

DRAFT #3 of 2007

**THE FOOD AND NUTRITION POLICY AND
PLAN OF ACTION FOR GRENADA**

December 2007

THE FOOD AND NUTRITION POLICY AND PLAN OF ACTION FOR GRENADA

prepared by

THE GRENADA FOOD AND NUTRITION COUNCIL

with technical support from

The Caribbean Food and Nutrition Institute
Pan American Sanitary Bureau, Regional
Office of the Pan American Health Organization

December, 2007

TABLE OF CONTENTS

	<i>Page</i>
ACRONYMS	v
EXECUTIVE SUMMARY	vii
1. INTRODUCTION	1
1.1. Location and Size	2
1.2. Socioeconomic Situation	2
1.3. Status of Women	5
1.4. Food and Nutrition Policy Imperative	7
2. NUTRITION AND HEALTH STATUS	9
2.1. General Health Conditions	10
2.2. Infants and Young Children	10
2.3. School Age Children	13
2.4. Pregnant and Lactating Women	13
2.5. Adults and the Elderly	14
2.6. Other Socially Depressed Groups	16
2.7. Physical Exercise	16
3. FOOD AVAILABILITY, HOUSEHOLD ACCESS AND SAFETY	17
3.1. Food Availability	18
3.2. Factors Affecting Food Availability	21
3.3. Household Access	25
3.4. Agro-processing	26
3.5. Food Quality and Safety	27
4. REVIEW OF CURRENT POLICIES PROGRAMMES	29
4.1. Macro Economic Policies	30
4.2. Education Policies and Programmes	34
4.3. School Feeding Programme	36
4.4. Agricultural Policies and Programmes	37
4.5. Food and Water Quality and Safety Programmes... ..	45
4.6. Health Policies and Programmes	46

5.	ISSUES TO BE ADDRESSED	...	...	...	...	...	52
6.	PROPOSED POLICIES AND PROGRAMMES	...	...	...	...	...	56
6.1.	Promotion of Healthy Lifestyles	...	...	...	...	...	58
6.2.	Prevention and Control of Micronutrient Deficiencies	...	...	...	...	...	59
6.3.	Prevention and Control of Macronutrient Deficiencies	...	...	...	...	...	60
6.4.	Protecting Consumers Through Improved Food Quality and Safety	...	...	...	...	...	60
6.5.	Caring for the Socially Vulnerable Groups	...	...	...	...	...	61
6.6.	Food and Nutrition Surveillance	...	...	...	...	...	62
6.7.	Household Food Security	...	...	...	...	...	62
6.8.	Incorporating Nutrition Objectives into the National Development Plan	...	...	...	...	...	65
7.	PLAN OF ACTION	...	...	...	...	...	66
7.1	Goal	...	...	...	...	...	67
7.2	Projects and Action Plans	...	...	...	...	...	67
8.	IMPLEMENTATION AND COORDINATION	...	...	...	...	...	80

ACRONYMS

AEDP -	-	Agricultural Enterprise Development Programme
AIDS	—	Acquired Immune Deficiency Syndrome
ALES	-	Automated Land Evaluation System
ART	-	Agency for Rural Transformation
CAMID	-	Caribbean Agribusiness Marketing Intelligence and Development Network
CARDI	-	Caribbean Agricultural Research and Development Institute
CARICOM	—	Caribbean Community
CET	-	Common External Tariff
CFNI	-	Caribbean Food and Nutrition Institute
CHP	-	Community Health Promotion
CNCD	-	Chronic Non-communicable nutrition-related diseases
CNEP	-	Community Nutrition Education Programme
CSE	-	Customer Service Charge
CSO	-	Central Statistical Office
CXC	-	Caribbean Examination Council
EC	-	Eastern Caribbean
EHD	-	Environmental Health Department
EHO	-	Environmental Health Officer
EU	-	European Union
FACE	-	Foundation for Adult & Continuing Education
FAO	-	Food and Agricultural Organization
FSP	—	Food Security Programme
GCA	-	Grenada Consumer Association
GCNA	-	Grenada Co-operative Nutmeg Association
GCT	-	General Consumer Tax
GDB	-	Grenada Development Bank
GDP	—	Gross Domestic Product
GFNC	-	Grenada Food and Nutrition Council

GIDC	-	Grenada Industrial Development Corporation
GLIS	-	Grenada Land Information System
HACCP	-	Hazard Analysis Critical Control Point
HDI	-	United Nations Human Development Index
HFLE	-	Health and Family Life Education
HIV	–	Human Immunodeficiency Virus
IDC	-	Industrial Development Corporation
IICA	-	Inter-American Institute for Corporation on Agriculture
ISP	-	Income Security Programme
LMO	-	Living Modified Organisms
LRIS	-	Land Resources Information System
MNIB	-	Marketing and National Importing Board
MOA	–	Ministry of Agriculture
MOH	–	Ministry of Health
MPLF	-	Micro Project Fund Facility
NAHFSA	-	National Agricultural Health and Food Safety Agency
NAWASA	-	National Water and Sewage Authority
NCDs	-	Non-Communicable Diseases
NGO	–	Non Governmental Organization
NPAN	-	National Plan of Action on Nutrition
PAHO	–	Pan American Health Organization
PAM	-	Programme For Adolescent Mothers
PC	-	Port Charges
PEM	-	Protein Energy Malnutrition
PHN	-	Public Health Nurse
PLWHA	–	Persons Living with HIV/AIDS
RDA	-	Recommended Daily Allowances
WHO	–	World Health Organization
WTO	-	World Trade Organization

EXECUTIVE SUMMARY

Grenada, an independent State with an estimated population for 2006 of 106,635 persons and an area of 133 square miles, is heavily dependent on tourism and agriculture as the engines of economic growth. High unemployment and high food prices have mitigated against several households being able to earn incomes and procure foods to meet their nutritional requirements. This is especially so for female-headed households leading to a cycle of poverty from one generation to another. Approximately 30-35% of the population can be regarded as living below the poverty line. This inequity in the distribution of resources has contributed to varying food and nutritional health conditions of households. Over the past thirty years there has been an improvement in the nutritional health of children under five years of age. However, anaemia remains an intractable public health problem declining only slightly after the complete fortification of wheat flour with iron. At the same time diseases of the heart including ischaemic heart disease, malignant neoplasms and cerebrovascular disease are principal causes of mortality. Although the incidence of food borne diseases is not a major problem there are seasonal and sporadic occurrences.

An assessment of food availability profile up to 2002 indicated that: total food caloric availability (calories/caput/day) has been increasing and is on average 27% above Recommended Daily Allowance (RDA); the macronutrients (carbohydrates, protein, fats) together with fruits and vegetables and sweeteners have been increasing and are all above RDA. The supply of staples (cereals plus starchy roots) has been increasing but is on the decline from 2000. The total supply is lower than the RDA. This large excess of energy and fat availability observed is a predisposing factor in the development of obesity and its associated chronic non-communicable nutrition-related diseases (CNCD) - diabetes, hypertension, stroke and some cancers to name a few. On the positive side, the adequate availability of fruits and vegetables augurs well for good nutrition and every effort must be made to make these foods accessible to the population at all times while at the same time restructuring the energy and nutrients availability profile to reflect more desirable nutrient goals for the population

During 2001 the cost of a 2400 Kcal diet was \$4.88 with a range from \$4.75 (February) to \$6.34 (June). In 2004 the average cost was \$6.29 with a range of \$5.66 to \$8.01. In 2005 the average cost of the same meal fell within a range of \$7.19 (January) to \$7.81 (December). Figures for 2006 show that the same meal had a cost range from \$7.23 to \$7.68. These figures show the rising cost of basic ingredients needed for a well-balanced meal. In order to meet basic nutritional needs, a person working for \$500 to \$700 monthly in 2001 needed to allocate 29%-42% of earned income for food while in 2006 such an individual needed to allocate 44% of income earned. However, this does not take into account dependents which will obviously put such an individual and their dependents at nutritional risk. This has implications for the level of minimum wage.

It is against this background and the recognition of the close interrelationship between food, nutrition and health that the government is committed to formulating and implementing food and nutrition policies and programmes as part of its national development thrust. This document brings together the deliberations of an intersectoral team that addressed issues of food and nutrition in a coordinated manner. The ultimate goal is improving the nutrition and health status of the population.

Subsidiary objectives include:

1. The reduction of morbidity and mortality due to the nutrition-related chronic non-communicable diseases.
2. The prevention and control of micronutrient deficiencies particularly iron-deficiency anaemia among pregnant and lactating women and children.
3. The reduction of protein-energy malnutrition in children.
4. Ensuring the quality and safety of foods and minimizing food borne illnesses.
5. Improving nutritional care for the socially vulnerable.
6. Strengthening the food and nutrition surveillance system.
7. Improving household food security.
8. Incorporating nutrition objectives into the national development plan and sectoral plans.

The following is a brief description of the programmes and projects in support of these objectives:

- a) **Promoting Healthy Lifestyles** through early screening for diabetes and hypertension, disseminating promotional material on proper diet and exercise regimes, training of health professionals in the management of chronic diseases. **Legislation and regulations will be reviewed and developed to ensure that consumers can make healthy choices. Incentives will be established for employers who provide facilities and opportunities for diet and weight management programmes. Physical Education, with the provision of the relevant resources will be made compulsory in all schools.**
- b) **Preventing and Controlling of Micronutrient Deficiencies** through screening of women of child bearing age for iron status, conducting research on factors affecting anaemia, conducting breastfeeding and complementary feeding campaigns, increasing iron and folate supplementation to pregnant and lactating women and promoting compliance, conducting periodic tests on levels of iron-fortification of flour and promoting the use of iron-rich foods.
- c) **Protecting Consumers Through Improved Food Quality and Safety** by developing and promoting reporting systems for foodborne illnesses; testing of foods for microbial content and other harmful products; increasing inspections of food establishments and adopting landfill system of garbage disposal throughout the State.
- d) **Caring for the Socially Vulnerable Groups** through conducting management audit of institutions, conducting training for caregivers in nutritional care, enacting legislation to protect social sector personnel and establishing standards for registration and management of senior citizens homes.
- e) **Improving Household Food Security** by the promotion of domestic production of a wide array of foods through appropriate incentives, mounting of fairs and exhibitions annually, encouraging the establishment of a Consumer Association, publishing weekly

nutrient-cost analysis reports, re-negotiating Common External Tariffs with Caricom and conducting research on the components of the retail price of basic food items.

- f) **Strengthening of the Food and Nutrition Surveillance System** through identification of critical indicators, conducting training and preparing and distributing surveillance bulletins based on analyzed data.
- g) **Incorporating Nutrition Objectives into the National Development Plan and Sectoral Plans** through holding of quarterly intersectoral meetings, reviewing policies and plans annually, documentation of policies and plans of action and advocating incorporation into national development plans.

The programmes and projects contained in the National Plan of Action on Nutrition (NPAN) would be implemented by the various sectors and all the food and nutrition-related activities would be monitored and coordinated by the Grenada Food and Nutrition Council (GFNC).

SECTION I

INTRODUCTION

1. INTRODUCTION

1.1. Location and Size

Grenada is the southernmost of the Windward Islands located just North of Trinidad at 12 degrees North latitude. The island is primarily of volcanic origin with a mountainous ridge running north to South throughout and is covered with lush tropical vegetation. Its area is 133 square miles (344 km²) including the two dependencies of Carriacou and Petite Martinique. The population is estimated to be 106,635 for 2006 based on the 2001 Population Census. Approximately 30% of the population lives in St. George's, the capital in the South-West, and the rest are distributed throughout the remaining five mainly rural parishes on the mainland and the islands of Carriacou and Petite Martinique.

1.2. Socioeconomic Situation

Grenada's primary natural resource is its fertile soils which form the base of agricultural production. This sector has been the foundation of the economy for over 300 years since colonization by the British. It is important to note that this fact has determined the export-oriented nature of the traditional crops: cocoa, nutmegs and bananas which make up the bulk of agricultural production and which also generate the greatest amount of income. Paradoxically, at the same time food security remains elusive, while the food import bill continues to climb drastically with significant implications for the balance of payments situation.

The 1995 Agricultural Census reported that there was a total of 13,300 farm households in Grenada involved in crop farming, livestock farming and fishing. At a national level 57% of all households were involved in farming to some degree: 33.6% of all farmers are women. The number of farms has declined in the last 40 years by 12.9%. The largest percentage decline (65%) has been in the farms over 100 acres in size which employ most of the labour. Total acreage of those farms has dropped from 27,700 in 1961 to 7,700 in 1995, a drop of 72.2%.

The Grenada Land Utilization Survey of 2005 indicated that about 75% of all farms have less than 5 acres with the median farm size being 1 acre. This means that at least half of all farmers operate on a plot of size 1 acre or less. The Survey also showed the mean age for farmers being 56.3 years: approximately 2 years older than the mean age for farmers in the 1995 Agricultural Census. Male farmers account for approximately 75% of all farmers.

Attempts at agricultural diversification in the face of declining world prices for traditional crops and global trade liberalization policies have not yet yielded the results intended to salvage the sector. Agriculture's relative importance to gross domestic product (GDP) in real terms has also declined during the period 1981 to 1996 from 15% to 10.4% in relation to tourism (from 6% to 10%), manufacturing (5% to 7%) and construction (8% to 7%). In 2005 agriculture contributed 4% to the GDP mainly due to the devastation of the sector in 2004 and 2005. In 2003 the contribution was 8.4%, reflecting a decline from 10.4% in 1996 and 17.5% in 1981. During the same periods, public and private investments into the agricultural sector declined. The annual rate of growth of the tourism sector has surpassed all other sectors except construction. Tourism has now surpassed agriculture as the main contributor to foreign exchange earnings. Employment provided by the agricultural sector declined from 17.8% of the total work force in 1992 to 9.7% by 1996.

During the period 1992 to 2003, the World Bank estimated that Grenada's GDP grew by an annual average of 2.9%, from US\$1,931 to US\$2,490. However, during the same period the report stated that agricultural contribution to GDP fell from 11.2% to 7% which represents an annual decline of -5.1% (National Agricultural Policy).

Grenada's economy is characterized by its smallness and dependent nature; thus, domestic conditions are strongly influenced by occurrences in the global economy. Grenada's economy is linked to the wider CARICOM through trade and other functional cooperation agreements. Grenada, as well as other economies of the region remains extremely vulnerable to external shocks. Recent developments in the global economy, e.g., the World Trade Organization's ruling

on Windward Islands bananas access to the European Union (EU), have impacted negatively on regional economies and have contributed to growing impoverishment of some CARICOM economies. These include: declining terms of trade in agricultural products; potential loss of preferential market access for regional exports and unfair competition in the wake of trade liberalization and globalization of production and trade; and declining aid and private capital flows to the region. As a result of these developments most economies are currently experiencing lower rates of economic growth, high rates of unemployment and significant curtailment in the provision of social services. Boatswain (1997) described the situation as follows:

“High unemployment and relatively high cost of living stand out as the two most critical socioeconomic issues confronting the Grenada population at present. The others include relatively high inflation (which is largely imported), and in particular of critical food items; and an inequitable distribution of income and wealth. The poor performance of the vital agricultural sector has been identified as one of the main factors contributing to the unsatisfactory performance of the domestic economy over the past seven years. Agricultural output, employment and real income, have all declined significantly in recent years. The construction sector, and to some extent the tourism sector, are the two sectors which have performed relatively well over the past few years.”

One of the problems jeopardizing Grenada's economy is the lack of integration between the various sectors. For example, there is a high dependence of imported foodstuff to service the tourist industry, and little effort is made to support the farmer community in their efforts to supply items at a required quality standard and timely manner. There is a lack of job opportunities across sectors, and not enough trained persons available to fill the positions. The Central Statistical Office (CSO) places unemployment at 26.4% of the labour force for 1996; 15.2 % for 1998 and 9.9 % for 2001. It is highest among young people age 19-25, women, and rural residents. 75% to 80% of the unemployed has little formal education or training. This could be borne out by the fact that only approximately 30% of the children completing primary school enter secondary school. This is partly due to the inadequate number of secondary schools on the island.

The United Nations Human Development Index (HDI) ranked Grenada at 66 out of more than one hundred and seventy-seven ranked nations in 2003. As a quality of life index this figure suggests that Grenada is performing fairly well - a middle income nation - in comparison with other countries in Asia and Africa. Faced with a situation of declining growth rate and rising fiscal imbalance the Grenadian authorities were forced to implement a self-imposed Structural Adjustment Programme in the early 90s which implemented significant cutbacks on social services. Grenada's multi-lateral trade agreements have impacted on its economy largely in terms of the erosion of preferential trade access to the European markets, especially for the banana sector. The agricultural sector remained depressed and suffered additional setbacks from the infestation of the pink mealybug which devastated the non-traditional sector and significantly destroyed the hucksters' (mainly women) trade with neighbouring Trinidad and Tobago. In 2004 and 2005 Grenada's agricultural sector was severely damaged by Hurricane Ivan and Emily.

Migration, both internal (rural to urban) and external (mainly to North America and the U.K.) has traditionally been a means for improving the standard of living for many Caribbean people. This level of migration resulted in major family dislocations, the attendant social problems and the phenomenal brain drain. There has also been significant rural to urban migration as evidenced by the number of squatter communities that have mushroomed on the periphery of the capital city. Approximately 32% of the Grenadian population can be regarded as living below the poverty line. 55% of all salaried workers can be classified as "working poor". These are mainly agricultural workers, domestics and elementary workers (CSO, 1996). The available statistics clearly indicate that the bulk of the poor in Grenada live in the rural areas. However, many of these individuals migrate to the urban areas in search of employment, access to social amenities and a better life generally. This adds to the problems of urban poverty.

1.3. Status of Women

Gender disaggregated data is very limited: where available they are often regional rather than national. Nonetheless, some fairly reliable analysis/conclusions can be drawn from a review of

the available literature to compile a limited profile on the status of women in Grenada. Women make up 50.8% of the population, and head 45% of all households (1991 Population Census). The family's responsibility falls disproportionately on the shoulders of these women. Despite this, women are in the majority of those persons that are unemployed. Because of job scarcity, those successful in obtaining employment are generally forced to perform menial tasks for low wages or work in other unskilled jobs that have been traditionally recognized as a "female" job. Due to the economic situation, especially following the self-imposed structural adjustment programme, and the disasters of the two hurricanes in 2004 and 2005 respectively, the available support services are inadequate to meet the growing physical and emotional needs of women.

Over the past decade Grenadian women have progressed in the society due to several programmes by government and NGOs, but only a few women hold positions that involve them in the highest levels of decision-making in various sectors. Traditional views such as, "women have no place in politics" still prevail and are perpetuated by both men and women in the society. One in every four women (25%) in the labour force is unemployed compared to one in every eight men (12%). The national report on the status of women in Grenada which was prepared for the Beijing Conference in 1993, states that:

"Poverty is so prevalent among the female population and affects so many households that women head, that unfortunately it has not only resulted in the transference of poverty from generation to generation, but it has also led to the belief that a female headed household automatically implies a dysfunctional family on the bread line." (St. Bernard, 1993).

In terms of women's participation in agriculture, the 1995 Agricultural Census, indicated that of the 11,807 farmers enumerated, 3,989 (33.79%) were women. Based on The Grenada Land Utilization Survey of 2005 it was estimated that approximately 25.5% of farmers were female. However, the number of women involved in all aspects of agricultural production as labourers is greater. Access to credit is still very male dominated. For example, in the agricultural sector 71.6% more males than females received loans from the Grenada Development Bank in 1993. A

similar trend was recorded in the Cooperative Credit Unions. Women are becoming much more involved in income-generating activities at the informal level for survival in the face of increasing layoffs. Many need assistance to set up their small businesses or improve on what they are already doing.

There has been a marked increase in the incidence of all forms of abuse against women and their children in recent years. Many cases go unreported because of the socioeconomic dependence of the women on the perpetrator, and women's lack of awareness of their rights.

1.4. Food and Nutrition Policy Imperative

It is against this background and the recognition of the close interrelationship between food, nutrition and health that the government is committed to formulating and implementing food and nutrition policies and programmes as part of its national development thrust. The government subscribes to the WHO concept of health as ‘a complete state of physical, mental and social well-being and not simply the absence of disease or infirmity’. Food provides the nutrients for growth, reproduction, physical activity and protection against diseases. A healthy population is better able to acquire skills, is more productive and is more amenable to socially acceptable behaviour. Health is thus a desirable development goal in its own right as well as a major contributor to development.

This food and nutrition policy and plan of action is the result of deliberations of an intersectoral workshop convened to address issues of food and nutrition in a coordinated manner. The participating sectors included agriculture, health, finance, education, social services and NGO's. Several draft documents were developed and reviewed by a wide cross section of sectors (public and private and NGOs) and their comments incorporated in this final draft document. The document adopts as its working definition of a food and nutrition policy that of Rueda - Williamson as follows:

“A coherent set of principles, objectives, priorities, and decisions adopted by the Government and applied by its institutions as an integral part of the national development plan, in order to provide to all the population, within a specified time, the food and other social, cultural and economic conditions essential to satisfactory nutrition and dietary well-being.”

The government is committed to implementing the policies and programmes contained in the document through the various sectors. The GFNC will ensure the co-ordinated implementation of the food and nutrition-related activities.

SECTION II

NUTRITION AND HEALTH STATUS

2. NUTRITION AND HEALTH STATUS

2.1. General Health Conditions

The estimated population of Grenada in 2006 was 106,635 with 50.2% being female and 49.8% male. The population is young, 46% being under 20 years. 7.6% are over 65 years. There are more males than females in each group up to age 34. From 45 years females exceed males in each age group: this is most pronounced in the over 70 age group. Life expectancy of females is 68 and 64 for males (1998).

Data indicated that respiratory infections were the main cause of morbidity for the past five (5) years. Other significant causes were diabetes mellitus, hypertension, other forms of heart disease, diseases of the urinary system, other parts of the digestive system, and conditions originating in the perinatal period. During the period 2000-2002 diseases of the circulatory system continued to be the principal causes of mortality with pulmonary circulation and other forms of heart disease followed by malignant neoplasms. During 2003-2005, malignant neoplasms took over as the leading causes of mortality with both diseases of the circulatory and respiratory systems accounting for a significant proportion of mortality.

Over the past thirty years there has been an improvement in the health status particularly of children under five. This section presents data on the changing situation with information substantiated by data sourced from surveys as well as clinics and Ministry of Health reports. Priority groups addressed include infants and children, school age children, pregnant women,

adults and the elderly and other socially depressed groups. Because of the close relationship between physical exercise, nutrition and health status, this issue is also discussed.

2.2. Infants and Young Children

Birthweight: An important predictor of nutritional status in children is birthweight. Low birthweight (<2,500g) is indicative of malnutrition and predisposes the infant to continued malnutrition during early life. Low birthweight is also indicative of poor nutritional status of the mother. During the 1990s the low birthweight rate ranged between 8% and 11%, whereas from 1999-2003 the low birthweight ranged from 7.5-8.4%. In 2004 the rate was 8% and declined to 6.6% in 2005.

Preschoolers: During 1996, height and weight of children attending preschools were assessed. Measurements were obtained for 2,771 (1,388 boys and 1,383 girls). Analysis of the data using Epi-info revealed that 162 children (5.8%) had weight-for-age indicative of undernutrition (wasting); 61 children (2.2%) had height-for-age indicating chronic undernutrition (stunting); 28 children (1%) had a weight-for-height indicative of obesity. There were no significant differences between boys and girls. Chronic undernutrition (stunting) was not observed in Carriacou and Petit Martinique. While these national averages show relatively low levels of undernutrition and overnutrition, disaggregated data for parishes indicate areas of very high levels of malnutrition. A similar prevalence of relatively low levels of malnutrition was observed in day care centres. In 1997 with an enrollment of 198 day care attendees, 163 were assessed and 7 (4.29%) were found to be mildly underweight. The following tables show data generated for years following 1996 (Tables 1 and 2). In 1998, of the 213 on roll, 182 were assessed and 4 (2.19%) were found to be mildly underweight. In 2001, two thousand five hundred and thirty-nine children were assessed, 2.1% were underweight according to their weight to age, 1.9% were stunted according to their height for age, 2.7% were overweight according to weight for height and 4.5% were overweight according to weight for age.

Pre-School Surveys

The pre-school survey is done every five years. The following are the results for the last three surveys.

Table 1: Results of Pre-School Surveys

<i>Year</i>	<i>% Underweight</i>	<i>% Overweight</i>
1996	5.8	1.4
2001	2.1	4.5
2006	2	6.2

Day Care Surveys

Table 2: Results of Day Care Surveys

<i>Year</i>	<i>% Underweight</i>	<i>% Overweight</i>
2002	6.6	5.3
2003	6.2	6.6
2005 (March)	4.3	5.3
2005 (Nov.)	1.8	9

Data for school entrants are not routinely collected. Data generated in 1997 and 1998 by the Anaemia Surveillance Programme showed a high prevalence of anaemia (Hb <11g/dl) in young children less than one year of age. As with undernutrition, anaemia status of children varies by parishes. For example, in 1998, 162 one-year olds were screened, 94 (58%) had Hb levels <11g/dl. When analyzed on a Parish basis, St. Patrick's, St. Andrew's and St. George's had Hb levels <11g/dl of 67%, 66% and 63%, respectively. There still exists a high prevalence of anemia in one-year olds (61%) as revealed by data collected in 2001. In 2004, 552 or 20.8% of one-year olds were screened at clinics. Of those, 62.1 % had Hb levels <11g/dl and 41.7 % were given supplements. Hb screening among 2,817 school entrants in 1997 (Iron Fortification Project) showed that 1,157 (41.1%) had Hb levels <11g/dl, with high variations among parishes ranging from 12.7% in St. John's/St. Mark's to 59.9% in Carriacou and Petit Martinique. (Table3).

Table 3: Anaemia status of school entrants 4+ and 5-year old Children, Grenada, 1997

<i>Parish</i>	<i>Total Screened</i>	<i>Hb Less than 11 g/dl</i>
---------------	-----------------------	-----------------------------

St. George's	769	50.6
St. Andrew's	570	33.5
St. Patrick's	621	40.9
St. David's	351	47.9
St. John's/St. Mark's	314	12.7
Carriacou/Petit Martinique	192	59.9
Total	2817	41.1

Source: Ministry of Health

2.3. School Age Children

Anthropometric assessment is not routinely done for school age children. Therefore, no definitive statement can be made concerning their weight-for-age, weight-for-height or height-for-age status. Given the general low prevalence of under and over-nutrition in the under fives, it can be concluded that a serious public health problem does not exist among the children under 10 years old. However, in those parishes where there were high prevalences of undernutrition, it is expected that this situation may have continued among school-aged children though at a reduced level because of the school feeding programme.

2.4. Pregnant and Lactating Women

In 2003 and 2004, the number of low birthweight babies amounted to 139 (7.6%) and 166 (8%) respectively. The prevalence of low birthweight babies for 2005 was approximately 7%. This low birthweight rate observed suggests a similar percentage of mothers at risk of undernutrition. The haemoglobin status of pregnant and lactating women supports this conclusion. In 2001, of the 1,493 antenatal women screened for hemoglobin status at first visit, 199 (13.3%) had Hb levels of 10g/dl or less with subgroups of 160 (10.7%) with Hb levels of 8-10g/dl and 39 (2.6%) with Hb levels less than 8g/dl. Originally, the most affected parishes were St. Andrew's, St. George's, St. John's/St. Mark's. By 2001, the most affected parishes were St. Patrick's (35.8%) followed by St. Andrew's (23.8%), and St. George's (17.6%). In 2001, 361 postnatal women were screened and 25 (7%) had Hb levels of less than 10g/dl. Table 3 gives the prevalence of Hb Status in antenatals, postnatals and one-year olds for 2004 and 2005.

Table 4: Prevalence of Hb Status in Antenatal, Postnatal and one year olds, 2004 and 2005

<i>Target group</i>	<i>No. Screened at 1st clinic visit</i>	<i>2004</i>	<i>No. Screened at 1st clinic visit</i>	<i>2005</i>
Antenatal	1, 575	9.6%	1,437	10.2%
Postnatal	230	5.2%	218	6.4%
One-Year Olds	544	62.5%	555	52.3%

Routine collection of data on Hb status show that for first 3 quarters of 2006 the levels were as shown in Table 5:

Table 5: Routine data on Hb Status for the first Three Quarters of 2006

<i>Group</i>	<i>1st Quarter</i>	<i>2nd Quarter</i>	<i>3rd Quarter</i>	<i>4th Quarter</i>
Antenatal	9.1 %	12.7 %	13.2 %	
Postnatal	3.3 %	8.3 %	6.5 %	
One-Year Olds	49.4	60	58.1	

2.5. Adults and the Elderly

The nutrition-related chronic non-communicable diseases are the main problems affecting the health status of adults and the elderly. Research has shown that lifestyle habits which include dietary habits are very directly related to the development of these diseases. Although studies have not been undertaken to determine the prevalence of each of the chronic diseases (Diabetes, Hypertension, Obesity and Cancer) it is believed that they are increasing (Tables 6-7).

Table 6: Prevalence of diabetes in Grenada 2000-2005

<i>Year</i>	<i>Screened patients</i>	<i>Positive results</i>	<i>Rate /10,000</i>
2000	1953	142	14.0
2001	2431	223	21.7
2002	2042	188	18.2
2003	2089	249	24.1
2004	1953	226	21.6
2005	842	254	24.2

Source: Community Health Service Report

Table 7: Prevalence of hypertension in Grenada 2000-2005

<i>Year</i>	<i>Screened patients</i>	<i>Positive results</i>	<i>Rate /10,000</i>
2000	3260	230	22.7
2001	4465	390	38.0
2002	4340	271	26.2
2003	4188	368	35.6
2004	4382	316	30.1
2005	3634	1859	177.5

Source: Community Health Service Report

Mortality data show that cerebrovascular diseases and malignant neoplasms are among the ten leading causes of death (Table 8).

Table 8: Top Ten Causes of Death (2000-2005) (20->60 years)

<i>Cause of Death</i>	<i>Period</i>						
	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>Total</i>
Disease of the circulatory System/ Diseases of the pulmonary circulation and other forms of heart diseases	229	266	351	83	33	19	981
Malignant neoplasms(140-199)	105	104	128	151	45	47	580
Diseases of the respiratory system	65	66	105	80	30	34	380
Certain infectious and parasitic diseases	47	49	40	---	---	---	136
Disease of Genitourinary System	30	21	45	12	10	16	134
Endocrine and metabolic diseases	27	77	40	98	25	11	278
Cerebrovascular disease	---	---	---	69	34	46	149
Accident, Injury, poisoning and certain other consequences of external causes	31	40	51	---	4	11	137
Diseases of the Digestive System	24	37	34	31	---	---	126
Certain diseases originating in the perinatal period	25	21	33	20	---	---	99
Signs, symptoms and ill defined conditions	25	-	-	---	10	2	37
Hypertensive Disease	---	---	---	79	---	6	85
Ischaemic Heart Disease	---	---	---	36	13	22	71
Diseases of the Nervous System	-	22	20	---	---	---	42
Chronic liver disease	---	---	---	---	5	---	5
TOTAL	712	739	712	739	209	214	

Source: Medical Records Department, Ministry of Health, Grenada

Due to technological advances in the medical field, people are living longer. The population of the 60+ age group has been increasing over the years and this has led to the growth in the number of geriatric homes - government, government-assisted and private. Although recommendations on diets are made to the homes, assessment of the nutritional status of the residents is not done.

2.6. Other Socially Depressed Groups

In addition to the groups discussed above, there are others constituting the socially vulnerable group who exhibit particular problems. These include senior citizens, the disabled, unemployed single parents, some PLWHA and some children 0-8 years. These groups are characterized by insufficient foods and dietary imbalances, homelessness or inadequate housing and overcrowding, inadequate nursing care due to lack of training of care givers and domestic abuse of one kind or another. This group requires special attention to alleviate these problems.

2.7. Physical Exercise

Over the past 30 years, an epidemiological transition has taken place in the health field. There has been a decrease in the prevalence of infectious diseases and an increase in the prevalence of the CNCD. This change is undoubtedly associated with increasing food energy availability. Transportation has reduced the need for walking long distances and a number of technological devices have displaced manual labour. Where energy input is in excess of energy output, obesity develops along with its associated CNCD. The development of healthy lifestyles is highly recommended to control/manage the problem of chronic diseases. Incorporated into the healthy lifestyle habits is the building of a regular exercise programme which should begin early in life when habits are being formed.

In the formal educational system, Physical Education and/or games may appear in the schools' timetables; but there is no well-structured and effectively delivered programme. In 2004 a new Physical Education Curriculum Programme for the Primary and Secondary schools was developed. However, there is a lack of qualified personnel to effectively implement this curriculum. Through co-ordinated efforts by the Ministry of Health, Ministry of Sports and other

groups and organizations, there is a growing awareness by the public of the benefits of exercise. This is attested to by the growing number of persons involved in walking programmes, using health clubs and attending keep-fit and aerobic classes. These activities are promoted not only by individuals but also by companies who have made provisions for staff to engage in physical exercise on a regular basis. These positive actions are to be encouraged and supported.

SECTION III

FOOD AVAILABILITY, HOUSEHOLD ACCESS AND SAFETY

3. FOOD AVAILABILITY, HOUSEHOLD ACCESS AND SAFETY

3.1. Food Availability

This analysis of food availability in Grenada utilizes food balance sheet data of the Food and Agriculture Organization (FAO). For purposes of this analysis, data on total food calories and macronutrients (carbohydrates, protein, fats/oils, fruits and vegetables, sweeteners and staples), from three-year averages for each of the two periods, 1991-93 and 2000-02, were analyzed as representative samples of food supply over the period. The data are compared to World Health Organization (WHO) Recommended Daily Allowance (RDA). In this context, food supply is defined as: domestic production + (imports – exports) + changes in stocks. It is important to note that this supply represents the amount of food that is available for potential domestic consumption. The amount of food actually consumed may be lower than shown in the food balance sheet depending on such factors as distribution, plate-wastes, losses in food preparation, etc. The data indicate the following food availability patterns for Grenada

Total food caloric availability (calories/caput/day) has been increasing and is on average 27% above RDA.

- The macronutrients (carbohydrates, protein, fats) together with fruits and vegetables and sweeteners—have been increasing and are all above the RDA.
- The supply of staples (cereals plus starchy roots, fruits and vegetables) has been increasing but is on the decline from 2000. The total supply is lower than the RDA.

(See Table 9; Figures 1, 2, 3).

Table 9: Grenada—Macro-Nutrients Availability (Calories/caput/day)

<i>Macro-Nutrients</i>	<i>Availability¹</i>		<i>Average (1991-02)</i>	<i>RDA²</i>	<i>Average Surplus (+) or Deficit (-) relative to RDA (%)</i>
	1991-93	2000-02			
Total Food Calories	2853	2866	2859.5	2250	27(+)
Carbohydrates	1624.2	1539	1581.6	1238	27(+)
Protein	307.6	317.2	312.4	225	38(+)
Fats/Oils	835.2	919.8	877.5	450	95(+)
Fruits/Vegetables (g)	587.4	634.5	611	600	1(+)
Sweeteners	471	449	460	180	155 (+)
Staples ³	859	778	818.5	1012	19.1 (-)

¹Calories/caput/day; ²Recommended Daily Allowance; ³Staples=Cereals + Starchy Roots.
Source: FAOSTAT. www.fao.org. August 2006.

Figure: 1

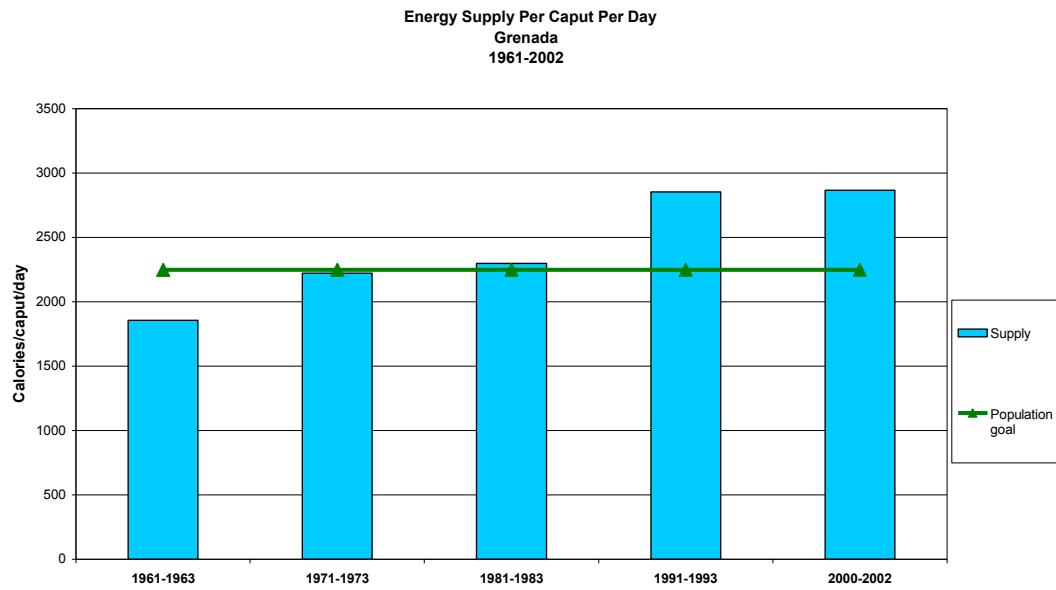


Figure: 2

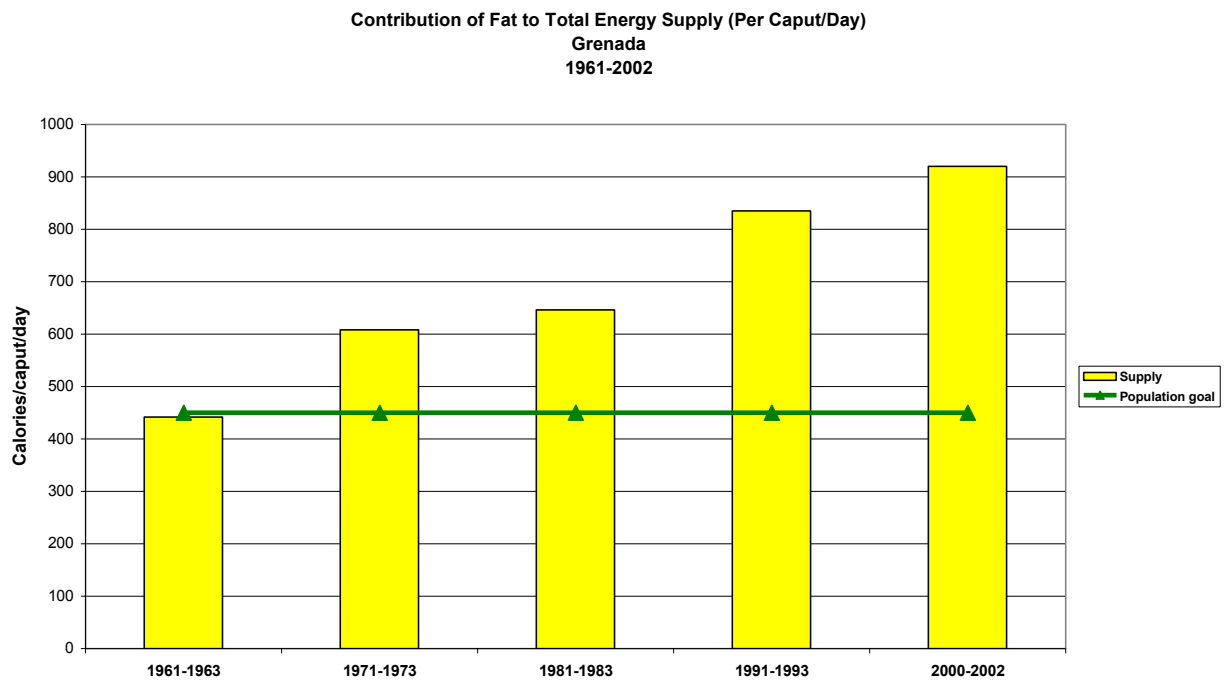
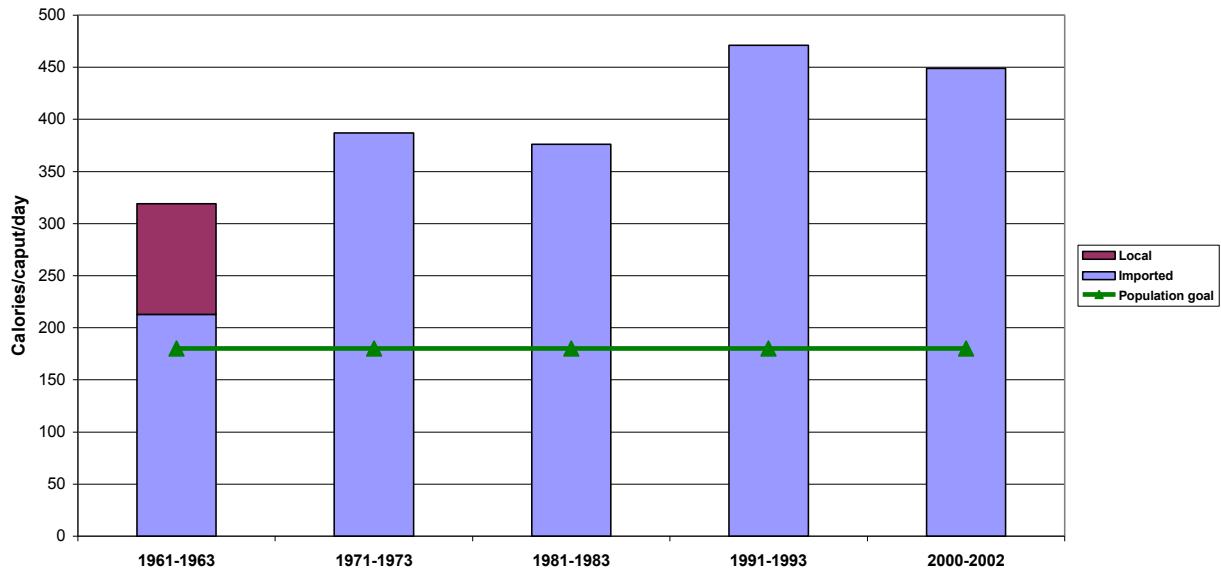


Figure: 3

**Contribution of Sweeteners to Total Energy Supply
Grenada
1961-2002**



This large excess of energy and fat availability observed is a predisposing factor in the development of obesity and its associated CNCD - diabetes, hypertension, stroke and some cancers to name a few. On the positive side, the adequate availability of fruits and vegetables augurs well for good nutrition and every effort must be made to make these foods accessible to the population at all times while at the same time restructuring the energy and nutrients availability profile to reflect more desirable nutrient goals for the population

3.2. Factors Affecting Food Availability

Out of 34,000 hectares (ha) of total land area, only 13,000 ha are classified as agricultural land of which 2000 ha are arable, 10,000 ha are under permanent crops (mostly nutmeg and cocoa) and 1000 are under permanent pastures. Approximately 30% of the total land area is covered with forests, partly classified as national parks. However, a significant portion of land is alienated from agriculture and used for housing and tourism development. According to the 1995

Agricultural Census, there are about 13,000 farmers in Grenada. The majority of farmers are older than 50 years while less than 10 % are under 35 years. Post hurricane Ivan data estimates that the number of active farmers have been reduced to 6000-8000 farmers with about 50% operating at a commercial or semi-commercial level. There are no national farmers associations except for the Grenada Cooperative Nutmeg Association (GCNA) and the Grenada Cocoa Association (GCA) or any type of smaller farmer cooperatives, except the Grenada Poultry Association. The average farm size is about 2.8 acres and 80% of the farms are less than 5 acres.

Climatic and soil conditions are very favourable to a number of tropical crops such as bananas, sugarcane, vegetables and root crops. There are also an increasing number of farmers using irrigation. The most economically important crops are nutmeg and cocoa, which account for the bulk of exports. Most farms are mixed, with tree crops inter-planted with root crops, some vegetables and some small ruminants and poultry. The main traditional agricultural exports are banana, nutmeg and cocoa. Over the past few years, banana exports have declined from 1.2 million pounds (lbs) in 2001 valued at EC\$ 462,000 to no export at all after complete devastation of the banana plantations by hurricane Ivan. Nutmeg exports declined from 5 million lbs in 2001 (value EC\$32 million), to 3 million lbs (21 million) in 2005. A total of 2.2 million lbs of cocoa was exported in 2000 (value EC\$5 million) and declined to 73,700 lbs (value EC\$ 248,000). In 2003, agricultural exports amounted to EC\$46 million, a decrease of 10.3% over 2002. These further declined in 2004 to 22.6%. Poor infrastructure in the rural areas is a result of the lack of attention given to the infrastructure development and to the particular rehabilitation and reconstruction needs of the agricultural sector after the devastating effects of the hurricanes in 2004 and 2005.

A wide range of tropical fruits, vegetables and root crops are grown on a small to medium scale. Production is highly seasonal for most fruits and vegetables and in addition there are significant amounts of unutilized land that are suitable for fruit production. There is also limited information on varietal characteristics. Farmers can supply the local market as well as hotels and restaurants with substantial amounts of those crops. Due to lack of production scheduling and lack of storage facilities, there are regularly surplus situations on the domestic market. Farm

production inputs are not usually available on time and in sufficient quantities or the required formulations are not always available. The prices of inputs are also high and increasing. Some vegetables and fruits such as apples, melons and prunes are imported. There is, however government policy to encourage the establishment of a sufficient acreage of vegetables and fruits to meet local and regional demand.

The largest share of production in the livestock sub-sector has been from poultry, mainly by small farmers: only one producer has more than 10,000 birds. Poultry production is small and feeds, which are mostly imported, are costly. Before hurricane Ivan, Grenada was self-sufficient in egg production which had increased from 1.9 million eggs in 1995 to 6.9 million in 2003. The ruminants sub-sector is relatively small with an estimated population of 20,000 animals. There are also a few cattle farmers but no commercialized dairy industry has been developed. Pig production is a small and medium size farmer activity with backyard operations. Pig feed is locally produced but imported feed, which is much more expensive, shows better fattening results. There is potential to build up commercial pig production to provide fresh meat to the domestic market reducing the food import bill provided it can be made competitive with imported feed inputs. The livestock industry faces technical constraints such as the inability to produce and maintain high quality breeding stocks to supply the production cycle, the lack of veterinary services, lack of breed development, lack of slaughtering infrastructure, training facilities, laboratory facilities, animal pens and expensive feed imports.

There are about 2,500 fishermen who make a living using approximately 760 well equipped boats and nets. About 30% of the fishermen practice deep sea fishing and 11% spend more than one day on a fishing expedition. During the hurricane the fisheries sub-sector suffered major damages to its fleets of boats and equipment amounting to about EC\$5,734,000.

Generally, small scale farmers are not able to meet market demand because of inefficient production planning, resulting in periodic market gluts and shortages. Farmers do not adhere to production schedules. Numerous small and medium-sized agricultural enterprises are constrained by: uneconomic farm sizes; declining production of and lack of value added to crop and

livestock; expensive and often not available inputs; high labour costs and lack of available labour force; praedial larceny; declining available land for agricultural development due to the absence of a land policy and a land bank; aging population with low educational levels; low levels of investment capital; lack of knowledge on production standards (HACCP) and EUROGAP and/or alternative trade labels.

The agricultural information system is weak due to the absence of adequate and appropriate information to support planning, programming, monitoring and evaluating of policies. Data is not updated regularly. The Planning Unit of the Ministry of Agriculture is currently revamping the Caribbean Agribusiness Marketing Intelligence and Development Network (CAMID) system. The Grenada Land Information System (GLIS) which includes the Land Resources Information System (LRIS) and the Automated Land Evaluation System (ALES) was introduced under the FAO project in 1995. These are powerful land-use and agricultural planning tools but are greatly underutilized.

Farmers also have limited knowledge of market prices and market trends: there is an absence of strategic relationships between the production and marketing of fruits. The fruit marketing system is underdeveloped and inefficient; there is lack of market information and the fresh fruit exporters are inadequately trained in marketing. Most exporters do not have access to good packing facilities. The transportation to and from packing facilities is not ideal for transporting perishable products. If packing lines are available, these are not adequate for the proper cleaning, grading, sorting and packing of produce. Poor quality of produce due to lack of appreciation on the part of the farmers of market requirements and suitable harvesting and post harvest handling techniques is a frequent phenomenon. There is limited information on the handling, storage, nutritional characteristics and alternative usage of local varieties of fruits and vegetables. Inadequate marketing arrangements; inadequate information and systems of grades and standards make pricing difficult; lack of storage facilities together with costly transport for domestic and export markets make it difficult for farmers to sell their perishable produce in a timely manner.

With respect to diversification, there are inadequate post harvesting and quality assurance facilities; inadequate facilities for product development; under-exploited potential for value-added products such as dried fruits; pulps; juices et. High energy cost and absence of product development capabilities limits the range of products developed. Agricultural institutions are weak in trained technicians such as extension officers, business management personnel, and trade and market information personnel. This, in addition to a lack of co-ordination efforts and a lack critical organizational aspects, have resulted in institutional conflicts, duplication of efforts leading to poor utilization of scarce resources. Research and development is needed; the extension personnel are not familiar with the required technical and methodological aspects of tree crop production and therefore are not competent to transfer same to fruit producers. There is also an absence of technical assistance and training for fruit handlers to improve their operational efficiency. There is need for an efficient and responsive legal and regulatory framework for the development of a competitive agricultural and rural sector. Even though the Praedial Larceny Act was reviewed and amended, some of the other present laws and regulations are outdated and/or lack enforcement.

3.3. Household Access

There are pockets of extreme poverty in Grenada and a considerable disparity of living standards across the country. The National Poverty Assessment Report, conducted by KAIRI in 1999 concluded that 32% of all individuals (approximately 32,000) in Grenada were poor, and 29% of all households were not able to cover expenditures of minimal food and other basic requirements. It was also found that 13% were extremely poor. The causes of poverty in Grenada are complex and related to historical and economic factors. At the rural household level, poverty is determined by a lack of: access to productive resources including credit; social and/or productive organizations; literacy and technical and/or entrepreneurial skills; access to markets and/or information; access to technical and financial support services; and lack of safety nets. Although there are a number of programmes designed to address the needs of this sector of the population, no evaluations have been done to determine whether they are effectively targeting the right population.

Although at the national level, large excesses of energy, protein and fat were observed, these excesses do not necessarily translate into household access for all segments of the population, since household access to food depends on income (purchasing power) and its distribution, the level of prices and the food distribution system. Purchasing power is also affected by employment and poverty rates. During 2001 the cost of a 2400 Kcal meal was \$4.88 with a range from \$4.75 (February) to \$6.34 (June). In 2004 the average cost was \$6.29 with a range of \$5.66 to \$8.01. In 2005 the average cost of the same meal was \$7.19 with a range of \$7.19 (January) to \$7.81 (December). Figures for 2006 show that the same meal had a cost ranging from \$7.23 to \$7.68. These figures show the rising cost of basic ingredients needed for a well-balanced meal. In order to meet basic nutritional needs, a person working for \$500 to \$700 monthly in 2001 needed to allocate 29%-42% of earned income for food while in 2006 such an individual needed to allocate 44% of income earned. This does not take into account dependents which will obviously put such an individual and their dependents at nutritional risk. This has implications for the level of minimum wage.

The Consumer Price Index and the Inflation Rates have increased over the last five years as shown in Table 10.

Table 10: Consumer Price Index and Inflation Rate

<i>Year</i>	<i>Consumer Price Index</i>	<i>Inflation Rate (%)</i>
2002	101.05	1.1
2003	103.23	2.2
2004	105.62	2.3
2005	109.25	3.4
2006	113.35	3.9

3. 4. Agro-processing

There are a large number of persons engaged in “small scale” (micro and cottage industry) type operations. These are generally home-based operations using the “home kitchen” or an allocated

space on the premises. The actual numbers of these small scale processors are unknown. There are four large-scale producers:

- De La Grenade Industries Ltd (Seamoss, nutmeg (jam, jelly, syrup, liqueur), pepper sauce, pepper jelly).
- La Sagesse Farms (Juices)
- Hampsted Industries (Juices, jams, chutneys, syrups etc)
- Noelsville Limited

Generally the products range from Condiments and Sauces (chutney, anchar, green seasoning, pepper sauces, other sauces) to: Confectionery(tamarind balls, fudge); Snacks (Breadfruit chips, plantain and banana chips); Dried Fruits (papaya, carambola); Alcoholic beverages (Local wines – banana, golden apple, cabbage); Baked goods (fruit cake); Spices (ground and whole); Non-alcoholic beverages (seamoss, processed juices); Honey and related products; Cassava farine, cassava bread, corn-conkie, agadee, herbs and nutmeg sprays and other nutmeg-related medications. Simple processing techniques are utilized by most processors since these are best adapted to small scale operations. They include: sugar preservation and drying; fermentation and pickling; and bottling.

Product quality varies from excellent to poor. In some instances producers have limited or no training in processing technologies. In other instances even with training, others seem to have difficulty in implementing the technologies. Many do not have access to basic equipment (Refractometers, pH meters, Thermometers) that allow for in-process quality assessment of the product. Additionally, there is no monitoring system in operation that mandates the assessment of processed products. Assessment of most products comes about only when processors seek approval of labels as per the Labelling Standards. Generally, the industry is highly informal, with little reliable statistics available. In addition:

- All packaging and inputs such as sugar and additives must be imported.
- Many small scale processors operate on a part time basis.
- Many processors have limited storage facilities and this leads to scarcity of some products at varying times throughout the year.

- Many processors have limited processing capacity and utilize non-commercial equipment for processing.
- There is little commercial processing of roots and tubers and vegetables except for cassava.
- Some fish is processed as corn fish.

3. 5. Food Quality and Safety

In considering the health of a nation it is necessary to maintain the quality and safety of food from production to consumption. Foods are ideal substrates for the growth of micro-organisms, some of which are harmful to humans. Although the incidence of food borne diseases is not a major problem, seasonal and sporadic occurrences of diarrhoeal diseases are observed. There is also under reporting of foodborne outbreaks so the actual magnitude of the problem is not known. There is also a concern regarding residual hormones, antibiotics and pesticides on food. Equipment is lacking to test residual hormones. The department is experiencing a problem with rodents destroying crops in the field and causing foods to be condemned. Currently the country does not have the capacity to assess these on a continuing basis. In this regard surveillance is ongoing to detect problems related to food hygiene and sanitation. The Hazard Analysis Critical Control Point (HACCP) principle has been applied to ensure food quality and safety.

Inspection of slaughtered animals especially pigs and cattle should be done by Public Health Officers. However, because of the community-based nature of the slaughtering activity, inspection is often not done. The majority of meat sold to the public is killed in the abattoirs. Approximately 45 cattle and 90 pigs per week are slaughtered. The abattoirs are located in St. Georges, St. John, Grenville and Sauteurs. There is, however, a problem with the sanitation of the facilities. Ante-mortems are not carried out but post-mortems are done by the Ministry of Health. Constant monitoring for communicable diseases, for example, tuberculosis is done by the Veterinary Division of the Ministry of Agriculture and Public Health Department of the Ministry of Health. Both Departments are short of staff and equipment and training is required.

Crops are not checked for pesticide residues or GMOs and no standards are enforced for this area in crops. Quality Standards are set by the Bureau of Standards and international standards. Grenada also has standards for local fish but standards for export of fish by the European Union (EU) are presently being enforced in Grenada. Testing for aflatoxin is done for export of nutmegs.

The National Agricultural Health and Food Safety Agency (NAHFSA) is yet to be established. However a National Food Safety Committee is functional. This Committee is chaired by the head of the Pest Management Unit of the Ministry of Agriculture.

SECTION IV

REVIEW OF CURRENT POLICIES AND PROGRAMMES

4. REVIEW OF CURRENT POLICIES AND PROGRAMMES

4.1. Macro Economic Policies

In a recent statement "The Vision of a New Grenada" three themes relate directly to food and nutrition; namely human resource development, poverty alleviation and rural development. Human resource development includes the development of highly educated, skilled and productive Grenadians capable of meeting the global 21st century. The healthy development of both body and mind is a prerequisite for this enterprise. Furthermore, there is a direct correlation between the health of a nation and productivity levels. Therefore, as the population of Grenada becomes healthier, through proper diet among other things, the national productivity levels will improve.

The elimination of poverty involves the design and implementation of programmes to generate employment and provide social safety nets for the dispossessed, especially women, youths and rural folk. Rural development envisages a new agriculture oriented to the diversification of crop production concentrating on the growth of healthy, organically grown foods and products for the domestic as well as export market. The main aim of this approach is the enhancing of the ability of Grenadians to feed themselves, while simultaneously fortifying the linkages between agricultural development and tourism development. There is also a need to diversify products and production into non-traditional crops/products that can be used for medicinal purposes. Those crops include tumeric/saffron, mint, tea, black sage, ginger, garlic, aniseed, stinging nettle, noni, cinnamon, Aloe Vera, to name a few. More research is needed to determine the significance of those products. A Research and Development Centre would have to be established to conduct the necessary research. The global economy is becoming more health conscious and the demand for herbal medicine is rapidly increasing as people are moving away from synthetic drugs.

In reviewing the macroeconomic policies, the focus is on household incomes, food prices and food availability.

Household Incomes: Minimum wage legislation has been prepared and passed into law as part of the Labour Code. The law has been gazetted and it is the desire of Government to promote equal employment opportunities and gender equality in compensation. Given the high proportion of female-headed households, preference is given to women in Government's holiday work programmes. Thirty-five dollars per day is paid to workers in these programmes. Unfortunately, the price paid to agriculture labour tends to lag behind the price of labour in other sectors of the economy. In June 1995 Government embarked on expansionary fiscal policies geared to increasing personal disposable incomes and stimulating economic activity in the private sector. Government raised the threshold on personal income tax in 1996. Persons who earn less than EC\$60,000 per annum are not liable to pay income tax. All personal incomes in excess of \$60,000 are taxed at a rate of 30%. At present, personal income taxes account for approximately 10% of total tax revenues while customs and excise account for 56%.

Food Prices: Grenada has experienced a modest and stable general rate of inflation in the past decade as estimated by the CPI. In the context of stable domestic monetary policies largely maintained by the Eastern Caribbean Central Bank, it is recognized that much of the food inflation in Grenada is 'imported inflation'. Other factors that influence food price determination are currency fluctuations, taxes and import charges over which the government has no direct control. Imported food stuffs are subject to General Consumption Tax. (GCT), Common External Tariff (CET), Customer Service Charge (CSE) and Port Charges (PC). These charges contribute to higher food prices. Port charges are among the highest in the Caribbean. The current rate of GCT on food items ranges from 10-25%: zero-rated food items are exempted. Food items imported outside of CARICOM attract between 15% and 25% while goods from within CARICOM attract 15%.

The CET is the import duty levied on goods originating from outside the CARICOM region. The CET rate ranges from 5% - 40%. In an attempt to protect agricultural goods within CARICOM, a CET of 40% is applied to some extra-regional agricultural products. Under the World Trade Organization (WTO) negotiations, Grenada has provided a sensitive list of agricultural products on which tariffs would not be reduced. These goods are important to food security and they are also critical to Grenada's agricultural sector in terms of output, contribution

and employment. In addition, there is a bond rate of 100% for all agricultural products and 200% for a few other products. Even though the bond rates are set at 100% and 200% the average applied is approximately 40%. Therefore, Grenada has the policy opportunities for tariff reductions and protection for agricultural products.

Given the fact that Grenada is dependent on CARICOM for at least 30% of its food imports, the current protection offered to CARICOM food products has the following effects:

- i. Trade diversion away from cheaper extra-regional food products to more expensive CARICOM foods, the costs of which are passed on to the consumer in the form of higher final prices; and
- ii. Certain foods that are not available regionally and are purchased extra-regionally attract high rates of CET resulting in high final food prices to consumers.

Food Availability: Agriculture's contribution to National Income has declined steadily in the last decade. The agricultural sector has been in absolute decline because of falling output reflected by a consistent pattern of negative growth in the 1990s. There are many factors responsible for this trend. Structural factors include a traditionally export-oriented agriculture, small farm size and the slow absorption of technology in domestic agriculture and agro-processing. Other factors include the continuous shifting of tastes to external food products.

Food security may be defined as the availability of food and the ability to acquire it. Food availability encompasses domestic production and food imports minus food exports. Given Grenada's relative ease of access to foreign exchange for the importation of food items, Grenada is relatively food secure. However, the high food import bill (22% of total imports) is cause for concern. It is important to promote domestic food production and consumption for a number of reasons including: food quality and food safety; foreign exchange savings; and household food cost savings from own production (back yard gardens).

As a member of the WTO and the Organization of American States (OAS), the Government is committed to trade liberalization but insists on fair trade having regard for the economic transition of small open economies like Grenada. As a member of CARICOM, the Government is committed to the phased reduction of the CET to between 5% and 20%. The long term implication of lower CET rates is lower prices for extra-regional food imports. The Government is endeavouring to assist local food industries to be more competitive.

In 1998 Government conducted a poverty assessment survey which included: a national survey of living conditions; a community situational analysis including the identification of the eleven poorest communities; and an institutional analysis soliciting the views of various organizations and agencies. The findings of the assessment have informed macro-economic policies as well as meso-level policies directly related to food and nutrition in Grenada. The Government is implementing a number of programmes to enhance food availability and improve the nutritional well-being of the population.

An agricultural diversification programme will be administered by the Grenada Development Bank and the Ministry of Agriculture. The major components of the programme include: the cultivation of 125 acres of fruit orchards including passion fruit, guava and golden apple; the cultivation of 50 acres of vegetables including onions, carrots and hot peppers; and the establishment of an agro-processing facility.

In early 1997 after the termination of funding from the World Food Programme (WFP), government demonstrated its commitment to the nutrition of students by substantially increasing its financial contribution to the school feeding programme. The programme caters to 10,000 children in sixty institutions including pre-schools, day-care centres and primary schools. The school feeding programme does not merely provide dry goods but also offers support to school gardens and livestock initiatives. Financial assistance also comes from the school, parent-teacher associations, the community, private sector and government. Approximately 42% of the entire student population in Grenada receive a free meal. Among the beneficiaries of the programme, 31.3% of the students are poor while 46% are not.

Children of unemployed parents and necessitous persons benefit from monthly grants which are most often used for food and transportation. A welfare allowance (assistance to the underprivileged) programme targets the poor and the destitute. Its principal beneficiaries are the elderly, the disabled and the chronically ill. Beneficiaries from welfare allowances now amount to over 4,000 persons with a target of 5,000 persons.

4.2. Education Policies and Programmes

The Ministry of Education is responsible for policy formulation and for the provision and financing of institutions, structures and services in formal and non-formal education. The Ministry administers and regulates the education system through the continuing review, analysis and formulation of policies; the design and implementation of measures to correct distortions and imbalances in the system; and the establishment of rules and procedures to govern the vertical and horizontal relationships between the Ministry and the other institutions and organizations within the system.

The education and training system in Grenada has traditionally favoured a heavy academic bias. Only recently has there been a concerted attempt to focus on technical and vocational education. This academic bias is reflected in the type of schools and training institutions that presently exist. The Grenada Education Policy Document, 2006-2015 Strategic Plan for Educational Enhancement and Development (SPEED) aims to group the various segments of Grenadian society and all partners in education, within the country and overseas, around a vision of what the education system will be like by the middle of the first decade of the new millennium. All will have to work together to realize what might seem an ambitious programme.

Education is viewed as one of the main vehicles through which a country attains national development. It is a necessary condition for genuine personal, economic and social development. As such, it is the Government's belief that all citizens of Grenada should have a right to education so that they become productive members of society, participate in the benefits

of society and develop the competence and ethos that will enable them to manage change effectively in an ever changing world.

Policies are related to six broad areas: access to and participation in Education; the quality of education; education and the world of work, life and citizenship; partnership and co-operation; Management and administration; and financing education. These areas cut across all levels of formal and non-formal education. Within the formal education system Food and Nutrition is offered in most of the primary schools in Grenada, within the Home Economics programme, to students of Grades 6, 7 and 8. It is a three-year programme which gives students the opportunity to take the examination in the subject in the School Leaving Examination which is taken in Grade 8. From 2007, Food and Nutrition within the Home Economics was only offered at the Secondary school level. Over the past four years between 80% and 100% of students who took the exams were successful. It should also be noted that Food and Nutrition Education is also given in the Health and Family Life Education (HFLE) programme. In fact, there is an entire Module on Food and Nutrition. The general objective of this Module is to continue to encourage students to make personal food choices based on an analytical view of food, food habits and food consumption, being aware of the direct link between eating and their personal well-being. Topics include adolescent nutritional needs, food hygiene, specialized diets, relationship between food and well-being, and consumer awareness.

Additionally, Food and Nutrition features in the training programmes for teachers of HFLE. At the primary level, therefore, Food and Nutrition Education can be had either from the Home Economics Programmes or the HFLE programme. At the secondary level, Food and Nutrition is offered as a separate subject up to the CXC level at sixteen secondary schools in Grenada. Grenada started to offer Food and Nutrition at CXC in 1986. In 1998 the pass rate was 96.63%. During 2003 to 2006, the pass rate was 94%, 91%, 88.4% and 85.8% respectively. Although the pass rate is high, it must be noted that the pass rate is decreasing.

Food and Nutrition is not offered as a subject at the tertiary level. However, attention may have been given to this topic in The Hospitality Arts Programme of T.A. Marryshow Community College.

There is little data available on Food and Nutrition Education in the non-formal system. However, the Home Economics programme of institutions like NEWLO, PAM and FACE does include aspects of Food and Nutrition education. In the non-formal sector the emphasis is on cookery, particularly at the skills training centres.

4.3. School Feeding Programme

The School Feeding Programme provides a nutritionally adequate meal daily to children from low-income families, single parent households and distant homes. The objectives of the programme are: -

1. To promote an awareness of the nutritional value of local foods thereby making maximum use of these foods on the preparation of meals.
2. To help improve school enrolment and attendance thereby minimizing drop out and repetition rates.
3. To increase local food production at school level for utilization in the programme.
4. To refurbish and upgrade kitchens and dining facilities to accommodate the programme in schools islandwide.

The School Feeding Programme presently facilitates all public Primary schools, nine Secondary and fifteen Pre-primary schools and Day Care Centres. The 4-H programmes in schools supply poultry products and vegetables to the programme based on the relationship between teachers involved and principals. Most of the products are sold to the general public. At present, approximately 8,600 children benefit from this programme and there are plans to expand the programme. A School Feeding Manual produced by the GFNC and the Ministry of Education gives practical guidance in food services, management techniques as well as outlines those

principles of food preparation and nutrition which are essential to the planning and preparation of safe, wholesome, appetizing and nutritionally adequate meals.

Physical Education and/or Games may appear in the schools' time tables at primary, secondary and tertiary levels. However, there are no well-structured and effectively delivered programmes of physical education in the schools. Recently, an attempt was made by the Physical Education Officers in the Ministry of Sports with the support of persons in the Ministry of Education, particularly the Curriculum Development Unit, to design and develop a Physical Education Curriculum Programme for schools. The document is to be printed and disseminated to schools so that an effective Physical Education Programme can be implemented in the schools. Within the document there is a section entitled "Nutritional Issues".

4.4. Agricultural Policies and Programmes

The Strategy for National Agriculture Development - Horizon 2010 lists the following sectoral objectives:

- increased food self-sufficiency through increased food production, import substitution and agro-industrial development;
- development of an export-oriented strategy based on increased productivity of selected traditional exports, and diversification into new exports which are market led and for which Grenada has export advantages;
- conservation and development of natural resources through the promotion of more efficient use of land, forest and water and conservation of biological diversity;
- modernization of the agricultural sector through the provision of improved inputs and a greater dissemination of appropriate extension services;
- improvement of the agricultural infrastructure, especially farm roads;
- improvement of the country's capacity in plant pest and disease management; and
- development of farmer organizations.

The following programmes are being pursued in attaining these objectives:

Import Substitution: The food import bill for 1997 was placed at \$117,985 of which 40% is made up of meat and meat products. The export of non-traditional fruits and vegetables stood at EC\$5.0M in 1991 but averaged EC\$3.3M from 1992-1996 due mainly to problems with the pink mealybug. Domestic food production, based on the period 1987-1995 has fluctuated between 12,000 and 15,000 million tons. The foods referred to are mainly a group of twenty-four items among which are green and yellow vegetables, beans and peas, corn, citrus and other fruits. Fish production over the period 1987-1996 has fluctuated between a low of 128M tonnes to a high of 2213M tonnes. In five years (1992-1996) local fish availability for domestic consumption has declined from 118 kg in 1992 to 8.3 kg per capita in 1996 mainly due to increased exports. The fisheries sector has been earmarked for further development through the provision of processing and storage facilities, fuel subsidies, boats, training and ensuring compliance with the European Union standards for export.

During the period 2002 to 2005, the total food import bill increased from 103,222,672 to 127,755,746. For the first eight months of 2006, the food import bill was already 81,324,688 (Table 11).

Table 11: Food Import Bill 2002-2006.

<i>Commodity</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006 (January to August)</i>
Meat & meat products	41,323,059	44,038,925	43,533,912	54,318,178	35,704,06
Live animals	558,602	569,134	529,578	646,301	413,056
Fish, Crustaceans, mollusks	7,166,275	6,795,181	7,130,470	54,318,178	6,293,205
Fruits & Vegetables	10,585,729	12,897,763	11,685,112	15,885,864	9,532,072
Total food import Bill	103,222,672	105,749,641	135,001,158	127,755,746	81,324,688

The production of fresh pork is about 62,500 kg, which meets most of the local demand. Poultry production that supplies 8-10% of domestic consumption has been targeted for increased production through duty free concession on inputs, a credit line for poultry farmers at the

Grenada Development Bank (GDB) and Loans under the Agricultural Enterprise Development Programme (AEDP) in the Ministry of Agriculture. The maximum amount for each loan is \$40,000.

Agro-processing remains an underdeveloped sector. Presently there is only one large-scale processing facility. However, there has been an increase in cottage type processing activities related to plantain chips, confectioneries (guava cheese), pepper sauce and seasonings. The plan is to upgrade the Produce Chemist Laboratory to prepare pulp and juice for sale.

Diversification: The non-traditional crop sector contributed EC\$5.0M to the economy in 1991. This fell to EC\$3.3M on average between 1992 –1996 because of problems with the pink mealybug. A diversification programme is being pursued to extend the production base and generate incomes.

Highlights of this programme are:

- A credit line at GDB for flower growers;
- The provision of loans through the Grenada Industrial Development Corporation (GIDC) with funds provided for irrigation by The Peoples' Republic of China (ROC), and
- A coordinated programme for export of hot pepper (Inter-American Institute for Cooperation on Agriculture (IICA), Marketing and National Importing Board (MNIB), Ministry of Agriculture (MOA) and Caribbean Agricultural Research and Development Institute (CARDI). This programme has been reorganized with the stakeholders- 10-15 farmers, GREP and ART. With 44 acres of land added to the previously existing acreage for hot peppers, it is envisioned that in 12 months there would be a significant increase in the yield of about one million pounds of peppers.

Following hurricane Ivan, the AEDP was established. Components of the programme include:

1. Provision of soft loans up to\$ 40,000 to farmers to get into agricultural business: traditional crops, livestock, etc.

2. Establishment of a fertilizer revolving scheme

The Ministry of Agriculture is involved in the strengthening of infrastructure such as the rebuilding of Propagation Stations, to name a few. There is also ongoing training in the area of Agro-business in conjunction with GIDC with a view to developing value-added products.

Banana Resuscitation: Banana constituted an important component in the export crop triad together with cocoa and nutmegs during the 'sixties to the 'eighties. Low production and poor quality in the 'nineties' resulted in a cessation of exports. The banana resuscitation programme was designed to increase production and quality as a basis for re-entering world trade. The efforts bore fruit in that export of bananas to Europe resumed during the latter part of 1998. Following the total devastation of the banana industry by Hurricane Ivan and Emily, the production has rebounded dramatically to the extent that the national demand is satisfied and at the same time some are exported to Trinidad. Consideration is being given to supplying the extra-regional market.

Forestry: The mountainous topography of Grenada and high rainfall requires adequate ground cover if erosion is to be kept at a minimum. The attack by the pink mealybug had a deleterious effect on certain forest species. In order to avoid further depreciation of the forestry resource a forestry policy document was prepared with support from the British Development Division (BDD).

Agency for Rural Transformation (ART): In addition to programmes being conducted by the government, other agencies and institutions conduct nutrition-related activities. ART is a non-governmental, non-profit, development organization whose goal is *"to promote and assist in the overall development of the marginalized by initiating, coordination, and supporting programmes and activities that will provide for a just, participatory society and improved quality of life"*.

ART began its operation in 1981 when the government approved its establishment for the purpose of:

- a) Assisting base group organizations with programme planning, development, and implementation; and

- b) Assisting with fund-raising for the channeling of technical and other assistance to these programmes.

The Agency's Board of Directors consists of representatives from the Grenada Chamber of Industry and Commerce, Conference of Churches, Grenada Trades Union Council, project/target groups, and individuals with a definite interest in rural development. ART is committed to the task of working along with the marginalized. It is a people-oriented community development process, which can equip persons with skills that will enable them to make a critical analysis of their situation, solve their problems, take control of their lives and at the same time upgrade their overall standard of living. The goals and principal activities of ART's development work impacting the areas of Food and Nutrition security focuses on three main areas:

- Community Health Promotion (CHP)
- Income Security Programme (ISP)
- Food Security Programme (FSP)

Community Health Promotion (CHP): The main objective of CHP is *“to encourage persons in rural communities to take responsibility to improve and maintain their standard of health”*.

- **The Community Health Education Programme** is facilitated by community health to educate persons in rural communities on proper eating habits, lifestyles, and its relationship to chronic diseases and other pertinent health issues affecting various target groups in the community. ART's Health Education Food and Nutrition focus for the period 2002-2005 was *“Nutrition related diseases including diabetes, iron-deficiency anaemia, HIV/AIDS”*.
- ART developed, implemented and continues to facilitate a successful food security project **“Eat Local Eat Healthy”** which began in 1997. The project promotes the development of healthy eating habits and the use of local foods among the rural primary school population in 12 primary schools in St. David's, St. Andrew's, and St. Patrick's. The project was designed to:

1. Improve the nutritional status of participatory low-income families through their increased production and consumption of root crops, vegetables, and legumes.
2. Promote the culture of: **“Eat what you grow, grow what you eat!”**
3. Create income-generating opportunities through sales and surplus produce and production of local fruit preserves and juices.

The Project Components include: a) production of root crops, legumes, vegetables, and selected fruits, b) rabbit rearing; and c) training in preservation and utilization. ART also works to enhance the impact of their Community Health Programme through active networking with the Ministry of Health and other organizations/institutions.

Some of the major benefits /impact of ART’s CHP cited for the period 1998-2003 included:

- Raised level of good health practices, screening, and preventive measures among community persons.
- Improved access for community persons to screening, assessment, and preventive measures for general health, chronic disease (e.g. diabetes, cervical cancer), through ART services and collaborations with the Ministry of Health PAHO and the Wellness Centre of St. George’s, University School of Medicine.
- Identification of existing chronic health problems (e.g. diabetes, hypertension) via an ***Occupational Health Project*** for community persons and their employers. And, to initiate follow-up interventions in the form of medical referrals, health education, and counseling.
- Provision of nutrition education, health education fora, food demonstrations, and an HIV/AIDS Community Awareness Education Programme ***“A Sip of Red Wine”*** for multiple rural locations and populations. Topics included drug abuse/alcoholism, diabetes, HIV/AIDS, iron deficiency anaemia, teenage pregnancy, breast feeding, and the care of the elderly.
- Combating the junk food culture in primary schools with the **Eat Local Eat Healthy** programme.

- Provision of training in *Dehydration Techniques for Production of Dried Fruits* for teachers involved in the Eat Local Eat Healthy project in collaboration with the Technical Mission of the Republic of China.

Income Security Programme (ISP): The main aim of ISP is “*To encourage and promote economic empowerment activities which will contribute to the development of income generating activities and sustainable livelihoods, particularly for the unemployed and under-employed*”.

ART’s ISP has included three major initiatives related to Food and Nutrition:

1. Sustainable Livelihoods Project: This provides technical assistance and support to persons trained by ART’s programmes to facilitate the development of skills into income generating/livelihood activities.
2. Support to the Micro Sector: This provides economic support, access to training/technical support, networking and collaboration particularly for beekeepers and small agro processors.
3. Increasing Employability of Rural Youth: This provides an apprenticeship programme (particularly floriculture and vegetable production) to facilitate training in agricultural skills, agro processing and a personal development programme to equip school leavers with attitude and personal attributes to function in the work place.

The major outputs/impact of ART’s ISP 1998-2003, were:

- To revitalize the beekeeping sector in Grenada. Through ART’s intervention and support, Grenadian honey is now recognized as a world-class product. Government is now providing support to the sector.
- To provide women trained under the ISP with skills that have become a livelihood activity: they have now been contracted by the Grenada Co-operative Nutmeg Association to produce jams and jellies. Direct improvement in the lives of a number of the beneficiaries of the Micro Project Loan Fund Facility (MPLF) is evidenced in improved housing and access to utilities.

ART has developed expertise in Micro Sector Policy for Grenada and has become an input service provider to the micro sector through its Production Facilitation Service.

Food Security Programme (FSP): The main aim of FSP is *“to contribute to poverty reduction in rural communities through enhanced food self-sufficiency and nutritional status of participating low-income households in 3 target communities”*.

ART’s FSP has included four major initiatives related to Food and Nutrition:

1. Promoting Food Security Awareness
2. Promoting Home Gardening and Composting: ART has worked to establish 60 home gardens in 3 rural communities. They have also promoted the practice of composting at the household level as a method of solid waste management and integration of composting with home gardening activity.
3. Training in Fruit Preservation: ART has worked to train community persons, particularly women in various means of utilizing and processing commonly available community agro – resources, particularly fruits.
4. Encouraging Livestock Production: ART has worked to encourage meat production (small livestock and poultry) for individual household consumption.

Some major outputs /Impact of ART’s FSP 1998-2003 were:

- To help popularize nationally the philosophy *“Eat what you grow! Grow what you eat!”*
- To contribute to enhanced national awareness of the concept of Food Security through both community fora and national public fora.
- To enhance food self-sufficiency and nutritional status of household participating in ART’s projects. This has been done by facilitating the establishment and support of 52 home gardens in 4 rural communities – mainly low-income households headed by women.
- To enhance the skills of women trained in local fruit preservation techniques to develop income-generating activities as well. ART also worked to establish a mini processing

centre/resource centre in collaboration with the Catholic Board of Management and the Ministry of Education.

- To establish a programme to distribute breeding stock (sheep and goats) through the “*pass on*” method in two communities. ART has also facilitated a training exchange on sustainable agriculture. A number of the ideas of ART’s FSP has now been replicated by the Ministry of Agriculture.

4.5. Food and Water Quality and Safety Programmes

The mission of the Environmental Health Department (EHD) is to improve the environmental health and public health condition in the communities throughout Grenada, Carriacou and Petite Martinique. The main areas of focus are:

- Food Safety and Hygiene
- Water Quality Monitoring
- Vector Control
- Rodent Control
- General Sanitation
- Monitoring Developments and Construction
- Regulation of Solid Waste Management
- Disaster Preparedness and Management
- Complaint Investigation

Food inspections are done at the St. George’s Sea Port and Airport. Foods offered for sale to the public and fresh meats from the abattoir are also inspected for wholesomeness. Food establishments are inspected on a regular basis. The department is also responsible for the certification of food handlers and for the certification of fish processing plants that export fish.

Water quality is monitored at the catchment areas and water samples are collected for analysis. The department collaborates with NAWASA and Produce Chemist Laboratory. Routine entomological surveys are conducted to determine, among other things, the degree of vector

burden. Appropriate chemicals are applied for treatment in addition to educating the public on good sanitary practices. This is done in collaboration with the Health Promotion Department. Solid waste collection is monitored and illegal dump sites are identified and ‘No dumping’ signs placed.

An annual vaccination programme is conducted to control rabies. Mongoose traps are also distributed together with rat poison. Post exposure investigations are conducted in suspected cases of rabid animal bites. In the area of general sanitation, the department monitors and maintains anti malarial drains and inspects and maintains public toilets and bathrooms. The transportation and monitoring of human remains is also monitored. The supervision and maintenance of public cemeteries is also under the jurisdiction of the EHD. The department collaborates with the LDCA/Physical Planning Unit to review building plans. An annual review of the environmental health component of the Ministry’s Disaster Plan is done and the department conducts environmental health activities after disasters. All nuisance complaints are investigated and legal procedures are applied as appropriate.

4.6. Health Policies and Programmes

The **Vision** for the Health sector in Grenada is *“To improve the quality of life through improved health status thus ensuring that individuals, families and communities attain and maintain a state of optimum wellness”*. The Government in 1994 embarked on a Public Sector Development Programme. The programme aimed at reforming the Public Sector to make it more efficient and cost-effective while at the same time responding to the needs of the country. Being fully committed to improving the health status of the citizens of the country and working toward the Alma Ata Declaration of Health for All, the Government announced its intention to reform the Health Sector. The purpose of the reform is to provide a more efficient and effective service to the people of Grenada by paying close attention to the epidemiological transition, the propensity for the best health care by both patients and practitioners and the development of a structure that will manage the natural history of the disease using the Health Promotion Strategy.

The **Mission** of the Ministry of Health Grenada is *“To promote health and provide health care services that are appropriate, affordable, accessible and sustainable, through an efficient health system and by utilizing suitably qualified and motivated staff committed to excellence and professionalism”*. The Government accepts that health is much more than the prevention or reduction of disease and includes protection and promotion of the *“physical, emotional and spiritual well-being”* of the population. It is expected that, as the health of the population is maintained and improved, the labour force would be strengthened to contribute towards the economic growth of the country. As such the theme for this National Strategic Plan for Health is **“Health for Economic Growth and Development”**. The Government of Grenada is also a signatory to the Caribbean Charter for health Promotion and is committed to the Primary Care Approach as a means to improving the health of the population. These principles provide the basis for the goals of the National Strategic Plan for Health as follows:

- To develop a health system that has a focus on primary health care to promote health and wellness in the population using an intersectoral approach;
- To provide quality health care services by suitably trained, motivated and professional workers using appropriate technology;
- To expand the health care network by encouraging collaboration between the public and private sectors, NGOs and community in the efficient and equitable delivery of health services, and formation health public policy [sic];
- To enable access to appropriate and affordable health care to a satisfied population; and
- To introduce and facilitate, the health setting (island, community, worksite, schools and hospital) concepts.

Organization and Management of Services: Health services are provided mainly through a network of public facilities including: 3 acute care hospitals (The General Hospital 240 beds; Princess Alice – 56 beds and Princess Royal – Carriacou – 40 beds), 1 mental hospital (Mt. Gay Hospital) 20-bed acute Psychiatric Unit attached to the General Hospital(currently located at the Mt Gay hospital to facilitate the reconstruction of the General Hospital); 1 rehabilitation centre (Carlton House and 1 Geriatric home (Richmond Home); 6 Health Centers and 30 health stations

which have 3 maternity units.. Private health facilities have been increasing in recent years. There are also several offices run by medical practitioners throughout the country for the provision of care to ambulatory clients. Primary care services are provided mainly at the community or health district level. There are six districts each with a health centre and 30 several medical stations. Staffing of the primary care facilities include 10 District Medical Officers, 10 Community Health Nurses, 40 District Nurses, 5 Family Nurse Practitioners, 45 Community Health Aids, 12 Pharmacists, 8 Dentists, 2 Social Workers and 7 Environmental Health Officers.

Health Sector Development: In 1997, the Health Sector Reform in Grenada formed part of the second phase of a larger Public Sector Development Programme. The reform was viewed as a set of long term objectives, and responsibility for implementation was placed in MoH. Progress of each of the elements in the reform was dependent on human resource capability and financing. As a result, various levels of implementation were identified. The components of the reform included: Establishment of two autonomous bodies to manage the hospital Services and Solid Waste management; Re-organization of the community health care system; Investigation of alternative sector financing; Modernization of hospital and primary care facilities; Development of human resources; and Institutional strengthening.

- i. **The establishment of an autonomous body to manage hospital services.** Hospital services are currently provided by three acute care facilities, a mental health hospital and a geriatric hospital. Phase I of this initiative is the establishment of a Statutory Body, the Grenada Hospital Authority to manage the three acute care facilities. It is proposed that at a later stage, the other health care facilities will be managed by this same Authority.
- ii. **The establishment of an autonomous body to manage Solid Waste Collection and Disposal.** The Government of Grenada established in 1996, a Statutory Body - Grenada Solid Waste Authority - to manage the collection and disposal of Solid Waste, with the Ministry of Health providing technical support as well as performing a monitoring role.
- iii. **Reorganization of the community health care system.** In 1982, the Government of Grenada introduced a structured primary health care system at the community level. It is estimated that approximately 60% of the population utilize the Community Services

constantly. For other users the statistics vary according to services required. The current system is the same as that introduced in 1982. Major concerns for community health services were identified by the staff and users include, long waiting times at the clinics, lack of coordinated and integrated care and lack of confidence in community services resulting in clients going to the A&E services in the General Hospital or attending private Clinics. Being concerned about the capacity of the current system to fully satisfy the needs of its users, the Ministry proposes to re-organize the system after a comprehensive review. It is Government's intention to introduce polyclinics offering extended hours and a greater variety of services to the public with active community participation in the management of the services. There is an increase in use of private health services because of a perception of better quality of care. Private services are dominated by single practitioner clinics; many of these doctors also work in the public health services. There are two small private clinics with in-patient beds, a diagnostic facility and the General Hospital has a private ward where patients pay the hospital for their stay and consultants charge an additional and separate fee to the patient. There are no NGOs providing in-patient care in Grenada; however many NGOs participate in health promotions and protection activities. The PAHO and St. Georges University are two partners that provide technical support to the MoH.

- iv. **Health Care Financing.** The main source of health care financing is from the Central Government. While some citizens are holders of private health insurance policies, these are utilized mostly in the private sector since most service provided in the public sector are free of charge. There are some minimal charges for diagnostic services and hospital care. Government proposes to introduce a contributory National Health Insurance Scheme. Cognisant of its responsibility to ensure that all citizens have access to health care, Government intends to contribute to the scheme on behalf of those who cannot afford to contribute. A poverty study is being conducted which will provide some base data on persons who cannot afford to pay. A comprehensive review of the user fees at the health facilities along with Billing and Admission systems at the hospitals will be undertaken. A basic package of health care services that Government will provide to its citizens will be identified.

Financial Resources: The health sector received approximately 12% of the Government current budget for the period 2000-2005, which represents between 3.55 and 4.5% of GDP. In 2005, recurrent budget estimates for MoH was \$EC50,952,129. Recurrent expenditure in health increased on an annual basis during the same period. In 2005 the recurrent expenditure was increased from 2004 to offset increased spending as a result of hurricane Ivan, despite a small decline in national recurrent expenditure. There is extremely limited information on expenditure on private health services and there is no National health Accounts. However, the MoF estimated that for 2002, private health expenditure was 1.7% of GDP, with total health expenditure for health (public and private) was 5.7% of GDP. For the same year, per capita expenditure for health was \$ 741(EC): (522 per capita in public health sector and \$119 per capita in the private health sector).

- v. **Development of Institutional Capacity.** With the reform initiatives, the role of the Ministry of Health is changing from health care provider to regulator. The Ministry of Health will be re-organized and staffed with suitably trained personnel to perform the changing role. The need for more focused planning for Health Sector has been recognized. A Planning Unit will be established within the Ministry of Health and charged with responsibility of strategic planning of the Health Sector. A Health Needs Assessment will be conducted and a 5-year Health Plan developed. Existing legislation will be reviewed and standards established for all facilities and providers of health care.
- vi. **Development of Physical Facilities.** The upgrading of the physical facilities is also an integral part of the reform process.

Effects of Hurricane Ivan and Emily on Health Services: On 7th September 2004, Grenada was hit by a category 4 hurricane (Hurricane Ivan). Damage from the Hurricane resulted in the death of 28 persons and hospitalization of a further 353 persons. 90% of housing was damaged leaving 30,000 persons homeless. Approximately 68% of health facilities and services were affected with an estimated cost of repairs at EC \$ 8.1 Million. For this reason, the 2004 corporate plan focussed on the rebuilding of damaged facilities and restoration of services. In addition, the Ministry of Housing and the Ministry of Social Development implemented an Emergency Housing Policy to reduce suffering

(including mental health), inconvenience and vulnerability by assisting persons to repair and replace houses damaged or destroyed.

- vii. **Human Resource Development.** The critical role of human resources in any Reform Process has been identified. As part of the Health Sector Reform process, the Ministry of Health has introduced a continuous on-the-job training for all categories of staff. Additionally, the Ministry will continue to collaborate with the Pan American Health Organization (PAHO), other agencies and Government in sourcing training opportunities both short- and long-term for staff at all levels. The MoH is also constrained by the lack of succession planning for its' staff, especially specialist medical and administrative staff, which is evident by the lack of staff training plans. The government currently has “zero growth” policy for new personnel. It is also difficult to determine whether the current staff numbers and categories meet the requirements for current service provision. In addition, other staff issues impact on the current attendance and utilization of staff. For example, the granting of private practice privileges to Consultants, Specialists, District Medical Officers and Dental Surgeons has raised concerns of adequate coverage by these professionals. Nursing staff are attracted to offers from developed countries and threatens the potential supply of nurses to Grenada.

SECTION V

ISSUES TO BE ADDRESSED

5. ISSUES TO BE ADDRESSED

Grenada is undergoing a period of epidemiological and nutritional transition which is characterized by morbidity and mortality from chronic non-communicable nutrition-related disease. The situation analysis revealed that although the incidence of severe protein energy malnutrition was negligible and infectious diseases basically controlled, there was cause for concern with the increasing incidence of obesity in children and adults. This is compounded by the availability of high calorie, low nutritive value foods in schools. There is also a need to address the types and quality of foods sold at the fast food outlets and to ensure that the population is educationally empowered to make healthy food choices. Iron deficiency anaemia is also on the rise in pre-school age group: there is a lack of data on school age children. Although data are routinely collected on nutritional status, very little analysis is done to produce evidence-based information for policy decision-making

In order to make healthy food choices, the population needs to be empowered with knowledge, skills and provided with the necessary supportive environment. In the formal education system, Food and Nutrition is well covered at the Nursery School and Primary Level (Up to June 2007), and at Secondary Forms 1-2. However, from Forms 3-5, it is optional with very few students taking it at CXC level. Physical Education is also well covered at the Nursery School, and weekly at the Primary and Secondary Forms 1 and 2, after which, it is extra-curricular. In addition to healthy food choices, all school children need to be exposed to Physical Education as a means of increasing physical activity for the prevention of the NCDs. The level of training the Physical Education training teachers receive will impact on the effective implementation of set programmes.

Monetary support provided to adults and elderly persons with chronic non-communicable diseases (NCD) should be revisited to emphasize activities related to diabetes and for the imparting knowledge to those persons for adequate utilization of those funds for nutritional management of

their disease. A lack of physical activity also has an impact on the development of the NCDs. Behaviours are learned from infancy; therefore, the quality of meals provided to children at schools can impact positively on lifestyles. Greater efforts should be made in recruiting caterers to the school feeding programme since persons should possess a level of education that would allow experts to impart knowledge on critical nutrition and food safety issues.

Domestic production is not competitive with imported foods due to a reduction in the capacity of the agricultural sector to produce competitively priced foods. This has led to a high food import bill. The prices of agricultural inputs are high therefore the cost of the produce is high. In addition market facilities are limited. With respect to livestock production, investment is needed in the areas of quality control and the establishment of a small scale abattoir facility. Policies and guidelines for the management of slaughter houses should be developed and enacted in accordance with the new (CARICOM) food safety laws and the implementation of HACCP should be promoted. Interdepartmental co-operation needs improvement. Even though the fish industry has been very successful in the export of fresh and frozen fish, further investment is needed in the areas of quality control and fish processing. With respect to agro-processing, there is need for quality assessment to tailor niche products for the tourism industry and the regional export market. Production scheduling and market information systems are in place but they are under-utilized. Partnerships between the agricultural sector and the tourism industry have to be strengthened in a creative way.

There is an excess of energy and protein at a national level. Since income and price levels determine, to a great extent, household food availability, being food secure at a national level does not necessarily translate to nutritional adequacy at the household level. To determine this, surveys including: Household Budgetary Survey; Food Consumption Survey; and Survey of Living Conditions need to be done. Although Minimum Wage has been set at \$350 - \$700, the guidelines for selecting persons receiving welfare needs to be revised. To improve food availability and national and household food security, there needs to be improved and equitable access to resources; improvement in financial support; more effective implementation of projects; increased emphasis on empowerment of communities; and improved collaboration and co-ordination among agencies particularly for the pooling of scarce resources.

The limited human resources at all levels in the Environmental Health Department and the Agricultural Department deem it virtually impossible to monitor food safety and sanitation. Therefore, there needs to be a holistic approach to deal with issues of environmental management. Legislation for the licensing of food handlers need to be put in place and abattoir facilities need to be established. In addition, food vendors and consumers need training in proper hygiene and food safety practices. In the Environmental Health Department there is limited harmonized approach to food safety in relation to other relevant agencies and this is made even more difficult since Grenada has inadequate Hygiene Regulations. In addition, there is no Committee to assess and monitor the overall food and nutrition situation.

In developing the National Plan of Action (NPAN), it is important to distinguish between immediate, underlying, and basic root causes of food and nutrition security problems. These projects must be implementable at sectoral and community levels within the limitations of existing resources. This requires an intersectoral committee, not only to assess and monitor the food and nutrition situation at national level, but also to plan; implement selected projects; monitor and evaluate nutrition interventions at all levels using the participatory approach.

SECTION VI

PROPOSED POLICIES AND PROGRAMMES

6. PROPOSED POLICIES AND PROGRAMMES

The review of the food and nutrition situation indicated that over the last twenty-five years there has been a reduction in protein energy malnutrition and an upsurge/increase in the chronic non-communicable nutrition-related diseases. Anaemia remains a very serious problem especially among the one-year olds. With regards to food availability, there is an excess in the availability of energy, protein and fat. There has also been a reduction in the capacity of the agricultural sector to produce competitively priced foods leading to a high import bill. Domestic food production is not competitive with imported foods. Although there are relatively stable prices, there is limited knowledge and inadequate promotion of the locally produced food. There has also been a perceived increase in the number of persons in the socially vulnerable group. The review of current policies and programmes indicated a high degree of relevance to the emerging problems. There is however need to reorder priorities and strengthen intersectoral collaboration to maximize the impact of activities in food and nutrition. Objectives must be clearly stated and indicators of progress must be objectively verifiable. The ultimate goal of this food and nutrition thrust is to improve the food, nutrition and health status of the population. Subsidiary objectives include:

1. The reduction of morbidity and mortality due to the nutrition-related chronic non-communicable diseases.
2. The prevention and control of micronutrient deficiencies particularly iron deficiency anaemia among pregnant and lactating women and children.
3. The reduction of protein-energy malnutrition in children.
4. Ensuring the quality and safety of foods and minimizing food borne illnesses.
5. Improving nutritional care for the socially vulnerable.

6. Strengthening the food and nutrition surveillance system.
7. Improving household food security.
8. Incorporating nutrition objectives into the national development plan and sectoral plans.

A description of the projects and programmes follows. These programmes and projects take into consideration the global and regional context of trade liberalization as established by WTO and the agreements within CARICOM.

6.1. Promotion of Healthy Lifestyles

This project seeks to reduce the incidence of morbidity and mortality of the chronic non-communicable nutrition-related diseases (CNCD). The strategic approaches will focus on improving systems of data collection and analysis; promoting healthy lifestyles (proper diets, regular exercise, moderate use of alcohol, stress management, cessation of smoking) through education by utilizing the school system, clinics, community groups, and other organizations; strengthening the collaboration among all sectors in the nutrition and health related conditions; assisting in the provision of accessible, affordable, acceptable medical treatment and support system for individual families and communities; incorporating healthy lifestyle promotion programmes in the private and public sectors as well as through NGOs.

The healthy lifestyle programmes will start at a very early age and continue throughout the life cycle. Activities to address the proposed strategies include training of health personnel and support staff in data collection and analysis in respect of the chronic diseases. This will involve the development of a register of chronic diseases - diabetes, hypertension and heart disease. Mobile and outreach clinics will be established to conduct screening of these conditions. It will also involve legislation to deal with the practices of private institutions. This would also involve the mandatory reporting of nutrition and health related conditions by private practitioners. Generic drugs will be promoted to reduce costs to chronic disease patients. Dietary guidelines will be prepared for the management of chronic diseases in a form that is easily understood by the public.

The government commits itself to incorporate healthy lifestyle promotion programmes within all ministries and the private sector. Manufacturers will be required to use national dietary guidelines on product packages. National labeling standards will be revised to include Nutrition Facts on all marketed foods to allow consumers to make healthy choices and substitutes. Fiscal incentives and disincentives will be put in place to combat obesity and the CNCD: higher taxes will be placed on foods high in fats, salts and sugars. Incentives will be given to companies or individuals who invest in walking paths, swimming pools and other such recreational facilities.

Information will be disseminated through the available media to influence appropriate food choices by consumers. In addition consumers will be guided as to economical food choices for well balanced diets.

6.2 Prevention and control of micronutrient deficiencies

The aim of this project is to reduce the prevalence of iron deficiency anaemia and other micronutrient deficiencies. There is a persistent high prevalence of anaemia among children 0-1 year old and pregnant women. This would be addressed through promotion of breast feeding, supplementation and appropriate diet (iron rich foods) targeting women of child bearing age. A protocol for pregnant women with respect to proper dietary habits will also be developed. Women of child bearing age would be encouraged to be screened for Hb status. Those that are likely to be iron-deficient would be counselled and encouraged to modify their diets to include iron-rich foods and take iron and folate supplements as indicated. The methods of assessment of Hb levels will be standardized and relevant training of health care providers conducted. The status of other micronutrient deficiencies has not been assessed. Research would therefore be conducted to address this data gap. The levels of worm infestation in the population will be determined and corrective action taken. Evaluation of iron fortification will be continued to assess the impact and periodical checks on fortification levels will be done through the Produce Chemist Laboratory. Research will be conducted to investigate the causal factors specific to the high levels of prevalence.

6.3. Prevention and Control of Macronutrient Deficiencies

The project addresses the problem of PEM in the 0-5 year age group. Components of this project include promotion of healthy food choices before and during pregnancy, exclusive breastfeeding from birth to at least 6 months and the timely introduction of suitable complementary foods. Guidelines for the preparation of complementary foods will be developed and distributed to care-givers through health centres, schools, and day care centres in situations that cater for adolescent mothers. Food preparation will be demonstrated to mothers and care givers. Efforts will be made to promote the Baby Friendly Hospital Initiative. A system will be established for identifying children at risk of PEM. For example, all low birth weight babies will be monitored to prevent further deterioration in nutritional status. Immunization programmes will be strengthened to give 100% coverage of the child population.

6.4. Food Quality and Safety

This project seeks to ensure that safe and wholesome food of high quality reaches the consumer to prevent the occurrence of food borne illnesses. Systems will be put in place to ascertain the quality of imported foods with respect to micro-bacterial content, hormones, additives and other contaminants. An effective Food Quality and Safety Control System must include Legislation, Regulations and Standards together with organization for effective inspections and compliance monitoring including laboratory analysis. Where laws exist they will be reviewed and updated. Regulations and Food Standards will be developed to cover the composition of foods; acceptable levels of additives and contaminants; the way in which food is prepared, processed, packaged, labelled and stored to protect consumers. The issue of Genetically Modified Organisms (GMO) and Living Modified Organisms (LMO) will be addressed through labelling as well

The frequency of inspections of hotels, restaurants and food preparation sites will be increased to ensure that standards are maintained. In order to improve the environmental health/public health conditions in the communities, routine inspections would be conducted of food establishments and street food vending operations. All imported foods will be inspected at the ports of entry and the EHOs will be trained in the principles and application of HACCP. The enactment of new Food Safety legislation will be followed up and policy guidelines will be developed for the management of abattoirs and slaughtering sites in keeping with existing legislation. New Food Safety laws in accordance with WTO Rules and Regulations will be enacted. Training seminars will be conducted for street food vending operations and food handlers. The disposal of all condemned foods will be supervised. An EHO will be permanently stationed at the main ports of entry to facilitate inspection of all imported foods. A comprehensive and integrated Rodent Control Programme will be developed and implemented to address the infestation at all ports of entry, the household level, and in the farming community. Essential staff will be recruited and trained to undertake the inspection of foods at the main ports of entry, food establishments and street food vending operations. A data base pertaining to food inspection and condemnation will be developed. The database of food borne illnesses will also be improved. The islandwide collection of solid waste has been improved and the disposal is done at designated and approved landfills and disposal sites by the Grenada Solid waste Management Authority.

Regular meetings of the National Food Safety Committee will be held and the National Agricultural Health and Food Safety Agency established.

6.5. Caring for the Socially Vulnerable Groups

The thrust of this programme is to improve the nutritional status of the socially vulnerable. The target groups include senior citizens in households and institutions, orphans, unemployed single parents, some PLWHA and some disabled. The strategies adopted to achieve this objective include evaluation of the management of the institutions with particular reference to food procurement, preparation and nutritional standards. Training of care-givers will be provided to address deficiencies identified.

Standards have been developed for registration and management for senior citizens homes and a specific agency will be charged with the monitoring of these standards. The subvention will be increased to these homes. The GFNC will be empowered to monitor menu planning, meal preparation, meal service and sanitation for all centres (schools and day care). Legislation will be enacted to provide protection for Social Sector personnel. The law should empower these persons to enter households and institutions to address social ills without fear of prosecution. A system for evaluation and monitoring of nutritional status and a food support system will be developed. In addition, there will be paid training for single unemployed parents that would lead to subsequent employment.

6.6. Food and Nutrition Surveillance

This project is designed to improve the monitoring, evaluation and dissemination of information for food and nutrition programme planning. The achievement of this objective depends on the cooperation of all relevant sectors involved in food and nutrition surveillance. Existing data source will be assessed and annual meetings of relevant sectors to discuss the status of the surveillance systems will be conducted. Personnel involved in food and nutrition surveillance will be trained in data collection, analysis and reporting. A critical set of indicators for assessing and monitoring problems of food security, undernutrition, micronutrient deficiencies and overnutrition will be identified. Computer equipment and software will be put in place to facilitate speedy output of information and reports.

Legislation will be enacted to provide a regulatory and policy framework to facilitate surveillance activities especially in relation to accessing information from the private sector. In this connection, provision will be made for the protection of confidentiality. Periodic surveillance bulletins will be produced and disseminated to all administrators and decision makers dealing with food and nutrition problems.

6.7. Household Food Security

The purpose of this project is to ensure that all individuals have access to nutritious foods at affordable costs at all times. The strategy to be adopted here is the increased provision of incentives to promote the domestic production of a wide variety of foods especially corn, peas, beans, ground provision, fish, small ruminants, fruits and vegetables. Incentives will be in the form of provision of planting materials; improved market infrastructure, including market information and news; the provision and upgrading of abattoir facilities; and duty free concessions on agricultural inputs including equipment and fertilizers. The Praedial Larceny Act will be implemented.

Programmes will be developed to educate producers on consumer demands and requirements; ways will be devised to add value to fruits, vegetables, roots and tubers through improved processing, presentation and packaging. The required acreages for fruit production to supply the agro-industrial sector will be established along with increased fresh fruit and vegetable production. Post harvest handling of those fruits, vegetables, roots and tubers will be improved to increase shelf life. Contract purchasing arrangements with hotels will be established. Agro-processing will be promoted through the provision of incentives for the establishment of agro industries; for example, coconut could be grated and frozen in bags. These incentives will be in the form of the introduction and distribution of leaflets, pamphlets etc. on processing technologies, including drying, salting, refrigeration and smoking.

With respect to livestock, there will be increased production of mutton (lamb and goat); improved access to quality poultry and small ruminant meat market both locally and regionally. Abattoir facilities will be upgraded to meet international standards. With respect to fisheries, access to financing will be facilitated together with improved infrastructure in communities particularly for times of disasters. New methods to utilize and process underutilized fish species will be identified and the value-added fisheries products will be promoted. The conservation programme will be enhanced. Creative terms and conditions of agricultural credit will be devised to facilitate greater use by farmers. The system will take into account the disadvantaged position of women farmers. The production system will also take into account the protection and

conservation of forest biodiversity through capacity building, research and species management. In order to combat deforestation, there will be reforestation in order to increase the social, economical and environmental benefits to all stakeholders. In promoting effective management of forest resources, all vacant posts within the Forestry structure will be filled.

A Market Information System will be introduced which links the present FAO Agriculture Marketing Project with the CAMID project. These will form the basis of a functional Agricultural Marketing Unit which will be established to collect information from the farmers, MNIB and hotels in terms of crops produced, quantities, purchases, spoilage etc. in order to influence crop production schedules, marketing, food distribution and price trends. The rehabilitation of farm roads will continue and the necessary water systems for broader irrigation use will be provided. Research farms and laboratories will be developed. The price of inputs and the cost of production of crops will be critically examined with an aim to making available cheaper food to consumers. It is hoped also that with the increased local production of crops that food imports will be reduced.

The effects of the Common External Tariff (CET) could have an inflationary impact since lower priced goods imported from outside the region are subject to duties whereas higher priced regional goods are protected. However the free market and economy system will stimulate regional competition that would place a downward pressure on food prices within the region. Moreover, firms and food producers would seek to improve quality to satisfy consumer demand and to remain competitive. Furthermore, the information of regional institutions such as CROSQ would provide the necessary technical assistance for quality enhancement.

Backyard gardening will be promoted through the production and distribution of pamphlets describing propagation techniques, care and handling of produce for various crops and livestock. “Best Backyard” competitions will be held, and recognition given to winners. Recipe books emphasizing the use of produce from home gardening will be developed, and promotion of these will be done through food demonstrations. Public fairs and exhibitions will be mounted from

time to time. These fairs will highlight the variety of foods produced within the country and their use in meal planning.

Economical ingredients for well balanced diets will be promoted based on nutrient cost analysis. Consumer groups will be encouraged to make bulk purchasing, as well as operate food distribution outlets. Research will be conducted to determine the components of the retail prices of basic foodstuffs with a view to determining the reason for high food prices, and to plan remedial strategies.

6.8. Incorporating Nutrition Objectives into the National Development Plan

National development plans in the past have given high priority to economic issues on the mistaken notion that economic development would lead to improved nutrition and health status of the population. Experience has shown that this is not an automatic consequence. More direct impact on the food, nutrition and health situation derives from explicitly incorporating nutrition objectives into policies and programmes.

Nutrition goals and components will be incorporated into the national development plan and sectoral plans and projects particularly in areas of Health, Agriculture, Education, Social Development, Trade and Finance. Policy makers will be sensitized to the severity of nutrition problems and their causes and how activities within their sector can affect nutritional status. Development programmes will be assessed for nutritional impacts to clearly identify potential benefits or hindrances to nutritional well-being. The interministerial mechanism (GFNC) to promote co-ordinated policy decisions and collaborative actions among various sectors will be strengthened. Communities will be encouraged and supported to identify and address their nutritional problems in their development activities focusing on those activities that improve nutrition. The private sector, including small scale processors and producers, industry and NGOs, will be encouraged to promote nutritional well-being by considering the impact of their activities on nutritional status. Regular information on national nutritional status will be provided to all sectors.

SECTION VII

PLAN OF ACTION

7. PLAN OF ACTION

7.1 *Goal*

The overall goal which the policies and programmes seek to achieve is the improved food, nutrition and health status of all members of the population. This goal will be achieved through the co-ordinated implementation of a series of projects focusing on the identified priority issues.

7.2 *Projects and Action Plan*

Projects are elaborated into plans of action using the logical framework approach. The ordering of the projects each with a specific purpose, expected results (outputs) and major clusters of activities does not constitute a hierarchy of importance. Each project is critical to the achievement of the overall goal. Separation of the projects facilitates manageability but co-ordinated implementation ensures efficiency for example, the issue of obesity and chronic nutrition-related diseases will be addressed by the promotion of breastfeeding and healthy nutrition lifestyles including physical activity and exercise. A change in the food availability and prices profile will also contribute to this important public health problem, while strengthening the food and nutrition surveillance system allows for better evaluation of progress. After the policy is accepted by Cabinet, all stakeholders will be brought together to prioritize projects based on overall resources and readiness for implementation by the various departments.

