Estates with requirement to focus on exports.

Expected Outcomes

1. Increase in the production and export of fruits and fruit products;
2. Reduced losses due to rejection at port of entry;
3. Retention of market entry status to key regional and international markets;
4. Development of new markets and products;
5. More organized fruit export system in Grenada

Indicators

1. Increase in production and export (amount and value) of fruits;
2. New markets and products developed.
3. Reduced market losses.

Other Crops Products: Other crop products with potential for increased exports are vegetables (hot peppers), root crops (dasheen, sweet potatoes, Jamaican yellow yams), and 'minor' spices (cinnamon, clove, turmeric, ginger).

Rationale:

Opportunities exist for increased export of these products. However there are challenges related to production and production technology, competitiveness, post-harvest handling, grades and standards, quality, and marketing information that need to be to improve the export potential of these products.

Priority Actions

1. Support initiatives for the increased production of the ‘minor’ spices for which there is currently unmet demand;
2. Government should continue to provide support for the Spice Research Project with support from the GCNA and other partners;
3. Conduct market research for the vegetables and root crops to properly identify the market opportunity and market requirements;
4. Develop tech packs for production, post-harvest handling, standard for grades, packaging for the exportable vegetables and root crops in compliance with market requirements
5. Train farmers producing for export in the technology required to meet market requirement.

Expected Outcomes

1. Better understanding of market and production requirement by producers and exporters;
2. Increased production and export of targeted products.
3. Producers and exporters capacity to competitively produce and export these products enhanced.

Indicators:

1. Increase in the number of farmers producing these crops and in acreage planted;
2. Increase in production and export (amount and value) of these products.

Fish: Grenada is a net exporter of fish and the sector has shown strong sustained growth since 2008. Prices have remained relatively stable. In 2013 fish was the second largest agricultural export and accounted for 33% of total agricultural exports.

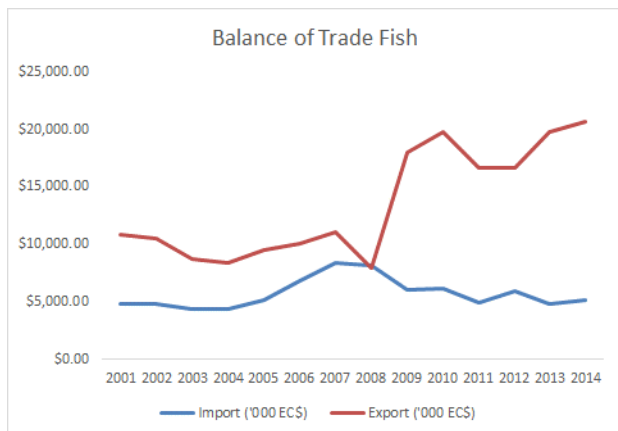


Figure 13

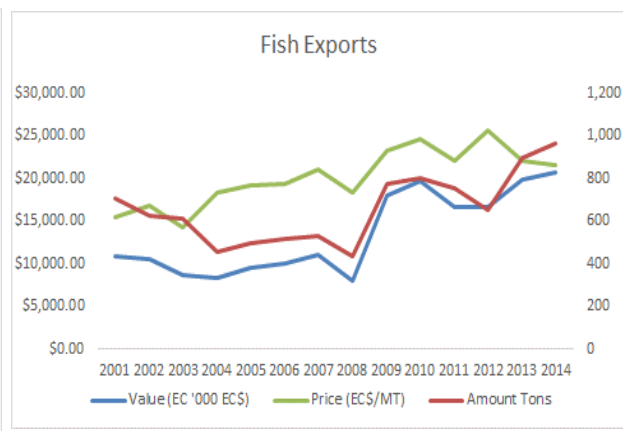


Figure 14

Key aspects of the sector’s contribution to the national economy include:

Food Security. Fishing plays an important part in national food security and poverty alleviation – especially the small inshore pelagic (jacks) that can be caught with inexpensive gear and are sold at low prices.

Employment and Poverty Alleviation. The employment and economic activity it supports, especially in the more remote and otherwise disadvantaged island communities

Export Wealth Creation. The expanding export of high-value fish (fresh tuna) has been a major contributor to national economic growth. This has generated a significant level of foreign exchange and indeed has been one of the major sources of this in recent years.

Tourism. It also has a significant role in the fast growing tourism industry, much of which has a strong aquatic orientation, with diving and sports fishing the most directly related aspects

Table 4: The Composition of the Grenadian Seafood Catch in 2011

Species	Tons	Proportion of catch	Major category
Yellow fin tuna	630	24%	Large pelagic - 50%
Black fin tuna	187	7%	
Billfish (e.g. marlin etc.)	289	11%	
Dolphin fish	195	7%	
Big eye scads	542	21%	Small pelagic - 24%
Other small pelagic	94	4%	
Grouper & hinds	232	9%	Demersal fish 17%
Snappers	104	4%	
Parrotfish	107	4%	
Lobster	23	1%	Lobster 1%
Other	211	8%	Other 8%
<i>Total</i>	2,614	100%	100%
<i>Source: Fisheries Division.</i>			

Priority actions for increasing Export of Fish as follows:

1. Implement the National Fisheries Policy for Grenada. Priority areas of intervention and actions related to increasing fish exports are separately highlighted:
2. Enforcement of licensing of fishing vessels and registration of fishermen;
3. Support for capacity development of Fishermen’s Association;
4. Ongoing training of fishermen in safety at sea measures; quality management and business.
5. Strengthen Monitoring, Control, & Surveillance-enforcement (MCS) capacity to reduce Illegal, Unregulated, & Unreported Fishing (IUU);
6. Support for actions towards sustainable stewardship and conservation of resources in particular the development and management of Marine Protected Areas (MPAs);
7. Enforcement of adherence to quality management system for fish caught for export.
8. Support for the implementation of the Blue Growth Project

Outcomes:

1. Sustainable management of fish resources;
2. Increased quantity and better quality of fish for export;
3. Improved livelihood of fishermen
4. Further improvement if Grenada's status as an exporter of premium quality fish.

Indicators:

1. Increase in the production and export of fish;
2. Incidence of IUU
3. Percentage of fishing vessels and fishermen licensed.

Strategic Objective 1.2: Increase production of targeted fruits, vegetables, root crops, herbs and minor spices for targeted domestic markets

Rationale: Significant opportunities exist for increased production and utilization of this category of products.

Fruits: Fruits are the major fresh produce sub-category in Grenada with more than 100 locally produced product lines and over 20 imported product lines. Fruits are produced mainly by small 'resource poor' farmers and production is highly seasonal. There are few orchards. Among the factors that influence the delivery of this product to consumers and users are (a) the varieties and lines of products available, (b) the nature of the production base, (c) the system of production, (e) the seasonality of production and (f) post-harvest practices. These factors pose both challenges and opportunities for the marketing of these products, particularly in the areas of product development, future research and investment. For fruit growers, water scarcity is the most immediate challenge posed by climate change.

Bananas are consumed in the largest quantity for the domestic market. Imported fruits consist mainly of apples and grapes.

A total of about 3,000 acres are under fruits based on the 2012 GAC.

Vegetables: Vegetables are the second largest category of fresh produce marketed locally. About 20 product lines of vegetable are currently purchased and sold locally and 10 product lines imported into the country. The most popular locally produced vegetables are tomatoes, cabbages, callaloo, and lettuce and the most significant imports

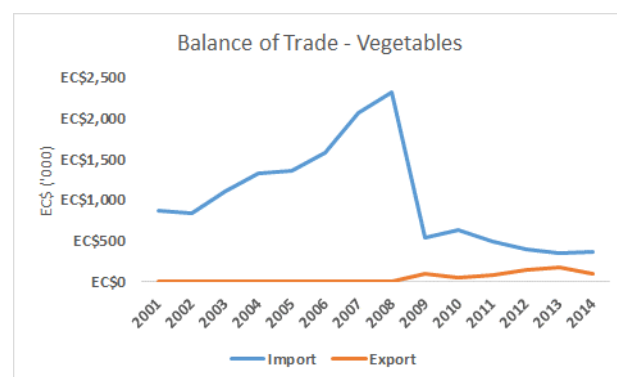


Figure 15

are carrots, and specialty brassicas and lettuce. Callaloo is the only vegetable that is sometimes commercially exported from Grenada. As for fruits, the greatest climate change threat is water scarcity.

Vegetables are produced by a large number of small farmers on plots averaging less than 0.25 acres. The factors that influence the marketing of vegetables are similar to those for fruits

Grenada is a net importer of vegetables, however, the proportion of vegetables imported is declining.

Acreage under vegetables amounted to about 600 acres based on the 2012 GAC

Roots and Tubers: Roots and tubers are the third largest fresh produce sub-category. About 16 products are locally produced and about six lines imported. Small quantities of dasheen and sweet potatoes are sometimes exported. Dasheen is produced and available in the largest quantity followed by sweet potatoes, ginger and yams. The main products imported in this sub-category are potatoes and carrots.

Both roots and tubers are relatively resistant to irregular rainfall and hurricane damage. Investments in these crops are therefore safer since they are less likely to be comprised by the projected negative climatic changes.

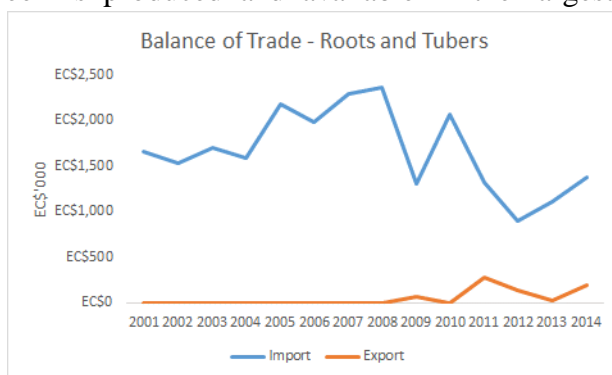


Figure 16

Grenada is a net importer of roots and tubers.

Local demand for all of the roots and tubers products is largely unmet by local supplies. Additional supplies are generally imported from the region, mainly St. Vincent.

The acreage under root crops based on the 2012 GAC was 416 acres.

Herbs and Spices: An assortment of herbs is produced on very small plots and backyard gardens by mainly small farmers in Grenada. In recent times there have been increased interests in fresh herbs and spices because of their culinary and medicinal benefits.

The acreage under herbs and spices amounts to about 216 acres based on the 2012 GAC.

Grenada is a net importer of herbs and spices. Onions and garlic are the main products imported in this category.

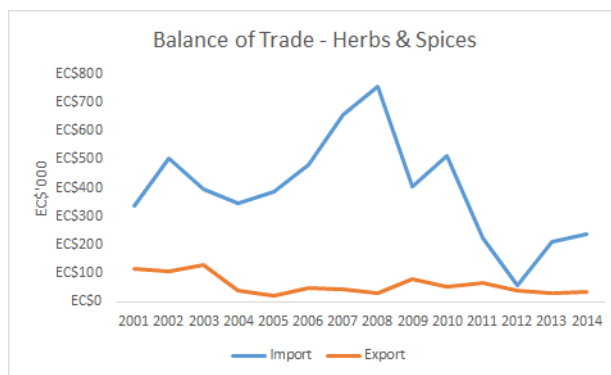


Figure 17

Some of the more popular herbs and their uses are presented in the table below.

Table 5: Descriptions/Use of Selected Herbs

Herb	Description	Use
Basil	Leafy, light green foliage; flowers white or lavender. Fast growing annual.	Leaves-soups, stews, omelettes, salads, meats, sauces
Coriander	Large, coarse plant with white flowers.	Seeds-pastries, sauces, pickles, liquors
Dill	Tall plant with feathery green leaves. Open umbrella-shaped flower heads.	Sprigs of seed head or seeds-pickles, breads, sauces, meats, salads, vinegars; Leaves-sauces, dips, fish, flavourings
Fennel	Fine feathery leaves with broad, bulb-like leaf base.	Sprigs-soups; Leaves-garnishes; Seeds-soups, breads
Parsley	Curled or plain dark green leaves	Leaves-garnish
Chives	Onion-type leaves with blue round flower head	Leaves-omelettes, salads, soups, sauces, dips
Caraway	Carrot-like leaf with small creamy white flowers	Leaves-garnish
Rosemary	Dark green foliage with small blue flowers	Leaves and sprigs-meats, sauces, soups Dried leaves-sachets to hang in closets with garments
Sage	Shrub-like plant with grey-green leaves and purple flowers.	Leaves-meats, poultry, tea, fish, dressing, stews
Thyme	Narrow, dark green leaves	Leaves-soups, salads, dressings, omelettes, gravies, breads, vegetables

The potential demand for local produce is illustrated in the figure below which was based on a market opportunity study done by the Market Access and Rural Enterprise Development Project in 2015 looking at purchasing patterns of hotels, supermarkets and restaurants over a one year period. These outlets account for 80% of domestic purchases.

The analysis provides a useful guide for selecting the priority products for the local market. The study focused on the following product groups/products: High Imports &/or Consumption (Chicken, Eggs); Perceived High Market Demand - High Value Fruits & Vegetables (Cantaloupe, Watermelon, Soursop, Coconut, Lettuce, Carrots, Hot Peppers); High Volume vegetables (Pumpkin, Sweet Potatoes); Staple' Root Crops (Yam, Dasheen, Cassava) and Honey.

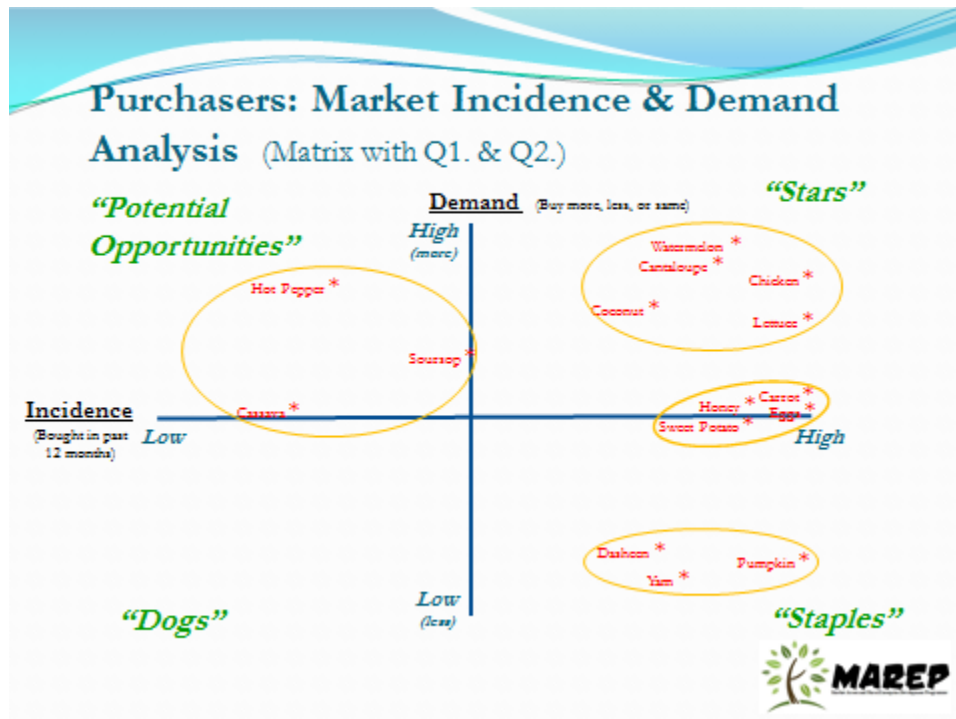


Figure 18

Priority Actions for the development of the fruit sub-sector are as follows:

Fruits:

1. Develop Tec packs for the efficient production of targeted fruits; bananas, Coconuts etc.
2. Improve the capacity of the MALFFE propagation stations to increase the quantity and quality of plants;
3. Pursue the establishment of a proper tissue culture facility to produce plants from tissue cultures;
4. Promote increased local consumption of fruits in order to spur demand;
5. Develop ICT based cost of production models for the establishment of different fruit tree crops;
6. Increase research in areas of plant selection to ensure that the best varieties are cultivated
7. Continue irrigation and water storage support for farmers and promotion of intercropping of fruit trees and vegetables to intercept water and fertilizer run-off and to protect soils against heavy rains.

Vegetables:

1. Work with Ministry of Health, GFNC, MNIB and other partners to conduct targeted marketing campaigns increase the per capita consumption of vegetables as Grenada’s per capita consumption is well below average;

2. Increase the use of Protected Agriculture to increase the consistency of supply and adapt to climate variability;
3. Increase production of Carrots to meet domestic demand;
4. Develop ITC based cost of production models for the establishment of different vegetables crops
5. Conduct targeted research in varietal selection to increase yields.

Roots & Tubers

1. Work with Ministry of Health, GFNC, MNIB and other partners to conduct targeted marketing campaigns increase the per capita consumption of root crops in particular yams, sweet potatoes and cassava as Grenada's per capita consumption is well below average;
2. Develop ICT based cost of production models for the establishment of different root crops
3. Conduct targeted research in varietal selection to increase yields.

Herbs and Spices

1. Reintroduce the production of onions;
2. Increase production of vanilla;
3. Conduct market research to determine the demand for ginger, turmeric
4. Increase production of ginger, turmeric and hot peppers for export;

Expected Outcomes

1. Reduced imports of onions
2. Increased export of ginger, turmeric and hot peppers

Indicators

1. Changes in production and export

Strategic Objective 1.3: Increase production of livestock for the domestic markets and bee and bee products for the domestic market and export

Meats are the largest category of food product imported into the country with chicken accounting for 73% by value in meat imports and 83% in amount. The other leading meat imports are swine (pork) - 11% by value and 7% in amount, bovine (cattle - beef) - 7% by value and 2% in amount, and turkey – 7% by value and in amount. Small quantities sheep and goat meats are also imported. Overall meat imports have been showing an increasing trend in both amount and value.

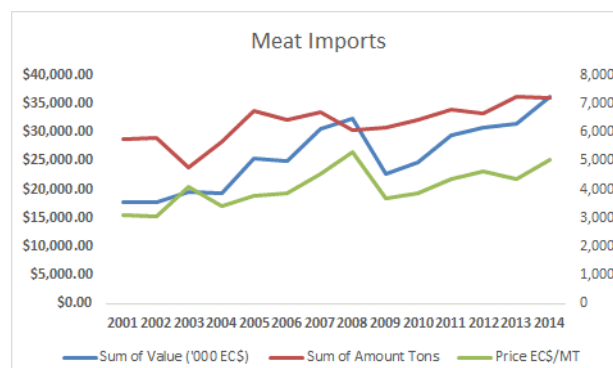


Figure 19

The quality of the chicken imported is poor and consists mainly of back and neck, wings and legs and leg parts.

Table 6: Meat Imports – 2010 - 2014

ITEM	2010	2011	2012	2013	2014	% Total 2014
Fowls						
Value (EC\$)	\$17,833.50	\$21,500.10	\$24,140.70	\$24,850.80	\$26,573.40	73%
Amount Tons	5,185	5,556	5,606	6,134	6,003	83%
Avg Price (EC\$/Lb)	EC\$1.56	EC\$1.76	EC\$1.95	EC\$1.84	EC\$2.01	
Swine						
Value (EC\$)	\$3,199.50	\$3,585.60	\$3,393.90	\$3,404.70	\$4,087.80	11%
Amount Tons	545	609	537	554	530	7%
Avg Price (EC\$/Lb)	EC\$2.66	EC\$2.67	EC\$2.87	EC\$2.79	EC\$3.50	
Bovine						
Value (EC\$)	\$1,552.50	\$1,806.30	\$1,692.90	\$1,914.30	\$2,529.90	7%
Amount Tons	139	135	112	135	142	2%
Avg Price (EC\$/Lb)	EC\$5.07	EC\$6.07	EC\$6.86	EC\$6.43	EC\$8.08	
Turkey						
Value (EC\$)	\$1,849.50	\$2,184.30	\$1,433.70	\$1,366.20	\$2,635.20	7%
Amount Tons	555	477	342	439	507	7%
Avg Price (EC\$/Lb)	EC\$1.51	EC\$2.08	EC\$1.90	EC\$1.41	EC\$2.36	
Other Meats						
Value (EC\$)	\$337.50	\$518.40	\$256.50	\$67.50	\$410.40	1%
Amount Tons	22	37	63	2	40	1%
Avg Price (EC\$/Lb)	\$6.96	\$6.36	\$1.85	\$15.31	\$4.66	
Total						
Value (EC\$)	\$24,772.50	\$29,594.70	\$30,917.70	\$31,603.50	\$36,236.70	100%
Amount Tons	6,446	6,814	6,660	7,264	7,222	100%
Avg Price (EC\$/Lb)	EC\$1.74	EC\$1.97	EC\$2.11	EC\$1.97	EC\$2.28	

Local production is low. Based on the 2012 GAC, goats, sheep and chickens were the major livestock on farms at the time of the census. The total number of farms with livestock fell by 40% and the total number of livestock fell by 2% compared to the 1995 GAC. Overall, however, the average number of livestock per farm increased by 63% with the largest increases in the average amount of chickens, ducks, rabbits and pigs. The latter suggest that

livestock are produced on larger units to achieve better economy of scale.

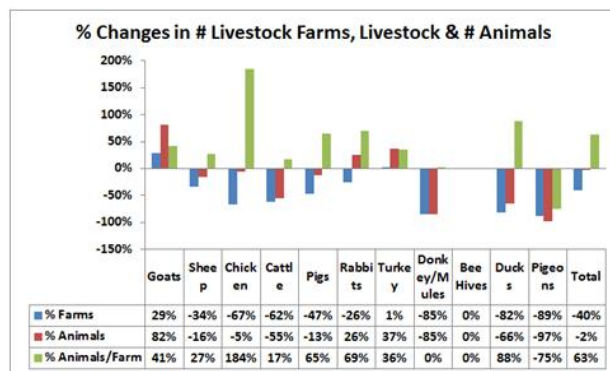


Figure 20

From a climate-smart agriculture point of view, cut-and carry fodder crops for goats should be promoted since they are resilient to droughts and provide erosion protection on the island's mountainous terrain.

Table 7: Livestock on Farms – 2012 GAC compared to 1995 GAC.

Livestock	2012 GAC			1995 GAC			% Change		
	# Farms	# Animals	Avg/Farm	# Farms	# Animals	Avg/Farm	# Farms	# Animals	Animals/Farm
Goats	2,445	12,736	5	1,896	7,004	4	29%	82%	41%

Livestock	2012 GAC			1995 GAC			% Change		
	# Farms	# Animals	Avg/Farm	# Farms	# Animals	Avg/Farm	# Farms	# Animals	Animals/Farm
Sheep	2,173	10,912	5	3,299	13,052	4	-34%	-16%	27%
Chicken	1,213	77,388	64	3,641	81,688	22	-67%	-5%	184%
Cattle	673	1,973	3	1,750	4,368	2	-62%	-55%	17%
Pigs	575	4,638	8	1,090	5,338	5	-47%	-13%	65%
Rabbits	518	5,013	10	696	3,982	6	-26%	26%	69%
Turkey	106	703	7	105	513	5	1%	37%	36%
Donkey/Mules	57	68	1	388	461	1	-85%	-85%	0%
Bee Hives	35	1,899	54						
Ducks	15	152	10	82	441	5	-82%	-66%	88%
Pigeons	6	38	6	53	1,356	26	-89%	-97%	-75%
Total	7,816	115,520	15	13,000	118,203	9	-40%	-2%	63%

Priority Actions for the development of the Meat/livestock Sub-sector

1. Development of a poultry policy;
2. Removal of restrictions on the import of feed for livestock;
3. Promote investment in centralized poultry processing facility and hatchery;
4. Promote investment to increase the production of broilers using modern technology;
5. Promote investment in the increased production of pigs and in pork processing;
6. Promote investment in the increased production of rabbits;
7. Create small cluster groups in the parishes to produce poultry;
8. Strengthen linkage hotels and poultry producers for purchases;
9. Partner with GFNC to encourage increased consumption of FRESH meats particularly chicken.
10. Partner with Zero Hunger projects to directly assist the poor with poverty reduction (GAPP)
11. Encourage commercial farmers to grow a minimum of 3000 birds under contract (GAPP);
12. Promote cut and carry fodder crop system for small ruminants;
13. Promote increased production of bees and bee products
14. Development of Export market for bees and bee products

Expected Outcomes

1. Increased production and local consumption of targeted livestock products for domestic market
2. Reduced meat imports particularly chicken;
3. Increased competitiveness in the production of livestock;
4. Increased production and export of bee products.

Indicators

1. Changes in production and consumption levels
2. Increase in export of bee products
3. Changes in level of meat imports

Strategic Objective 1.4: Leverage opportunities in the tourism sector to strengthen the linkage between agriculture and tourism

Rationale: The following data (2013) highlights the economic and social importance of the tourism sector to Grenada:

- Visitor arrivals: 116,500
- Average length of stay: 8.4%
- Hotel Occupancy Rate: 71%
- Visitor expenditure: EC\$323,460,000.00
- Contribution to GDP: 20.3%
- Employment: 18.8%
- Contribution to total exports: 44.7%

Initiatives to establish linkage between agriculture and tourism has been highly promoted by IICA with support from Caribbean governments. Grenada has participated in several agro tourism workshops resulting in the implementation of several agro tourism initiatives on the island.

Research has found that 80% of Fresh Vegetable needs by hotels are provided by local farmers nonetheless, nearly 100% of meat needs are imported.

Grenada's Agro Tourism Products/ Initiatives by Segments are as follows: Agro-trade - Direct Trade of Agricultural Produce to the Tourism Sector; Community Tourism; Health & Wellness Tourism; Agro-Heritage; and Farm based & Agro-Eco Tourism.

Significant opportunities exist for further strengthening the linkage between agriculture and tourism.

Priority Actions

1. Development of National Policy on Agro-tourism
2. The inclusion of agro-tourism linkage clauses (local food purchasing) into concessions of Foreign Direct Investment (FDI) in the tourism industry
3. Strengthen the agricultural sector's capacity to use modern food production methods and technology e.g. Green houses, irrigation systems, rainfall harvesting to improve food quality and consistency of food supply
4. Add value to existing agro-tourism initiatives through combination of services e.g. Carriacou Maroon and String Band Festival
5. Focus on relationship strengthening in existing agro-tourism trade models (hotel-farmer contracts)
6. Offer opportunities to encourage hotel managers and chefs to utilize local foods into the cuisine offered by the hotels and restaurants.
7. Create joint venture and co-operatives to generate capital to finance the sub-sector and manage costs
8. Strategic Partnership with IICA for agro-tourism development

Expected Outcomes

1. Increased sales of local produce and meats to hotels and restaurants;
2. Reduced imports of fruits and vegetables by the hotel sector;
3. Increased production of local produce and more consistency in supply;
4. Increased demand for local produce on the domestic market;
5. Producers securing supply contracts with hotels, restaurants and supermarkets;

Indicators

1. Changes in amount of local produce purchased by hotels and restaurants and in other agro-tourism segments;
2. Contracts awarded to producers

STRATEGIC FOCUS AREA 2: ENHANCE NATIONAL FOOD SECURITY;

Food security is defined as the situation where *'all people at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life'* (World Food Summit, 1996). The four dimension of food security are availability, access, utilization (nutritional adequacy), and stability (vulnerability and shock).

Analysis of the food and nutrition security situation in Grenada show that the country's vulnerability resides mainly in the stability, utilization and nutritional adequacy, and access dimensions more so than the availability dimension.

The NAP addresses the three dimensions of food and nutrition situation that have the most significant on the country's vulnerability. It should be noted that however that strategies applied towards addressing any one dimension will have cross cutting effect on the other dimensions.

Strategic Objective 2.1: Reduce dependence on food imports and imported staples in particular and increase availability of local fresh and fresh processed products.

Rationale: This strategic objective addresses the stability dimension of food security in relation to dependence on imported supply of food and the impact of weather conditions and climate change on the availability of local supplies.

Currently, about 70% of the food consumed in Grenada is imported. These imports comprise mainly meats (chicken), cereals, sugars and sweeteners, dairy, oils and fats and processed products. Consumption of local produce is also severely limited by weather conditions particularly where there is heavy reliance on rain fed agriculture in the case of salad fruits and vegetables and fruits that produce seasonally.

Priority Actions:

1. Increase production and utilization of crops and other products that can be competitively produced in Grenada or used as substitutes for imported staples to reduce dependence on imports.

Targeted products would include carrots, root crops (dasheen, sweet potatoes, cassava, yams-all varieties, tannia, eddoes, etc.), maize- for fresh consumption, onions, honey, etc.

2. Promote increased investment in irrigation for the production of salad fruits and shade houses with irrigation for the production of vegetables to improve year round availability.

Currently availability of these products are characterized by gluts and shortages associated high dependence on rain for production in the case of salad fruits and damage to crops by rains in the case of vegetables.

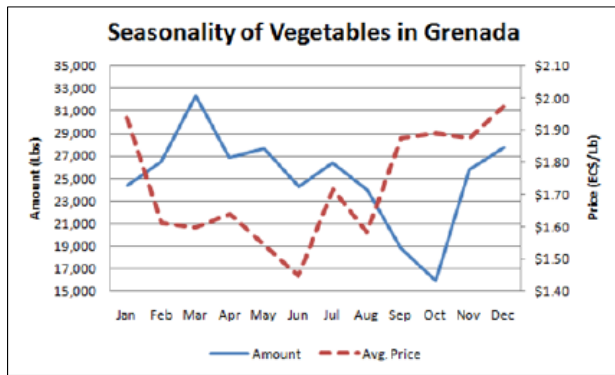


Figure 22

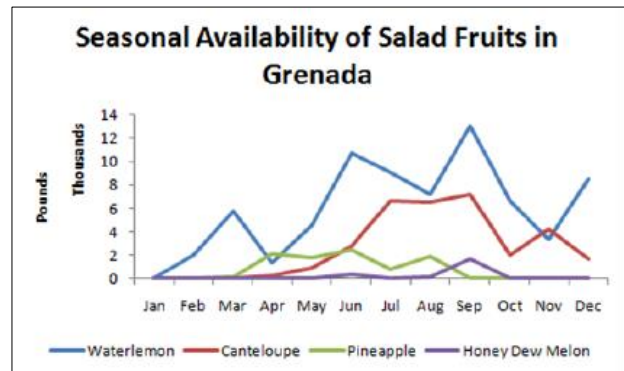


Figure 21

- Promote increased investment in storage and the production of value added products to extend the availability of local fruits and root crops, most of which are seasonal.

Table 8: TREE FRUIT SEASONALITY CHART

Produce	January	February	March	April	May	June	July	August	September	October	November	December
Banana												
Golden Apple												
Mango												
Orange												
Grapefruit												
Mandarine												
Limes												
Orange Seville												
Lemons												
Ortnique												
Tangerine												
Ugly Fruit												
Soursop												
Papaya												
Avocado												
Passion Fruit												
Pineapple												
Breadfruit												
Sapodilla												
Carambola												
Guava												
Plums Yellow												
Gineps												
Tamarind												

- Implement measures to reduce post-harvest losses at the household level.

Expected Outcomes:

1. Reduced dependence on imports for food supply;
2. Improved availability of salad fruits, vegetables and root crops throughout the year.

Indicators:

1. Self-sufficiency index;
2. Percentage of arable land equipped for irrigation

Strategic Objective 2.2: Increase economic access to food by vulnerable persons and their capacity to address their food and nutrition needs.

Rationale: This strategy addresses the accessibility dimension of food security i.e. 'Households/ Individuals must have access to resources to acquire appropriate & safe food for a culturally acceptable diet'. Focus of this objective is on the economic access which is largely determined by disposable income, food prices and the provision of and access to social support.

The vulnerable population in Grenada comprises persons who are deemed to be at risk/high risk of being food and nutrition insecure. According to the Country Poverty Assessment Reports (2008 and 2011) and other supporting documents, vulnerable population groups represent approximately 26% of the total population.

Vulnerable population groups are found throughout Grenada. The highest poverty incidence is generally found in the rural communities. The parishes of St. Patrick and St. Mark had in 2008 the highest poverty incidence: 56.7 and 54.5 percent, respectively. The poverty gaps (16.0 and 18.3 percent, respectively) and poverty severity (6.8 and 9.2 percent, respectively) were also the highest in these two parishes. This compares to national averages of 37.7 percent (headcount index, 10.1 percent (poverty gap) and 4.0 percent (poverty severity) (CPA 2008).

VULNERABLE GROUPS	Vulnerability Category				
	Income	Age	External Crises	Disease*	Natural Disasters
Women-headed households	X		X	X	X
Youth	X	X	X	X	X
Elderly	X	X	X	X	X
Children	X	X	X	X	X
Small-scale farmers and fisher folks	X		X	X	X
PLHIV	X			X	X
Young girls	X	X	X	X	
Working poor	X		X	X	X
Persons with mental illness	X			X	

*(CNCDS, HIV&AIDS, Mental Illness, Anaemia)

The major contributors to poverty are unemployment, underemployment, inadequate income-generating activities, and little access to opportunities for skills development which in turn are affecting the ability

and adaptability of households to achieve adequate levels of food and nutrition security. In the Table below vulnerability is classified by factors that contribute to poverty and identifies population groups most suffering from these vulnerabilities. The identified vulnerable groups are not mutually exclusive classifications.

Priority Actions

1. Ensure that social safety nets (National cash and in-kind transfer programs) programs guarantee the ‘Right to Food’ for all vulnerable persons and groups and that those persons/communities are empowered to meet their food and nutrition requirements in the long term.
2. Provide support for rural vulnerable families to establish home gardens if they have access to lands or assist them in getting access to lands for home gardening if they do not have and assist them in making arrangements for the marketing of their surplus through the MNIB and/or other private sector enterprises. The Zero Hunger Program can be used to promote this strategy.
3. Train youths in systems that provide greater efficiency of input use/ technologies that augment/complement natural resources in production for example permaculture, precision agriculture, fertigation, aquaculture, etc. and provide them with resources to apply the training.
4. Application of technologies and production systems to reduce the cost of production of local produce.

Expected Outcomes

1. Improved access to nutritional foods by vulnerable persons;
2. Reduction in the numbers of persons/households requiring social safety net assistance;
3. Greater stability in the price of local produce.

Indicators

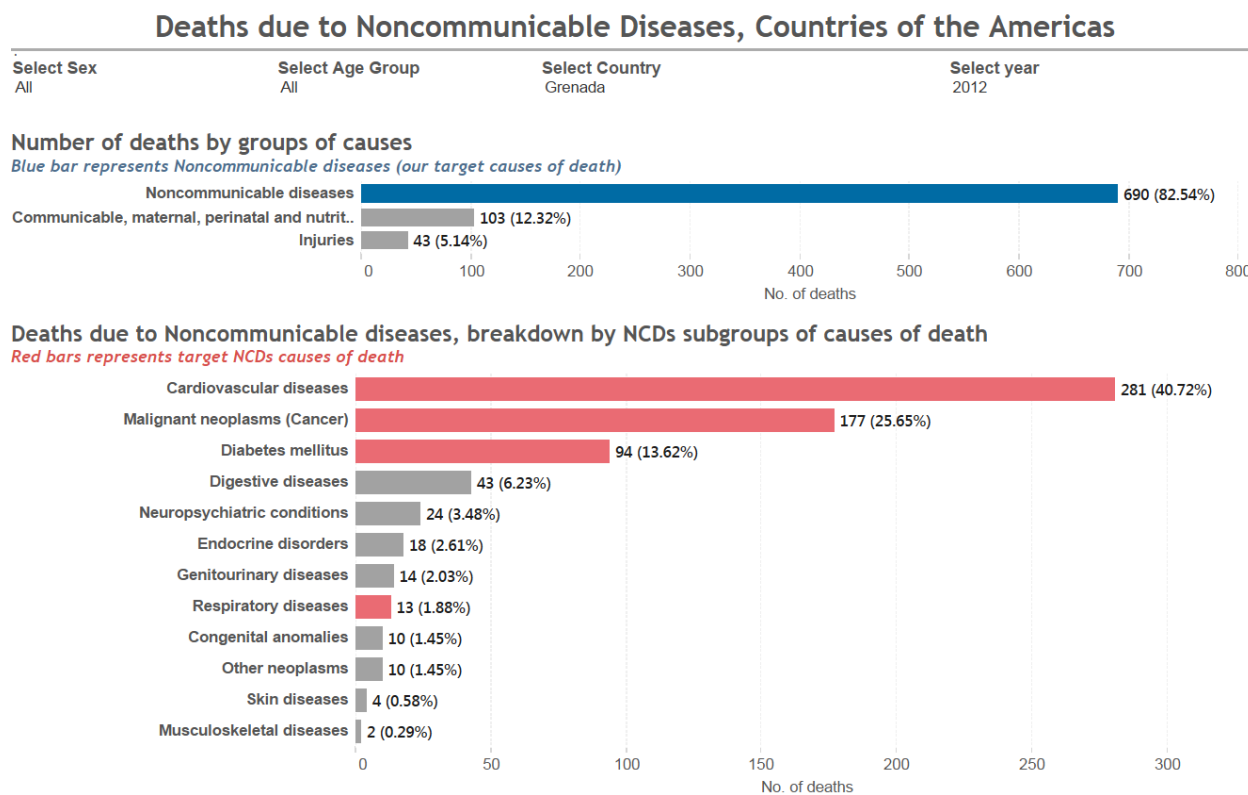
1. Domestic food price index
2. Prevalence of undernourishment
3. Share of food expenditure of the poor
4. Depth of the food deficit
5. Prevalence of food inadequacy

Strategic Objective 2.3: To improve the health status and wellbeing of the Grenadians through the consumption of nutritious and safe foods.

This strategic objective addresses the utilization and nutritional adequacy dimension of food security i.e. ‘Foods must meet nutritional demands while providing affordable choices across the food value chain’.

By a large margin non-communicable diseases (NCDs) are the leading cause of death in Grenada. Wasting (being too thin for one’s height), stunting (being too short for one’s age), underweight (being too thin for one’s age) and anaemia also constitutes severe public health problem in the country. There is

growing evidence that these conditions are strongly related to dietary intake and the nutrition content of the food consumed.



Source: Regional Mortality Information System. Pan American Health Organization (PAHO/WHO), 2014.

Figure 23

Increased consumption of fruits and vegetables is strongly associated with improved health conditions and healthy lifestyles. Highly processed foods are generally less nutritious and contribute to poor health.

Food utilization is also influenced by the way in which food is handled, prepared and stored. Good health is a prerequisite for the human body to absorb nutrients effectively, and hygienic food helps maintain a healthy body. Access to clean water is crucial to preparation of clean, healthy food and maintaining a healthy body. Based on the last population census 20% of households in Grenada lacked indoor supply of water and 35% did not have indoor toilet facilities.

Priority Actions

1. Strengthen the Primary Health Care Program;
2. Promote and support adherence WHO guidelines for infants, child feeding, and for young children and teens (2-18 years).
3. Create greater awareness about the benefits of healthful diets through aggressive community and public awareness programs and knowledge awareness of the National Dietary Guidelines;

4. Implement programs at the community level to improve access to potable water, good sanitation and waste disposal.

Expected Outcomes

1. Nutritional status of the population improved through consumption of more healthful, nutritious and safe foods;
2. Reduction of the disease burden. Incidence of non-communicable diseases, and water and nutrition related diseases reduced.
3. More households have in-door access to potable water and sanitation facilities;

Indicators:

1. Percentage of children under 5 years of age affected by wasting, who are stunted and who are underweight
2. Percentage of adults who are underweight and overweight (obesity);
3. Prevalence of anaemia among pregnant women and children under 5 years of age
4. Prevalence of vitamin A deficiency and iodine deficiency;
5. Access to improved water sources
6. Access to improved sanitation facilities

STRATEGIC FOCUS #3: TO STRENGTHEN THE AGRICULTURAL SECTOR'S RESELLIENCE TO CLIMATE CHANGE AND NATURAL DISASTERS, REDUCE ITS ADVERSE IMPACT ON CLIMATE CHANGE AND THE ENVIRONMENT, AND ENSURE THAT DEVELOPMENT IS SOCIALLY, ECONOMICALLY, AND ENVIRONMENTALLY SUSTAINABLE

While the agriculture sector is threatened by climate induced environmental changes, the agricultural sector itself is a major contributor to human-induced environmental damage and climate change. In other words, the agricultural sector is both threatened by climate change and a threat to the natural environment and contributor to climate change.

The challenge is to develop sustainable low emission agricultural production systems that are resilient to the impact of climate change that places the least pressure on the natural environment. .

Strategic Objective 3.1: Build climate resilience to avoid, prevent, or minimize climate change impacts on agriculture (including forestry and fisheries), the environment and biodiversity; improve preparedness for climate change impacts and extreme events; enhance the country's response capacity in case of extremes; and facilitate recovery from impacts and extremes.

This strategic objective addresses the adaptation component of climate change from a sustainable development perspective.

Rationale: The sustainability of the agricultural production system is critical for national food security and economic growth. Climate change can adversely affect sustainability through its impact on the environment where agricultural activities are carried out.

Potential impacts of climate change on agriculture are illustrated below:

Potential Impacts of Climate Change on Agriculture

<u>Agriculture</u>	<u>Forestry</u>	<u>Fisheries</u>
Changes in crop yield & production patterns	Deforestation	Depletion of stocks
Crop & livestock losses to extreme weather events	Tree mortality	Ecosystem damage
Emergence of new pest and diseases	Wild fires	Marine Pollution, silting
Loss of lands due to sea level rise		
Availability of water for irrigation		

Recommended Strategies:

1. Strengthen public awareness campaign about climate change, the country's vulnerability and adaptation measures that can be taken to reduce vulnerability: Campaign should target stakeholders at all levels for change in approach to addressing climate change issues.

Stakeholders include: Policy makers and Public Officials – ensure that climate change adaptation policies are in place; the Private Sector – climate proofing their business operations; Non-Governmental Organizations – hold policy makers accountable for implementing appropriate policies and supporting appropriate actions; Community Leaders – address climate change issues at the community level; and individuals – encouraged to take personal responsibility for taking action to reduce their vulnerability.

2. Promote sustainable agriculture practices. Strengthen promotion of and support for more efficient water management and conservation (water and soil) measures. These measures include terracing, drainage, mulching, storage (increase the use of rain-water harvesting systems); and efficient use of water for irrigation (e.g. drip irrigation).
3. Improve access to climate risk insurance for farmers and fisher folks;
4. Improve weather-related (drought and floods) information system, and monitoring and communication systems. This will provide a baseline of information and a barometer of change in climatic conditions that may indicate the inception of drought or likelihood of floods. This information will also be critical for designing
5. Increased technological options and solutions for production (including livestock) and post-harvest handling that offer resilience to climate change and disasters;
6. Develop response strategies to natural disasters and extreme weather events for the agricultural sector at the national, community and individual levels. This will provide for greater preparedness for these events if and when they occur

Expected Outcomes

1. Climate and disaster proofing of investments in the sector;
2. Reduced vulnerability to climate change and enhanced adaptive capacity;
3. Reduced damage and losses from natural disasters and extreme weather events through enhanced response capacity.
4. Improved preparedness natural disasters and extreme weather events and availability of risk management tools.

Indicators

1. Awareness of climate change
2. Coordination on climate change measures and activities across relevant actors
3. Implementation of sustainable agriculture practices
4. Changes in the country's GAIN Ranking, and Vulnerability and Adaptive Index

Strategic Objective 3.2: Reduce the impact of land based agriculture on climate change and the environment.

This strategic objective addresses the adaptation component of climate change from a sustainable development perspective.

Rationale: Activities in the agriculture sector can pose serious threat to the natural environment and contribute to climate change.

The agriculture sector is an important emitter of all three of the major greenhouse gases: carbon dioxide, methane, and nitrous oxide. Agriculture is a source of CO₂ emissions through land use, but also a source of the second and third-ranking greenhouse gases. Methane (CH₄) is emitted by livestock, through the natural processes of their digestion. Nitrous oxide (N₂O) is also emitted from agriculture, for example through the chemical changes to nitrogen-based fertilizers. Instead of being taken up by the plants, the nitrogen in the fertilizer volatilizes (evaporates) and also goes into the water supply. Livestock and fertilizer use thereby emit nitrous oxide in large amounts.

The second impact is on the nitrogen cycle. Nitrogen is a critical macronutrient for the crops. However, use of nitrogen fertilizers (both green and chemical-based) can cause damage to ecosystems by changing the intensity of nitrogen fluxes in the environment. There are a host of problems arising from the improper use of fertilizers as follows: there are more greenhouse gases released; soil acidification; threats to water quality from nitrates and the nitrites in the water supply; the eutrophication of the downstream estuaries; and the fall of air quality as the NO₂, NO₃, and other nitrogen-based molecules enter the atmosphere to create smog, tropospheric ozone, and health hazards.

The third way that the agriculture sector impacts the environment is the destruction of habitats for other species placing increased risk on irreplaceable biodiversity.

Other ways in which the environment is damaged by agricultural activity include pesticides, herbicides, and other chemicals that are used in farm production and that are a major threat to biodiversity.

The overuse of freshwater for crop irrigation is another. Agriculture can be a voracious user of water, and that water itself is under threat.

The potential impact of agriculture on climate change and the environment are summarized below.

Potential Impact of Agriculture on climate change and the environment

Climate Change

Emission of Green House Gasses

Environment

Deforestation

Biodiversity loss

Nitrogen Cycle (fertilizer use)

Availability of water

Chemical pollution (pesticides)

Reduced Pollinator populations

Introduction of invasive species

Based on data from Grenada's First National Communication to the UNFCCC the agriculture sector is a minor contributor to greenhouse gas emission. This may be due to the predominance of crop based production and limited production of livestock.

Table 9: Initial National Greenhouse Gas Inventories Of Anthropogenic Emissions By Sources And Removals By Sinks Of All Greenhouse Gases Not Controlled By The Montreal Protocol - 1994			
Greenhouse Gas Source and Sink Categories	CO₂	CH₄	N₂O
Total (Net) National Emission (Gigagram per year)			
1. All Energy			
<i>Fuel combustion</i>	135	0.02	0.002
Energy and transformation industries	62		
Industry	4		
Transport	52		
Commercial-institutional	6		
Residential	10		
Other (Agriculture, Forestry and Fisheries)	1		
Biomass burned for energy	n.e.		
<i>Fugitive Fuel Emission</i>			
Oil and natural gas systems	n.a		
Coal mining	n.a		
2. Industrial Processes			
3. Agriculture			
<i>Enteric Fermentation</i>		0.0032	
<i>Manure Management</i>		0.0011	
<i>Solid Waste Disposal</i>		70	
<i>Agricultural Soils</i>			0.0011
4. Land Use Change and Forestry			
<i>Changes in Forest and other woody biomass stock</i>	-92		
<i>Forest and Grassland Conversion</i>			
<i>Abandonment of Managed Lands</i>			
5. Other Sources as appropriate and to the extent possible (please specify)			

The focus of interventions under this strategic option is to concentrate on mitigation options that reduce the GHG intensity of agriculture and harm to the environment by promoting production practices without harming yields.

Under the Caribbean Challenge Initiative (CCI) Grenada has committed itself to 20% of its land area to forest by 2020. Currently 27% of the land area is under agriculture (including forest) and 10% under forest. Grenada is also committed to protecting 20% of its coast as Marine Protected areas.

Recommended Priority Actions:

1. Preservation of current forestry protected areas. Development and execution of forestry management plans that are designed to protect and conserve forestry reserves and to increase their stocks of carbon in line with the Forestry Policy and Action Plan.
2. Intensification of agroforestry systems using commercial tree crops and fruits to promote reforestation and achievement of its international targets. About 12% of the land area is under permanent crops;
3. Preservation of existing Marine Protected Areas (MPA's) and designation of additional MPA's;
4. Improving management of nitrogen fertilizer and pesticides use in production systems particularly those in watersheds that feed into MPA's;

5. Develop system for data collection and tracking of greenhouse gas emissions from the agriculture sector;
6. Public awareness program about the potential impact of agriculture on climate change, and the environment and mitigation and other actions to reduce impact.

Expected Outcomes:

1. Achievement of international commitments to forestry development and protection of marine coastal areas;
2. Reduced pollution of MPA's from land based agricultural activities;
3. Greater public awareness about the impact of agriculture on climate change and the environment.

Indicators

1. Carbon sequestration from forest and agro-forest areas;
2. Nitrogen content and level of pollution of MPA's;
3. Acreage under forest and MPA's

Strategic Objective 3.3: Preserving and optimizing resources (Land, Sea, Genetic);

Rationale: Grenada's agricultural lands, marine and genetic resources are its major assets on which the agricultural sector depends for its outputs. All three of these assets are threatened.

Available agricultural is depleting at a rate of about 1% per year based on the 1995 and 2012 GAC's. A significant amount of the loss is to real estate and as such irreversible. Additionally, over 10% of the available agricultural lands are not in productive use and the percentage is increasing. In a number of instances the where the access to agricultural lands are improved through the Feeder Roads Investments, there is also encroachment by residential properties. Although there is an increase in the category forest/bush it is not certain how much of this represents forest or abandoned lands.

Our marine assets are major contributors to economic and are threatened by depletion of stocks due to the impact of climate change and by IUU or poaching. Our MPA's which are important to the sustainable of the fishing stock in addition to other ecological benefits are threatened by unsustainable agricultural practices.

Our germplasm resources are also threatened. A significant amount of the products we export derive the unique characteristics from the type of planting material used. In addition it is important to preserve the germplasm for research and development to develop varieties that are more resilient to the impact of climate change.

Priority actions:

1. Develop and implement a land use policy and zoning of agricultural to ensure that use is optimized;
2. Establish a National Agricultural land Bank;
3. Establish Inventory of Crown Lands and Policy to regularize transfer of Crown Lands;
4. Implement Grenada's Aligned National Action Plan (UNCCD)
5. Establish Cocoa and Nutmeg Germplasm Bank;

6. Provide resources for the conservation of other crop varieties such as the annonas (soursop, sugar apple), coconuts, mangoes, breadfruit and other commercial fruits and for the continuation of the Spice Project;
7. Expansion of the Commercialization of Government Estates and enforcement of compliance criteria on commercialized estates;
8. Develop program to incentive owners of large estates to invest in the development of the estates;
9. Implement program for the development of agriculture lands made more accessible by feeder roads;
10. Implement National Biosafety policy to regulate the use of GMO's
11. Implement Forestry Policy and Protected Areas System Plan;
12. Strengthen the governance of marine resources

Expected Outcomes

1. Sustainability of ecosystems and livelihoods;
2. Use of lands regulated in a manner that will preserve lands for agricultural purposes;
3. Increased utilization of agricultural lands for production purposes;
4. Better coordinated physical development particularly in rural areas;
5. Improved land tenure situation and reduction in the amount of squatters;
6. Increased production;
7. Reduced loss of genetic biodiversity and availability of indigenous gene pool for research and development purposes.

Indicators

1. Reduction of the rate of decline of lands available for agriculture and in the percentage of available lands in production;
2. Increase in acreage under production and in production output from previously abandoned or underutilized lands;
3. Number of plant varieties preserved and available;

STRATEGIC FOCUS AREA 4: INVESTMENT TO DEVELOP THE INFRASTRUCTURE; PHYSICAL RESOURCES; AND RESEARCH AND DEVELOPMENT, INSTITUTIONAL, AND HUMAN RESOURCE CAPACITY OF THE SECTOR

Strategic Objective 4.1: Additional investments in economic infrastructure for increased contribution of the agricultural sector to economic growth, poverty alleviation and environmental sustainability.

Good infrastructure raises productivity and reduces production and marketing costs.

Rationale: Investments in infrastructure is critical to the development of agriculture in Grenada. Investments in the transport sector will allows producers to more efficiently obtain inputs, move inputs to their farm, to the farm and access international markets. Investment in production, and post-harvest facilitates assist farmers in accessing inputs such as good quality planting material for production, adding value to their produce (grades and standards), compliance with quality assurance requirements, adding value and marketing of products. Investment in utilities such as water supply and storage, energy, and telecommunications also assist in improving production and marketing efficiency.

Over the past 10 years Government has invested over EC\$100 million to rehabilitate more than 70 miles of feeder roads (including bridges, sea walls and drainage systems to help prevent flooding) to enable produce and farming inputs to be transported more safely and efficiently. Resources to improve farm roads have also been provided through projects such as MAREP (Market Access & Rural Enterprise Development Project) and the BNTF (Basic Needs Trust Fund). Government has also invested significant resources in processing infrastructure and equipment of the artisanal fisheries sector and in the water sector.

Recommender Priority Actions

1. *Implementation of Phase three of the Agricultural Feeder Roads Rehabilitation Project (AFRP).* Phase 2 of the AFRP has been completed and financing has already been approved for phase 3. This project is projected to cost EC\$58 million.
2. *Investment in additional Farm Roads in rural communities.* This will assist farmers in accessing their farms. Works would include grading, surface compaction with gravel and drainage.
3. *Investment in equipment to weigh produce for export at the Maurice Bishop Airport.*
4. *Public sector investment in upgrading the Tissue Culture & Plant Propagation Facilities.* This would involve the construction and equipping of the tissue culture laboratory and refurbishment of plant propagation facilities at Mirabeau, Ashenden, Maran and Boulogne. Targeted plants for production would include bananas, cocoa, nutmeg, and assorted fruits. This project is estimated to cost EC\$7 million.
5. *Investment in the upgrading of the MNIB Packhouse facility for HAACP Certification.* This investment would involve the refurbishment of facilities at River Road, St. George's to comply with international sanitary & Phytosanitary, and health & safety requirements. This project is expected to cost EC\$4 million.

6. *Investment in the construction of at least one Wholesale Produce Market strategically located in one of the rural parishes. This facility will be equipped with sorting and grading facilities and booths where producers can sell their produce/products targeted at wholesale buyers. Facilities will also be available for the storage and sale of inputs such as fertilizer, packaging material and implements and for training.*
7. *Support for investments in drainage to control runoff and conserve water, and in storage facilities in watersheds for irrigation.*
8. *Support for the use of renewable energy (solar power) for operating irrigation pumps and processing. This will contribute to significant reduction in producers operating cost and at the same time reduce Grenada's Carbon Footprint from Agriculture;*
9. *Provide support for increased Private Sector Investment in production and value added through PPP's: (a) initiative to resuscitate the sugar cane Industry through PPP - an additional 500 acres is contemplated for producing raw materials for the production of specially blended rum for export; (b) production of soursop for export.*

Expected Outcomes

1. Improved infrastructure for production, quality management and marketing;
2. Increased production, improved production efficiency and quality of products, and better access to local and international markets.

Indicators:

1. Number of investments successfully implemented;
2. Increases in production and sales as a result of investments.

Strategic Objective 4.2: Additional investments in institutional and human resource capacity development in the agricultural sector to improve governance and efficiency.

The importance of institutions and human resource to achieving development outcomes are highlighted in the quotes below.

The strength and performance of institutions, particularly as evidenced in the quality of governance and rule of law, are the primary determinants of development. Resource transfers in the absence of institutional capacity do not yield sustainable outcomes...The primary determinant of progress in transformational development is political will and commitment to rule justly, promote economic freedom, and make sound investments in people. For foreign aid to most effectively contribute and support recipient self-help efforts donors should...focus on strengthening institutional capacity and dealing with absorptive capacity

USAID, (2004), U.S. Foreign Aid: Meeting the Challenges of the Twenty-first Century, Washington D.C.

Institutional capacity building refers to the provision of technical or material assistance designed to strengthen one or more elements of organizational effectiveness. The elements of organizational effectiveness include governance, management capacity, human resources, financial resources, and service delivery.

An effective poverty reduction strategy process and a productive partnership can be built only on a platform of strong public capacity: capacity to formulate policies; capacity to build consensus; capacity to implement reform; and capacity to monitor results, learn lessons, and adapt accordingly. Building the requisite capacities turns out to be a formidable challenge. For these reasons, enhancing ...capacity ... has risen to the top of the development agenda.

Sahr Kpundeh & Brian Levy (editors), "Building State Capacity in Africa" (World Bank & Oxford University Press, 2004).

Human resource capacity development, in turn, relates to the provision of a trained work force; to the promotion of knowledge and skills that are required by a society to acquire greater prosperity through the building of productive capabilities.

Key institutions providing governance and direct support services in the agricultural sector are the MALFFE, State Owned Enterprises (MNIB), Statutory Bodies (GCNA, GCA, GFNC), Cooperatives (Minor Spices Cooperative), and Farmers/Fisher Folks and other Producer Organizations. These organization interfaces among themselves and with other organizations in the delivery of services.

Capacity and human resource development in all their elements are key issues for all of these organizations.

Recommended Priority Actions

1. *Strengthen corporate governance of the MALFFE focusing on accountability, efficiency and good governance practices.* Effective corporate governance of the Ministry is required and as such it is an imperative that all categories of staff become familiar with the Acts that govern the operations of the various Divisions. This will ensure that the business of the Ministry will be conducted in accordance with the approved policy and regulatory frameworks;
2. *Strengthen the governance capacity of Commodity Boards/Statutory Bodies.* Focus should be on clearly defining the roles of Directors and Management.
3. *Strengthen data and information management capacity of the MALFFE.* Suggested areas include available resources (# farmers, fisher folks, agro-processors, acreage farmed, etc.), production (amount, location of production, etc.), marketing (sales by market, prices, trends), environment (biodiversity, weather, emissions, etc.), to support policy formulation and the decision making process.
4. *Strengthen the capacity of the MALFFE to conduct adaptive research.* This is especially important in the selection of annual fruits and vegetable varieties;

5. *Strengthen the plant quarantine and quality assurance capacity of the MALFFE and related institutions.*
6. *Training Extension Officers in Agri-Business Management*
7. *Provide support for organizational capacity development for existing farmers, fisher folks, and other producer organizations.*
8. *Provide support for institutional capacity development of the Grenada Federation of Agricultural and Fisheries Organization (GFAFO). GFAFO is the umbrella organization for farmers, producers, and fisher folk's organizations in Grenada. It is positioned to play a critical role in policy formulation and development of its membership.*
9. *Provide ongoing technical, management and leadership training for the staff of all institutions servicing the agricultural sector*
10. *Promote the formation of additional commodity based producer groups and community organizations for producers involved in agriculture where gaps exist.*

Expected Outcomes

1. Improved efficiency in the delivery of services
2. Better quality of information available for policy formulation and decision making;
3. Improved contribution of stakeholders to policy evaluation and formulation
4. Improved production and marketing efficiency in the agricultural sector.
5. Improved access to development assistance.

Indicators

1. Capacity development actions undertaken;
2. Number of persons trained
3. Development assistance secured.

Strategic Objective 4.3: Investment in upgrading agricultural research and development capacity

Rationale: Agricultural research and technological improvements are and will continue to be prerequisites for increasing agricultural productivity and generating income for farmers and the rural work force. This is even more critical as we face the challenges associated with climate change, and promote agricultural production systems that have minimal impact on the ecology and environment.

CARDI has responsibility for regional agricultural research but it is also important that the Ministry strengthen its capacity to conduct adaptive research to increase production and productivity.

Recommended Priority Actions:

1. *Continued support for the Nutmeg Wilt Project.* This disease has been plaguing the nutmeg industry for a number of years and has resulted in the loss of a significant amount of mature bearing trees. As initiatives are taken to increase planting it is important that this disease be brought under control.

2. *Continued support for the Spice Research Project:* Grenada is the isle of spice and it is important that the characteristics of our spices be scientifically established. This will strengthen the development and marketing of spice products.
3. *Research in the agronomy of soursop:* Information on agronomy practices for soursop in areas such as fruiting, fertilizer response etc. is very limited. As the economic significance of the crop increase it is important that research effort be stepped up.
4. *Research to support varietal selection of key export crops and crops with potential for increased export:* these include but are not limited to soursop, coconuts, avocados, mangoes.
5. *Adaptive Research to select cultivars of vegetables suited to changing climatic conditions;*
6. *Research into climate smart agricultural practices and impact of agricultural practices on the environment;*
7. *Research in product development to develop value added products that offer greater convenience and extend the availability of seasonal fresh products;*
8. *Research into pest and diseases affecting coconuts and other pests of economic importance.*

Expected Outcomes

1. Reduced loss of plants due to disease
2. Increased production of value added products;
3. Increased productivity

Indicators

1. Tree losses due to nutmeg wilt disease
2. New crop varieties identified and value added products developed
3. Yield per acre of targeted crops

STRATEGIC FOCUS AREA 5: TO FOSTER MUTUALLY BENEFICIAL PARTNERSHIPS WITH OUR REGIONAL COUNTERPARTS AND DEVELOPMENT PARTNERS.

As a member of CARICOM and the OECS Grenada is an active player in the regional integration process and actively participates in regional negotiations and other regional processes. Grenada also acknowledges that significant benefits can be derived from greater regional collaboration in the areas of regional and international trade in particular.

Grenada is also the beneficiary of significant technical and financial support from its bilateral and multi-lateral development partners. To ensure that with the limited resources available the support is most effectively used there is need for increased coordination of donor support at the national level to create synergies and avoid overlap.

Strategic Objective 4.1: Achieve greater collaboration in regional and international trade for agricultural products.

Rationale: There is a significant imbalance of trade between Grenada and its regional counterparts in CARICOM and the Eastern Caribbean Currency Union (ECCU). The balance of trade with CARICOM was negative in favour of imports and positive in favour of exports for the ECCU. The most significant imbalance was with the non ECCU members of CARICOM. Most of the exports to the ECCU were flour and livestock feed stuff and most of the imports from CARICOM were manufactured agriculture products. It is important that action be taken to address this imbalance.

Table 10: Grenada Balance of Trade Agricultural products ECCU and CARICOM 2011 ('000 EC\$)

Trade	CARICOM	ECCU	CARICOM (Excl ECCU)	Rest of World	World
Import	\$19,699	\$1,922	\$17,777	\$122,575	\$144,196
Export	\$12,366	\$10,997	\$1,369	\$31,134	\$54,497
Balance	-\$7,333	\$9,075	-\$16,408	-\$91,441	-\$89,699
Percentage					
Trade	CARICOM	ECCU	CARICOM (Excl ECCU)	Rest of World	World
Import	14%	1%	12%	85%	100%
Export	23%	20%	3%	57%	100%
Balance (% Exports)	-59%	83%	-1199%	-294%	-165%

There are also a number of impediments to regional trade that must be addressed to facilitate increase trade among regional partners. These include but are not limited to:

- (a) Phytosanitary Restrictions:
 - Absence of official lists of produce permitted entry, restricted entry, and allowed conditional into the individual OECS and CARICOM Countries based on updated pest risk assessments (arbitrary actions by Pest Management Personnel);
 - Different regulations on permissible pesticide usage among countries – affects market entry

- (b) Absence of Official Standards for Grades Produce;
- (c) Under-developed, disorganized, produce marketing infrastructure, institutions, and market/trade information service
- (d) Costly and cumbersome Trade and Customs procedures and absence of harmonization of procedures; Lack of standardization of procedures
- (e) Additional and variable non-tariff restrictions (in addition to phytosanitary) on import of produce from within the region e.g. license, VAT,??
- (f) Variable legal and regulatory framework for inter-island shipping & trade

Recommended Priority Actions:

1. Implementation of trade protocol with Trinidad. The trade protocol was officially signed by the Government of Grenada and the Government of Trinidad and Tobago.
2. Develop and continuously update official lists of produce permitted entry, restricted entry, and allowed conditional entry into the individual OECS and CARICOM Countries based on updated pest risk assessments
3. Develop official Standards for Grades Produce for regional trade in agricultural produce;
4. Development of market/trade information service for the region;
5. Harmonization of and standardization of Trade and Customs procedures;
6. Regularization of non-tariff restrictions (in addition to phytosanitary) on import of produce from and within the region e.g. license, etc.
7. Regularization of legal and regulatory framework for inter-island shipping & trade;
8. Establish cross-border production and marketing value chains;
9. Support for Operationalization of the OECS Transportation and Distribution Company (ODTC). The ODTC is a regional third party Logistics Company set up to facilitate improved transportation and distribution services within the region using an ICT platform.

Expected Outcomes:

1. Increased regional and international trade;
2. Transparent market entry, customs and trade procedures within the region;
3. Development of trans-border value chains.

Indicators

1. Level of regional and international trade and trade balance;
2. Actions taken to remove impediments to trade.

Strategic Objective 4.2: Create framework for donor and development partner coordination in providing support for the agriculture sector.

Rationale: Increasing number of projects with a strong link/ directly in the field of climate change and disaster risk reduction. Increasing number of development partners targeting interventions in these thematic areas. This could lead to fragmentation and increase the risk of duplication and overlaps instead of synergies and dove-tailing. This also places heavy pressure on existing, very limited staff resources.

Priority Actions

1. Compliance with the Public Sector Investment Program (PSIP) regulations and project portfolio management operational procedures and the regulations governing the Public Finance Management (PFM);
2. Ensure that the Country Framework Programs of Development Partners for Grenada are aligned to National Priorities;
3. Conduct quarterly review of project portfolio status with implementing entities;
4. Develop a formal dialogue with development at least bi-annually.

Expected Outcomes

1. Improved utilization of development financing;
2. Improved collaboration among development partners in the implementation of priority projects;
3. Improved monitoring and evaluation of projects under implementation.

Indicators:

1. Improvements in project implementation;
2. Improved allocation of development financing

National Action Plan Matrix

Strategic Objectives	Priority Actions	Lead Local Institution	Potential Implementing Partners
STRATEGIC FOCUS AREA 1: INCREASING AGRICULTURE CONTRIBUTION TO NATIONAL ECONOMIC GROWTH, EMPLOYMENT CREATION, POVERTY REDUCTION AND RURAL DEVELOPMENT			
1. Increase exports of traditional crops, fish, fruits, vegetables, root crops, minor spices, and value added products to international and regional markets.	a. Nutmeg & Mace: <ul style="list-style-type: none"> - Implement Nutmeg Industry Strategy - Aggressive replanting of fields damaged by the hurricane – over 4,500 acres; - Increased investment in the production of value added products such as nutmeg oil; - More aggressive marketing of nutmeg and mace including branding of Grenada’s nutmeg using Geographic Indications for the European Market; - Continued investment in quality assurance to maintain current high quality ratings and ensure compliance with the Unites States Food safety Modernization Act of 2010; - Resumption of work on the Nutmeg Wilt Disease 	GCNA MALFFE	EU Grenada of Standards ITC FAO
	b. Cocoa: <ul style="list-style-type: none"> - Aggressive rehabilitation of the over 5,000 acres damaged by the hurricane and still not yet in production - Development of Tech Packs for the efficient production of Cocoa and promote use of available technology to raise productivity to an average of 1,500 lbs dry cocoa per acre. - Branding of Grenada’s cocoa using Geographic Indicators; - Improved Marketing and the development and promotion of regional and international markets; - Increased investment in value added products and other niche products such as organic cocoa. 	GCA MALFFE	EU UWI
	c. Fruits <ul style="list-style-type: none"> - Prepare and secure financing for Integrated Soursop Industry Development Project - Provide support for increased production of targeted fruits: - Registration and certification of all exporters in compliance with the Fresh Produce Act and also all producers for export; - Train producers for export in the principles of Good Agricultural Practices and introduce a system for monitoring compliance; - Develop capacity of exporters and producers to meet the requirements of the US Food Safety Modernization Act - Market scan to establish compliance requirements for all of the focus crops in the targeted markets and development of protocols and procedures to consistently meet compliance requirement; - Conduct market research to identify and secure export market opportunities for value added fruit products; - Establishment of a Grenada Brand under which these and other local non-traditional products will be exported; - Provide support for producers such that they can develop and operate sustainable, profitable & competitive production enterprises; - Engagement of Grenada’s High Commissions, Consulates, and the Diaspora in initiatives to promote Grenada’s products in the markets that they serve; - Increased use of ICT and social media for export marketing; - Improved logistic management particularly in the areas on input supply, harvesting and field transportation, post-harvest management, value addition, transportation and air freight, and information management; - Enforcement of strict quarantine and quality control measures to prevent the introduction of notifiable pests, the export of contaminated products, compliance with importing requirements countries to which products are exported; - Conduct research to improve the production and post-harvest handling of the flagship products - Securing development financing for the development of the non-traditional agricultural exports - Monitor compliance of commercialized Government Estates with requirement to focus on exports. 	MNIB MALFFE	CARICOM FAO CARDI OECS Secretariat IICA WINFRESH

Strategic Objectives	Priority Actions	Lead Local Institution	Potential Implementing Partners
	<p>d. Other Crop Products</p> <ul style="list-style-type: none"> - Support initiatives for the increased production of the 'minor' spices for which there is currently unmet demand; - Government should continue to provide support for the Spice Research Project with support from the GCNA and other partners; - Conduct market research for the vegetables and root crops to properly identify the market opportunity and market requirements; - Develop tech packs for production, post-harvest handling, standard for grades, packaging for the exportable vegetables and root crops in compliance with market requirements - Train farmers producing for export in the technology required to meet market requirement. 	<p>MALFFE</p> <p>Minor Spices Cooperative</p>	<p>FAO</p> <p>IICA</p> <p>EU</p> <p>CAFAN</p>
	<p>e. Fish</p> <ul style="list-style-type: none"> - Implement the National Fisheries Policy for Grenada. - Enforcement of licensing of fishing vessels and registration of fishermen; - Support for capacity development of Fishermen's Association; - Ongoing training of fishermen in safety at sea measures; quality management and business. - Strengthen MCS capacity to reduce IUU; - Support for actions towards sustainable stewardship and conservation of resources in particular the development and management of MPA's; - Enforcement of adherence to quality management system for fish caught for export. - Support for the implementation of the Blue Growth Project 	<p>MALFFE</p>	<p>CRFM</p> <p>FAO</p> <p>JAICA</p> <p>EU</p>
2. Increase production & sales of targeted fruits, vegetables, root crops, herbs and minor spices for targeted domestic markets	<p>a. Fruits.</p> <ul style="list-style-type: none"> - Develop Tec packs for the efficient production of targeted fruits; bananas, Coconuts etc. - Improve the capacity of the MOA propagation stations to increase the quantity and quality of plants; - Pursue the establishment of a proper tissue culture facility to produce plants from tissue cultures; - Promote increased local consumption of fruits in order to spur demand; - Develop ITC based cost of production models for the establishment of different fruit tree crops; - Increase research in areas of plant selection to ensure that the best varieties are cultivated - Continue irrigation and water storage support for farmers and promotion of intercropping of fruit trees and vegetables <p>b. Vegetables/Roots & Tubers</p> <ul style="list-style-type: none"> - Work with Ministry of Health, GFNC, MNIB and other partners to conduct targeted marketing campaigns increase the per capita consumption of vegetables, roots & tubers; - Increase the use of Protected Agriculture to increase the consistency of supply and adapt to climate variability; - Increase production of Carrots to meet domestic demand; - Develop ITC based cost of production models for the establishment of different vegetables crops - Conduct targeted research in varietal selection to increase yields. <p>c. Herbs & Spices</p> <ul style="list-style-type: none"> - Reintroduce the production of onions; - Increase production of vanilla; - Conduct market research to determine the demand for ginger, turmeric - Increase production of ginger, turmeric and hot peppers for export 	<p>MNIB</p> <p>MALFFE</p> <p>Minor Spices Cooperatives</p>	<p>WINFRESH</p> <p>IICA</p> <p>CARDI</p>
3. Increase production of livestock for the domestic markets and bee and bee products for the domestic market and export	a. Development of a poultry policy;	MALFFE	FAO
	b. Removal of restrictions on the import of feed for livestock		
	c. Promote investment in centralized poultry processing facility and hatchery;	GAPP	IICA
	d. Promote investment to increase the production of broilers using modern technology		
	e. Promote investment in the increased production of pigs and in pork processing;	GAB	Chinese Agric. Mission'
	f. Promote investment in the increased production of rabbits;		

Strategic Objectives	Priority Actions	Lead Local Institution	Potential Implementing Partners
	<ul style="list-style-type: none"> g. Create small cluster groups in the parishes to produce poultry; h. Strengthen linkage hotels and poultry producers for purchases; i. Partner with GFNC to encourage increased consumption of FRESH meats particularly chicken j. Partner with Zero Hunger projects to directly assist the poor with poverty reduction (GAPP) k. Partner with Zero Hunger projects to directly assist the poor with poverty reduction (GAPP) l. Promote cut and carry fodder crop system for small ruminants m. Promote increased production of bees and bee products n. Development of Export market for bees and bee products 		SGU
4. Leverage opportunities in the tourism sector to strengthen the linkage between agriculture and tourism	<ul style="list-style-type: none"> a. Development of National Policy on Agro-tourism b. The inclusion of agro-tourism linkage clauses (local food purchasing) into concessions of Foreign Direct Investment (FDI) in the tourism industry c. Strengthen the agricultural sector's capacity to use modern food production methods and technology e.g. Green houses, irrigation systems, rainfall harvesting to improve food quality and consistency of food supply d. Add value to existing agro-tourism initiatives through combination of services e.g. Carriacou Maroon and String Band Festival e. Focus on relationship strengthening in existing agro-tourism trade models (hotel-farmer contracts) f. Offer opportunities to encourage hotel managers and chefs to utilize local foods into the cuisine offered by the hotels and restaurants g. Create joint venture and co-operatives to generate capital to finance the sub-sector and manage costs h. Strategic Partnership with IICA for agro-tourism development 	MALFFE GHTA GTA Min. Tourism	IICA World Bank
STRATEGIC FOCUS #2: ENHANCING NATIONAL FOOD SECURITY;			
1. Reduce dependence on food imports and imported staples in particular and increase availability of local fresh and fresh processed products.	<ul style="list-style-type: none"> a. Increase production and utilization of crops and other products that can be competitively produced in Grenada or used as substitutes for imported staples to reduce dependence on imports. b. Promote increased investment in irrigation for the production of salad fruits and shade houses with irrigation for the production of vegetables to improve year round availability. c. Implement measures to reduce post-harvest losses at the household level. 	MALFFE GFNC Min. Education	FAO CARICOM NGOs
2. Increase economic access to food by vulnerable persons and their capacity to address their food and nutrition needs.	<ul style="list-style-type: none"> a. Ensure that social safety nets (National cash and in-kind transfer programs) programs guarantee the 'Right to Food' for all vulnerable persons and groups and that those persons/communities are empowered to meet their food and nutrition requirements in the long term. b. Provide support for rural vulnerable families to establish home gardens if they have access to lands or assist them in getting access to lands for home gardening if they do not have and assist them in making arrangements for the marketing of their surplus through the MNIB and/or other private sector enterprises. The Zero Hunger Program can be used to promote this strategy. c. Train youths in systems that provide greater efficiency of input use/ technologies that augment/complement natural resources in production for example permaculture, precision agriculture, fertigation, aquaculture, etc. and provide them with resources to apply the training. d. Application of technologies and production systems to reduce the cost of production of local produce. 	Min. Health	
3. To improve the health status and wellbeing of the Grenadians through the consumption of nutritious and safe foods.	<ul style="list-style-type: none"> a. Strengthen the Primary Health Care Program b. Promote and support adherence WHO guidelines for infants, child feeding, and for young children and teens (2-18 years). c. Create greater awareness about the benefits of healthful diets through aggressive community and public awareness programs and knowledge awareness of the National Dietary Guidelines; 	MALFFE GFNC Min. Education	FAO CARICOM OECS

Strategic Objectives	Priority Actions	Lead Local Institution	Potential Implementing Partners
	d. Implement programs at the community level to improve access to potable water, good sanitation and waste disposal.	Min. Health	NGOs
STRATEGIC FOCUS #3: TO STRENGTHEN THE AGRICULTURAL SECTOR'S RESELLIENCE TO CLIMATE CHANGE AND NATURAL DISASTERS, REDUCE ITS ADVERSE IMPACT ON CLIMATE CHANGE AND THE ENVIRONMENT, AND ENSURE THAT DEVELOPMENT IS SOCIALLY, ECONOMICALLY, AND ENVIRONMENTALLY SUSTAINABLE			
1. Build climate resilience to avoid, prevent, or minimize climate change impacts on agriculture (including forestry and fisheries), the environment and biodiversity; improve preparedness for climate change impacts and extreme events; enhance the country's response capacity in case of extremes; and facilitate recovery from impacts and extremes	a. Strengthen public awareness campaign about climate change, the country's vulnerability and adaptation measures that can be taken to reduce vulnerability	MALFFE	GIZ UNDP UNEP World Bank CDB CARICOM 5Cs NGO's
	b. Promote sustainable agriculture practices. Strengthen promotion of and support for more efficient water management and conservation (water and soil) measures.	Min. Communications/ Works	
	c. Improve access to climate risk insurance for farmers and fisher folks	NADMA	
	d. Improve weather-related (drought and floods) information system, and monitoring and communication systems.	Min. Econ Dev	
	e. Increased technological options and solutions for production (including livestock) and post-harvest handling that offer resilience to climate change and disasters	Min. Finance	
	f. Develop response strategies to natural disasters and extreme weather events for the agricultural sector at the national, community and individual levels		
2. Reduce the impact of land based agriculture on climate change and the environment.	a. Preservation of current forestry protected areas.		
	b. Intensification of agroforestry systems using commercial tree crops and fruits to promote reforestation and achievement of its international targets.		
	c. Preservation of existing Marine Protected Areas (MPA's) and designation of additional MPA's;		
	d. Improving management of nitrogen fertilizer and pesticides use in production systems particularly those in watersheds that feed into MPA's		
	e. Develop system for data collection and tracking of greenhouse gas emissions from the agriculture sector		
	f. Public awareness program about the potential impact of agriculture on climate change, and the environment and mitigation and other actions to reduce impact		
3. Preserving and optimizing resources (Land, Sea, Genetic);	a. Develop and implement a land use policy and zoning of agricultural to ensure that use is optimized		
	b. Establish a National Agricultural land Bank;		
	c. Establish Inventory of Crown Lands and Policy to regularize transfer of Crown Lands;		
	d. Implement Grenada's Aligned National Action Plan (UNCCD)		
	e. Establish Cocoa and Nutmeg Germplasm Bank		
	f. Provide resources for the conservation of other crop varieties		
	g. Expansion of the Commercialization of Government Estates and enforcement of compliance criteria on commercialized estates		
	h. Develop program to incentive owners of large estates to invest in the development of the estates;		
	i. Implement program for the development of agriculture lands made more accessible by feeder roads;		
	j. Implement National Biosafety policy to regulate the use of GMO's		
	k. Implement Forestry Policy and Protected Areas System Plan;		
l. Strengthen the governance of marine resources			
STRATEGIC FOCUS #4 INVESTMENT FOR DEVELOPMENT OF THE INFRASTRUCTURE, PHYSICAL RESOURCES; RESEARCH AND DEVELOPMENT, NSTITUTIONAL AND HUMAN RESOURCE CAPACITY OF THE SECTOR			
1. Additional investments in economic infrastructure for increased contribution of the agricultural sector to economic growth, poverty alleviation and environmental sustainability.	a. Implementation of Phase three of the Agricultural Feeder Roads Rehabilitation Project (AFRP).	Min. Finance	Kuwaiti Fund
	b. Investment in additional Farm Roads in rural communities.	Min Econ Dev	CDB
	c. Investment in equipment to weigh produce for export at the Maurice Bishop Airport.	Min. Communications & Works	IFAD
	d. Public sector investment in upgrading the Tissue Culture & Plant Propagation Facilities.		
	e. Investment in the upgrading of the MNIB Packhouse facility for HAACP Certification.		

Strategic Objectives	Priority Actions	Lead Local Institution	Potential Implementing Partners
	<ul style="list-style-type: none"> f. Investment in the construction of at least one Wholesale Produce Market strategically located in one of the rural parishes. g. Support for investments in drainage to control runoff and conserve water, and in storage facilities in watersheds for irrigation. h. Support for the use of renewable energy (solar power) for operating irrigation pumps and processing i. Provide support for increased Private Sector Investment in production and value added through PPP's: (a) initiative to resuscitate the sugar cane Industry through PPP - an additional 500 acres is contemplated for producing raw materials for the production of specially blended rum for export; (b) production of soursop for export. 	<p>NAWASA</p> <p>Private Sector Investors</p>	
<p>2. Additional investments in institutional and human resource capacity development in the agricultural sector to improve governance and efficiency.</p>	<ul style="list-style-type: none"> a. Strengthen corporate governance of the MALFFE focusing on accountability, efficiency and good governance practices b. Strengthen the governance capacity of Commodity Boards/Statutory Bodies. c. Strengthen data and information management capacity of the MALFFE. d. Strengthen the capacity of the MALFFE to conduct adaptive research. e. Strengthen the plant quarantine and quality assurance capacity of the MALFFE and related institutions f. Training Extension Officers in Agri-Business Management g. Provide support for organizational capacity development for existing farmers, fisher folks, and other producer organizations. h. Provide support for institutional capacity development of the Grenada Federation of Agricultural and Fisheries Organization (GFAFO) i. Provide ongoing technical, management and leadership training for the staff of all institutions servicing the agricultural sector j. Promote the formation of additional commodity based producer groups and community organizations for producers involved in agriculture where gaps exist. 	<p>MALFFE</p>	<p>IICA</p> <p>FAO</p> <p>PRC</p> <p>CDB – BNTF</p> <p>Brazil</p> <p>Bi-lateral partners</p>
<p>3. Investment in upgrading agricultural research and development capacity</p>	<ul style="list-style-type: none"> a. Continued support for the Nutmeg Wilt Project. b. Continued support for the Spice Research Project. c. Research in the agronomy of soursop: Information on agronomy practices for soursop in areas such as fruiting, fertilizer response etc. is very limited. d. Research to support varietal selection of key export crops and crops with potential for increased export: these include but are not limited to soursop, coconuts, avocados, mangoes. e. Adaptive Research to select cultivars of vegetables suited to changing climatic conditions; f. Research into climate smart agricultural practices and impact of agricultural practices on the environment; g. Research in product development to develop value added products that offer greater convenience and extend the availability of seasonal fresh products; h. Research into pest and diseases affecting coconuts and other pests of economic importance. 	<p>MALFFE</p> <p>MNIB</p>	<p>CARDI</p> <p>FAO</p>
STRATEGIC FOCUS #5: TO FOSTER MUTUALLY BENEFICIAL PARTNERSHIPS WITH OUR REGIONAL COUNTERPARTS AND DEVELOPMENT PARTNERS			
<p>1. Achieve greater collaboration in regional and international trade for agricultural products.</p>	<ul style="list-style-type: none"> a. Implementation of trade protocol with Trinidad. b. Develop and continuously update official lists of produce permitted entry, restricted entry, and allowed conditional entry into the individual OECS and CARICOM Countries based on updated pest risk assessments c. Develop official Standards for Grades Produce for regional trade in agricultural produce d. Development of market/trade information service for the region; e. Harmonization of and standardization of Trade and Customs procedures f. Regularization of non-tariff restrictions (in addition to phytosanitary) on import of produce from and within the region e.g. license, etc. g. Regularization of legal and regulatory framework for inter-island shipping & trade; h. Establish cross-border production and marketing value chains. 	<p>MNIB</p> <p>MALFFE</p> <p>Min. Economic Dev.</p> <p>ECCB/ODTC</p>	<p>CARICOM</p> <p>OECS Secretariat</p>

Strategic Objectives	Priority Actions	Lead Local Institution	Potential Implementing Partners
	i. Support for Operationalization of the OECS Transportation and Distribution Company (OTC).		
2. Create framework for donor and development partner coordination in providing support for the agriculture sector.	a. Compliance with the Public Sector Investment Program (PSIP) regulations and project portfolio management operational procedures and the regulations governing the Public Finance Management (PFM);	Min. Econ. Dev.	FAO, IICA, GIZ, UNDP, CARDI,
	b. Ensure that the Country Framework Programs of Development Partners for Grenada are aligned to National Priorities;	MALFFE	
	c. Conduct quarterly review of project portfolio status with implementing entities;	Min. Econ. Dev	
	d. Develop a formal dialogue with development at least bi-annually.	Min. Econ. Dev	

2.6. Priority Commodities

The priority commodities in the NAP are summarized below.

Crops/Livestock		Utilization				CARICOM Thematic Groups	Cross Cutting
Grenada	CARICOM Priorities	Food/ Livelihood Security	Hotel Tourism	Export	Import Substitution		
Tree Crops							Climate Change & Natural Resource Management
	Cocoa			X		Business Dev.	
	Nutmeg & Mace			X		Business Dev.	
Fruits							
	Soursop	X	X	X		Business Dev/ AHFS/Res. & HRD	
	Mangoes	X	X	X		Business Dev/ AHFS/Res. & HRD	
	June Plums	X	X	X		Business Dev/ AHFS/Res. & HRD	
	Breadfruit	X	X	X		Business Dev/ AHFS/Res. & HRD	
	Bananas	X	X			Business Dev/ AHFS/Res. & HRD	
	Coconuts	X	X			Business Dev/ AHFS/Res. & HRD	
	Salad Fruits					Business Dev/ AHFS/Res. & HRD	
Root Crops		Root Crops					
	Dasheen	X	X	X		Business Dev.	
	Sweet Potatoes	X	X	X		Business Dev.	
	Yellow Yam	X	X	X		Business Dev.	
	Cassava	X			x	Business Dev.	
Vegetables							
	Lettuce	X	X			Business Dev.	
	Hot Peppers	X	X	x		Business Dev.	
	Carrots	X	X		X	Business Dev.	
	Onions	X	X		X	Business Dev.	
Herbs & Spices		Herbs & Spices					
	Cinnamon	X	X	x		Business Dev/ Res. & HRD	
	Cloves	X	X	x		Business Dev/ Res. & HRD	
	Ginger	X	X	x		Business Dev/ Res. & HRD	
	Turmeric	X	X	x		Business Dev/ Res. & HRD	
Fish							
	Tuna	X	X	x		Business Dev/ Res. & HRD	
	Lobsters		X	x		Business Dev/ Res. & HRD	
Livestock		Small Ruminants					
	Chicken	X	X		X	Business Development	
	Pigs	X	X		X	Business Development	
	Goats	X	X		X	Business Development	
	Sheep	X	X		X	Business Development	
	Bees/Honey	X	X	X	X	Business Development	
Forestry			X			Business Dev/ Res. & HRD	

3. THEMATIC ALIGNMENT OF THE NATIONAL AGRICULTURAL PLAN WITH CARICOM REGIONAL AGRICULTURAL POLICY & STRATEGY, THE KEY BINDING CONSTRAINTS & THE 2030 SUSTAINABLE DEVELOPMENT GOALS

The alignment of the National Strategic Focus areas and Strategic Objectives of the NAP with the CARICOM Agricultural Policy and Strategy Thematic Areas, the Jagdeo Key Binding Constraints and the Post 2015 Sustainable Development Goals are presented below.

Overall the plan is aligned to all 4 thematic areas, 6 of the 9 binding constraints and 12 of the 17 SDGs.

Strategic Focus Area	Strategic Objectives	Regional Thematic Alignment	Key Binding Constraint	SDG Goals
1: INCREASING AGRICULTURE CONTRIBUTION TO NATIONAL ECONOMIC GROWTH, EMPLOYMENT CREATION, POVERTY REDUCTION AND RURAL DEVELOPMENT;	1. Increase exports of traditional crops, fish, fruits, vegetables, root crops, minor spices, and value added products to international and regional markets.	Thematic Area 1: Business Development	5. Market Infrastructure/ Information Systems/ Linkages; 2. Outdated & inefficient AHFS; 9. Inadequate Transportation System	SDG 8
	2. Increase production & sales of targeted fruits, vegetables, root crops, herbs and minor spices for targeted domestic markets		5. Market Infrastructure/ Information Systems/ Linkages	SDG 8, 12
	3. Increase production of livestock for the domestic markets and bee and bee products for the domestic market and export		5. Market Infrastructure/ Information Systems/ Linkages; Inadequate Research & Development	SDG 8, 12
	4. Leverage opportunities in the tourism sector to strengthen the linkage between agriculture and tourism		5. Market Infrastructure/ Information Systems/ Linkages	SDG 8
2: ENHANCING NATIONAL FOOD SECURITY;	1. Reduce dependence on food imports and imported staples in particular and increase availability of local fresh and fresh processed products.	Thematic Area 4: Agricultural Health and Food Safety Systems	2. Outdated & Inefficient AHFS	SDG 1,2,3
	2. Increase economic access to food by vulnerable persons and their capacity to address their food and nutrition needs.			SDG 2,12
	3. To improve the health status and wellbeing of the Grenadians through the consumption of nutritious and safe foods.			SDG 3
3: TO STRENGTHEN THE AGRICULTURAL SECTOR'S RESELIENCE TO CLIMATE CHANGE AND NATURAL DISASTERS, REDUCE ITS ADVERSE IMPACT ON CLIMATE CHANGE AND THE ENVIRONMENT, AND ENSURE THAT DEVELOPMENT IS SOCIALLY, ECONOMICALLY, AND	1. Build climate resilience to avoid, prevent, or minimize climate change impacts on agriculture (including forestry and fisheries), the environment and biodiversity; improve preparedness for climate change impacts and extreme events; enhance the country's response capacity in case of extremes; and facilitate recovery from impacts and extremes	Thematic Area 2: Climate Change & Resource Management	4. Deficient & Uncoordinated Disaster Risk Management; 3. Inadequate Land & Water Resource Management & Distn Systems	SDG 6, 13
	2. Reduce the impact of land based agriculture on climate change and the environment.			SDG 13
	3. Preserving and optimizing			SDG 14, 15

Strategic Focus Area	Strategic Objectives	Regional Thematic Alignment	Key Binding Constraint	SDG Goals
ENVIRONMENTALLY SUSTAINABLE	resources (Land, Sea, Genetic);			
4:Investment for Development of the infrastructure; physical resources; research and development, institutional and human resource capacity of the sector;	1. Additional investments in economic infrastructure for increased contribution of the agricultural sector to economic growth, poverty alleviation and environmental sustainability.	Thematic Area 3: Research & Human Resource Development	1. Limited Financing & Inadequate Investment	SDG 9
	2. Additional investments in institutional and human resource capacity development in the agricultural sector to improve governance and efficiency.		7. Lack of Skills & HR in Agriculture	SDG 4
5:TO FOSTER MUTUALLY BENEFICIAL PARTNERSHIPS WITH OUR REGIONAL COUNTERPARTS AND DEVELOPMENT PARTNERS	1. Achieve greater collaboration in regional and international trade for agricultural products.	Thematic Area 1: Business Development	9. Inadequate Transportation systems	SDG 17
	2. Create framework for donor and development partner coordination in providing support for the agriculture sector.			SDG 17

4. IMPLEMENTATION MONITORING AND EVALUATION OF PLAN

Implementation Framework: Institutional responsibility for the implementation of the NAP is with the Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment. The Minister of the MALFFE will be obligated to report to Cabinet and Parliament on progress in the implementation of the Plan. It is expected that the NAP will be incorporated into the National Sustainable Development Plan 2030 (NSDP2030). The MALFFE through the Permanent Secretary will be expected to report to the monitoring Committee of the NSDP2030 on a monthly basis on progress in implementation. Reports to Cabinet will be submitted biannually.

Accountability for Implementation and Coordination: The Permanent Secretary MALFFE and Chief Agricultural Officer will be directly responsible for the monitoring and implementation of the NAP and will assign officers to ensure that the appropriate data and information for that purpose is collected and analysed.

Resource Allocation for Implementation: The Permanent Secretary will be charged with the responsibility of ensuring that the actions to be undertaken under the NAP meet the regulatory requirements of the Public Sector Investment Program (PSIP) and get incorporated in the National Budget.

Monitoring and Evaluation Framework:

Institutional Arrangements: A number of institutions and agencies, including the following, will be involved in the monitoring and evaluation framework for the NAP.

- 1) Cabinet: The NAP Annual Progress Report will be presented to the Cabinet for deliberations and discussion.
- 2) Social Partners: Quarterly progress report will be provided to the Social Partners;
- 3) Departments, Statutory Bodies, Support Organizations and Development Partners represent very important bodies within the implementation, monitoring and evaluation system. They are the Sectorial Focal Points that will provide data/information on a timely basis on the selected sector indicators, and be responsible for the timely preparation of sector reports that will feed into the NAP Progress Report.
- 4) A Thematic Working Group (TWG) aimed at providing multi-stakeholder participation in improving the coordination, planning, implementation and monitoring of programs and projects relevant to the NAP will be established;
- 5) The TWG will be chaired by Permanent Secretary MALFFE and shall comprise technical representatives of Support organizations, National Focal Points, the private sector, Civil Society Organizations and International Development Partners. The TWG will meet a minimum of twice annually.

The NAP will be reviewed annually by the TWG and recommendations for amendments submitted to Cabinet for approval.

Indicator Framework and Data Sources

A dashboard for the strategic objectives is presented below and will form the basis for monitoring performance.

Key macro indicators would include the following:

Indicator	Source(s) of verification
- Agriculture Contribution to Real GDP	Monthly National Statistics
- Sector Growth Rate	Monthly National Statistics
- Growth in Production & Exports (gross & by key commodities)	Monthly National Statistics
- Food Imports	Trade data
- Self-sufficiency Index	Trade & National Statistical data
- Employment generated	Annual Labour Force Survey
- Implementation status of actions	Feedback from Implementing Entities

Reporting:

Quarterly and annual progress reports will be prepared on the performance of the plan.

Implementation Matrix

The implementation matrix summarizes the key outcomes, indicators, targets, baseline (where available) and timeframe for each of the strategic objectives under the relevant focus area. Implementation will be guided by available resources (finance, human, physical) to a large extent. The time frames highlights the period during which the action should be completed. Annual targets can be set from the timelines in developing annual work plans.

Strategic Focus Area/ Objectives	Key Outcome(s)	Indicators	Targets	Base Line	Timeframe
Strategic Focus Area 1: Increasing Agriculture Contribution to National Economic Growth, Employment Creation, Poverty Reduction and Rural Development;	Agriculture Economic Contribution Increase	Increase in Real GDP	7% GDP	5.6% in 2014	10 Yrs.
	Poverty reduced in Rural Areas	Reduction in Poverty Index		37.7% 2008	10 yrs.
	Increased Employment in Sector	Increase in Employment			
1. Increase exports of traditional crops, fish, fruits, vegetables, root crops, minor spices, and value added products to international and regional markets.	<i>Nutmeg & Mace</i> - Increased Production: - Increased Exports	-Acreage under Production -Exports (Mts)	-Rehabilitate 2,500 acres; -Replant 1,000 acres (70,000 plants/yr.) -1,000 Mts/yr.	2,500 ac. 2012 500 Mts/2014	- 5 yrs. - 5 yrs. - 10 yrs.
	<i>Cocoa</i> - Increased Production: - Increased Exports	-Acreage under Production -Yield/acre -Exports (Mts)	5,000 acres (45,000 plants/yr.) -1,500 lbs dry/acre -1,000 Mts/yr.	-3,100 ac. 2012 -278 lbs (dry)/acre 2012 -400 Mts/2014	-10 yrs. -5yrs -10 yrs.
	<i>Other Crops</i> - Increased Production: - Increased Exports	<i>Soursop</i> -Acreage -Export (Mts)	-Plant 1,000 new acres - 5,000 Mts/yr.	110 acres 2012 -60Mt 2014	-10 yrs. -10 yrs.
		<i>Other Export Crops</i> -Acreage Export (Mts)	-100 new acres planted -1,000 Mts/yr.	-390 acres 2012 -193 Mts/yr.	-5 yrs. 10 yrs.
	<i>Fish</i> - Increased Exports	Export (Lbs)	2.5% increase (lbs)/year	960 Mts 2014	Annually
	2. Increase production & sales of targeted fruits, vegetables, root crops, herbs and minor spices for targeted domestic markets	-Increased consumption of F&V	Per Capita Consumption	Fruits: 60Kg/Capita/yr. Veg:100kg/Capita/Yr	Fruits:55Kg/Capita/yr. Veg: 41 kg/Capita/Yr
-Increased production		Production lbs	2.5% incr/yr.	Not available	Annually
-Reduced F&V imports		F&V Imports	2.5% decr/yr.	822 Mts:2014	Annually
3. Increase production of livestock for the domestic markets and bee and bee products for the domestic market and export	<i>Livestock</i> - Increased Production: - Reduced Imports	-Production: Chicken/ Small ruminants -Meat Imports	25% reduction	7,000 Mts/yr.	5 yrs.
	4. Leverage opportunities in the tourism sector to strengthen the linkage between agriculture and tourism	- Increased sales of local produce and meats to hotels and restaurants;	Purchases of local produce by hotels and restaurants and other agro-	25% increase	Not available

Strategic Focus Area/ Objectives	Key Outcome(s)	Indicators	Targets	Base Line	Timeframe
		tourism segment			
	- Reduced imports of fruits and vegetables by the hotel sector;	Import of high value fruits & vegetables	25% reduction	Not available	5 yrs.
	- Increased production of local produce and more consistency in supply;	Production	2.5% incr/yr.	Not available	Annually
	- Increased demand for local produce on the domestic market;	Domestic Sales	2.5% incr/yr.	Not available	Annually
	- Producers securing supply contracts with hotels, restaurants and supermarkets;	Contracts awarded to producers	>25% of farmers supplying hotels have contracts.	Not available	5 yrs.
Strategic Focus Area 2: Enhancing National Food Security;					
1. Reduce dependence on food imports and imported staples in particular and increase availability of local fresh and fresh processed products.	Reduced dependence on imports for food supply;	Self-sufficiency index	50% local	30% local	5 yrs.
	Improved availability of salad fruits, vegetables and root crops.	%age of arable land equipped for irrigation	2.5% of acreage under irrigation	1.5% 2013	5 yrs.
2. Increase economic access to food by vulnerable persons and their capacity to address their food and nutrition needs.	Improved access to nutritional foods by vulnerable persons;	Domestic food price index			
	Reduction in the numbers of persons/households requiring social safety net assistance;	% Population below minimum level of dietary energy consumption	50% reduction	17.9% of population 2011	5 yrs.
	Greater stability in the price of local produce.	Food Price Index	Max. 1% Incr./Annum	117 compared to 108 all products: 2014	Annually
3. To improve the health status and wellbeing of the Grenadians through the consumption of nutritious and safe foods.	Nutritional status of the population improved	% of children <5 years affected by wasting, stunted, or underweight % adults underweight or obese	50% reduction	7.3%-wasting; .9 % -stunting; 2.69 % overweight.	5 yrs.
	Reduction of the disease burden. Incidence of non-communicable diseases, and water and nutrition related diseases reduced.	Prevalence of anaemia among pregnant women & children <5 yrs. Prevalence of Vit. A & Iodine deficiency	50% reduction	Anaemia: 43.7% Children<5 yrs.	5 yrs.
	More households have in-door access to potable water and sanitation facilities;	Access to improved water sources & sanitation facilities	50% reduction	-26% without indoor potable water -38.2 without in-door sanitation facilities (2011)	5 yrs.
Strategic Focus 3: To strengthen the agricultural sector's resilience to climate change and natural disasters, reduce its adverse impact on climate change and the environment, and ensure that development is socially, economically, and environmentally sustainable					
1. Build climate resilience to avoid, prevent, or minimize climate change impacts on agriculture (including forestry and fisheries), the environment and biodiversity; improve preparedness for climate change impacts and extreme events; enhance the country's response capacity in case of extremes; and facilitate recovery from impacts and extremes	Climate & disaster proofing of all Public investments in the sector.	Investments Climate/ Disaster Proofed using CCORAL	All major projects climate/ disaster proofed	Preliminary assessment done for 2015	Starting 2016
	Reduced vulnerability to climate change and enhanced adaptive capacity;	Coordination on climate change measures and activities across relevant actors	Training of Public Officers & Communities in use of CCORAL	Process started under the ICAS Project	Already started
	Reduced damage and losses from	Implementation of sustainable	Increased acreage	Not available	10 yrs.

Strategic Focus Area/ Objectives	Key Outcome(s)	Indicators	Targets	Base Line	Timeframe
	natural disasters and extreme weather events through enhanced response capacity.	agriculture practices	under permaculture and organic farming		
	Improved preparedness natural disasters and extreme weather events and availability of risk management tools	Changes in the country's GAIN Ranking, and Vulnerability and Adaptive Index	Increase Readiness index to 0.65	GAIN 58 (57.7) Vulnerability 0.425 Readiness 0.580 (2013)	5 yrs.
2. Reduce the impact of land based agriculture on climate change and the environment.	Achievement of international commitments to forestry development and protection of marine coastal areas;	Carbon sequestration from forest and agro-forest areas;	Grenada has a National obligation to protect 17% of its terrestrial area under the COBD diversity. Additionally, as part of the CCI Grenada pledged to protect 20% of its terrestrial area.	Grenada currently has 3,900 hectares of forest protected, a total of 11% of its forested area, an equivalent of 1344,141 tCO2	10 yrs.
	Reduced pollution of MPA's from land based agricultural activities;	Nitrogen content and level of pollution of MPA's;	To be established	Not available	5 yrs.
	Greater public awareness about the impact of agriculture on climate change and the environment.	Acreage under forest and MPA's	In line with international commitments	.	10 yrs.
3. Preserving and optimizing resources (Land, Sea, Genetic);	Sustainability of ecosystems and livelihoods;	Reduction of the rate of decline of lands available for agriculture and in the percentage of available lands in production	Increase acreage under permanent & temporary crops to 12, 000 acres	- 9,779 acres permanent crops/ 1,105 under temp. crops: 2012: 51% & 17% decline compared to 1995; -2,500 acres agric lands not utilized	10 yrs.
	Use of lands regulated in a manner that will preserve lands for agricultural purposes;				
	Increased utilization of agricultural lands for production purposes;	Increase in acreage under production and in production output from previously abandoned or underutilized land	90% reduction in un utilized lands; No further loss in acreage	11% of agriculture lands un utilized	10 yrs.
	Better coordinated physical development particularly in rural areas;	Improved human settlements and coordinated physical development for urban and rural areas	% of Crown lands entered in database	Computerize at least 25% of records by 2015; 35% by 2016; 40% by 2017	5 yrs.
	Improved land tenure situation and reduction in the amount of squatters;	% increase of households having tenure on lands	To be developed	To be developed	5 yrs.
	Increased production;	Production increase	2.5% per yr.	Not available	Annually
	Reduced loss of genetic biodiversity and availability of indigenous gene pool for research and development purposes.	Number of plant varieties preserved and available;	To be developed	Not available	5yrs
Strategic Focus 4: Investment for the Development of the infrastructure; Physical Resources; Research and Development, Institutional and Human Resource capacity of the sector;					

Strategic Focus Area/ Objectives	Key Outcome(s)	Indicators	Targets	Base Line	Timeframe
1. Additional investments in economic infrastructure for increased contribution of the agricultural sector to economic growth, poverty alleviation and environmental sustainability.	Improved infrastructure for production, quality management and marketing;	Number of investments successfully implemented;	All investments implemented	Project proposals prepared	5 yrs.
	Increased production, improved production efficiency and quality of products, and better access to local and international markets.	Increases in production and sales as a result of investments.	To be determined	Not available	10 yrs.
2. Additional investments in institutional and human resource capacity development in the agricultural sector to improve governance and efficiency.	Improved efficiency in the delivery of services	Capacity development actions undertaken;	All staff trained	Not available	10 yrs.
	Better quality of information available for policy formulation and decision making;	Number of persons trained Development assistance secured.		Not available	10 yrs.
	Improved contribution of stakeholders to policy evaluation and formulation	Stakeholders Support for Development Programs	To be developed	To be developed	1 yr.
	Improved production and marketing efficiency in the agricultural sector.	Increased domestic and export sales	>2.5% per yr.	To be developed	1 yr.
	Improved access to development assistance.	Financing secured for development projects		Not available	
3. Investment in upgrading agricultural research and development capacity	Reduced loss of plants due to disease	Tree losses due to nutmeg wilt disease	To be developed	To be developed	5 yrs.
	Increased production of value added products;	New crop varieties identified and value added products developed	To be developed	To be developed	5 yrs.
	Increased productivity	Yield per acre of targeted crop	To be developed	To be developed	5 yrs.
Strategic Focus 5: To Foster Mutually Beneficial Partnerships With Our Regional Counterparts And Development Partners					
1. Achieve greater collaboration in regional and international trade for agricultural products.	Increased regional and international trade;	Level of regional and international trade and trade balance;	Reduce Import/Export ratio to 6:4 in favour of CARICOM	Import/Export ratio with CARICOM 9:1 in favour of CARICOM (Excl ECCU)	10 yrs.
	Transparent market entry, customs and trade procedures within the region;	Actions taken to remove impediments to trade.	Removal of all impediments		5 yrs.
	Development of trans-border value chains.	Formal Value Chains established	At least 4 value chains developed	-Value Chain for Soursop with Trinidad established (Munchkin) -MNIB exploring value chains for value added products with Trinidad	5 yrs.
	Improved inter regional transportation services.	ODTC Operationalized	Start-up of operations	ODTC already incorporated	Max. 2 yrs.
2. Create framework for donor and development partner coordination in providing support for the agriculture sector.	Improved utilization of development financing;	Improvements in project implementation;	At least 80% implementation rate	To be established	Max. 2 yrs.
	Improved collaboration among development partners in the	Improved allocation of development financing	Minimum of 1ne donor coordination	None currently	1 yr.

Strategic Focus Area/ Objectives	Key Outcome(s)	Indicators	Targets	Base Line	Timeframe
	implementation of priority projects;		session per yr. to review portfolio		
	Improved monitoring and evaluation of projects under implementation.	Project portfolio review	At least one portfolio review with indiv. Implementing Entities per yr.	Currently initiated by development Partners	1 yr.

5. ANNEXES

5.1. Terms of Reference

Terms of Reference: Consultancy to Strengthen National Agricultural Plans

Title: National Agricultural Plan Consultant

Duration of Assignment: 3 months

Duty Station: The duty station of the consultant will be home country of the expert.

Objective: The main objective of the consultancy is to provide guidance and support to the Government of Grenada through the Ministry of Agriculture, Forestry and Fisheries for the purpose of preparing a National Agriculture Plan

Scope of Work and Expected Outputs: The Consultant would be responsible for identifying and assessing, in consultation with appropriate personnel and organizations, past and current policies, plans and strategies that would inform the drafting of a National Agriculture Plan of Grenada. This would include:

- 1) Rehabilitation/Revitalization of Agriculture Sector in the Aftermath of Hurricane Ivan
- 2) Fisheries Policy
- 3) Grenada Food and Nutrition Security Policy
- 4) Grenada Food and Nutrition Security Action Plan
- 5) Grenada Food and Nutrition Situational Analysis
- 6) Ministry Of Agriculture, Forestry And Fisheries National Stakeholders Consultation And Strategic Planning Retreat
- 7) Modernizing Agriculture in Grenada: A National Policy and Strategy
- 8) Relevant components of recent manifestos
- 9) National Strategic Plan 2007-2017
- 10) National Strategic Plan 2015-2017 (review of strategic plan for 2007-2017)
- 11) Poverty Reduction and Growth Strategy
- 12) Strategic Plan for Agriculture
- 13) National Export Strategy
- 14) Comprehensive Review of National Agricultural Plan
- 15) Series of documents/strategies of various Sub-sectors in agriculture
- 16) Corporate Strategic Plan
- 17) CARICOM Community Agriculture Policy (CAP)
- 18) RFNSP
- 19) COTED and related documents outlining the establishment and functioning of the four Thematic Groups responsible for coordinating and monitoring Regional agricultural policy.

The above mentioned documents are placed in no particular order and are not exhaustive.

The expected output would be a concise National Agricultural Plan that is consistent with Grenada's vision for the development of its agricultural sector and is aligned to the Regional agricultural policy framework.

The plan must take into account the developing and/or existing linkages between agriculture and tourism, agriculture and health, and agriculture and the environment as well as national initiative(s) in utilization of cassava as an input in bread, and the development of the soursop, coconut, coco and nutmeg sub-sectors.

With respect to Regional initiatives, the plan must provide a structured approach to capture the national initiatives under the four thematic areas that have been endorsed by the COTED to address the removal/alleviation of constraints to agriculture as well as incorporate national actions that will embrace the regional programs for the three priority commodities (roots and tubers, small ruminants and herbs and spices)

The Consultant shall place strong emphasis on organizing the material in the final output in an easily discernible manner, that will allow for simple and effective methodology for providing ongoing updates on the :

Activities and initiatives undertaken in the four thematic areas and for the development of the three regional priority commodities, and the framework for monitoring performance of these deliverables against Objectively Verifiable Indicators.

5.2. List of Stakeholders attended Consultation

CONSULTATION ON THE NATIONAL AGRICULTURE PLAN, PRODUCE CHEMIST LAB: July 16, 2015

NO.	NAME	ORGANISATION/ MINISTRY	TELEPHONE CONTACT	E-MAIL ADDRESS
1.	Mr. Randolph Shears	Extension Division, Ministry of Agriculture	440-3078 / 417-3179	shearsrandolph@gmail.com
2.	Mr. Dereck Charles	IICA	440-5547	Derek.charles@iica.int
3.	Dr. Clement Jackson	Ministry of Finance	416-7873	Macroplannergrenada@gmail.com
4.	Ms. Jennifer Alexis	Ethical Ideas		eticalideas@gmail.com
6.	Mr. Michael Church Jr.	Ministry of Agriculture	405-5492	Makanac23@yahoo.com
7.	Senator Keith Clouden	Senator for Agriculture		kjclouden@yahoo.com
8.	Dr. Dunstan Campbell	Grenada Federation of Agricultural and Fisheries Organization (GFAFO)	405-7029	dunstanac@yahoo.com
9.	Mr. Rickie Morain	Ministry of Agriculture	404-3453	rickiem@hotmail.com
10.	Mr. Gregory Delsol	Ministry of Agriculture	410-4226	Gtreqorypde/sei@gmail.com
11.	Mr. Joshua Lewis	Grenada Association of Poultry Farmers	534-6179	Gappas21@hotmail.com
12.	Mr. Evans Gooding	NEFO	414-7884	goodingevans@yahoo.com
13.	Mr. Erwin Henry	PCL/MOA	4562420	Erwinhen060@hotmail.com
14.	Mr. George Phillip	Extension Division, Ministry of Agriculture	440-2708 / 417-3180	Gphillip86@hotmail.com
15.	Ms. Eva Wwuttges	GIZ< Ministry of Agriculture	419-8000	evawutge@giz.de
16.	Mr. Fitzroy James	Ministry of Economic Development, Planning, Trade, Cooperatives and International Business	435-8889 / 415-0165	fitzroyjames@gmail.com
17.	Ms. Ivy Bain	Ministry of Economic Development, Planning, Trade, Cooperatives and International Business	435-8889	ivy.bain@gov.gd

5.3. List of Stakeholders provided with draft Plan and for review & invited to consultation

Name	Organization
Mr. Andrew Hastick	General Manager GCA
Ms. Beatrice Andrews	MNIB

Name	Organization
Mr. Byron Campbell	Programme Manager - MAREP
Mr. Colville Hercules	MNIB
Mr. Curtis Baptiste	Sunset Enterprises Ltd
Mr. Daniel Lewis	Chief Agricultural Officer MALFFE
Ms. Denyse Ogilvie	People in Action (NGO)
Mr. Derek Charles	IICA
Mr. Dr. Dunstan Campbell	Private Consultant
Mr. Dr. Clement Jackson	Policy Advisor - Ministry of Finance
Mr. Dr. Malachy Dottin	MALFFE
Ms. Eva GIZ GD Wuttge	GIZ
Mr. Evan Gooding	North East Farmers Organization
Mr. General Manager Nutmeg Association	
Ms. Ivy Bain	Min. Economic Development
Ms. Jennifer Alexis	Project Officer: Min. Economic Development
Mr. Justin Rennie	Fisheries Dept. MALFFE
Mr. Kelly Patrick	MALFFE
Ms. Merina Jessamy	PS, MALFFE
Mr. Michael A. Baptiste	Policy Advisor - Ministry of Finance
Mr. Michael Church	MALFFE
Mr. Milton Gabriel	Minor Spices Cooperatives
Mr. Mr. Bowen Louison	Livestock Department - MALFFE
Mr. Mr. Gregory Delsol	Planning Officer MALFFE
Mr. Mr. Joshua Lewis	Grenada Poultry Association
Mr. Ntaba Francis	GIZ
Mr. Randolph Shears	Extension Dept., MALFFE
Mr. Roderick St Clair	Marketing Officer, MNIB
Mr. Roland Baldeo	Fisheries Dept., MALFFE
Mr. Ruel Edwards	CEO MNIB
Mr. Senator Keith Clouden	Senator for Agriculture
Mr. Steve Maximay	Private Consultant
Ms. Subina Andrews	MAREP
Mr. Titus Antoine	Project Officer: Min. Economic Development
Mr. Trevor Thompson	MALFFE

5.4. Input from Stakeholders

Presentation of the National Agriculture Plan
Produce Chemist Laboratory, July 16th, 2015
Input from Stakeholders

The following are the observations, comments, suggestions, recommendations and questions which emanated from the presentation:

1. The # of registered farmers was corrected to about 6,078 by the MALFFE representative.
2. The definition of the word “farmer” is critical: There should be a distinction between a commercial farmer and subsistence farmer.
3. Investments in farm roads was contributing to loss of agriculture lands to human settlement or real estate. Measures should be put in place to reduce this
4. To address the issue of small size of farms in terms of acreage, the resources of small farmers should be pooled to capture the market. An example given was that of the GCNA who have used that method.
5. The contribution of the Agro processors to the economy was significant (EC\$10.6 m dollars) and it was noted that they are an important sector.
6. Concerns were raised with regard to the insufficient use of the technique of macotting instead of seedlings to produce nutmeg plants. An example given was that of one farmer who had purchased 6000 nutmegs plants over a period of time and got only 150 females.
7. The increased use of organics was encouraged. Persons felt that the importation of fertilizers from other countries was ruining our soil.
8. Concern was raised that the “cut and carry” technology from CARDI had been lost.
9. Ministry of Agriculture should channel all its resources into the larger farmers, while the NGOs should target small farmers.
10. Care should be taken when linking commercial agriculture with food security.
11. It was noted that the reduction in annual rainfall has affected crop production.
12. It was noted that a significant amount of farmers have acreage that are abandoned and one of the contributing factors noted was the unavailability of agricultural labour.
13. Under sustainable development goals: Persons noted that gender is a big issue in agriculture.
14. Concerns were raised with regard to persons coming into the country as experts and using our technology. The preservation of our genetic stock was of concern.
15. Clarity was sought on whether or not the plan will highlight a recommendation to ban GMOs. Persons felt that farmers will not resist the banning of GMOs. It was noted that GMOs threatened our food security.
16. The need to lobby for an Agriculture Bank.
17. There should be an increased use of ICT in terms of advance information which impacts on our livelihood. There is a need for a platform for having timely data and proper forecasting which will increase productivity.
18. Concerns was raised as to who will monitor such a platform.
19. Concerns were raised with regard to the heavy chemicalization of our agricultural products

Presentation of the National Agriculture Plan
Produce Chemist Laboratory, July 16th, 2015
Input from Stakeholders

20. The following items have been recommended to be added under opportunities in agriculture – increase commercial production of non-commercial crops:
Seasoning Peppers
Root crops to include: Sweet Potatoes – for domestic market and export
Cassava, Yams, Ginger and Turmeric for the domestic market
21. The idea of zoning is important.
22. The need for a small processing plant that will assist Poultry Farmers to cut up their chicken into parts (similar to the external markets) to attract more of the local consumers. Secondary processing within the Poultry Industry to be highlighted in the plan.
23. The need to look at the pig breeding stock in the country.
24. The need to look at the natural resource and watershed management in the country.
25. The need for a search and rescue mechanism for fisher folks when they are in trouble.
26. Concerns were raised with regard to the threat to fishermen by neighbouring countries who are also fishing in our waters. There is a need to preserve our fish stock.
27. The need to link the priorities to the actions.
28. The need to strengthen our quarantine
29. GIZ offered to assist in climate proofing the document (The PLAN).
30. There is a need for a comprehensive Disaster Management Plan. GIZ has agreed to assist in that regard.
31. Clarity was sought on how “Crop Insurance’ fits into the Plan.
32. There is a need for a Seed Bank
33. There is a need to find an alternative to Pesticides.
34. The maintenance of a “Gene Bank” should be included.
35. It was noted that the Ministry of Agriculture has serious problems in terms of a succession plan.
36. There should be a programme with different actions for the Nutmeg Sector
37. Under Action Plans – Nutmeg and Mace - change “continued work” on the Nutmeg Wilt Disease to “resumption of work” on the Nutmeg Wilt Disease;
38. There is a need to look at how policy affects what we do to include differentiated policies that affects agriculture. The “three I’s” namely Information, Infrastructure and Institution should be taken into consideration.
39. There is a need to consider the laws and how it affects us. e.g. Praedial larceny
40. There is a need to look at product and product development in terms of capacity and innovation; agro processing etc.
41. There is a need for the coordination and functions of the different institutions e.g. the Bureau of Standards, CARDI, IICA etc.

5.5. Annex 6.3 Tables

Table 6.1: Changes in the acreage available for agriculture and # of farms (1995 & 2012 GAC)

Item	1961	1975	1981	1995	2012
Acres ('000)	60.2	46.6	34.2	31.2	23.60
% Change		-23%	-27%	-9%	-24%
# Farms ('000)	15.3	12.6	8.2	11.9	9.30
% Change		-18%	-35%	45%	-22%
Farm Size (acres)	3.93	3.70	4.17	2.62	2.54
% Change		-6%	13%	-37%	-3%

Table 2: Changes in distribution of acreage under agriculture by land use (1999 & 2012 GAC)

ITEM	2012 GAC		1995 GAC		% Change
	Acres	%	Acres	% Total	
Permanent Crops	9,779	43%	19,810	64%	-51%
Forest/Bush	8,652	38%	6,562	21%	32%
Fallow	1,483	7%	852	3%	74%
Temporary Crops	1,105	5%	1,338	4%	-17%
Non Agricultural	1,058	5%	1,277	4%	-17%
Pastures	589	3%	1,338	4%	-56%
Livestock	115	1%		0%	
Grand Total	22,781	100%	31,177	100%	-27%

Table 6.3: Self Sufficiency Index by Product Category

Food Product Category	% Total Supply	Self Sufficiency Index
Cocoa & Preps	0.50%	135
Fish etc.	2.80%	116
Coffee, Tea, Spices	-0.30%	116
Fruits	6.70%	96
Milling Products	11.70%	94
Vegetables, Roots etc.	5.70%	50
Dairy Products	3.80%	18
Meat & Edible Offal	10.00%	15
Cereals	37.80%	0
Sugar & Confectionary	7.30%	0
Oil Seed Etc.	4.50%	0
Veg/Fruit Prep	2.90%	0
Cereal, Flour, Milk Prep	2.30%	0
Fats & Oil	1.80%	0
Misc. Edible Prep	1.40%	0
Meat/Fish Prep	1.00%	0
Prod Animal Origin	0.10%	0
Live Animals	0.00%	0
Total	100.00%	26

Main Imports by Product Category – 2013

Category of Imports	EC\$M2013	% Imports
Meats	\$31.60	27.2%
Cereals	\$22.59	19.5%
Dairy	\$15.54	13.4%
Cereal Preparations	\$7.49	6.5%
Misc. Edible Preps	\$7.01	6.0%
Meats, Fish & Sea Food Preps	\$5.30	4.6%
Animal & Veg Fats & Oils	\$5.12	4.4%
Veg, Fruits, Prep	\$5.08	4.4%
Fish	\$4.86	4.2%
Sugar & Sugar Confectionary	\$3.72	3.2%
Milling Products	\$1.63	1.4%
Vegetables	\$1.54	1.3%
Edible Roots & Tubers	\$1.11	1.0%
Live Animals	\$0.92	0.8%
Cocoa & Cocoa Preparations	\$0.68	0.6%
Fruits	\$0.68	0.6%
Oil Seeds etc.	\$0.50	0.4%
Coffee	\$0.25	0.2%
Spices	\$0.17	0.1%
Vegetable Plaiting Materials	\$0.12	0.1%
Tea	\$0.09	0.1%
Lac, Gums etc.	\$0.06	0.1%
Prods of Animal Origin NES	\$0.02	0.0%
Roots & Tubers	\$0.01	0.0%
	\$116.11	100.0%

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