

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

**Belmopan
February 2010**

The Food and Nutrition Policy and Plan of Action for Belize

Prepared by
The Food and Nutrition Security Commission
of the
Government of Belize

With technical support from

Caribbean Food and Nutrition Institute
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GLOSSARY

AIDS	–	Acquired Immune Deficiency Syndrome
BAHA	–	Belize Agricultural Health Authority
BHIS	-	Belize Health Information System
BZ\$	-	Belizean dollar
CAMDI	-	Central American Diabetes Initiative
CARICOM	–	Caribbean Community
CFNI	-	Caribbean Food and Nutrition Institute
CHW	-	Community Health worker
CNCDs	-	Chronic Non-communicable Diseases
EU	-	European Union
FAO	–	Food and Agriculture Organization
FBD	–	Food Borne Diseases
FNS	–	Food and Nutrition Security
GDP	–	Gross Domestic Product
H/A	–	Height for Age
Hb	-	Haemoglobin
HECOPAB	–	Health Education and Community Participation Bureau
HFLE	-	Health and Family Life Education
HIV	–	Human Immunodeficiency Virus
IICA	–	Inter American Institute for Corporation on Agriculture
IMF	-	International Monetary Fund
IMR	-	Infant Mortality Rate
INCAP	-	Institute of Nutrition for Central America and Panama
IU	-	International Units
LBW	-	Low Birth Weight
LSMS	-	Living Standards Measurement Survey
MAF	–	Ministry of Agriculture and Fisheries
MDGs	-	Millennium Development Goals
MICS	-	Belize Multi Cluster Survey
MoH	–	Ministry of Health

NCDs	-	Non-Communicable Nutrition-related Diseases
NEMO	–	National Emergency Management Organization
NFNSC	–	National Food and Nutrition Security Commission
NGO	–	Non Governmental Organization
NHDAC	-	
NHI	–	National Health Insurance
NPAN	-	National Plan of Action on Nutrition
OIRSA	–	International Regional Organization for Animal Health
PAHO	–	Pan American Health Organization
PE	-	Physical Education
PLWHA	–	Persons Living with HIV/AIDS
QADS	-	Quality Assurance and Development Services
REAP	–	Rural Education and Agricultural Project
SIB	-	Statistical Institute of Belize
SPS	–	Sanitary and Phytosanitary Standards
TCC	–	Technical Cooperation among Countries
UNICEF	–	United Nations Children Fund
US\$	-	United States of America dollar
VAT	-	Value-Added Tax
W/A	–	Weight for Age
W/H	–	Weight for Height
WHO	–	World Health Organization
WTO	–	World Trade Organization

EXECUTIVE SUMMARY

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Purpose

This Document entitled 'The Food and Nutrition Security Policy and Plan of Action for Belize 2010 - 2015' is intended to serve as a framework for policy decisions by the Government of Belize and for the implementation of programmes to ensure food and nutrition security for all Belizeans.

Background

In February 2001, the Government of Belize ratified a Food and Nutrition Security Policy for Belize which outlined key strategies to ensure the sustainable supply, accessibility, and use of safe, high quality, nutritious, diversified, and culturally-accepted foods for all Belizeans to improve their well-being and quality of life. From this plan a five year National Plan of Action on Nutrition (NPAN) (2005-2010) was developed. In November 2009 the Government of Belize requested that the policy be revised and the NPAN subsequently updated. The present document is the result of that request.

Physical Description of Belize

Belize is on the Caribbean coast of Central America, bordered on the north and part of the west by Mexico and on the south and remainder of the west by Guatemala, with a total area of 22,966 square kilometres including mainland and cayes and 22,806 square kilometres mainland. Arable and permanent cropland total some 89,000 hectares. Much of the remainder is marsh, mangrove swamp, and steep hilly areas. The arable and cultivated area is capable of supplying the local market and producing a surplus, especially in grains, for export.

Political Description

Belize is a sovereign democratic state, the former British Crown Colony of British Honduras. Belize gained independence from Great Britain on 21 September 1981, and has a parliamentary system of government modeled on the Westminster system. There are six administrative districts: Belize, Cayo, Corozal,

Orange Walk, Stann Creek, and Toledo. The former capital, Belize City, remains the commercial centre of the country. A new capital city, Belmopan, was chartered in 1970.

Population and Poverty

The following information comes from the Belize Country Poverty Assessment Draft Final Report compiled in November, 2009:

Total Population 330,715

Prevalence of Poverty by Household

Indigent - 8,539 that is 10% of the total number of households

Poor not Indigent 18,270 that is 22% of the total number of households

All Poor 26,809 33% of the total number of households

Prevalence of Poverty by Population

Indigent - 52,185 that is 16% of the total population

Poor not Indigent 90,678 that is 27% of the total population

All Poor 142,861 that is 43% of the total population

In its summary of the change in poverty since the last Poverty Assessment in 2002, the 2009 Draft final report has this to say:

'Poverty has increased substantially in Belize since the previous CPA was carried out in 2002. Household poverty has increased from 25% to 33% and individual poverty from 34% to 43%. Indigence or severe poverty has also increased from 8% to 10% (households) and 11% to 16% (population). Poverty and indigence have increased in all districts except Toledo where there has been a decrease, although it still remains the poorest district in the country with by far the highest level of indigence. The sharpest increase has been in Corozal which now has the second highest level of poverty after Toledo. Poverty is now more evenly distributed geographically than it was in 2002. Nevertheless, the majority of the population and two thirds of households are not poor; housing conditions and ownership of durable (goods) have improved for the poor and not poor alike and there is little evidence that more than a small minority of the population is going hungry.'

Belize Country Poverty Assessment Draft Final Report November 2009 - p. 213

Development initiatives from Government and from the NGO community in the Toledo District have helped, but the continued high incidence of poverty in the district indicates the need for new development approaches.

Belize's first MDG report identified increasing poverty in urban areas, especially on the south side of Belize City. The report noted the need for viable economic opportunities for vulnerable groups as a challenge which must be surmounted for achievement of the target of halving the proportion of people who suffer from hunger by the year 2015.

Causes of Poverty in Belize

This situation nationwide is compounded, and efforts to reduce poverty are compromised by declines in income from banana, sugar, citrus, and shrimp exports. This loss of export income is an effect produced by macro-economic conditions, economic globalisation, and natural disasters.

The segment of the population suffering the effects of malnutrition need to be divided between those who are experiencing actual hunger and those whose diet is made up of too many of the wrong kinds of food. Bad diets are often the result of cultural habits, some recently acquired, more than economic hardship, which might be called self-inflicted poverty. Many children consume large amounts of sugary soft drinks and snacks filled with fat and sodium. Such items in a diet, especially in the diet of a child, have been called 'slow poison' and in the opinion of many ought to carry warning labels similar to those now required on cigarettes.

In the development of specific projects, emphasis should be placed on adopting sustainable mechanisms, such as integrated farming systems, to ensure the future food and nutrition security of the population. Emphasis should also be placed on developing educational programmes, both in school and for the public, that will motivate people to give up bad eating habits and take advantage of the availability of locally produced nutritious foods.

Goals

Food and Nutrition Security is defined by INCAP (Instituto de Nutrición para Centro América y Panamá) as 'the guarantee that all individuals, families and the general population have access in terms of quality and quantity to the food that they need for adequate intake and biological utilization to ensure a healthy and socially productive life.' The goal set for the policies and programmes contained in this document is to fulfil that guarantee for every man, woman, and child in Belize; to ensure the sustainable supply, accessibility, and use of safe, high quality, nutritious, diversified, and culturally-acceptable foods for all. Specific goals include:

- Design achievable plans for food and nutrition security improvement with the effective participation of all people in the decisions, actions, and evaluation at all levels.
- Ensure sufficient supply and continued access to a variety of safe foods and drinking water so that people, especially the poor and vulnerable groups, can have nutritionally adequate diets, even during periods of bad harvests, natural and human-caused disasters.
- Ensure adequate intake of macro and micronutrients combined with adequate health care, especially for women, children, the elderly and marginalized throughout the country.
- Improve food safety and nutrition through the regulation and surveillance of the food chain including the production, industrialization, marketing and handling of food products.
- Improve the motivation, knowledge, skills, and entrepreneurship of all stakeholders, for food and nutrition security.

Method of Achieving Goals

The goals will be achieved through projects developed under six programme areas set out in a comprehensive Five-year Plan of Action (2010-2015) which is derived from the stated policies. These programme areas are compatible with the eight thematic areas endorsed by the member governments at the International Conference on Nutrition (1992) and are as follows:

- (1) Information, Education and Communication on Food Production, Preparation, and Nutrition.
- (2) Diversified Food Production, Food Processing, Marketing, Storage, and Credit Mobilisation.
- (3) Maternal and Child Care, School Feeding and Caring for the Socio-economically deprived and nutritionally vulnerable.
- (4) Creation of Employment and Income Generating Opportunities at the Local Level
- (5) Food Safety.
- (6) Analysis and Reform of National Policies for Food and Nutrition Security.

These will be implemented by the various sectors and monitored by the Food and Nutrition Security Commission.

SECTION I

INTRODUCTION

1. INTRODUCTION

Purpose

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The Policy and Plan of Action for the period 2005 to 2010 was contained in two separate documents, one for policy and another for implementation. It will be noted that in November 2009 the decision was taken to combine policy and plan of action in this single document.

Physical Description of Belize

Belize is on the Caribbean coast of Central America, bordered on the north and part of the west by Mexico and on the south and remainder of the west by Guatemala, with a total area of 22,966 square kilometres including mainland and cayes and 22,806 square kilometres mainland. Arable and permanent cropland total some 89,000 hectares. Much of the remainder is marsh, mangrove swamp, and steep hilly areas. This area is capable of supplying the local market and producing a surplus, especially in grains, for export.

The Belizean landscape is divided into two main physiographic regions, the Maya Mountains and the northern lowlands. The Maya Mountains and the associated basins and plateaus are covered with shallow, highly erodible soils of low fertility, heavily forested highlands and very sparsely inhabited. The northern lowlands, along with the southern coastal plain are drained by 18 major rivers and many perennial streams. The country has a tropical climate with pronounced wet and dry seasons, although there are significant variations in weather patterns by region. Average rainfall varies considerably, ranging from 1,350 millimetres in the north and west to over 4,500 millimetres in the extreme south.

1.2 Demographic Characteristics

The 2009 mid-year estimates put Belize's population at 333,200 of which, males account for 166,500 (49.5 %) and females 166,700 (50.5%). (**Table 1**)

The estimated annual population growth rate is 3.2% (World Bank, 2005). Since 1980, an estimated 50,000 immigrants from Guatemala, El Salvador and Nicaragua have settled in Belize. An additional 18,000 Taiwanese have immigrated to Belize from The Taiwanese Republic of China (World Bank, 2000).

According to the **Belize Mid-year Population by Age-group and Sex - 2009, table 1.1**, gotten from the Statistical institute of Belize, it states that of the total population, 43,800 are under 14 and a total of 193,500, both male and female are in the between age range of 15- 65; working group age.

Table 1: Belize Mid-year Population by Age-group and Sex - 2009

Mid-year population by District and Sex - 2009			
	Total	Male	Female
Country Total	333,200	166,500	166,700
Urban	172,800	84,400	88,400
Rural	160,400	82,100	78,300
Corozal	37,300	18,600	18,700
Corozal Town	9,400	4,500	4,900
Corozal Rural	27,900	14,100	13,800
Orange Walk	49,500	25,200	24,300
Orange Walk Town	16,700	8,300	8,400
Orange Walk Rural	32,800	16,900	16,000
Belize	100,100	49,300	50,800
Belize Urban	79,600	38,900	40,700
Belize City	66,700	32,200	34,500
San Pedro	12,900	6,700	6,200
Belize Rural	20,500	10,400	10,100
Cayo	80,800	40,200	40,600
Cayo Urban	49,200	24,000	25,100
San Ignacio/Sta Elena	19,900	9,700	10,200
Benque Viejo	9,300	4,500	4,700
Belmopan	20,000	9,800	10,100
Cayo Rural	31,600	16,200	15,400
Stann Creek	34,500	17,700	16,800
Dangriga Town	12,500	6,000	6,500
Stann Creek Rural	22,100	11,700	10,400
Toledo	31,000	15,400	15,600
Punta Gorda Town	5,500	2,600	2,900
Toledo Rural	25,500	12,800	12,700

Source: Statistical Institute of Belize (<http://www.cso.gov.bz/>)

Table 1.1: Belize Mid-year Population by Age-group and Sex - 2009

Belize Mid-Year Population by Age-Group and Sex, 2009			
	Total	Male	Female
0-4	35,400	18,000	17,400
5-9	43,500	21,900	21,600
10-14	43,800	22,700	21,100
15-19	38,700	19,700	19,000
20-24	27,100	13,600	13,500
25-29	22,700	10,500	12,200
30-34	21,500	9,900	11,600
35-39	20,600	9,700	10,900
40-44	19,000	9,200	9,800
45-49	16,200	8,200	8,000
50-54	12,000	6,000	6,000
55-59	8,900	4,700	4,200
60-64	6,800	3,600	3,200
65-69	5,500	3,000	2,500
70-74	4,300	2,200	2,100
75-79	3,300	1,700	1,600
80-84	2,000	1,000	1,000
85+	1,900	900	1,000
Total	333,200	166,500	166,700

Source: Statistical Institute of Belize (<http://www.cso.gov.bz/>)

1.3 The Political Context

Belize obtained independence from Britain in 1981 and is the only English-speaking country in Central America. The Government is structured as a parliamentary democracy based on the British Westminster system. The British Monarch is the Head of State and is represented in the country by the Governor General. A Prime Minister and Cabinet constitute the executive branch of the government, while a 31-member House of Representatives and an appointed Senate form a bicameral legislature, the National Assembly. The Cabinet consists of Ministers and Ministers of State who are appointed by the Governor General on the advice of the Prime Minister. There is an independent judiciary consisting of Magistrate's Courts, Supreme Court, and Court of Appeal. Belize is a member of the Caribbean Court of Justice, and cases can also be appealed to Her Majesty's Privy Council in London. The country has six Administrative Districts: Belize, Cayo, Corozal, Orange Walk, Stann Creek and Toledo.

Causes of Poverty in Belize

The situation nationwide is compounded, and efforts to reduce poverty are compromised, by declines in income from banana, sugar, citrus, and shrimp exports. This loss of export income is an effect produced by macro-economic conditions, economic globalisation, and natural disasters.

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- Ensure adequate intake of macro and micronutrients combined with adequate health care, especially for women, children, the elderly and marginalised people throughout the country.
Improve food safety and nutrition through the regulation and surveillance of the food chain including the production, industrialisation, marketing, and handling of food products.
- Improve the motivation, knowledge, skills, and entrepreneurship of all stakeholders, for food and nutrition security.

1.4 The Economy

According to the September 2007 Labour Force Survey, the estimated size of the labour force is 122,400. There are a total of 78,092 males and 44,429 females in the labour force. The national unemployment rate is 12.1%. It also revealed that unemployment was highest among the youth (24.0%) and women (18.6%), which is more than twice as high as males which was only 8.4%. An estimated 1.8% of the labour force was under employed and the median household income was \$1,092.00 per month. According to the 2002 Poverty Assessment Report, more than a third of the population lives below the poverty line. Poverty is more severe in the rural areas (44.2%) of the country as compared to the urban areas (23.7%) and is prevalent among the elderly (27.6%) and among youths (31.6%). At the district level, Cayo and Toledo are the poorest with over half of the population living below the poverty line.

There is no statistical difference in the level of poverty between males and females but there is a difference between male and female-headed households. A higher percentage of male-headed (25.5%) compared to female-headed households (21.8%) were poor. Further analysis of the female-headed households shows that poverty was lower among single-female-headed households compared to female-headed households that have a spouse or partner living in the same household, 20.4% and 23.9%, respectively. These findings require further investigation, especially since there is a general belief that poverty is higher among female-headed households.

Belize has an open economy based primarily on Agriculture and Services. For many years sugar, citrus, and banana have been the primary agricultural exports. Recent trends in the global economy and the loss of preferential treatment in European markets have begun to erode those three. Recently Belize has produced a surplus in grains, specifically rice, red kidney beans, and corn, that has been exported thus bringing much-needed foreign exchange into the economy. Two oil fields are now producing petroleum that is exported to Guatemala. The country also relies heavily on forestry, fishing and mining as primary resources.

The economy is dependent upon a narrow economic base for employment and income generation. Primary industries, of which agriculture is the major component, contributed 27.4 percent to GDP in 1980, but this relative contribution has been on the decline since then and contributed 16.2 percent to GDP in 2005.

Table 2: Structure of Belize Economy and Sectoral Change, 1980-2005.

Sectors	% of GDP				Sectoral Change (%) (1980-2005)
	1980	1990	2000	2005	
Primary Industries ¹	27.4	20.0	17.2	16.2	-41
Secondary Industries ²	30.9	22.2	21.1	18.0	-42
Tertiary Industries ³	41.7	57.8	61.7	65.8	58

Source: World Bank. www.worldbank.org. 2006.

¹Agriculture (crops, livestock), Forestry, and Fishing, Mining, and Quarrying.

²Manufacturing (food products and beverages; textiles, clothing and footwear; other manufacturing), Electricity and Water Supply, and Construction.

³Wholesale and Retail Trade; Hotels and Restaurants; Transport and Communication; Financial Intermediation; Real Estate, Renting and Business Services; Community, Social and Personal Services; and General Government Services.

These changes in the relative contribution to GDP reflect significant shifts in the structure of the Belize economy over the past 30 years. For example, the relative contribution of primary and secondary industries to GDP declined, respectively, by 41 percent and 42 percent over the 1980-2005 period, whereas tertiary industries have increased their contribution to GDP by 58 percent over the same period (Table 2). The increases in the services sector reflect the increasing importance of tourism to the Belizean economy.

Belize's macro-economic growth performance can conveniently be separated into distinct growth periods:

1986-1990—high growth (8.6 %)

1991-1998—low growth (3.2 %)

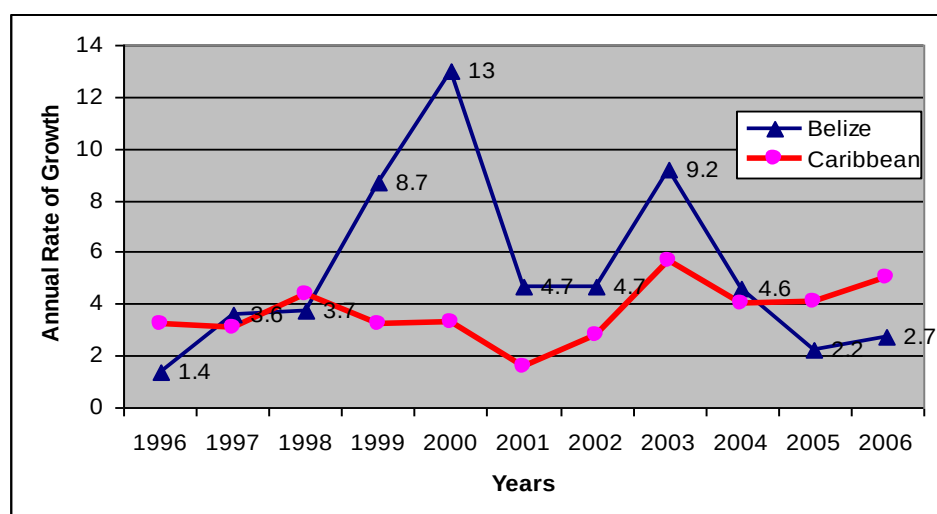
1999-2002—moderate growth (6.0 %)

2003-2006—low/decelerating growth (2.8 %)

1986-1990—high growth

Despite its vulnerability to external fluctuations, Belize's economy has performed well in the past compared to other Caribbean economies (Figure I). From 1986 to 1990 the economy registered an annual average growth rate of 8.6 percent (Devoto, 2006). This is considered a boom period, with the stage being set by the International Monetary Fund's (IMF) structural adjustment program in 1984 and strengthened by the consolidation of Belize's preferential trade agreements with, respectively, the European Union (EU), the United States (US), CARICOM, and Canada (EU, 2002; Devoto, 2006). While the growth effects of the adjustment program have been transitory, it brought control over public finances and inflation. The new government in 1989 relaxed the fiscal restraint and the economy was increasingly reliant upon a productive structure based on preferential trade.

Figure I: Real GDP Growth in Belize and the Caribbean, 1996-2006¹.



Source: Data from IMF, 2006. ¹Constant 2000 prices; 2006 data are estimates.

1991-1998—low growth

The economy decelerated appreciably at an average annual growth rate of 3.2 percent over the 1991-1998 period (EU, 2002; Devoto, 2006). The deceleration started in 1991 when GDP growth was 3.2 percent compared to 10.2 percent the previous year. Further downward growth trend was observed over the 1994-1998 period with an average annual GDP growth rate of 2.6 percent. Four factors have been indicted for this

poor economic performance: (i) the shortened usual Government cycle of five years by one year as a new Government was elected in 1993; (ii) the complete withdrawal of the British Armed Forces Base in 1994; (iii) adverse weather conditions, weak external prices for citrus and sugar, and reduced government fixed investments; and (iv) the introduction of the Value Added Tax (VAT) system in 1996 (EU, 2002).

1999-2002—moderate growth

High growth resumed in the 1999-2000 period to an average of 6 percent then fell dramatically from the 13.0 percent peak in 2000 to 4.7 percent in 2001-2002. The re-acceleration of the economy was facilitated by expansionist economic policies (high levels of public and private investments) and significant increases in traditional agriculture (sugar, bananas and citrus), and non-traditional exports (shrimps, papayas, and peppers), financial services, tourism and construction. But the expansionist economic policy resulted in significant imbalances in the internal and external payment accounts. Fiscal deficit escalated from 4 percent of GDP in 1998 to 10 percent in 2000. At the same time public debt as a percentage of total export earnings averaged 26.7 percent in 1996-98, but increased to 96 percent in 1999-01.

2003-2006—low/decelerating growth

Economic growth has decelerated from 9.2 percent in 2003 to 4.6 percent in 2004 then to a low of 2.2 percent in 2005 (Figure I.2). The robust growth in 2003-2004 was supported by the growth in tourism, the recovery of agriculture and fisheries sectors, and increases in government expenditure. However, the countervailing forces to growth were the fiscal deficits (resulting from high public debt) and increasing import bills relative to export earnings (IMF, 2005). While the government has set policy adjustments into motion, GDP growth is projected to be slow in 2006 (2.7 percent). Finally, while external deficits are expected to shrink, fiscal deficits will remain a main policy challenge, given the high debt service and the difficulties of accessing international capital markets because of the reduction of the country's creditworthiness (IMF, 2005; 2006).

1.5. Food and Nutrition Policy Imperative

This policy is a contract between the Government and people to improve the food and nutrition situation with the limited resources of the country. A healthy population contributes and is significant to the development of a sound economy. However, an overview of the food and nutrition situation and lifestyle practices in Belize points to imbalances in the nutrient availability which correspond to an increasing trend towards obesity and the associated CNCDs: diabetes, hypertension, cardiovascular diseases and some forms of cancers.

The Government of Belize is cognizant of the close interrelationship between food, nutrition and health in the population and the pivotal role this plays in the development process. This policy, therefore, seeks to document a practical approach that would provide an overall framework of food and nutrition-related activities using a health promotion approach. This lends itself to collaborative efforts. The main emphasis is to:

1. Ensure all members of the population have access to adequate supply of safe, wholesome, nutritious foods to meet basic nutritional requirements so that they will be able to live healthy, socially and economically productive lives.
2. Promote healthy lifestyles through greater knowledge and responsibility on the part of individuals and the community, while encouraging greater involvement of community groups in the identification and management of food and nutrition problems.

SECTION II

NUTRITION AND HEALTH STATUS

2. NUTRITION AND HEALTH STATUS

2.1 General Health Conditions

Over the past decade there has been a drastic increase in the incidences of CNCD in Belize. This trend, according to the Caribbean Food and Nutrition Institute (CFNI) represents a rapid epidemiological transition in which CNCDs have replaced malnutrition and infectious diseases as major public health problems, and the burden of disease, disability and premature death has shifted from young children to adults in their productive years of life. During the period 1999-2003 diabetes, with an average of 74.2 deaths per year, ranked fifth among the leading causes of death. Females as compared to males experienced more death due to diabetes with the majority of deaths occurring in the Belize District. With respect to hospitalization due to diabetes the numbers continue to increase during the same period reaching a high of 536 in 2003 from 319 in 1999. Mortality due to diabetes is increasing with age: the 60 years and over age group are most affected averaging 70.9% of all diabetes-related deaths. According to the Ministry of Health (Belize Basic Indicators 2008, vol. 6), diabetes ranked as the leading cause of death. It was also noted that there were 545 hospitalizations due to diabetes.

In 2003, 8.7% of all deaths were due to hypertension and therefore ranked as the leading cause of death. The number of deaths increased from 76 in 1999 to 111 in 2003 indicating an increasing trend. Both males and females experienced death by hypertension equally and the majority of deaths were from the Belize District. During the same period, the number of deaths increased as age increased beyond fifty years with the 50 years and over age group most affected (92.4%). Hospitalizations due to hypertension continue to increase; in 1999 there were 209 and 292 in 2003. However, it is noteworthy that by 2008 there was reportedly a significant decrease of 50% in the number of deaths caused by hypertension. It had become the eighth leading cause of death. In addition to the increased incidence of NCD, there is also an alarming increase in the rate of HIV/AIDS infection in Belize. Since the first reported case of HIV, the

number of new cases increased to 2,471 by the end of 2003. At least 90% of all reported cases are as a result of sexual transmission.

The trends in both communicable and non-communicable diseases are largely attributed to lifestyle practices among the population. These lifestyle practices include sedentary lifestyles, increasing consumption of foods high in fats, salts and sugars, lack of adequate exercise and unsafe sexual practices. This is supported by evidence from a Diet, Exercise and Lifestyle Study conducted in 2003 which shows that of the total population, 36% were found to be overweight and 27% to be obese. This problem is further compounded by the lack of trained human and financial resources to address these issues. Whereas a full-time nutritionist is now employed by the Ministry of Health, there remains a dire need for a fully functional, National Nutrition Unit with outreach capacity in each of the districts. These units need to be adequately supported with financial and human resources for maximum operational capacity.

The country of Belize with its great diversity is faced with numerous challenges related to culture, tradition, communication, literacy and health practice. Health services in Belize are provided through a mix of public and private facilities. A National Health Insurance Scheme was introduced and is currently being piloted in Southside Belize City. It is expected to be rolled over to other parts of the country in the near future. In meeting the needs of vulnerable populations such as rural groups, the elderly, the disabled, single income households, and female-headed households, it is important to address issues that extend beyond the family to the wider community. The main concern therefore, is to ensure the adequate intake of macronutrients and micronutrients combined with adequate health care for these groups in order to improve their quality of life.

Although infant mortality has decreased over the years, 71% of infant deaths are still related to conditions originating in the prenatal period, such as low foetal growth, prematurity and foetal asphyxia. Overall, pregnant mothers start clinic very late and there continues to be problems of iron-deficiency anaemia. Although folic acid and iron

supplements are available from the Ministry of Health Child Health Clinics, There is also a non compliance issue with folic acid tablets which exists among pregnant women. High levels of anaemia are likely to be associated with close and frequent pregnancies as well as poor nutrient intake. Creativity needs to be a big part of the mass awareness programmes which are needed to ensure that women in the child bearing age group are informed of the importance of taking iron and folic acid tablets In addition women can be taught about foods that are high in folic acid and iron. This will help to alleviate the high level of anaemia in pregnant mothers, as well as neural tube defects of newborn.

HIV mothers do exist in Belize and these groups of people need special care in terms of diet. Despite efforts made over the years in the area of breastfeeding, there is still much work to be done and the practice of breastfeeding continues to be a challenge. Presently Belize has 3 Baby Friendly Hospitals and there is still a dire need to incorporate this initiative countrywide. Optimal nutrition of the infant calls for exclusive breastfeeding (no other food or drink including water) for the first six months of life. However, at present only about 28% of mothers exclusively breastfeed their infants up to four months. No data exists for the six months period but it can be reasonably estimated to be lower. A qualitative study on breastfeeding and infant feeding completed in 1997 found that in Toledo, while exclusive breastfeeding practices were appropriate, complementary foods were introduced too late, leading to the high occurrence of malnutrition in this age group.

Infant and young child feeding is an integral part of the services provided but is limited to health education. There is an abundance of local foods but parents often use imported foods. Young mothers attending clinics with young children are educated on the importance of complementary foods but no formal report is documented. Nutrition surveillance is limited to weight for age in the 0-5 age group and in addition, there are constraints due to defaulters, migrant population and seasonal workers.

The School Health Education and Services Programme addressed issues of health education and improved the accessibility of health services to students. Through this

initiative physical education and sports were promoted in primary and secondary schools. One area of special focus was health, nutrition and hygiene education and services in schools. Since 2003 this programme has been housed under the purview of the Ministry of Education, QADS Unit and its main focus is on Health and Family Life Education which allows for a broader perspective that encourages healthy lifestyle behaviours. Presently, the completion of a national policy for Health and Family Life Education is being developed with the financial support of UNICEF. The components of this process includes: the revision of the present curriculum; agricultural education promotion and training teachers and facilitators in Health and Family Life Education.

In 2000, the elderly made up 5.8% of the population (14,500 persons), as compared to 6.8% (15, 620 persons) in 1997. This age group accounted for 11% (1,603) of all hospitalizations in 2000. Diseases of the circulatory system was the leading cause (34%) followed by diabetes mellitus (9%) and included others such as respiratory infections (5%) and malignant neoplasm (5%). Although the elderly represents approximately 6% of the population very little is being done to address their health and nutritional needs. There are limited organizations available which cater to their well being and most of those that exist are non-governmental. Caregivers are not conversant in addressing physical and emotional needs of the elderly and, in particular, this age group is often afflicted with non-communicable diseases which require specialized care and attention.

The only identified group of clients receiving any form of micronutrients from health clinics is pregnant mothers due to a lack of budgetary allocation. Nevertheless, there are fortified foods available on the market such as iodized salt and flour fortified with iron and folic acid.

There was an increase in the overall fertility rates from 3.4 children per woman (2003) to 3.6 (2004), it declined to 3.0 in 2005. The infant mortality rate (IMR) was reduced from 21.2 per 1,000 live births in 2000 to 14.8 in 2003; it was 14.3 in 2004 and 18.4 in 2005. In the period 2001-2005, the mortality rate in children under five as a result of diarrhoea

was reduced from 1.64 to 0.23 (per 1,000 children). The average life expectancy at birth in 2005 was 71.8 (69.5 for males and 74.2 for females). The average crude birth rate in 2005 was 25.7 births per 1,000 population. Teenage pregnancy, as reflected by births to the under-twenty population, decreased from 18.5% in 1998 to 17.1% in 2002.

The crude mortality rate from 2001-2005 was 4.9, 4.8, 4.7, 4.6 and 5.2 deaths per 1,000 population per year, respectively. There were 5 maternal deaths in 2000, 7 in 2002, 3 in 2003, 5 in 2004, and 10 in 2005. There were 10 and 11 still births per 1,000 live births for 2004 and 2005, respectively. There were 6,489 deaths in the period 2001- 2005. In the period 2001-2005 there were 7.8% (504) deaths from hypertension and 50.2% (253) occurred among the females.

Diabetes mellitus ranked among the first ten leading causes of mortality in the period 2001-2005, accounting for 6.1% (398) and of these 57.3% (228) occurred among females. In 2005, it accounted for 6.9% (94 deaths). There were 5.9% (386) deaths from land transport accidents in the period 2001-2005 and ranked 4th in the year 2005 and males accounted for 78.5% (303). There were 5.7 (372) deaths related to Acute Respiratory Infection in the period 2001-2005 and 53.5% (199) occurred among the males. Acute respiratory infections ranked 6th in 2005. The five leading causes of death from defined causes for all ages in Belize in 2005 were heart diseases, diabetes mellitus, ischemic heart disease, land transport accidents and HIV/AIDS. For males, the five leading causes of deaths in 2005 were land transport accidents HIV/AIDS, injuries, ischemic heart disease, and diabetes mellitus. In 2005, for females, the five leading causes were hypertensive disease, diabetes mellitus, ischemic heart disease, cerebrovascular disease, and acute respiratory infections.

Two point eight percent of children under 5 years seen in health clinics in 2005 were obese. Belize District had the highest percentage (36.4%) and Corozal District the lowest (4.4%). In the rural areas, the severity of malnutrition was higher for females than for males, while in the urban areas, it was about equal. In 2001, heart diseases ranked 2nd (82 deaths), ischemic heart diseases ranked 6th (69 deaths), and cerebrovascular

diseases ranked 7th (59 deaths). Cardiovascular diseases accounted for 22.4% of reported deaths in 2001 and accounted for 21.3% of reported deaths in 2005. Hospital discharge data showed 366 and 391 hospitalizations for neoplasm in 2003 and 2005, respectively. In 2005, females accounted for the highest number of cases, of which 183 were benign neoplasm, carcinoma in situ, and neoplasm of uncertain behaviour and of unspecified nature. Neoplasms of these same categories in males were a total of 35. In females, there were 28 cases of malignant neoplasm of cervix uteri and uterus, body and unspecified. In males, there were 9 cases of malignant neoplasm of prostate.

In 2001, there were 18 deaths from cervical cancer, 6 in 2002, and 12 in 2003. Cervical cancer statistics from the Ministry of Health reveal 14 deaths in 2004 and 10 deaths in 2005. Cervical cancer morbidity data indicates 21 cases reported in 2004 and 23 cases in 2005. In 2001, there were 1 and 2 deaths in Stann Creek and Toledo, respectively; however, there were no cervical cancer deaths in the Toledo district during the period 2002-2004. In 2003, malignant neoplasm of cervix, uteri, and uterus body and unspecified, ranked 8th in the ten leading causes of death. In the year 2005, there were 10 deaths from cervical cancer.

A needs-assessment report conducted in 2003 showed that the estimated coverage of cervical cancer screening was 62.7%, with the lowest coverage among illiterate women living in rural areas. Cervical cancer mortality rate in the year 2005 was 6.9 per 100,000 women. In 2008, the leading causes of death were diabetes and Heart Diseases.

Table 3: Morbidity and Mortality, 2008

Mortality and Morbidity 2008					
Leading Causes of Hospitalization	Total Cases	%	Leading Causes of Death	Total Causes	%
Complications of Preg. & childbirth	6495	39.8	Diabetes	103	7.9
Injuries	752	4.6	Ischemic Heart Disease	90	6.9
Acute Respiratory Infections	742	4.6	Injuries	83	6.4
Diseases involving Digestive system	685	4.2	Pulmonary and Circulation	79	6.1
Diabetes	545	3.3	Transport	71	5.5
Appendicitis, Hernia, intestinal disorder	519	3.2	Cerebrovascular	67	5.1
Diseases of Urinary System	472	2.9	HIV/AIDS	62	4.8
Intestinal Infectious Diseases	347	2.1	Hypertensive Disease	51	3.9
Respiratory Diseases (Asthma, Bronchitis etc)	326	2	Respiratory Diseases	47	3.6
Disease of Pulmonary and Circulation	306	1.9	Liver Diseases	42	3.2

In 2008, the leading causes of hospitalization were: complications of pregnancy and childbirth with diabetes being the 5th main cause. Diabetes and Hypertension have proven to be the conditions that have increased the burden on the health sector.

Figure 2: Hospitalization of Diabetes by age group

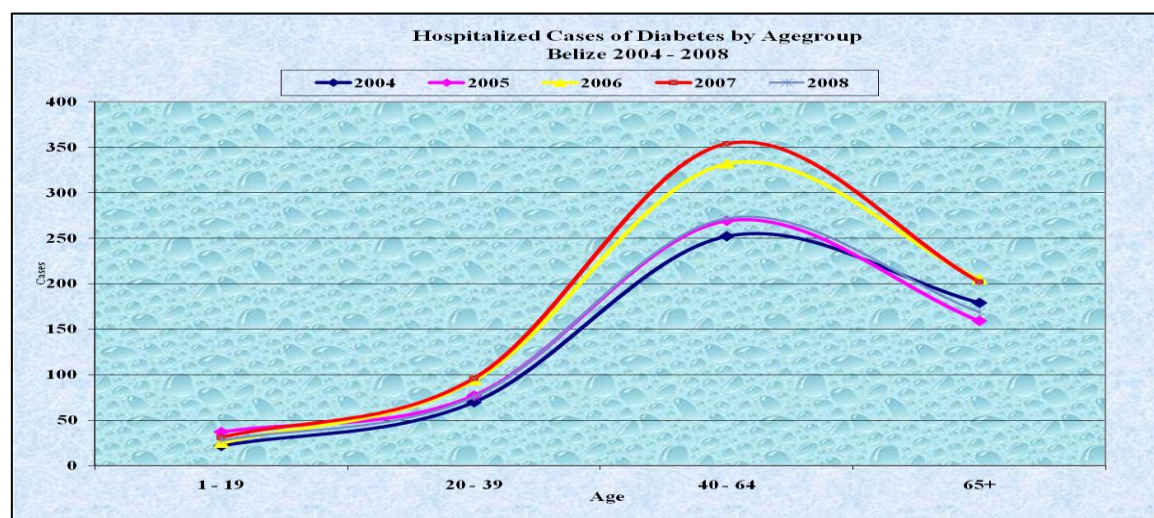


Figure 3: Hospitalization of Diabetes by age Sex

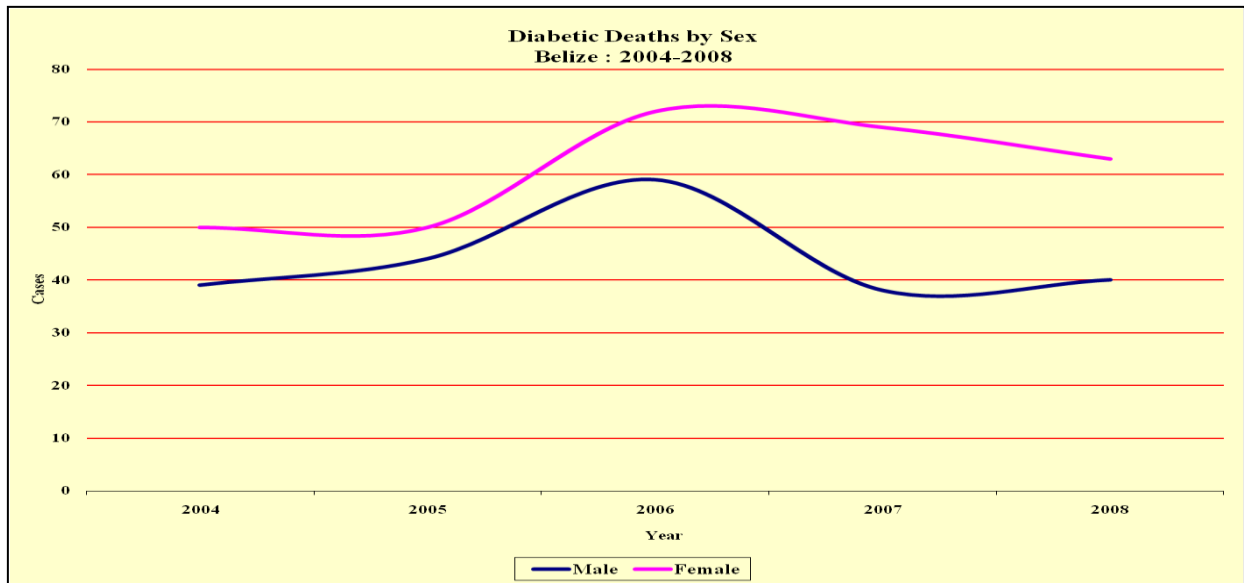


Figure 4: Hospitalization of Hypertension by age group

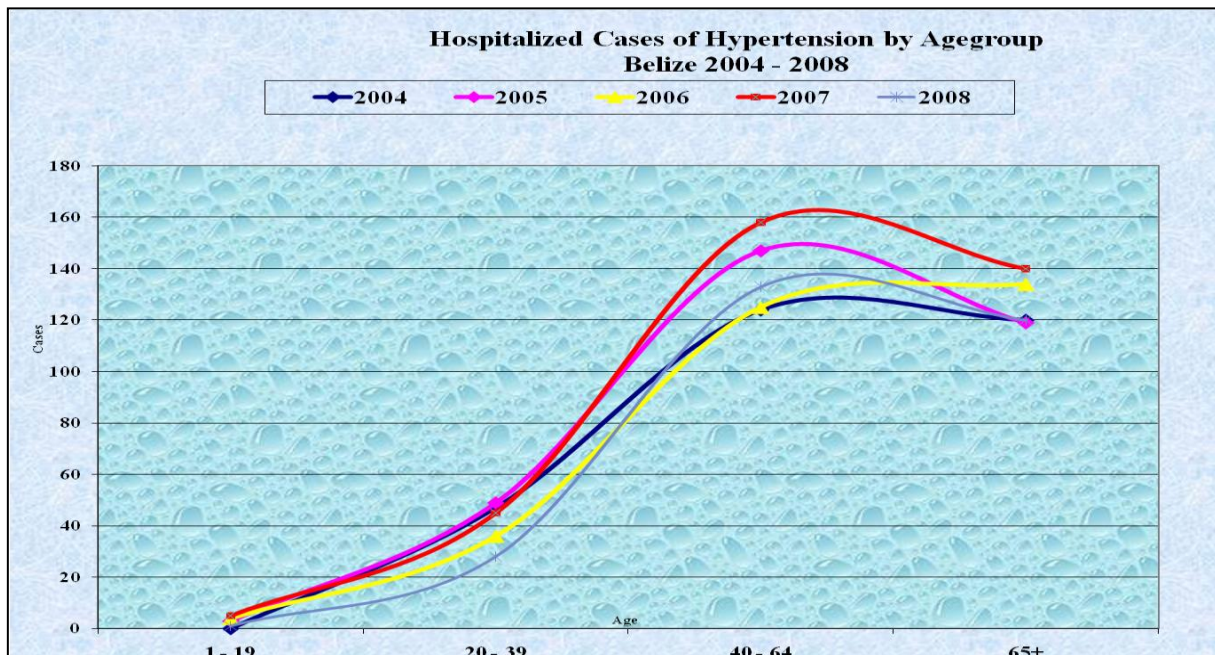
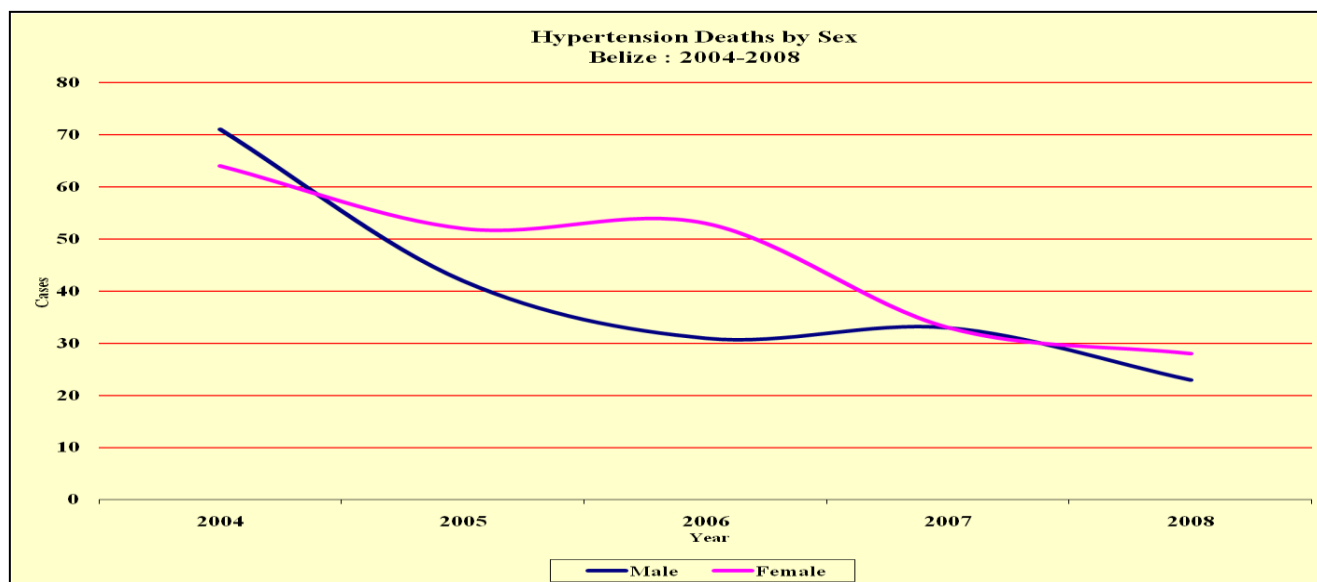


Figure 5: Hospitalization of Hypertension by age group



In 2008, the leading causes of hospitalization were: complications of pregnancy and childbirth with diabetes being the 5th main cause. Diabetes and Hypertension have proven to be the conditions that have increased the burden on the health sector.

During the period November 2005 to July 2006, a study on Diabetes, hypertension and their risk Factors was conducted as a part of the Central American Diabetes Initiative (CAMDI). The study utilized a cross-sectional, household survey design with multi-stage, stratified, random cluster sampling. A national representative sample of adult persons twenty years and older in the six districts of Belize was selected. The sample had representation from the country's ethnic groups. A total of 2,439 persons 20 years and older were interviewed and complete blood samples were taken from 1,629 persons. Blood pressure and height and weight measurements were also taken. The results showed that 13.1 % was the overall prevalence of diabetes among adults 20 and over countrywide; 8.3% of men are affected by diabetes; 17.6% of women have diabetes

With respect to hypertension, 28.7% was the overall prevalence of hypertension: 24.4 of women and 28.6 of men were affected by hypertension. The overall prevalence of high

cholesterol was 5.1% with 6.0% of women and 4.1% of men affected by high cholesterol.

33.2% of study participants were found to be obese: 41.9. % women and 23.1% men were obese 32.5% of study participants were found to be overweight: 35.8 % of men and 30.5% of women were overweight. With respect to physical activity, 77.5% had less than 60 minutes of physical activity per week

In 2006 The Belize Multiple Indicator Cluster Survey was conducted in 2006 by the Statistical Institute of Belize (SIB). The survey provided valuable information on the situation of children and women in Belize and was based on the needs to monitor progress towards goals from the Millennium Declaration, adopted by all 191 United Nations Member States in September 2000. The sample for the Belize Multiple Indicator Cluster Survey (MICS) was designed to provide estimates on a large number of indicators on the situation of children and women at the national level, for urban and rural areas, and for the 6 districts: A total of 2,400 households were sampled countrywide.

The survey revealed that the infant mortality rate was estimated at 22 per thousand, whereas the under-5 mortality rate (U5MR) was 27 per thousand. In Belize, 6.1 % of children under age five are moderately underweight and a 0.7% is classified as severely underweight. Approximately 18 % of children are stunted or too short for their age and less than two % are wasted or too thin for their height. 10.3 % of children under age five are overweight. In Belize, approximately 8% of children who were weighed had a birth weight of less than 2,500 grams at birth.

Just above 10 % of children aged less than six months are exclusively breastfed, a level considerably lower than recommended. Those mothers who did not practice exclusive breastfeeding were mainly from rural areas and had higher levels of education. 23.8 % of children aged 6-59 months received a high dose Vitamin A supplement within six months. The MoH recommends that children who are not breastfed be given low doses of vitamin A at 2 and 4 months of age (50,000 IU). At 6 months, every child receives a

100,000 IU dose and thereafter (12-59 months) every 6 months a mega-dose (200,000 IU) is given as part of the Expanded Programme on Immunization

2.2 Children Under Five Years

The main problems identified were:

- Low birth weight (LBW)
- Stunting
- Wasting
- Overweight
- Food borne illness

Low Birth Weight

The highest prevalence of LBW babies can be found in the Toledo district as shown in Table 4 below.

Table 4: Distribution of Underweight children 0-4 years (Low Weight for Age) by District (2002 LSMS)

District	No.	%
Corozal	80	3.4
Orange Walk	115	7.8
Belize	169	6.1
Cayo	178	5.9
Stann Creek	68	8.7
Toledo	111	13.5
Country	721	7.3

Source: Central Statistical Office, Belize

The data also reveal an 8.9% LBW in Rural as opposed to 5.5 in Urban areas. For the periods 2006 to 2007, the percentage of low birthweight babies was 18% and 13.6% respectively.

Stunting

Stunting is characterised as low height for age and is due to long term food deprivation. Again Toledo showed the highest prevalence as seen in Table 5.

Table 5: Distribution of children 0-4 years with STUNTING (Low Height for Age -LH/A-by District (2002 LSMS)

District	No. of children studied	% stunted
Corozal	80	13.5
Orange Walk	115	18.9
Belize	171	9.4
Cayo	175	12.8
Stann Creek	66	18.2
Toledo	107	43.7
Country	714	17.9

Source: Central Statistical Office, Belize

The data also reveal a 21.7% stunting in Rural as opposed to 13.6% in Urban areas

Wasting

Wasting is characterized by low weight for height (LW/H). when compared by districts, Orange Walk showed the highest prevalence of 2.6%. Table 6 gives a breakdown of the prevalence of Wasting by District.

Table 6: Distribution of children 0-4 years with Wasting by District (2002 LSMS)

District	No.	%
Corozal	80	2.4
Orange Walk	115	2.6
Belize	169	1.4
Cayo	178	0.0
Stann Creek	68	0.0
Toledo	111	1.7
Country	721	1.3

Source: Central Statistical Office, Belize

The data also reveal a higher prevalence in the Urban (1.6%) as opposed to the Rural (1.0) area.

Overweight

NEED DETAILS HERE

Foodborne Illnesses

NEED DETAILS HERE

2.3 Children Five Years and Over

The main problems identified were:

- Anaemia
- Parasitic Infestation
- Stunting
- Wasting
- Overweight

Anaemia

NEED DETAILS HERE

Parasitic Infestation

Table 7 gives the prevalence of soil-transmitted helminthes infections by age and sex. Based on the survey results, approximately 59% of males and 61% of females were infected with soil-transmitted parasites.

Table 7: Prevalence of soil-transmitted helminthes infections by age and sex

Age (years)	Male (% Prevalence)	Female (% Prevalence)
5 – 9 (378)	54.55 (90/165)	58.22 (124/213)
10 – 12 (122)	71.93 (41/57)	70.77 (46/65)
Total (500)	59.01 (222)	61.15 (278)

Stunting, Wasting, and Overweight

The data reveal that for Children Five Years and Older, Stunting was more prevalent in the rural areas which reflects a history of food deprivation, while wasting was more prevalent in the Urban areas which reflects short term deprivation of food. Even though this is so, the children in the urban areas were also more overweight than the children in the rural areas. Table 6 and 7 captures the situation.

Figure 6: Percentage of children with Stunting, Wasting and Overweight in Rural and Urban Areas (LSMS, Belize 2002)

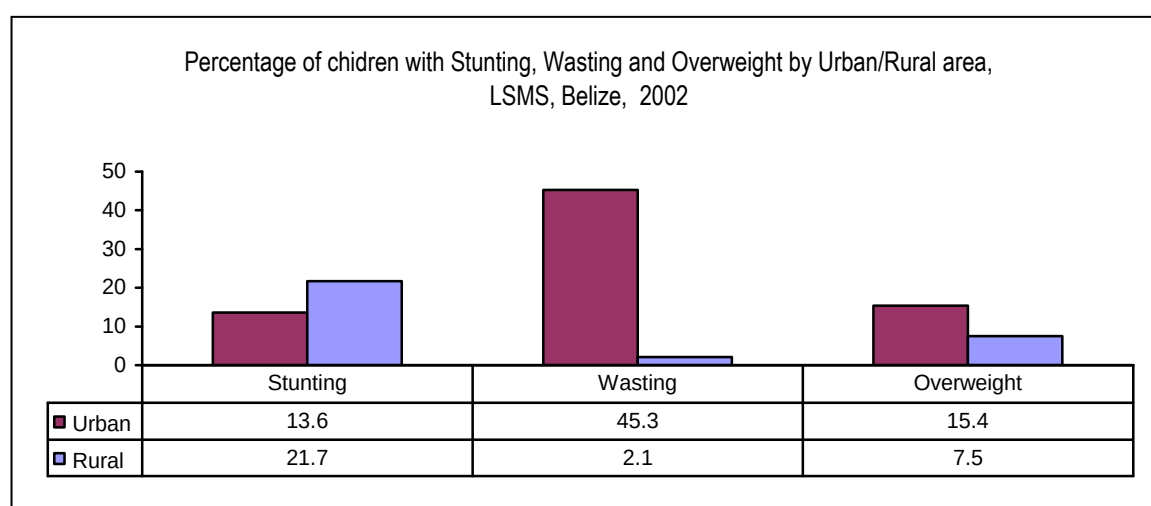
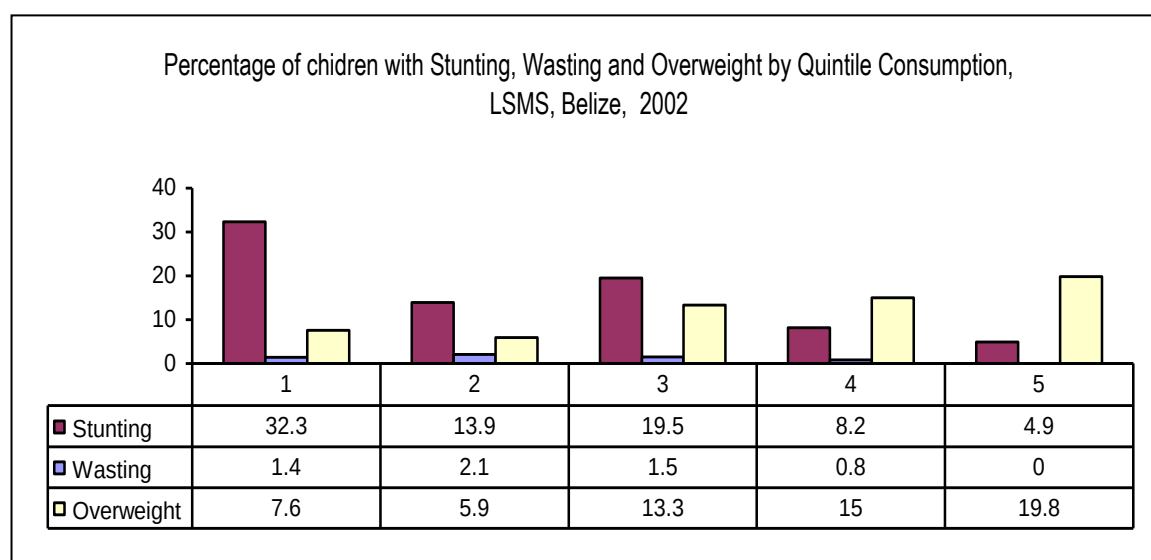


Figure 7: Percentage of children with Stunting, Wasting and Overweight by Quintile Consumption (LSMS, Belize 2002)



2.4. Pregnant and Lactating Women

The main problems identified were:

- Anaemia
- Underweight during Pregnancy
- Overweight during Pregnancy

In Belize the prevalence of anaemia has increased since the late eighties. During the period 1988-1995, the percentage of pregnant women with anaemia increased from 40.2% to 51.7%.

Pregnant mothers tend to start clinic very late. As a result, many problems, including problems with diet, are often not caught in time. One example is iron-deficiency anaemia, a serious threat to the development of the unborn child. Folic acid and iron supplements are available from the Ministry of Health, Child Health Clinics, but pregnant women often do not use such supplements as they are prescribed. Creative mass awareness programmes are needed to ensure that women in the child bearing age group are informed of the importance of taking iron and folic acid and are motivated to follow through in taking such supplements as prescribed. In addition women can be taught about foods that contain both iron and folic acid. This will help to alleviate the high level of anaemia in pregnant mothers, as well as neural tube defects of newborn. In addition to poor nutrient intake, high levels of anaemia are likely to be associated with close and frequent pregnancies.

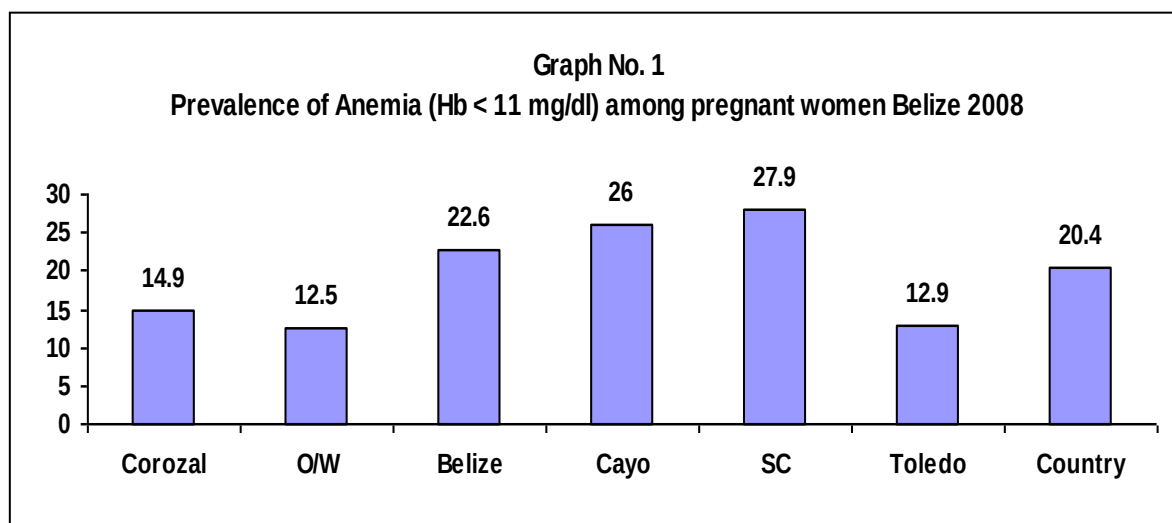
Budget restraints prevent the distribution of micronutrients to any group other than pregnant mothers. Fortified foods available on the market include iodised salt and flour fortified with iron and folic acid.

Table 8: Prevalence of Anaemia among Pregnant Women

District	# Women with HbLab results Available	# Anaemic Women	% Anaemic Women
Belize	1526	872	57.1
Cayo	913	576	63.1
Orange Walk	871	285	32.7
Toledo	209	123	58.9
Stann Creek	551	341	61.9
Corozal	591	214	36.2
TOTAL	4661	2411	51.7

Source: Clinic Records

Figure 8: Prevalence of Anaemia (Hb<11mg/dl) among Pregnant Women in Belize



2.5 Adults and the Elderly

Chronic Conditions including Hypertension, Diabetes, Heart Disease, Cancer, Obesity and Overweight, Habits including smoking, drinking, sedentary lifestyles involving little or no physical activity, Improper diet, Lack of support and care by family, Underweight

The percentage of the population 60 years of age and older increased from 3.7% in 1980 to 8.2% in 2009. This age group is often afflicted with non-communicable diseases which require specialized care and attention. Diseases of the circulatory system, diabetes mellitus are the most common causes for hospitalisation in this age group. Other common complaints are respiratory infections and malignant neoplasm.

Chronic Conditions Hypertension, Diabetes, Heart Disease, Cancer

The overall prevalence of high cholesterol was 5.1% with 6.0% of women and 4.1% of men affected by high cholesterol.

Diabetes mellitus ranked among the first ten leading causes of mortality in the period 2001-2005, accounting for 6.1% (398) and of these 57.3% (228) occurred among females. In 2005, it accounted for 6.9% (94 deaths).

With respect to hypertension, 28.7% was the overall prevalence of hypertension: 24.4 of women and 28.6 of men were affected by hypertension.

In 2001, there were 18 deaths from cervical cancer, 6 in 2002, and 12 in 2003. Cervical cancer statistics from the Ministry of Health reveal 14 deaths in 2004 and 10 deaths in 2005. Cervical cancer morbidity data indicates 21 cases reported in 2004 and 23 cases in 2005. In 2001, there were 1 and 2 deaths in Stann Creek and Toledo, respectively; however, there were no cervical cancer deaths in the Toledo district during the period 2002-2004. In 2003, malignant neoplasm of cervix, uteri, and uterus body and unspecified, ranked 8th in the ten leading causes of death. In the year 2005, there were 10 deaths from cervical cancer.

A needs-assessment report conducted in 2003 showed that the estimated coverage of cervical cancer screening was 62.7%, with the lowest coverage among illiterate women living in rural areas. Cervical cancer mortality rate in the year 2005 was 6.9 per 100,000 women. In 2008, the leading causes of death were diabetes and Heart Diseases.

Obesity and Overweight

The latest reports from the CAMDI study found that 33.2% of study participants were found to be obese: 41.9. % women and 23.1% men were obese 32.5% of study participants were found to be overweight: 35.8 % of men and 30.5% of women were overweight.

Poor Lifestyle Factors (smoking, drinking, poor and little physical activity)

Patterns and Levels of Physical Activity

There is an important link between physical activity, morbidity and mortality. Regular physical activity reduces one's chances of developing or dying from common lifestyle diseases. National levels of physical activity are not routinely addressed. However, at present the population appears to be more physically active and the gym is always heavily booked. In addition to the activity associated with occupations and household duties, physical activity and exercise programmes are implemented through a range of sporting activities including football, tennis, softball and other recreational and personal activities. Health Promotion Programmes are also conducted and some of them focus on physical activity. However because the Unit is understaffed, it has become very difficult to execute all activities in the work plan.

Generally there is a lack of trained health personnel which is particularly apparent in the rural and remote areas. The interventions and programmes build heavily on the network of health personnel such as nurses and health educators. Financial resources are also limited as well as an underdeveloped Data Management System.

From the CAMDI survey it was found that with respect to physical activity, 77.5% had less than 60 minutes of physical activity per week

Support and Care from family

NEED DETAILS HERE. COULD TAKE FROM THE GENERAL HEALTH SECTION IN FRONT

Underweight

The sample for the Belize Multiple Indicator Cluster Survey (MICS) was designed to provide estimates on a large number of indicators on the situation of children and women at the national level, for urban and rural areas, and for the 6 districts: A total of 2,400 households were sampled countrywide.

The survey revealed that the infant mortality rate was estimated at 22 per thousand, whereas the under-5 mortality rate (U5MR) was 27 per thousand. In Belize, 6.1 % of children under age five are moderately underweight and 0.7% is classified as severely underweight. (See table 4)

2.6 Patterns and Levels of Physical Activity

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The segment of the population suffering the effects of malnutrition need to be divided between those who are experiencing actual hunger and those whose diet is made up of too many of the wrong kinds of food. Bad diets are often the result of cultural habits, some recently acquired, more than economic hardship, what might be called self-

inflicted poverty. Many children consume large amounts of sugary soft drinks and snacks filled with fat and sodium. Such items in a diet, especially in the diet of a child, have been called 'slow poison' and in the opinion of many ought to carry warning labels similar to those now required on cigarettes.

SECTION III

EDUCATION STATUS

3. EDUCATION STATUS

3.1 Formal Education

Schools

Health and Family Life (HFLE) is on the Education Curriculum but is not implemented in all levels of the school system. Physical Education (P.E.) is mandatory but many teachers avoid it. Lack of age-appropriate physical activity compounds problems brought on by bad food choices, and those bad food choices are often the only ones available to the child.

The existing School Feeding Programme is neither comprehensive nor sustainable, but junk food is allowed to be sold in and near schools. Children have little exposure to information on healthy food choices, but they face a constant barrage of effective advertising campaigns promoting sugary soft drinks and fatty, sodium-rich snacks. Children thus are often unaware of healthy food choices and while at school often are unable to make those choices even if they are aware because healthy food is generally not available.

Teachers, parents, and students too often lack sufficient knowledge of the consequences of making bad choices in diet and exercise. There is a need for more parks and recreational resources, including cycling, walking, and running tracks.

Lack of exercise can result in obesity, clumsiness, high cholesterol, hypertension, and early onset of diabetes mellitus. Many schools do not have the space or equipment considered necessary for a physical education or sports programme, and that often serves as an excuse for not ensuring that children in the school have enough exercise. Effective exercise programmes can and should be established even with limited space and limited funds.

Workplace

There are no corporate fitness and wellness promotion programmes in workplaces. Many people have sedentary lifestyles that amplify the effects of poor diet.

Public awareness campaigns on healthy living are needed to offset aggressive and misleading advertising that promotes bad eating and bad living. Healthy snacks need to be made available at worksites where the situation is often the same as at schools. Junk food is available, healthy food is not.

Along with the promotion of school feeding programmes, nutrition-oriented food service programmes need to be established at many workplaces.

There is also a lack of health care facilities.

Informal Sector

People generally are not aware of the need for healthy lifestyles or disregard the need to make any changes in their own lives. The message that the right food and the right exercise can mean a longer and healthier life has not had enough impact to change lifestyles. People are unaware of the risks of eating the wrong foods or are unwilling to give up established dietary habits.

Data on morbidity and mortality are not used with good effect in public awareness campaigns. The message that some popular foods amount to slow poison fails to register because, again, the promoters of healthy living face overwhelming competition from the dollar-driven campaigns to sell foods high in sugar, sodium, and saturated fat. The nutritional value of fresh local foods is not promoted in a way that will lead to real changes in lifestyle.

Part of the communication problem is a lack of collaboration among Government agencies, non-governmental agencies, civil society, the business community, religious community, and the educational community. Some religious communities deliver conflicting health values and beliefs. A common agenda and a common set of goals need to be established so that the work of each is enhanced by the work of all the others.

3.2 Community Education/Health Promotion

At the national level, the Health Education and Community Participation Bureau (HECOPAB) in collaboration with the nutritionist, implement programmes and activities focusing on healthy lifestyles. HECOPAB is also the host for health fairs in all districts on a regular basis as a way to promote healthy lifestyles. At these fairs, information is shared and some basic services are offered such as checking blood sugar and blood pressure. Another activity is the promotion of the secondary schools' National Food and Nutrition Quiz Competition.

In the local community the attention given to healthy lifestyles needs to be strengthened for a greater impact on the health of the general population.

Nutrition education is carried out by Public and Rural Health Nurses who provide counselling mainly to pregnant women and mothers of children under five years old. Nutrition education is included in the primary school curriculum for children five years and older. At the community level, Community Health Workers provide knowledge and training in nutrition; however, there are some communities that do not have Community Health Workers.

Within the Ministry of Agriculture, the Agriculture Extension Service provides information and training in Agricultural practises to farmers on an ongoing basis. The annual agriculture and trade show promotes increased production and awareness. In addition food fairs are also held at the district level periodically. Internal food and nutrition-related days such as World Food Day and Caribbean Nutrition Day are celebrated annually.

There is a critical need for the Ministry of Education to restart the Rural Education and Agricultural Programme (REAP) as a means of teaching primary school students to see and understand the vital importance of agriculture.

According to CFNI, food consumption trends also indicate that dietary patterns in the Caribbean which feature a total calorie intake 8 to 40% above the per capita population

goal of 2250 Kcal per person per day may be responsible for the high incidence of the chronic non-communicable nutrition-related diseases.

The diet of the Belize population does not meet the requirement for fruit, vegetables, starchy roots, tubers, and legumes. All of these foods are available in abundance in Belize. These foods are rich in nutrients and are good sources of fibre. This can be attributed to the lack of the promotion of local products

Community education for health promotion remains weak. Efforts to provide information to the public on health issues are often come from special interest groups and lack co-ordination with other groups and with efforts by Government.

SECTION IV

FOOD AVAILABILITY, HOUSEHOLD ACCESS, AND SAFETY

4. FOOD AVAILABILITY, HOUSEHOLD ACCESS AND SAFETY

4.1 Food Production

The total food available for consumption in Belize comes from domestic production and from imports. The value of primary agriculture output for 2008 was 413 million dollars. This estimate excludes additional value-adding from processing such commodities as sugar, citrus, dairy, meat, fruits, and vegetables. The value of food/agriculture exports exceeded \$334.6 million while imports were limited to 192 million dollars. This includes agriculture inputs such as seeds, animal feed, and agro-chemicals. The agriculture sector thus generates more than 142.6 million dollars in foreign exchange.

4.2 Food Availability

NEED DETAILS HERE (Ministry of Agriculture)

4.3 Food Manufacturing and Processing

NEED DETAILS HERE (Belize Agricultural Health Authority)

4.4 Household Food Accessibility

NEED DETAILS HERE (Statistical institute of Belize)

4.5 Food Quality and Safety

Food Safety Legislation in Belize includes:

- Food and Drug laws Chapter 219

- Bakehouse Regulation

- Belize City Sale-of-Good By-Laws

- Slaughter House (Hygienic Practises) Regulations 1969

- Meat (Post Mortem) Inspection Regulation of 1970

- Meat (Post Mortem) (Boneless Meat) Inspection and Regulations 1985

- Belmopan (Market) By-Laws 1986.

- Food Drug Acts Chapter 291 1990

- Water Industry Act No. 1 2001

- Belize Agriculture Health Authority Food Safety Regulations

Belize faces increased demands to meet international food trade agreements and obligations. There is an urgent need to review and harmonise existing legislation that will reflect the current needs for food safety and trade.

Most of the legislation regarding food safety is outdated, Food Safety remains a key issue of major concern particularly following the results of a 2002 survey which indicated a gap between the knowledge and the actual practise of food handlers. This reinforces the need for public education using the health promotion approach. In addition, there has been an increased trend in street food vending over the past few years increasing the risk of foodbourne disease. The responsibility for food safety is shared between the Ministry of Health, the Belize Agricultural Health Authority (BAHA) and the Belize Bureau of Standards. Therefore, an effective national response to food safety issues require that these agencies continue to co-ordinate activities to ensure that safe, wholesome and nutritious foods are available for consumers.

Figure 9: Total Number of Food Borne Diseases in Belize 2004-2009

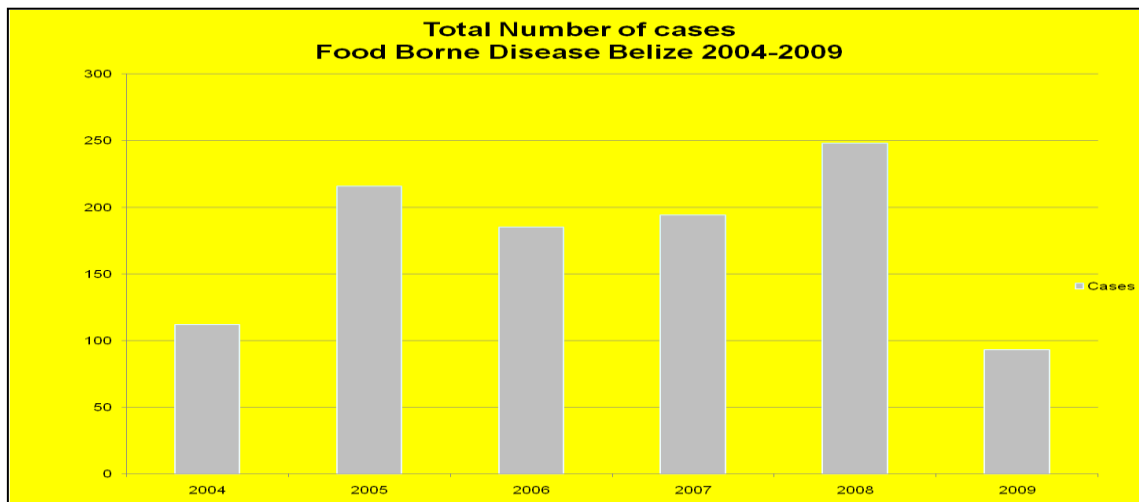


Figure 10: Food Borne Diseases Cases by District, Belize 2004-2009

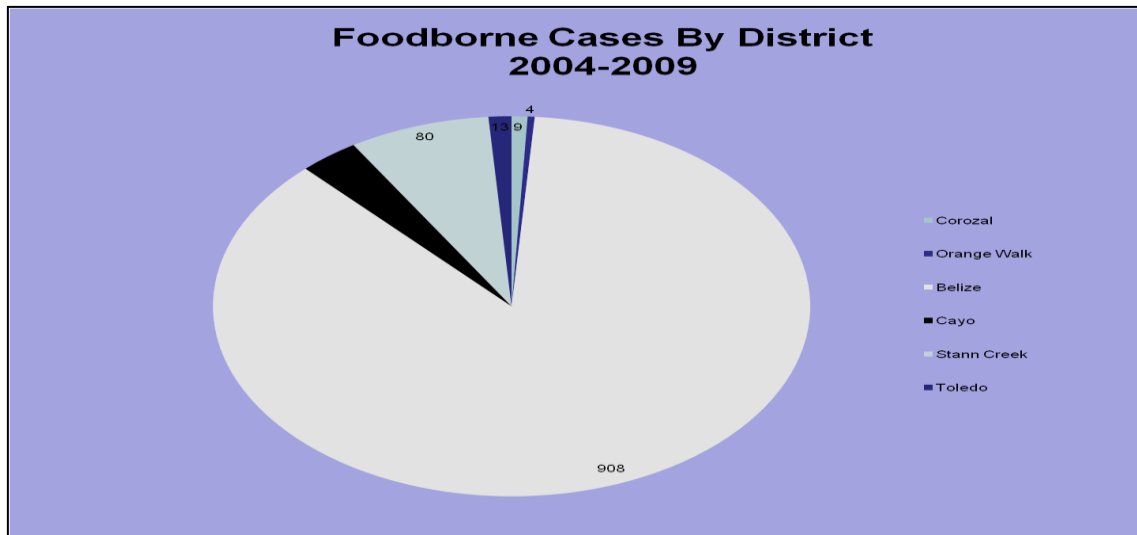
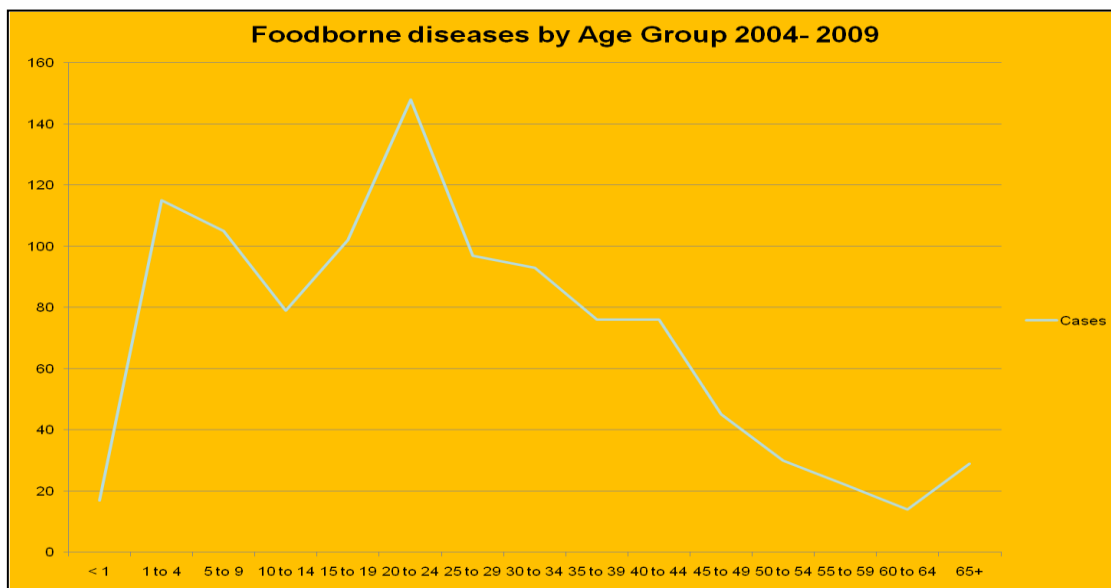


Figure 11: Food Borne Diseases by Age Group, Belize 2004-2009



The key Food Safety Issues in Belize include:

- Handling Food Safely - Five keys
- Food borne Illness – Under reporting
- Product recalls – Traceability
- Product labeling – Nutritional Composition
- Keeping Food Supplies Secure

- Keeping Food Safe During Emergencies
- Compliance with international Standards/obligations

Globalisation of Food Trade can be a major challenge to achieving the goal of supplying safe and wholesome foods to consumers. However there are other initiatives that can support such as:

- Maintaining and strengthening confidence in the food supply by ensuring that science continues to guide our food safety decisions.
- Organising industry, consumer groups, or professional organisations—to play an active role in development of international food safety standards.
- Removal of two-tier food production – with a higher standard for exports than for foods produced for domestic consumption.
- Exploring a new approach to education – “encompasses consumer education, and shared opportunities with other agencies, agricultural sector and public health offices, industry, consumer groups, our international trading partners, and academia.

SECTION V

REVIEW OF EXISTING POLICIES AND PROGRAMMES

5. REVIEW OF EXISTING POLICIES AND PROGRAMMES

5.1 Macroeconomic Policies and Programmes

NEED DETAILS HERE

5.2 Trade Policies and Programmes

NEED DETAILS HERE

5.3 Agricultural and Agro-Industrial Policies and Programmes

NEED DETAILS HERE

5.4 Health Policies and Programmes

NEED MORE DETAILS HERE

Deworming Tablets Programme

The programme provides, in collaboration with the Ministry of Education de-worming tablets for children 1 to 4 years, and in to school aged children. At the moment the programme does not provide complementary fortified food for children and plans are being made to assess the need for this among the most vulnerable children between the ages 6 to 36 months.

Iodized salt

Ministry of Health, through the Public Health Inspectorate also works in collaboration with the Bureau of Standards, Ministry of Home Affairs, to ensure that all imported salt is iodised. A study from 1995 verified that 97.5% of the population had adequate iodine urine concentration due to the introduction of fortified salt.

Baby Friendly Initiative

The Maternal and Child Health Program initiated training in 2006 to assist hospitals in appropriating the principals of Baby Friendly Hospital Initiative and thus becoming centers of breast feeding support. This initiative is fully in line with the National Breastfeeding Policy approved in 1997.

The training of hospital personnel has already started and it is expected that within a year a majority of hospitals will be certified as baby-friendly.

Due to the decline in exclusive breastfeeding from 20.4% in 1997 to 10.4% in 2006, regenerating the practice of exclusive breastfeeding up to 6 months of age and continuing breastfeeding until 2 years of age together with complementary feeding is likely to be a challenge.

Financial responsibility of this initiative is divided between three directorates; the MOH, NCFC and UNICEF cover this program.

Provision of micronutrients Programme

Information on micronutrient deficiencies in children is mostly unavailable. A survey published in 1989² reported that up to 60% of children three to eight years had abnormal Vitamin A levels and 40% had serum zinc concentration below the norm. Fortification of sugar with vitamin A is currently under discussion (National Nutrition Survey). Provision of micronutrients such as Vitamin A, Iron and folic acid- for women during pregnancy and for children under five years is provided through the MCH service package. The evidence on the non-compliance of pregnant mothers towards the iron-folate tablets has prompted the MOH to begin the process to change the capsules to sprinkles. One serving size pouch contains iron (12, 5mg) folic acid (120mg) but also other micronutrients such as vitamin A (300mg), vitamin C (30mg) and zinc (5mg). (Makdani D. Comparison of methods of assessing vitamin A status in children. J Am Coll Nutr 1997; 15:1–11).

Food Handlers Training and Certification

There is a Policy and training focuses on basic hygiene principles (Food and Personal Hygiene, controlling food safety risk. The training commenced on the 1st May 2008 and is conducted nationally. To date there have been training at eight training sites with over 5000 persons trained. The training is offered in English, Spanish and Cantonese.

Surveillance

There is a specific manual, 'A Guideline for Food Borne Disease Surveillance and Outbreak Investigation, March 2009' that integrates surveillance and response for Foodborne Diseases within the communicable disease surveillance system.

Implementation of laboratory network for microbiology, chemical and physical analyses of food products has begun. These Include:

- Implementation of a surveillance system for foodborne and nutrition related problems,
- Microbial pathogen in domestic food products.
- operational/institutional and public information systems for immediate notification and alert”

Food safety is an essential public health concern. Serious outbreaks of food-borne diseases (FBD) have been documented on every continent in the past decade, illustrating both the public health and social significance of these diseases. The situation with respect to Belize is largely unknown because there is severe underreporting and inaccurate documentation of FBD. The responsibility for food safety should be shared by government, private sector, and all other stakeholders along the agri-food continuum. Lack of monitoring for food contaminants and the absence of industry guidelines and food safety standards will result in increased contamination of food. These food safety hazards present not only acute human health effects but also can cause long term chronic illnesses that could result in hospitalization and loss of economic productivity and food markets. In addition, loss of income because of food-borne illness perpetuates the cycle of poverty.

Food control in Belize has traditionally been under the purview of the Ministry of Health. Through the Public Health Inspectorate, this Ministry is responsible to ensure that all food is fit for human consumption. This is done through the periodic inspection of food establishments, itinerant vendors, school canteens and other public premises where food is offered for sale. Meat inspection is carried out at some abattoirs as well as at retail outlets. At the level of the health regions, training of food handlers is also conducted weekly. With the support of the Epidemiology Department of the Ministry, FBD are also monitored, investigated and reported. The number of Public Health Inspectors providing support for food safety programmes in Belize is limited and the training delivered to inspectors in food safety protocols is inadequate. In addition, the Food and Drugs Act and the Public Health Act under which the Inspectorate performs

these functions are outdated. This greatly limits the extent to which this agency can effectively function within the context of a rapidly modernising food service industry.

Belize has established the Belize Agricultural Health Authority as a statutory body charged with the legislative mandate of ensuring Belize's compliance in meeting its World Trade Organisation (WTO) obligations and the application of Sanitary and Phytosanitary Standards (SPS) for its agricultural products. This includes implementing international food safety requirements and quality standards as promoted by the Food and Agriculture Organisation of the United Nations (FAO) and the World Health Organisation (WHO) through its international standard setting body the Codex Alimentarius. BAHA identifies food safety hazards through inspection and end-product testing on imports, at the farm, processing, and retail levels. Increasingly, prevention has been the focus. Food safety concerns are identified as physical (i.e. splinters, broken needles), chemical (i.e. toxins, residues from drugs, pesticides), or biological (i.e. pathogenic organisms, allergens) hazards that could pose a significant risk to human health. BAHA works on a cost recovery basis, but a significant portion of the food safety programmes administered under its mandate is of a public good and financial support from government is inadequate.

Information flow and collaboration among the various departments, municipalities, and Ministries with responsibility for food safety is poor, resulting in inefficient inspection and FBD surveillance systems. There is an overlapping of roles of these regulatory authorities leading to duplication of effort, a lack of co-ordination, and ineffective delivery of the food control programmes.

The Food Safety programme of the National Food and Nutrition Security Policy seeks to promote the implementation of food safety and quality standards, emphasise risk prevention, detection, and control measures by Belize's food safety regulatory authorities at key areas of the agri-food continuum to help to ensure food safety risks are minimized and to educate and instil justified consumer confidence in the safety of our food supply. The programme also allows regulatory authorities to establish linkages

with industry and international organisations such as FAO, IICA, OIRSA and PAHO to create a monitoring mechanism for the surveillance of foodborne pathogens and chemical contaminants in food. This programme will facilitate greater collaboration among all stakeholders and will facilitate co-ordinated actions which complement each other thus avoiding the duplication of roles and maximising the use of scarce financial and other resources.

5.5 Social Development Policies and Programmes

NEED DETAILS HERE

5.6 Education Policies and Programmes

NEED DETAILS HERE

Formal Education

NEED DETAILS HERE

Early Childhood

NEED DETAILS HERE

Primary Level

NEED DETAILS HERE

Secondary Level

NEED DETAILS HERE

Physical Education

NEED DETAILS HERE

Health Promotion

NEED DETAILS HERE

5.7. Policies and Programmes of Non-Governmental and other Agencies

NEED DETAILS HERE.

SECTION VI

SUMMARY OF PROBLEMS TO BE ADDRESSED

6. SUMMARY OF PROBLEMS TO BE ADDRESSED

Belize is undergoing a period of epidemiological and nutritional transition which is characterised by morbidity and mortality from chronic nutrition-related diseases (CNCD), changing lifestyles and dietary patterns. Based on the situation analysis done, several issues were highlighted as critical for Government attention and action. These issues are listed below under the Six Programmatic areas:

1. Information, Education and Communication on Food Production, Preparation, and Nutrition
2. Diversified Food Production, Food Processing, Marketing, Storage and Credit Mobilisation
3. Maternal and Child Care, School Feeding and Caring for the Socio-economically deprived and Nutritionally vulnerable
4. Creation of Employment and Income Generating Opportunities at the Local level
5. Food Safety
6. Analysis and Reform of National Policies for Food and Nutrition

Specific issues to be addressed by the Government of Belize to achieve improved food, nutrition, and health status of the population:

Programme Area 1. - Information, Education and Communication on Food Production, Preparation, and Nutrition

The lack of awareness on healthy eating and appropriate physical activity needs to be addressed through building capacity of human resources and increasing financial support. The use of local foods is decreasing and needs to be promoted, particularly with respect to complementary feeding. Food safety practises among food handlers also needs to be enhanced.

Obesity and related diseases have also been on the rise due to poor lifestyle practises including smoking, drinking, and poor or little physical activity. This can partially be addressed by ensuring that Health and Family Life Education is implemented in all schools, that Physical Education teachers are trained PE becomes mandatory, and that the School Feeding Programme is made sustainable. The issue of the types of food sold

at schools should also be addressed because high fats, high salts, and high sugars can lead to increases in obesity and the related diseases of diabetes, hypertension, and heart diseases. Teachers and students are not sufficiently aware of the benefits of healthy lifestyles and PE through curricular and extra-curricular activities.

Obesity, diabetes, and other health issues directly impact the home, school, and workplace. A high percentage of these issues can be directly attributed to a lack of knowledge about and desire for locally available nutritious foodstuffs and a similar lack of knowledge as to the detrimental effects of poor choices regarding food, health, and lifestyles. A comprehensive programme of education coupled with readily available nutritious food is, therefore, essential in reversing the current trend. Using local celebrities to promote change will assist in acceptance of change

Programme area 2. - Diversified Food Production, Food Processing, Marketing, Storage and Credit Mobilisation

These measures cannot be achieved without reaching the small to medium producers who are most able to benefit from and able to respond to new methods of crop utilisation. A series of travelling road-show style training modules would reach and teach this sector.

Each village or community should receive plain instructions in easy to implement methods of crop growing, harvesting, and pest (insect & fungal/viral) remedies as the cost of conventional inputs are beyond the reach of the very farmers who need them under conventional farming methods.

A switch to organic farming methods, while more labour intensive, enables the farmer to use his assets to best advantage and reap the greater profit. At the same time the local market is provided with produce not contaminated by chemical inputs. Increasing such local production will reduce then eliminate the importation of foreign produce. Each village should form development groups working in collaboration with adjacent villages to ensure exchange of ideas and methodologies for growth. Post harvest improvements

and increasing the 'value chain' of produce will raise the profit margins and reduce post harvest losses and wastage.

When coupled with simple adobe or pimento storage facilities and the establishment of local farmers' markets and farmer friendly transport such as shared trucks, such a programme would allow the farmers taking part access to a larger customer base.

Production of forage and feed crops, sorghum, sun hemp, elephant grass, moringa, water hyacinth, duckweed, and others will similarly reduce the need for expensive conventional feed formulations. Labour requirements would increase, reducing the number of unemployed. The training of the next generation of farmers, mechanics, and sales staff would grow as demand increases.

Programme Area 3. - Maternal and Child Care, School Feeding and Caring for the Socio-economically deprived and Nutritionally vulnerable

Children under five must have nutritionally sound diets including micronutrients. If these are not supplied, the child will suffer from physical & developmental impairment which is irreversible. Common problems which these children are most likely to suffer are stunting, wasting, low birth weight, overweight, or food borne illness.

Children over five have similar issues; therefore a comprehensive diet and nutrition program must be implemented. A nutrition bar providing 100% of micronutrient requirements is available locally using chia, moringa powder, and peanuts is available. The cost is estimated at about a dollar a day. The benefit to the child in reducing illness and impairment and improving development far outweighs this nominal cost. This also increases farmers' profits as the crops needed for the bar are added for production.

Pregnant/lactating women should receive a similar supplement regimen enhancing current M.O.H. programmes.

Programme Area 4. - Creation of Employment and Income Generating Opportunities at the Local level

The entrepreneurial spirit is alive in Belize and deserves support through training and venue availability to enhance this national skill set. Establishing labour pools and apprenticeship programmes would support the growth of most trades and would reach the youth who fail the PSE and are thus excluded from secondary and tertiary education. Such youths are often left acutely vulnerable to the influence of gangs and become involved in criminal activity. Small business development centres nationwide would give an independent network of resources to Belizeans’.

Programme Area 5. - Food Safety

If Belize is to remain competitive in the global food trade there are several key Issues that need to be addressed. There needs to be:

- adequate food safety and quality standards for all food products
- sufficient capacity for implementing monitoring mechanisms for food safety and quality
- proper food handling practises demonstrated by food handlers
- an estimate of national food wastage in Belize
- a national food safety policy
- adequate food safety and food quality surveillance system
- an increase of awareness on food safety to consumer
- the protection of water sources
- the development of regulations for bottled and packaged water and regulations for the control of water boards.

Enforcement of current standards will do more to increase compliance than starting additional programmes. Requirements of ISO 9001 2008 must be introduced as mandated by international agreements already in place. Using international partners to assist with water testing would greatly improve accuracy and timely resolution of water issues.

Forty percent or more of applied chemicals on land is not absorbed by soil and enters water systems causing unnecessary pollution and affecting fresh water, the sea, and the

barrier reef. Reducing the use of commercial agricultural chemicals would be the single biggest achievable preventative measure.

Programme Area 6. - Analysis and Reform of National Policies for Food and Nutrition

Many small steps consecutively taken will achieve more than the implementation of a few major efforts. Education of citizens and awareness of impacts of waste, garbage, and unsanitary practices will produce a reduction of the impact of pollutants across the country.

Mandate a 'Buy Belize' campaign across many sectors including food, water, and juices. Locally made agro processed commodities will change the mindset of Belizeans home and abroad while protecting the Jewel and its many facets.

SECTION VII

PROPOSED POLICIES AND PROGRAMMES

7. PROPOSED POLICIES AND PROGRAMMES

The review of the food and nutrition situation in the region indicates that over the last thirty years there has been a reduction in protein energy malnutrition and increase in obesity and the CNCD. This trend is seen in Belize. With regards to food availability, there is an excess in the availability of protein, fat, and sugars.

The goal of these food and nutrition policies and programmes is to ensure the sustainable supply, accessibility, and use of safe, high quality, nutritious, diversified, and culturally-acceptable foods for all Belizeans in order to improve their well-being and quality of life. More specifically, the policy aims to:

- a) Develop sustainable, equitable, and environmentally sound policies, plans and programmes for food and nutrition security.
- b) Design achievable plans for food and nutrition security improvement with the effective participation of all people in the decisions, actions, and evaluation at all levels.
- c) Ensure sufficient supply and continued access to a variety of safe foods and drinking water so that people, especially the poor and vulnerable groups, can have nutritionally adequate diets, even during periods of bad harvests disasters, both natural and human-caused.
- d) Ensure adequate intake of macro and micronutrients combined with adequate health care, especially for women, children, the elderly and marginalised throughout the country.
- e) Improve food safety and nutrition through the regulation and surveillance of the food chain including the production, processing, marketing, and handling of food products.
- f) Improve the motivation, knowledge, skills, and entrepreneurship of all stakeholders, for food and nutrition security.

The achievement of these six objectives will lead to unprecedented levels of food security, nutrition security, and food safety for all Belizeans.

These concerns will be addressed over the next five years (2010-2015) under the following programme areas:

- 1) Information, Education and Communication on Food Production, Preparation, and Nutrition
- 2) Diversified Food Production, Food Processing, Marketing, Storage and Credit Mobilisation
- 3) Maternal and Child Care, School Feeding and Caring for the Socio-economically deprived and Nutritionally vulnerable
- 4) Creation of Employment and Income Generating Opportunities at the Local level
- 5) Food Safety
- 6) Analysis and Reform of National Policies for Food and Nutrition

7.1 Information, Education and Communication on Food Production, Preparation, and Nutrition

The public deserves accurate information. The major concern is the reliability of the information gathered and subsequently the dissemination of the information. This is critical for public health education and promotion. Attention must be paid to improving the capability and reliability of our existing surveillance system including BHIS and the Agriculture Extension Service. Agencies need to share and harmonise the information gathered.

We must be prepared to launch an aggressive media campaign in order to share the information with the public using press releases and public service announcements via the radio and television. The key ministries will establish a phone message system in order to share information with the public.

The major concerns in education are:

- The school feeding programme is not institutionalised.
- The HFLE Curriculum is not implemented in all schools from pre-school through secondary school.
- Physical education is not mandatory in schools while there continue to be problems with overweight children.
- There is a lack of training for teachers to teach Physical Education.

As proposed solutions, we must:

- Alert through the Commission the relevant government ministers of the urgency to implement a school nutrition programme.
- Expand the HFLE Curriculum countrywide from pre-school through secondary.
- Develop a training programme to teach physical education and make it mandatory for all teachers.
- Facilitate fitness and wellness programme for staff.

Major nutrition issues are the high prevalence of diabetes and hypertension, poor food choices, stunting, wasting, and overweight. In order to address these concerns, it is critical to:

- Increase public awareness and provide ongoing funding for interventions.
- Implement child-friendly strategies aimed at educating children to make better food choices.
- Promote backyard gardening countrywide in co-ordination with district agricultural departments.

- Enforce regulation for food vendors and encourage them to sell more nutritionally dense food.
- Support the establishment of a national nutrition unit with representation in each district.
- Employ trained dieticians for hospitals to ensure the preparation of nutritious food for staff and patients.

7.2 Diversified Food Production, Food Processing, Marketing, Storage and Credit Mobilisation

This programme area will draw on experience gained in implementing best practises in diversified crop production to reduce imports and increase local sustainability and food sovereignty. It will promote diversified crops with year round production. Through this we will maintain and improve resilience to disaster and adverse economic events. The aim is to promote the movement from production through processing, capitalising on the opportunity that processing presents to produce fortified foods. Implementing this programme area will focus on increasing local capacity through skills training. All species of small livestock will be incorporated as a means of expanding opportunity for income from farms. It seeks to develop and maintain market system access at the national and international level. This programme area will initiate, strengthen, and maintain credit accessibility for small farmers who want to evolve from subsistence agriculture to marketable and profitable farming.

7.3 Maternal and Child Care, School Feeding and Caring for the Socio-economically deprived and Nutritionally vulnerable Groups

The programme area will strengthen and improve nutrition and health status for maternal and child care, and for the socio-economically deprived and vulnerable groups in the population.

Maternal and child health care will be strengthened by incorporating the Baby Friendly Initiative countrywide. Additional training and reinforcement in breastfeeding will be conducted in all public hospitals countrywide. Child health care will be strengthened by increasing country wide availability of folic acid, vitamin A, and deworming tablets. This

programme should be standardized and collaborated with the Ministry of Health and the Ministry of Education and sports. Information received from this programme area should be monitored compiled monthly. Monitoring and Evaluation Tool should be assessed to ensure that surveillance system is utilizing the information for dissemination.

Socioeconomically deprived and nutrition vulnerable individuals can be reported monthly through Ministry of Health surveillance system so that adequate care and attention can be given by Human Services and the appropriate ministries. School Feeding Programmes should be developed and geared towards vulnerable and socio economically deprived schools. Collaborated efforts should exist between the relevant ministries such as Education, Agriculture and Health to ensure standardization and equal distribution.

7.4 Creation of Employment and Income Generating Opportunities at the Local level

A nation is food secure when its entire people have physical and financial access at all times to food needed for survival as productive citizens. Poverty is a major contributor to food insecurity and stems from the high levels of unemployment in the “at-risk” communities.

According to INCAP, the ultimate goal of food and nutrition security goes beyond just issues of food and nutrition. Its strategies seek to facilitate overall development so that people can be self reliant and can develop the skills necessary to lead productive lives. Opportunities for small businesses are in the area of agri-business, agro-processing, aquaculture, environmental goods and services, information and communication technology and tourism. Small cottage industries include processing of jams and jellies, home cured meats, arts and crafts, and domestic wines. At present, the mechanisms which currently exist for the creation of employment and small business opportunities include programmes administered by the Ministries of Agriculture and Human Development, NGOs, Youth for the Future, the Small Farmers’ Bank, the Belize Rural Development Programme and the credit unions. There is need to create more

opportunities for small industries and greater diversification.

This programme will seek to ensure that people are gainfully employed through the continuous creation of employment opportunities. It will maintain a data base of existing employment opportunities; monitor unemployment levels and identify training needs. It will then provide training to improve marketability and skills development. Cottage industries and community businesses will be encouraged.

Credit at lower interest rate will be made available. It will support the creation of small farmers' bank and other micro credit institutions. It will seek to raise the income levels of socio-economically deprived and nutritionally vulnerable groups. It will promote self employment and entrepreneurship for people in vulnerable communities

7.5 Food Safety

Overall the food safety component of the food and nutrition security policy will protect food markets, reduce chronic illnesses and hospitalization and increase economic productivity, of the Belizean population. It will:

Design and develop food safety measures that will have the inclusion of all stakeholders.

Highlight the need for protection of our water resources, expansion of services to accommodate food production and sustainable consumption through bio-security and conservation.

Place emphasis for food analysis, food borne illness reduction and surveillance for nutritionally safe foods for the Belizean population.

Be a tool for the food security commission to pursue its goals and objectives in a manner that ensure harmonization of goals and objectives of the food safety policies with the public.

Call on public participation and health sector commitment to become proactive in monitoring and reporting food borne illnesses.

Review and enact legislation that will support the regulation of the food service industry.

7.6 Analysis and Reform of National Policies for Food and Nutrition

The manner in which programmes are developed and policies designed can greatly affect food and nutrition security in a country. Food and agriculture policies clearly impact food availability. Other issues such as climate change and the attendant effects on agriculture, the recent frequency and intensity of natural disasters particularly hurricanes have impacted negatively on food availability. The economic climates, the increase in industries such as tourism, migration, environmental degradation, and drought are also among the factors shown to affect food and nutrition security (FNS).

Food and Nutrition Security is defined as the state in which all persons enjoy access in terms of quantity and quality to the food that they need for adequate consumption and biological utilization thus guaranteeing a healthy and socially productive life. It therefore encompasses a wide cross section of disciplines and agencies. However, current sectoral policies have focused mainly on vertical issues with little horizontal or cross cutting issues for the achievement of a common national goal. The limited human, financial and other resources deem it necessary for sectors to collaborate so that programmes can be more effectively and efficiently executed for the achievement of national development goals. Through the Food and Nutrition Security Policy for Belize the foundation was laid for incorporating nutritional objectives into development policies and programmes. It calls for the continuous development and revision of policies which are sensitive to FNS. However, there are some glaring gaps in the availability of data and information which are necessary to guide the analysis of the food situation.

There is a need to coordinate across sectors to ensure that there is a comprehensive food and nutrition security information system in place. At present each ministry has its own information system which collects information related to food and nutrition. However this information is handled in a discrete manner. A better appreciation of the situation can be realized if the information from each sector is collected, analysed and utilised for decision making in regards to food and nutrition security. This strategy

should also include reporting and dissemination of the information. This programme will ensure that all new policies that are developed are sensitive to the food and nutrition security needs of the Belizean populace. A review of the existing policies will be conducted to identify food and nutrition gaps and revisions made accordingly. Major constraints to achieving food and nutrition security will be analyzed. This will include legislation and regulation on land tenure, vulnerable groups, credit, monetary, and fiscal incentives, marketing and trade and investment in training and infrastructure.

This programme will strengthen the national food and nutrition security information system. It will extract relevant information from key sectors in order to monitor and evaluate the food and nutrition situation to guide policy decisions and programmatic interventions. The FNSC secretariat will coordinate with the various ministries to ensure that national FNS indicators are monitored. It will monitor and assess immigration patterns and their effects on poverty, employment and basic social services and make recommendation to address food and nutrition problems related to migration.

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. Annual meetings of relevant sectors to discuss the status of the surveillance systems will be conducted. It will ensure that all new policies that are developed are sensitive to the food and nutrition security needs of the Belizean populace. A review of the existing policies will be conducted to identify food and nutrition gaps and revisions made accordingly. Major constraints to achieving food and nutrition security will be analyzed. This will include legislation and regulation on land tenure, vulnerable groups, credit, monetary, and fiscal incentives, marketing and trade and investment in training and infrastructure.

This programme will strengthen the national food and nutrition security information system. It will extract relevant information from key sectors in-order to monitor and evaluate the food and nutrition situation to guide policy decisions and programmatic

interventions. The FNSC secretariat will coordinate with the various ministries to ensure that national FNS indicators are monitored. It will monitor and assess immigration patterns and their effects on poverty, employment and basic social services and make recommendation to address food and nutrition problems related to migration. With respect to food safety, indicators will be developed to obtain:

- Register of street food vendors- monthly

- Register of condemned food- monthly

- Registration of food establishments- monthly

- Database of food handlers- quarterly

- Documentation of food borne illnesses- quarterly

In the 5-13 years age group indicators will focus on:

- Height for Age – Height census (every 5 years)

- Weight for age – Height census or Nutrition Survey (every 5 Years)

- Hb – Nutrition Survey (every 5 years)

For Men and Older Persons indicators will focus on:

- Hypertension and other chronic diseases through BHIS

- Wellness drives to include men 18-49

With respect to Food Availability indicators will focus on:

- Annual food production data

- Equitable distribution of resources for food production

- Per caput consumption of food

- Data on backyard garden in the school system

Evaluation will be conducted periodically. The information will be included in annual health statistics publication and brochure. A dissemination/distribution list will be developed and report will be shared with relevant partners

Personnel involved in food and nutrition surveillance will be trained in data collection, analysis and reporting. Computer equipment and software will be acquired 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 while ensuring confidentiality. A critical set of indicators will be identified for regular monitoring. Periodic surveillance bulletins will be produced and disseminated to all administrators and decision-makers dealing with food and nutrition problems. Research will be conducted to assess particular food and nutrition problems as issues emerge so that policies and programmes are evidence-based.

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 the development plan. The strategy of formulating a national food and nutrition policy and plan of action is a first step in the process of ensuring that nutrition priorities are established and addressed in development planning. The policy and plan of action on food and nutrition can then be coordinated with other policies and plans of action into the National Development Strategy. Development planners will thus be more aware of the complex interrelationships among the various sectors and the need for greater coordination.

In order to bring this policy to life, there should be active cooperation among many sectors, agencies and individuals in the Belizean community. The mechanism for sustaining and building upon the initiative requires the involvement of all partners. Consequently, the National Food and Nutrition Security Commission will be charged with the coordination of all food and nutrition security programmes and will focus on:

- Strengthening capacity for the analysis of the Food and Nutrition situation;
- Strengthening of the Food and Nutrition Surveillance System; and
- Developing policies and plans or revising existing ones to ensure that FNS issues are addressed.

SECTION VIII

PLAN OF ACTION

8. PLAN OF ACTION

8.1 Goal

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

8.2 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 healthy 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 planning and evaluation of progress. After the policy is accepted by Executive Council/Cabinet, all stakeholders will be brought together to prioritize projects based on overall resources and readiness for implementation by the various departments.

8.1 Information, Education and Communication on Food Production, Preparation, and Nutrition.

Objectives	Indicators	Means of Verification	Assumptions
Goal: To educate and improve the health and well-being of all persons living in Belize through enhanced Food and Nutrition Security.			
Purpose: To reduce the incidence of lifestyle diseases such as diabetes, hypertension, obesity and HIV/AIDS	A 10% decrease in the number of cases of CNCDs by 2011 and 25% decrease by 2015.	Survey reports Surveillance bulletins	Public adopt healthy lifestyles practices Strong multi-sectoral collaboration exists
Outputs 1. Healthy lifestyles promoted. 2. Strengthening the lifestyle behaviours 3. Promotion of increased food production 4. Capacity to promote healthy lifestyle behaviours strengthened. 5. Increased food production promoted	PLEASE DO NOT PUT ACTIVITIES AS INDICATORS 1.1 Two mass media campaigns, including phone messaging at MOH, launched annually by 2011 1.2 One health fair held quarterly per region by end of 2011 1.3 By the end of 2015, there will be 25 establishments will have instituted wellness programmes 1.4 All polyclinics will have wellness centers 1.5 PLWHA's have appropriate and relevant education and training 2.1 Increased number of knowledgeable and professional Community Health Workers (CHW) 2.2 100% of CHW will be certified by 2011. 2.3 75% of CHW will have their status converted from volunteers to paid	Annual reports from sector Pictures, reports Public Service reports Documentation and function of centers Information manuals available Availability of the training manuals Certificates and transcripts available with regional health managers Annual reports; service level agreements	General public will comply with the recommendations made. High participation and attendance Workplaces provide the information Human and financial resources are available PLWHA's will welcome this training. Human Resource capacity to conduct the training is available CHW interested to obtain formal training

Objectives	Indicators	Means of Verification	Assumptions
	government employees with a minimum starting at PS4 2.4 75% of villages with a population of 250 + will have a Community Health worker by 2011. 2.5 100% of CHW's will have access to basic medical service equipment to provide primary services including blood pressure apparatus. 2.6 50% of all villages (pop. 250+) in each region will have a village health committee by 2011 2.7 Health professionals better trained in the prevention and management of chronic and non-communicable diseases. 2.8 "75% more schools with active PE programmes by end 2011" 3.1 Food based dietary guidelines developed and promoted by 2010. 3.2 One Nutrition Unit established in each region by end of 2015. 3.3 School nutrition	Training schedule and manuals. Records from Min. of Education Adequate materials and equipment for PE in schools Dietary guidelines document available Documentation; records; pictures from the district Education offices Programme exists in all rural schools and 25% of urban schools Training manuals	This initiative is supported by the Ministry of Education Work done to completion/finalized

Objectives	Indicators	Means of Verification	Assumptions
	programme instituted by the Ministry of Education in all pre-schools and 50 % of Primary schools in each District by 2015 3.4 50% of all rural primary schools and 25% of urban primary schools will have Rural Education and Agricultural Programmes (REAP). 3.5 Out-of-school, at risk and vulnerable youth have access to relevant health information.		
Activities 1.1 Develop two mass media campaigns to promote proper nutrition and health throughout the life cycle, including phone messaging at MOH 1.2 Host health fairs (1 quarterly per region) 1.3 Develop and introduce workplace wellness programmes 1.4 Develop wellness centres within polyclinics 1.5 Train PLWHAs and Health Professionals in nutrition for PLWHA 2.1 Develop training manual for community health workers 2.2 Provide formal training to all uncertified community health workers 2.3 Convert the status of all certified CHWs from volunteers to paid government employees with a minimum starting salary set at PS4 2.4 Recruit new CHWs for villages with population of over 250 2.5 Provide basic medical service equipment to provide primary services including blood pressure apparatus. 2.6 Recruitment of Village Health Committees 2.7 Train health professionals in the prevention and management of chronic non-communicable diseases. 2.8 Train teachers in Physical Education 2.9 Acquire physical education resources for schools 3.1 Develop Food based guidelines. 3.2 Establish Nutrition Units in each region	Resources: \$75,000.00 \$144,000.00 \$50,000.00 \$100,000.00 \$30,000.00 \$ 15,000.00 \$50,000.00 \$30,000.00 \$36,000.00 \$10,000.00 \$30,000.00 \$30,000.00 \$84,000.00 ?????????? \$100,000.00 \$1,000,000.00		Stakeholders cooperate Trained professionals remain within the public sector Commitment by government

Objectives	Indicators	Means of Verification	Assumptions
3.3 Institute School Nutrition programmes in 100% of Pre-Schools and 50% of Primary Schools.	\$250,000.00		
3.4 Re-institute Rural Education and Agricultural Programmes (REAP) in rural and urban schools			
3.5 Provide health related information to established Youth Groups targeting out-of-school and at-risk and vulnerable youths	\$30,000.00		

8.2 Diversified Food Production, Food Processing, Marketing, Storage and Credit Mobilization (INTEGRATED FARMING SYSTEMS)

Objectives	Indicators	Means of Verification	Assumptions
Goal: To improve the health and well-being of all persons living in Belize through enhanced food and nutrition security			
Purpose: To promote sustainable agricultural through diversification and agro-industrial development for an improved welfare of the Belizean population.	A 75% increase in agricultural production and a 50% increase in the number of producers diversified by 2015.		Producers adopt new technologies
Outputs - Quantity and quality of diversified crops and livestock increased. - Capacity of technicians and farmers strengthened and improved. - Local market commodities diversified and expanded. - Foreign export markets identified and accessed. - Welfare of farmer households attained. - Resilience of farmers after natural disasters enhanced. - Women and youth participation in agriculture production improved. - Agricultural extension and information system strengthened. - Agro-processing technology improved.	- A 50% increase in local food production in 5 years. 25 new species of crops introduced and established by 2015. 25% reduction in losses at farm level by the end of 2015 50% increase in production. - At least double non-traditional exports to regional and international markets - Increase in farmers' income by 50% - Farmers and rural communities vulnerable to natural disaster be better prepared to fully recovered within a year. - At least 10% of women and youth in urban areas and 20% of women and youths in rural areas actively participating in agriculture practices. - One production manual per commodity available to the public by 2012 - Monthly newsletters on production, food and nutrition updates published by NFNSC commencing by mid-2010. - Six functional feed processing units by 2015. - Two food processing units established by 2015.	Agriculture Extension Services Production Reports Surveillance bulletins Trade Report Survey Reports Information/Training bulletins produced.	Data base on agricultural production available Farmers and agro-processors co-operate
Activities - Design and establish a supply mechanism for accessibility and multiplication of necessary germplasm for implementing the diversification program. - Coordinate the establishment of a germplasm/seed bank. - Conduct a diagnostic farm capability survey to establish baselines.	Resources: US\$ \$150,000		Government committed

Objectives	Indicators	Means of Verification	Assumptions
1.4 Liaise with agriculture and other stakeholders to increase acreage under flood irrigation technology for rice production. 1.5 Collaborate with Belize Organic Producers Associations and other Key stakeholders to promote the enactment of legislation for organic agriculture and preservation of bio-diversity 1.6 Promote the introduction of irrigation systems.. 1.7 Liaise with MAF and other key stakeholders to develop appropriate technology and technological packs 2.1 Collaborate with MAF and other key partners to impart practical training to farmers, women and youth on diversified agricultural topics. 2.2 Coordinate with MAF and the University of Belize and others to offer technical training for technicians on diversified agricultural topics. 2.3 Coordinate with MAF Provide training at a specialist level for suitable candidates. 3.1 Lobby and collaborate with MAF and other key agencies to establish a Marketing Institution and Marketing Information System, complete with marketing intelligence. 3.2 Collaborate with MAF to develop a mechanism for the collection, transportation and distribution of commodities from the farm to the consumer 4.1 Liaise with key partners to identify access to information international and regional competitive market. 5.1 Creation of storage unit facilities powered by renewable energy, at farmer and community level. 5.2 Sustainable, consumption and production through the use of alternative energy production. 5.3 Strengthen the infrastructure for collection, storage and distribution of agricultural supplies. 5.4 Establish or strengthen financial institution for small farmers. 5.3 Promote post harvest management and food technology training at domestic and technical level 6.1 Provide training on the topic of safeguarding food stuff on a domestic level to attain food security during disasters. 6.2 Adaptation of good practices to build capacity in resilience of farmers post disaster 6.3 Organize farmers into advocacy association. 7.1 Establish programmes to encourage and support active	\$80,000 \$70,000 \$98,000 \$90,000 \$90,000 \$120,000 \$200,000		Stakeholders participate All Trained technician remain committed to the program

Objectives	Indicators	Means of Verification	Assumptions
involvement of women and youth in the agro-food chain. 7.2 A network of women food producers established and operational. 7.3. Create special incentives programmes to attract women and youth participation in agriculture. 7.4 Promote use of new simple technologies for production of high quality organic foods, in rural and urban schools. 8.1 Ensure that the head of extension service is properly trained and with the appropriate academic qualifications. 8.2 Produce technological packages. 8.3 Produce video clips on the activities of the agricultural sector. 8.4 Produce audiovisual training material to assist in extension services. 9.1 Establish a food processing facility. 9.2 Creation of vertical and horizontal linkages of primary products between processors and producers 9.3 Establish animal feed processing units in each district.	\$220,000		

Note: There is a 20% contingency: Total budget for this thematic area is US \$1,341,600 (BZ \$2,683,200)

8. 3: Maternal and Child Care, School Feeding and Nutrition for the Socioeconomic Deprived and Nutritionally Vulnerable Group.

Objectives	Indicators	Means of Verification	Assumptions
Goal: To improve and strengthen the health and well-being of all persons living in Belize through enhanced food and nutrition security.			
Purpose: To improve the nutritional status of pregnant women, children under 5, school age children, socioeconomically deprived and nutritionally vulnerable groups. Note: (Nutritionally vulnerable groups include: elderly, HIV persons, obese and overweight persons, (diabetics, hypertensive) Socioeconomic deprived groups include: poor people, indigent groups,	1. 50% reduction of anaemia in pregnant women by December 2015 2. 25% reduction in moderate malnutrition such as stunting, wasting, and low birth weight in children 5 years and under by end of 2015 3. 10% reduction in stunting of school age children by end of 2014 4. 50% increase exclusive breastfeeding by end 2012 5. Two Nutritionists at National Level and one Dietetic technician at each public hospital by end of 2013	MCH Reports Surveillance reports Survey reports Budget Estimates	Cooperation of health personnel Continued support by government Supportive environment Personnel available in country
Outputs: 1. Breastfeeding promoted, supported and protected. 2. The promotion of local foods in complementary feeding increased. 3. Information system regulated and strengthened. 4. School Feeding programme strengthened(priority areas highlighted) 5. Micro-nutrient (iron, folic acid and vitamin A) deficiencies decreased 6. National Health Insurance benefits and other public assistance for vulnerable groups increased. 7. Nutrition Programs for socio economically deprived and nutritionally vulnerable groups are developed and implemented.	1.1 Breastfeeding policy revised by end 2010 1.2 Recipe book of local foods which can be used for complementary feeding developed and being utilized by end 2012 1.3 Maternal and child health information records available by end 2010 1.4 Restructured School Feeding Programme implemented by end 2010 1.5 50% decrease of micro-nutrient deficiencies in children under 5 persons by 2010 1.6 40% increase in benefits under NHI by end 2006.	Policy document Recipe book Surveillance reports Annual sector reports NHI scheme document	• Cooperation of health personnel • Local foods are available • Information used to inform policies and program. • Vulnerable groups access services • Networking established among stakeholders • Individual business owners willing to commit and invest in their products. • Cabinet approval

Objectives	Indicators	Means of Verification	Assumptions
Activities: 1.1 Revise national breastfeeding policy. (need to check) 1.2 Implement baby friendly hospital initiative in 3 other hospitals (10 steps) 1.2.1 Reproduce and disseminate promotional materials on breastfeeding 1.2.2 Training health staff 1.2.3 Self and external evaluation 1.2.4 Certification of health facilities 1.3 Develop a comprehensive plan for breastfeeding promotion in primary and secondary health facilities 1.4 Conduct promotional programmes on breastfeeding 2.1 Conduct focus groups on complementary feeding 2.2 Determine availability and cost of local foods 2.3 Develop recipes 2.4 Pre-test, finalize and disseminate recipes 2.5 Reproduce and disseminate promotional materials 2.6 Conduct health fairs to promote complementary foods (see area 1 activity 1.2). 2.7 Conduct meetings with small businesses to discuss production and marketing of complementary foods. 3.1 Set specific nutrition and health indicators 3.2 Develop a data management system (BHIS & Nutrition Surveillance System 3.3 Develop and implement school health card This card will be used for micronutrient distribution 3.4 Develop a school health programme to assess nutritional status 3.4.1 Train staff to collect and analyze data 3.4.2 Collect and analyze data on children under 5 years 3.4.3 Collect and analyze data on school age children (W/A, H/A, W/H)	Resources: \$703,500.00 \$10,000.00 \$10,000.00 \$5,000.00 \$5,000.00 \$3,000.00 \$10,000.00 \$2,000.00 \$1,000.00 \$4,000.00 \$3,000.00 \$500.00 Done Being done \$20,000.00 \$30,000.00 Done \$300,000.00		• Commitment by health personnel • Parents willing to participate • Continued commitment by government • Stakeholders support • Government commitment • Cabinet approval

Objectives	Indicators	Means of Verification	Assumptions
5.1 Promote foods rich in iron, vitamin A and other micro-nutrients	\$10,000.00		
5.2 Advocate for industries to fortify specific food products	\$45,000.00		
5.3 Introduce iron/folic acid supplementation for women 15-45 years	\$5,000.00		
5.4 Provide countrywide access to micronutrients			
5.5 Provide iron and folic acid to women who has given birth to a child with Neural-tube defect			
5.6 Conduct public awareness campaigns for the use of fortified food products	\$40,000.00 \$200,000.00		
6.1 Conduct countrywide assessment of economically deprived (poor, indigent, and nutritionally vulnerable (HIV, elderly)			
6.2 Share results with relevant institutions such as Human services,			
6.3 Establish package of benefits for vulnerable groups			
6.4 Submit to cabinet			
6.5 Conduct public awareness campaign			
6.6 Implement social safety net programmes			

Note - Responsible Agencies: Ministry of Health, Ministry of Education and Ministry of Human Development

8.4 Creation of Employment and Income Generating Opportunities at the Local Level

Objectives	Indicators	Means of Verification	Assumptions
Goal: To improve the health and well-being of all persons living in Belize through enhanced food and nutrition security			
Purpose: To raise the income levels of socio-economically deprived and nutritionally vulnerable groups in rural and urban areas of the country.	1. Income levels among socio-economically deprived and nutritionally vulnerable groups increased by 20% of the 2007 figure by 2015.	Survey Reports Annual Reports SIB Labour Force Surveys	socio-economically deprived and nutritionally vulnerable groups use increased incomes to supplement food needs socio-economically deprived and nutritionally vulnerable groups makes healthy lifestyle choices
Outputs: 1. Entrepreneurial skills of socio-economically deprived and nutritionally vulnerable groups strengthen. 2. Urban and rural networking with employment agencies and larger companies strengthened 3. Capacity for small enterprises development and implementation increased 4. Minimum wage increased	1. A 20% increase in the 2007 figure of self-employed persons in high risk communities by end 2015 2. A 50% increase in # persons receiving credit for establishment of small business by end 2015. 3. A 25% increase in the Minimum wage by end 2015	Survey Reports Annual Report of the Labour Department Estimates for budget Labour Force Survey Report	Skills utilized Continued support from stakeholders socio-economically deprived and nutritionally vulnerable groups use these

Objectives	Indicators	Means of Verification	Assumptions
			opportunities Taxes remain the same
Activities: 1.1 Conduct training in marketing and small business development 2.1 Meet with large companies for co-ordination of services 2.2 Develop a memorandum of understanding with employment agencies for co-ordination of services 2.3 Conduct training workshop in job search skills and professionalism 3.1 Conduct survey of demand and capacity for small enterprises (small farming; eco-cultural tourism; services; arts and crafts) 3.2 Conduct workshops/seminars for local credit intermediaries to strengthen capacity to function 3.3 Provide credit and technical assistance 4.1 Conduct Nutrient-Cost Analysis 4.2 Develop food availability profiles 4.3 Present above information to the Labour Department	Resources: \$63,000.00 \$20,000.00 \$10,000.00 \$10,000.00 \$10,000.00 \$5,000.00 \$3,000.00 \$5,000.00		Women's Department and stakeholders remain committed socio-economically deprived and nutritionally vulnerable groups make full use of the support Labour Dept use the information to set the Minimum wage

8.5 Food Safety.

Objectives	Indicators	Means of Verification	Assumptions
Goal To improve the health and well-being of all persons living in Belize through enhanced food and nutrition security.			
Purpose 1. To ensure that food made available to consumers is safe and wholesome	Incidence of food borne diseases decreased by 30% of the 2008 figure by the end of 2015.	Surveillance Reports	Per Capita income remain stable Government committed to ensuring food safety Population adapt safe food handling practices.
OUTPUTS 1. More national food safety and quality standards developed. 2. Capacity for the monitoring mechanisms for food safety and quality increased. 3. Food handlers practice enhanced.	a. >70 % of primary foods produced in Belize meet national food safety and quality standards by end of 2015. 2.1 25% increase and timely inspection and audits of food establishment of the 2008 figure by end 2015. 2.2 Number of samples submitted for food testing from slaughter and food processing plants increased by 50% of the 2008 figure by Jan 2015. 3.1 Increase food hygiene practices among food handlers observed.	Survey Reports Audit and Inspection Report Food Lab Report Survey Reports	Continued government support Minimal attrition of trained personnel DHS approval Food Lab financed sufficiently

Objectives	Indicators	Means of Verification	Assumptions
4. Food safety and quality surveillance system strengthened.	3.2 90% of <i>documented</i> food handlers trained in basic food handling procedures by end 2012. 3.3 Objective establishment inspection guide developed by end 2012. 3.4 50% of establishment inspected using new inspection guide by end of 2005. 4.1 Number of samples submitted for food contaminants on local and imported produce increased by 100% of the 2008 figure by 2006. 4.2 Number of sample submissions from regulatory and private industry for suspect food borne disease pathogens increased from near 0 in 2004 to >24 by April 2006. 4.3 Improved information available on product safety and quality and Food Borne Disease outbreaks by April 2013. 4.4 National Drinking Water Quality monitoring/surveillance plan developed by June 2005 and its implementation supported by regulatory partners and stakeholders. 4.5. 100% of Community Nurse's Aides and rudimentary water systems' operators trained in water treatment and basic water quality monitoring procedures by the end of 2006.	Food Handlers Training and Certification Data Base Establishment inspection form developed Food Contaminant Results Belize Gazette Annual Reports Laboratory Reports (Food and Water Quality)	
5. Public more informed on food safety issues			
6. Water supply sources protected	4.6 50 % of rudimentary water systems		

Objectives	Indicators	Means of Verification	Assumptions
	comply with at least proper water disinfection by the end of 2005 and 100% coverage is achieved by the end of 2006. 4.7 A 20% of public demonstrating safe food handling practices by end of 2008. 1.1 Sufficient Safe Watersheds establish by the water sector for the supply of safe drinking water by 2015. 1.2 A Comprehensive Food safety policy developed for Belize by 2012. 1.3 Bottled/package water Legislations available by 2013.	Inspection and Sanitary Audit Reports	
Activities 1.1 Increase the number of Food Standards developed by the BBS technical committee. 1.2 Compilation of all Belize Food Safety legislation for 1.2 Review existing food safety legislation. 1.3 Enforce mandatory food safety and quality standards. DEVELOP PROTOCOL 2.1 Develop training programme 2.2 Train regulatory and food processing plant personnel in food inspection, sanitary audit procedures, Food borne investigation and food sampling. 2.2 Train laboratory personnel in food testing protocols 2.3 Food sampling and testing on selected food processing Establishments. 2.4 Inspection of food establishment	Resources: \$89,000.00 \$6,000.00 \$2,000.00 \$10,000.00 \$10,000.00 \$12,000.00 \$15,000.00 \$3,000.00	Acceptance by Cabinet Private industry is amenable to testing of products on a "fee for service" basis. Food handlers adhere to guidelines Intersectional collaboration between 3 key ministries (Trade & Industry, MOH, MAF) is professional, cordial, and supportive of the work of the Food Safety programmes.	

Objectives	Indicators	Means of Verification	Assumptions
3.1 Conduct Food Handlers Training and Certification 3.2 Log data on trained individual 3.3 Produce monthly report on food handlers trained. 3.2 Revise food establishment inspection guide to reflect objectivity and incorporation of food safety standards. 4.2 Conduct baseline survey on food contaminants on local foods 4.3 Complete pesticide residue study in vegetables and fruits conducted in 2002 and circulate to relevant agencies/departments. 4.4 Put structure in place for the conduct of Food borne disease outbreak investigations. 4.5 Complete evaluation of national drinking water quality monitoring/surveillance programme. 4.6 Develop guidelines for inspection of food products (see activity 3.5) 4.7 Train staff in use of guidelines 5.1 Develop a food safety education programme to be integrated into teacher training schedule. 5.2 Develop promotional materials on food safety for the media and general public (see area 1 activity 1.1). 5.3 Conduct Food Safety Public awareness campaigns (see area 1 activity 1.2).	\$5,000.00 \$5,000.00 \$3,000.00 \$10,000.00 \$8,000.00	Clear lines of responsibility for the regulation of food safety programmes Regulators of the food safety programme are highly motivated, objective and allowed to perform its work without undue political interference	

8.6 Analysis and Reform of National Policies for Food and Nutrition Security

Objectives	Indicators	Means of Verification	Assumptions
Goal: To improve the health and well-being of people living in Belize through enhanced food and nutrition security			
Purpose: To incorporate issues of food and nutrition security into all sectoral policies, programs and plans.	At least one program, incorporating FNS from at least two sectors implemented by 2015.	Annual Sector Reports	Political commitment to the NFNSC continues to be a national priority.
Expected Results: 1. Capacity for the analysis of the FNS situation increased	1. All members of the NFNSC trained in FNS analysis by end 2011 2. Situation of FNS available by June 2011	NFNSC Reports FNS situation report	Political commitment Information used by all sectors.
2. FNS Surveillance system strengthened. 3. FNS sensitive sectoral policies and plans developed	1. Information readily available by end 2012 2. Indicators incorporated into the FNS surveillance system by June 2012 1. At least 2 sectoral policies incorporating FNS issues developed/revised by end 2013	Bulletins and statistical reports. Annual sector reports Sectoral policies and plans	Information used to inform policies. Accepted by Cabinet
Activities: 1.1 Train members of the NFNSC on analysis of the national FNS situation. 1.2 Train relevant agencies on analysis of the	Resources: \$86,000.00 \$10,000.00 \$5,000.00 \$2,000.00		Other infrastructure in place Agencies willing to supply data

Objectives	Indicators	Means of Verification	Assumptions
national FNS situation.			
1.3 Conduct district consultations.	----- \$10,000.00 \$3,000.00		Government support
2.1 Develop indicators for monitoring of the FNS situation	\$2,000.00 \$40,000.00		
2.2 Develop a data management system	\$5,000.00		
2.3 Conduct training in statistical analysis of FNS indicators	\$5,000.00		
2.4 Develop procedural manual	-----		
2.5 Procure equipment	\$4,000.00		Trained personnel remain in the system
2.6 Develop and disseminate periodic reports and bulletins	-----		
3.1 Develop guidelines for the inclusion of FNS issues into sectoral plans			Stakeholders provide continued support
3.2 Conduct awareness seminars with all sectors			
3.3. Revise policies and plans with input from National Food and Nutrition Security Commission			

SECTION IX

IMPLEMENTATION AND CO- ORDINATION OF THE NPAN

9. IMPLEMENTATION AND COORDINATION OF THE NPAN

The multi-causal nature of food and nutrition problems points to the need for a multidisciplinary approach to their solution. The various activities proposed should be implemented in a co-ordinated manner to avoid duplication of effort, minimise cost, and maximise efficiency and effectiveness of the implementation process. Proposed policies and programmes shall be co-ordinated with other sectoral policies and programmes that constitute the National Development Plan of the Ministry of Planning. The appropriate ministries and agencies will implement the various food and nutrition activities.

A National Food and Nutrition Security Commission has been established and should be formed into a statutory body within one year. This will allow the Commission to access funds externally and to establish its autonomy with its own periodical and Internet presence, an established membership, and bylaws. The National Food and Nutrition Security Commission shall be responsible for the co-ordination of the policies and programmes described in this document. This Commission shall have certain responsibilities with the appropriate autonomy and authority, and shall be empowered to establish a mechanism to implement the activities under the programme:

- Ensure the implementation of national NCD programmes.
- Promote intersectoral collaboration in programme planning, implementation, and evaluation with particular reference to food and nutrition.
- Secure the appointment of a focal point and an alternate from each of the relevant ministries with a defined role and function. The focal point must have the technical ability to carry out the work.
- Promote the full determination of the food and nutrition status of the population and the maintenance of adequate food and nutrition surveillance.
- Advocate the development of research and training programmes and implementation of corrective measures to improve national food security in the nutrition and health status of vulnerable groups.

- Perform functions related to food and nutrition. (functions need to be specified – role. within each relevant or participating ministry that there be a person and an alternate (focal point) to specifically carry out these function) that the government may from time to time deem necessary.

9.1 Responsibilities

The National Food and Nutrition Security Commission shall:

- Have access to all necessary data regarding the planning and implementation of projects relevant to food and nutrition. This shall be the responsibility of the focal points in relevant ministries to provide his data at the request of the Commission.
- Collate, analyse and disseminate information for effective decision making in food and nutrition planning. (this becomes the job of the national coordinator is the first point takes place) *** if this happens... see below
- Co-opt resource personnel and mobilise resources for the improvement of food and nutrition situation in the nation.
- Develop national food and nutrition policies and plans and act as the national advisory body on food and nutrition matters to the Government of Belize and to all who are involved in the production, supply, and/or distribution of food for the population. This shall include all agencies operating in the agricultural sector such as farm organisations, production and marketing co-operatives, schools participating in school garden or feeding programmes, and food processing facilities. This shall also include those involved in the importation and distribution of food at the wholesale and retail level.
- Identify food and nutrition areas in which research and training are needed and recommend practical ways of satisfying such needs including necessary budgetary requirements.

9.2 Composition, Organisational Structure, and Relationship to Government

The Chairmanship of the National Food and Nutrition Security Commission shall be rotated every six months among the Minister of Agriculture, Fisheries, and Co-operatives, the Minister of Health, and the Minister of Education.

The Commission shall be comprised of representatives from:

- The Ministry of Health

- The Ministry of Public Service,

- The ministry of Human Development, Women and Civil Society

- The Ministry of Rural Development

- The Ministry of Education and Sports

In addition to the representatives of the various ministries, the membership of the Commission shall include one representative from the NGO community and one representative from the private sector.

The Commission shall use the Caribbean Food and Nutrition Institute as a resource to assist the work of designated sub-committees.

The Commission shall meet once each month at a designated venue to review the implementation of the policy and programmes and will be responsible for the mobilisation of financial, technical, and logistical resources, and shall submit quarterly progress reports to Cabinet.

The Commission shall exercise due diligence to obtain a site for the construction of its own office and shall expedite this within five years.

The Commission shall be supported by a Secretariat and Co-ordinator, which shall:

- a) develop and recommend policy improvements, strategic (five-year) and operational (annual) plans, the allocation of human, technical, and financial

resources, and,

b) monitor and evaluate programme operations and achievements.

At such time as the Commission attains autonomy with a secretariat and is operating with its own funds, it shall become subject to external audit.

The Commission shall be assisted in all its operations by existing governmental, non-governmental, civil society, and private sector programmes underway throughout the country which are relevant to the overall objectives of the Commission.

The secretariat and commission shall ensure that the Food and Nutrition Security Policy are planned in an integrated manner and implemented in partnership with other relevant institutions and programmes in the public and private sectors and by Civil Society.

The head of the Secretariat shall be the Technical Secretary to the Commission and should have the requisite administrative and technical capabilities as deputy head and the necessary technical and administrative support staff for operating the Food and Nutrition Surveillance System. The technical secretary shall co-ordinate with the national co-ordinator and the focal points from the different participating ministries.

The Secretariat shall have the power to collect relevant data from Ministries and Agencies.

The Cabinet Secretary shall circulate Cabinet decisions relating to matters reported by the Commission to the relevant Ministries and Agencies for information and implementation.

Sectoral policies, plans, programmes and projects with a food and nutrition impact shall be submitted to the Commission for its consideration, comments, and recommendations.

The Secretariat shall be provided an allocation of its own for administrative purposes and for the projects it is empowered to implement. The Ministry of Agriculture, Fisheries, and Co-operatives, The Ministry of Health, and the Ministry of Education and Sports shall each allocate a portion of the ministry's budget to complement the budget of the Commission as a token of its commitment to the programmes of the Commission as they are relevant to each ministry in the achievement of the mission of the Commission.

STATEMENT BY THE COMPILERS REGARDING THIS DOCUMENT

The document entitled *The Food and Nutrition Policy and Plan of Action for Belize* was prepared following workshops on 16 November 2009 and 29 and 30 of January 2010. This draft of the document is a compilation of the material developed at the workshops.

More Data Needed

Much of the material needed to understand the food and nutrition situation in Belize was not available at the time the document was prepared. Given the dynamics of Belizean society and the rapid changes in both the local and the global economy, accurate and current information is needed for realistic policy decisions to be taken and for effective programmes to be developed. In several sections will be found the notation that more or later data is needed. Efforts must be made to secure such information from the relevant ministries and agencies to bring the document up to date so that it can provide a sound framework for both policy decisions and action plans. Section VIII should be reviewed by representatives from the Ministry of Agriculture, Fisheries, and Co-operatives, the Ministry of Education and Sports, and the Ministry of Health, the three key ministries whose programmes are outlined in the section. These people should be experienced in the development and use of the logical framework method of presentation.

Policy and Action Plan Need Separation

Another issue is the inclusion in this one document of both policy statements and specific programme plans. Normally the two are separated so that statements of policy can stand as long-term guidelines to reach stated goals, while specific action plans may be adjusted from time to time as circumstances change. The opinion of the people attending the second workshop was that two documents need to be prepared, one for policy makers to consider in setting the overall agenda for the years 2010 - 2015, and the second document to provide the technical framework for the development of specific programmes and projects that will turn statements of policy into reality.

Need for Changes in Dietary Habits

Unlike many developing nations, Belize is capable of food self sufficiency. Nutrition issues are grounded not in a lack of ability to produce food, but in cultural and economic issues. There has been a failure to communicate the dangers of a bad diet and the advantages of healthy foods, and there is a small percentage of the population that lack the resources to take advantage of the abundant supply of locally produced nutritious food. Fresh fruits and vegetables are readily available, but such foods are often passed up even by those with the resources to afford them. There is much evidence of this in the material presented in this document.

Need for More Efficient Land Use

There is far more land available for cultivation in Belize than is being used. Fields tend to be widely separated and the cultivated area small in proportion to the total land area. Wild grass and bush often cover much of the land around cultivated areas which makes pest control more difficult. Consolidation of cultivated fields and the development of non-cultivated areas as improved pasture, aqua culture, or agro-forestry projects could improve overall production and food security. If a farmer has no immediate use for surplus open land, cover crops such as mucuna or jackbean could improve the soil and have the land available for productive use in the future. Such practise would also make integrated pest management more effective.

Home and School

Other empty land available is the space around private homes. The typical back yard can be cultivated as a vegetable garden that will supply the family with fresh fruits and vegetables. Similarly, school gardens can produce fresh fruits and vegetables for use in a school feeding programme as well as serve as an extension of the classroom in teaching science, mathematics, social studies, and language arts. The practical uses of home and school gardens have been and continue to be demonstrated in communities around the country.