

University of Ottawa

Ignoring a Silent Killer: Obesity & Food Security in the Caribbean

(Case Study: Barbados)

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Key Words: Obesity, Diabetes, Gender, Nutrition, Health, Food Security, Chronic Non-Communicable Diseases (CNCDs), Caribbean, Barbados

This paper is the product of Tara MacDonald. The paper was completed under the supervision of the School of International Development and Global Studies of the University of Ottawa in fulfillment of the requirements for Master's degree in International Development and Globalization.

Tara MacDonald holds a Master of Arts from the University of Ottawa. Her research interests include cultural studies, socioeconomics, food and nutrition security.

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FOREWORD

The following thesis is the final work of the research placement that is part of the Master's Program in International Development and Globalization' at the University of Ottawa. For the completion of this research placement fieldwork was carried out in Barbados between the 14th of September 2008 and the 15th of September 2009. The fieldwork was carried out in collaboration with the Food and Agriculture Organization (FAO), Sub-Regional Office of the Caribbean. The project was carried out under primary supervision of Dr. Joshua Ramisch, and the secondary supervision of Dr. Stephen Baranyi and Dr. Deborah Sick.

This thesis assists in identifying the causal factors behind obesity (and inter alia type 2 diabetes) prevalence rates in the Caribbean, with particular focus on Barbados. This research sheds light on some issues relevant to Caribbean health, nutrition, and food security. A combination of literature research and fieldwork was undertaken in order to provide a more holistic view of the constraints facing public health strategies and the need to tailor public programmes to particular cultural needs.

The points of view expressed in this thesis are those of the author and do not represent the views of other individuals or organisations. Photographs were taken by the author unless otherwise indicated.

ABSTRACT

Obesity and obesity-related diseases – such as type 2 diabetes – have become the most crucial indicators of population health in the 21st century. Formerly understood as ‘diseases of affluence’, obesity is now prevalent in the Global South posing serious risk to socioeconomic development. This is particularly true for rapidly developing countries where nutrition transitions are most apparent. There are many factors which impact on risk of obesity (e.g. gender, culture, environment, socioeconomic status, biological determinants). The problem is further aggravated within small island developing states where food security is exacerbated by factors associated with globalization and development. The thesis examines the surge of obesity and type 2 diabetes within Caribbean populations, using Barbados as a case study. A holistic approach was applied using an ecological health model. Moving away from the lifestyle model, the theoretical framework underpinning included sub-theories (e.g. social constructivism, feminism, post-colonial theory, concepts of memory and trauma).

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ABBREVIATIONS AND ACRONYMS

ADA.....	American Diabetes Association
AHFIT.....	Adolescent Health and Fitness Survey
AIDS.....	Acquired Immune Deficiency Syndrome
AN.....	Anorexia Nervosa
AOA.....	American Obesity Association
BADMC.....	Barbados Agricultural Development and Marketing Corporation
BAS.....	Barbados Agricultural Society
BDF.....	Barbados Diabetes Foundation
BGIS.....	Barbados Government Information Services
BMI.....	Body Mass Index
BMJ.....	British Medical Journal
BNCS.....	Barbados National Cancer Study
BSTA.....	Barbados Society of Technologists in Agriculture
CARICOM.....	Caribbean Community
CDRC.....	Chronic Disease Research Centre
CDU.....	Chronic Disease Unit (Barbados)
CFC.....	Caribbean Food Corporation
CFNI.....	Caribbean Food and Nutrition Institute
CIDA.....	Canadian International Development Agency
CMO.....	Chief Medical Officer
CNCD.....	Chronic Non Communicable Diseases
COAG.....	Intergovernmental Committee on Agriculture
CPA.....	Caribbean Poultry Association
DAB.....	Diabetes Association of Barbados
DMC.....	Diabetes Management Center
ECLAC.....	Economic Commission for Latin America and the Caribbean
ECOSOC.....	United Nations Economic and Social Council
FAO.....	Food and Agriculture Organization (UN)
GATT.....	General Agreement on Tariffs and Trade
GBL.....	Garden Based Learning
GDP.....	Gross Domestic Product
GEF SGP.....	Global Environment Facility Small Grants Programme
GEF.....	Global Environmental Fund

ABBREVIATIONS AND ACRONYMS (Con't)

GoB.....	Government of Barbados
HDI.....	Human Development Indicator (UNDP)
HIV.....	Human Immunodeficiency Virus
IDF.....	International Diabetes Federation
IMF.....	International Monetary Fund
KFC.....	Kentucky Fried Chicken
LEA.....	Lower-Extremity Amputation
LMC.....	Low- and Middle- Income Countries
MARD.....	Ministry of Agriculture and Rural Development (Barbados)
MDGs.....	Millennium Development Goals
MoH.....	Ministry of Health (Barbados)
MoE.....	Ministry of Education (Barbados)
NCCNCD.....	National Commission for Chronic Non Communicable Diseases (Barbados)
NCD.....	Non Communicable Disease
NMA.....	National Medical Association (USA)
OGA.....	Organic Growers Association
PAHO.....	Pan American Health Organization
PHAC.....	Public Health Agency of Canada
PTA.....	Parent Teacher Association
QE.....	Queen Elizabeth Hospital
SES.....	Socioeconomic Status
SICE.....	Organization of American State's Foreign Trade Information System
UK.....	United Kingdom
UN.....	United Nations
UNDP.....	United National Development Programme
UNICEF.....	United Nations Children's Fund
US / USA.....	United States of America
UWI.....	University of the West Indies
WBO.....	World Bank Organization
WDF.....	World Diabetes Foundation
WHO.....	World Health Organization
WTO.....	World Trade Organization
4-H.....	Foundation Head, Heart, Hands, Health (pledged by members of 4-H Clubs)

“Despite these grim consequences, the most positive aspect of the obesity epidemic is that these debilitating effects are largely reversible.”
- Henry, 2004b: 12

CHAPTER 1.

INTRODUCTION

Overview

The obesity epidemic has become one of the most crucial indicators of population health of the 21st century (Yang et al., 2007: 56). For the first time in history, the number of overweight people in the world has rivalled that of the hungry (Gardner & Halweil, 2000). While it is well-known that populations in more developed, industrialized countries are becoming overweight; obesity is also on the rise in the Global South. Nevertheless, as the Food and Agriculture Organization (FAO) revealed, “while some of the poor are becoming plumper, they are not necessarily better fed” (2002). This situation has led to a ‘double burden’ as least developed and transitional countries struggle to meet the needs of a population burdened by health issues related to both under- and overnutrition (Subramania et al., 2007: 61). Moreover – according to Kelishadi – the “prevalence of chronic or noncommunicable disease [is] escalating much more rapidly in developing countries than in industrialized countries” (2007: 62). Increasing overweight and obesity prevalence rates present a dire trend in global health suggesting an urgent need for further investigation (Kelishadi, 2007: 62; Zimmet, 2000: 301).

The condition of being overweight and/or obese has been associated with multiple causes (Grundy, 1998: 563S). Overweight and obesity have been linked with various individual-based behaviours such as sedentary lifestyle and extensive caloric intake (Sharma et al., 2008: 151); cultural factors including diet and perceptions of beauty (Shaw, 2006: 6-7); socio-demographic and socioeconomic factors including education, environment, and food insecurity (Finney Rutten et al., 2010: 405); hereditary (family-level) factors (Farooqi, 2005: 359; Yang et al., 2007: 50); as well as population-level genetic factors (Bray, 1996: 27-28; Horton & Napoli, 1996: 446; Lantham, 1997: 17), including the ‘thrifty’ gene hypothesis (Neel, 1962). Due to the complex relationship between obesity, lifestyle, as well as environmental and structural factors, a holistic approach is needed to fully understand the obesity epidemic underway in less developed countries. Perhaps we come closest to such an approach in the work of Michael Lantham. In his comprehensive guide to international health policy, *Human Nutrition in the Developing World*, Lantham advised that “Community participation, with the assistance of actors from different sectors including at least agriculture, health, community development and education, will often be needed to meet the challenge of good nutrition for all” (1997: 12).

The condition of being overweight is associated with increased risk for Chronic Non-Communicable Diseases (CNCDS)¹, particularly type 2 diabetes (Caballero, 2007; Kelishadi, 2007; WHO, 2011b; Yang et al., 2007). Diabetes complications include renal insufficiency, cardiovascular diseases, risk of blindness and Lower Extremity Amputations (LEAs) (PAHO, 2001b). Unlike type 1 diabetes (insulin-dependent), the onset of type 2 diabetes generally occurs later in life and is directly linked to ‘lifestyle’ and diet-related factors (Latham, 1997: 220). Despite a component of hereditary and genetic factors, changes in lifestyle (i.e. adopting a nutritious diet and increasing physical activity) can delay onset and, in most cases, type 2 can be avoided altogether (Gregory, 2002). According to Daar, up to 80% of premature deaths can be averted with appropriate behaviour change and pharmaceutical interventions (2010: 307). Nevertheless, global projections indicate that diabetes prevalence rates will continue to rise, particularly in developing low- and middle-income countries (Daar, 2010; Hennis, 2005).

The following sub-sections include: (1) Statement of the Problem, (2) Significance of the Problem, (3) Purpose of the Thesis Study, (4) Research Question and Hypothesis, and (5) Outline of Thesis.

1. Statement of the Problem

The concern inherent within the obesity pandemic is found in the associated health risks, such as CNCDS. Diabetes is one of the most common CNCDS with an estimated global prevalence of 346 million people (WHO, 2011c). Of those afflicted, type 2 diabetes accounted for 90% (WHO, 2011c). Within the global diabetes burden, 44% was directly associated with overweight and obesity (WHO, 2011b). Due to changes in diet and activity levels around the world, diabetes prevalence is expected to more than double by 2030 (WHO, 2009a). However, according to Diamond, “this is a minimum number because, for each diagnosed case, there is thought to be one undiagnosed case in First World countries and eight in the Third World” (2003: 599). WHO statistics put the death toll for diabetes-related complications at approximately 3.2 million deaths per year, or in other words, “six deaths every minute” (2009a). As such, diabetes represented a critical global health problem (Zimmet, 2000), outweighing even HIV/AIDS-related complications. According to Daar, “The number of deaths from [CNCDS] is double the number

¹ CNCDS are used interchangeably with NCDs throughout the thesis. This was done to ensure the integrity of quotations.

of deaths that result from all infectious diseases (including HIV/AIDS, tuberculosis and malaria), maternal and perinatal conditions, and nutritional deficiencies *combined*” (2010: 306).

1.1. Statement of the Problem in a Caribbean Context

Caribbean obesity levels have reached epidemic proportions (Henry, 2004b: 3). Along with the increase in overweight and obesity, CNCND prevalence rates (e.g. type 2 diabetes) have also increased steadily (Hennis et al., 2002a, b; Ragoobirsingh et al., 1995, 2002; Rotimi et al., 1999; Sargeant et al., 2001; Wolfe et al., 2006). In 2000, the number of people afflicted with diabetes in the Americas was estimated at 35 million, 19 million (54%) of which were located in Latin America and the Caribbean (BDF, 2009). Obesity had also become a major contributor to mortality and morbidity (Henry & Xuereb, 2004: 50). Dr. Fitzroy Henry – Director of the Caribbean Food and Nutrition Institute (CFNI) – expressed an urgent need for action to combat the obesity epidemic occurring in the region: “If action is not taken to curb [the Caribbean’s] increasingly overweight populations, the resultant burden of chronic diseases will overwhelm our health systems and ultimately retard [its] overall health and development” (2004b: 3).

1.2. Case Study Selection: Barbados

As a leading developing nation within the Caribbean, Barbados’ socioeconomic development, infrastructure, and health rankings make the island an ideal environment in which to understand obesity and diabetes risk within African-origin populations. Ranked 42nd by the 2011 United Nations Human Development Indicators (HDI), Barbados placed above average within the region (UNDP, 2011) and highest in terms of health (UNDP, 2010a). In fact, Barbados was the only state within Latin America and the Caribbean to be labelled ‘developed’ according to 2010 HDI rankings. However, national overweight and obese prevalence has increased rapidly. According to Professor Trevor Hassell, Chairman of the National Commission for CNCNDs (NCCNCD), 60% of women were classified as overweight in 2011 with more than 33% classified as obese; for men, more than 33% were overweight and 10% were obese (qtd. in Gooding, 2011). Of additional concern, Barbados’ diabetes prevalence was the highest in the region. Unsurprisingly, prevalence rates for women were greater than that of their male counterparts (Hennis et al., 2002a: 234). In 2010, diabetes was the third leading cause of death (Hassell qtd. in Barbados Advocate, 2010). Using Barbados as a case study, the thesis illuminated the need to consider environmental factors, cultural constructs, and socioeconomic

status (SES) within the discourse on obesity and diabetes as opposed to biological and ‘lifestyle’ factors alone.

2. Significance of the Problem

The growing number of overweight and obese people worldwide poses significant challenges to public health systems, particularly less developed and transition countries (e.g. Barbados) where increases in overweight are most pronounced. Due to the implications of obesity on women’s health, there is also an imperative to research how distinct gender roles and behaviours have led to such a huge disparity in obesity levels between the sexes.

2.1. Theoretical Significance

The present thesis sought to enhance our understanding of the obesity epidemic as it relates to the Caribbean dynamic. Contemporary research has strongly suggested that an inclusion of interdisciplinary studies within obesity research is warranted (Bonham et al., 2005: 9; Shields et al., 2005: 79; Smedley & Smedley, 2005: 6; Wang & Sue, 2005: 43). Therefore, the present thesis included an array of research and literature from different developmental studies (e.g. historical research, cultural, medical and psychological studies, and feminist literature), as well as the use of publications by leading international and national organizations and the media. It has also been proposed that a broader range of contributing – or causal – factors is needed (Chalk, 2004; Dehgan et al., 2005; Eckel & Krauss, 1998; Hill & Peters, 1998). Due to the complexity and multifactoral nature of obesity (Farooqi, 2005: 359; Yang et al., 2007), calls for a diversified approach were justified.

The present thesis was one of few studies investigating obesity in the Caribbean using an interdisciplinary lens (e.g. development, gender, and post-colonial studies) while incorporating a multifactoral approach. To allow for a broad and inclusive view of the problem, the thesis was guided by an ecological health model. The present thesis seeks to contribute to the growing body of knowledge related to obesity. More specifically, the research intends to provoke greater awareness of particular issues related to obesity within the Barbadian context, while indicating a need for baseline studies and further research in the region as a whole.

2.2 Practical Significance

Since the 1990s, obesity has been increasingly acknowledged, researched, publicized, and included in the national health agendas of highly developed countries (Moffat, 2010: 3). However, this is not the case in international development policy and programmes aimed at

reducing trends associated with overweight and obesity within less developed and transitional countries (FAO, 2002). As the FAO conceded, “Experts hesitated to draw attention to obesity when so many lives were crippled by hunger” (2002). The result was a global ‘trade-off’ of nutrition-related diseases. In other words, “nations [had] simply traded hunger for obesity, and diseases of poverty for diseases of excess” (Gardner & Halweil, 2000). Of further alarm was the rapidity of increasing obesity prevalence, as well as the growing economic and social burden within the developing country context. While economically developed regions had a higher prevalence of overweight and obesity compared to those of the developing world, the later faced a greater absolute burden due to larger population sizes (Yang et al., 2007: 50).

Addressing the burden of obesity and obesity-related CNCDS as a major goal has wide-ranging benefits. However, failure to do so increases the burden of low-, middle- and most-developed countries. In addition, obesity and obesity-related disease result in decreased life-span, and direct economic consequences at all levels of society as most people affected by these diseases are of working-age. As a response to this gap, the present study gives particular focus to people of Afro-Caribbean descent, both within the Caribbean Diaspora as well as within the Caribbean region itself. Because Afro-Caribbeans share a common ancestry with African Americans (but with a lower admixture) and high CNCDS prevalence (Hennis et al., 2011: 1; Sharma et al., 2008: 151), further significance is gained in that a greater range of populations will benefit from the research.

From a health promotion perspective, greater information is required to understand factors that help or hinder the success of public health initiatives targeting behaviour change. Traditional approaches focusing on individual level interventions have failed to reduce trends associated with obesity and type 2 diabetes in the region (CARICOM, 2007: 30). “[O]besity,” Farooqi argued, “represents the archetypal complex multifactorial disease and arises as a result of behavioural, environmental, and genetic factors which may influence individual responses to diet and physical activity” (2005: 359). By identifying the different forces driving the obesity epidemic, how these forces interact within contemporary Caribbean societies, and why they persist, it is possible to inform future intervention strategies aimed not solely at the individual level, but also at the community and national levels. Informed interventions may help to reverse trends towards overweight and obesity, slow the onset of CNCDS, and prevent premature mortality for populations most at risk.

3. Purpose of the Thesis Study

The present thesis seeks to contribute to the existing body of knowledge related to obesity prevalence, with specific reference to Afro-Caribbean populations. The thesis also aims to inform future efforts targeting obesity-related health disparities within Caribbean populations, including the Afro-Caribbean Diaspora. Using Barbados as a case study, an attempt is made to discover how and why Afro-Caribbean populations are at elevated risk of obesity and type 2 diabetes. Topics included: gender, cultural constructs, demographic, epidemiological and nutrition transitions, as well as hereditary and genetic determinants.

4. Research Question and Hypothesis

The research objective seeks to identify and investigate causal factors and consequences of obesity and obesity-related health conditions within the Caribbean using Barbados as a case study. It is hypothesized that societal values and norms – compounded by factors associated with globalization and development – have created a situation of dire concern. To reduce future incidence of obesity and obesity-related diseases, there is an urgent need to identify and examine barriers to health. Of further importance is the need to understand obesity within the cultural context. According to Loughney, “individuals are subsumed under the relations with meaning and people surrounding them” (2000: 185). The thesis addresses the following overarching question: *What were the causes and consequences of obesity in Barbados?* In addressing this question, the thesis aims to:

- i.** Identify the causes of obesity including cultural, socioeconomic and environmental barriers to health, as well as biological factors (e.g. hereditary and genetic factors),
- ii.** Evaluate the importance of gender constructs vis-à-vis the obesity epidemic and the marked difference between male and female obesity prevalence rates, and
- iii.** Evaluate the impact of plantation history on shaping cultural constructs that negatively impact obesity prevalence.

5. Thesis Outline

Chapter 1 introduces the thesis topic and presents an overview of the problem and its significance, followed by the research questions and hypothesis. Chapter 2 includes an overview of the problem within the Caribbean context and introduces the case study. The research methodology is described in Chapter 3. Chapter 4 introduces key concepts related to the problem. Chapter 5 explores biological factors linked to obesity and type 2 diabetes, followed by

a discussion on the use of genetics vis-à-vis health and race constructs. Chapter 6 examines the relevance of culture in diet and consumption patterns and the link between body size and perceptions of health, wealth, and beauty. The case study is presented in Chapter 7 followed by the thesis' conclusions and policy recommendations in Chapter 8.

CHAPTER 2.

INTRODUCTION TO THE CASE STUDY

The Caribbean – Development or Destruction?

The Caribbean has undergone deep-rooted changes in the past century, experiencing significant economic growth and development. These changes have led to major positive repercussions for the living conditions and health situation of many people within the region (PAHO, 1994: 1). Much of the improvement in health conditions has been attributed to an increase in the amount of food – and particularly calories – available in the region (PAHO, 2007: 250). According to CARICOM, the 1960s were categorized by an “overall insufficiency of calories [which] was reflected in the high rates of undernutrition that existed at that time” (2007: 24). However since then – and particularly from the 1970s onward – food availability in the region has been increasing (Karfakis et al., 2011: 36). In former times, emphasis was placed on increased availability of calories per head which was deemed critical for the rapid decline in undernutrition (PAHO, 2007: 250). As a result, average availability of calories per head increased rapidly (CARICOM, 2007: 24), and the Caribbean region followed a general trend of falling numbers and proportions of undernourished (Karfakis et al., 2011: 5). For example, tremendous strides were made in the reduction of child undernutrition wherein there was a 62% drop in underweight among children under age 5 between 1980 and 2000 (PAHO, 2007: 250).

However, as with other regions experiencing economic growth, development had also born a heavy toll on people’s health. In sync with economic development, obesity and its sequelae of CNCs are on the rise. According to the Pan American Health Organization (PAHO), many “Caribbean countries began their nutritional transition early and now have reached the stage of exhibiting non communicable chronic diseases associated with diet before other regions” (2007: 250). Dr. Henry Fraser – Professor of Medicine and Clinical Pharmacology, Dean of the School of Clinical Medical and Research and Director of the Chronic Disease Research Centre (CDRC) at the University of the West Indies (UWI), Barbados – argued that:

The epidemiologic transition in the Caribbean over the last 40 years has produced an epidemic of lifestyle-related chronic non communicable diseases. Among these are obesity, diabetes, and hypertension, along with such complications as stroke, heart disease, and amputations. (2001: 61)

By 2007, the Caribbean health profile was “dominated by chronic, non communicable, lifestyle related diseases” (CARICOM, 2007: 16). “In this regard,” CFNI Food Economist Dr. Ballayram

explained, “nutrition-related chronic diseases such as obesity, [and] diabetes... have replaced malnutrition and infectious diseases as the major public health problems” (2005: 183-184).

Increased availability of calories, according to Dr. Henry, “contributed to the indiscriminate consumption of high-energy foods in large sections of the Caribbean population” (Henry, 2004b: 8). For example in 2007, CARICOM reports indicated an excess of 160% of average dietary fats requirement and an excess of 250% for sugars (2007: 24). The prevalence of excess fats and sugars was directly linked with soft drinks, fast foods, snacks, and larger portion sizes (CARICOM, 2007; Drewnowski, 2007; Henry 2004b). In conjunction with fats and sugars, excess salt intake was implicated as a contributing factor in obesity prevalence (He et al., 2008). “This consumption pattern,” argued Henry “is a major contributing factor to the increasing rates of obesity in the region” (2004b: 8). Of further alarm is the rapidity of increase. By 2004, almost half the population was classified as overweight, and obesity levels had reached epidemic proportions (Henry, 2004c: 23). “In two decades”, stated Henry, “obesity [had] grown by almost 400%” and “is now the most important underlying cause of death in the region and the range of consequent illnesses is wide among those who survive” (2004a: 1).

In 2007, CNCDs accounted for two thirds of deaths in the region and almost half of the death within the 70-plus age group (PAHO, 2007: 124). Of these, findings from 2005 indicated that approximately 50% of these deaths were premature in persons less than 65 years of age (Ballayram, 2005: 183-184). However, later studies indicated this figure might be as high as 80% (Daar, 2010). In 2001, type 2 diabetes alone accounted for 5% of total deaths, ranking it the fourth leading cause of death in the region (PAHO, 2007: 129). In 2002, approximately 10% of the adult Caribbean population suffered from diabetes with prevalence rates more than doubling at older ages (Hennis et al., 2002a: 234). By 2009, prevalence of diabetes within the adult population of Trinidad and Tobago was estimated at 12.7%, Jamaica 12.6%, Belize 12.4%, and 16.4% in Barbados (BGIS, 2009c). Given the increasing prevalence of obesity in the region – and obesity’s relevance as a risk factor for type 2 diabetes – it is expected that diabetes prevalence would continue to rise (PAHO, 2007: 129). The aging population within the Caribbean presents further risk of CNCDs (CARICOM, 2007: 16).

Within those classified as overweight and/or obese in the Caribbean, statistics for men and women showed a starkly gendered disparity. According to Henry, “25% of adult Caribbean

women [were] seriously overweight, i.e. obese; this [was] almost twice as many as their male counterparts” (2004b: 4). Summarizing the severity of the situation, Fraser stated that,

The combination of a rapid increase in calorie intake and a decrease in physical activity, against a background of cultural traditions that favour female obesity imposes an unmanageable burden on the limited health care resources of these small countries of the Caribbean. (2001: 61)

Excessive body weight was also manifesting within the childhood population. In 2004, obesity rates for young children within certain Caribbean nations exceeded global prevalence rates (Henry, 2004b: 5). According to Economic Commission for Latin America and the Caribbean (ECLAC) reports, “while the global prevalence rates for obesity amongst children is estimated at 3.3 percent, prevalence rates in the subregion range from 3.9 percent for Barbados to 6.0 percent for Jamaica” (2006: 22). Considering that excessive body weight in young people poses significant health complications later in life, as well as greater years of life lost (Olshansky et al., 2005: 1139), trends towards increasing obesity prevalence within younger populations is of serious concern. According to PAHO, lifestyle choices (e.g. poor diet and physical inactivity) undermine youth’s health creating a “recipe for major increases in non communicable chronic diseases” (2007: 60-62).

Obesity and CNCs reduce the potential for continuing economic growth and development within the Caribbean. Considerations include lost productivity of working-aged populations, increased disability prevalence, daily living limitations and impact on quality of life, a potential reduction in longevity, and the escalating national health care burden due to the costs associated with treating obesity-related complications. Moreover, obesity and chronic illness have serious repercussions on the quality of life of those who affected while contributing to stress within the family unit, as well as the community at large. As such, there is an urgent need for immediate action in the Caribbean (Henry, 2004b: 3).

This fact is particularly true for Barbados. One of the most developed Caribbean economies, Barbados’ development and progress towards achieving economic as well as Millennium Development Goals (MDGs) serves as a positive example to other Caribbean nations. However, Barbados’ path to development also serves as a stark warning. Contemporary health issues (e.g. obesity, type 2 diabetes) threaten to impede Barbados’ progression. According to family physician and Minister of Parliament, the Hon. Esther Byer-Suckoo (2010):

Barbados is still paradise [but] we cannot gain wealth at the expense of our health. We are today concerned about losing all our development gains to an economic recession. But

diabetes will do just that. Essentially, if our wealth and development see us abandoning our healthy foods and healthy lifestyle, then we would have gained nothing. That type of development is not sustainable. (2)

Background Information: Barbados

In 2011, Barbados' population was estimated to be 286,705, compared to 260,491 in 1990, with a population growth rate of approximately 0.366% (CIA, 2011a). A predominantly Black Caribbean nation, the major ethnic group is of African origin. The demographic makeup of the island is reflective of Barbados' colonial history and the legacy of plantation economies. Drawing off the 2000 census, ethnic groups were comprised of: Black 93%, White 3.2%, mixed 2.6%, East Indian 1%, and other 0.2% (CIA, 2011b). Situated on the eastern perimeter of the Caribbean Sea, Barbados experiences mild tropical storms during the rainy season. However, located just outside the principal hurricane strike zone, the island rarely experiences hurricanes or severe storm conditions. The temperature typically falls between a night-time low of 20 and a day-time high of 35 degrees with two seasons: dry (Dec. - May) and wet (June - Nov.). Annual rainfall is between 40-90 inches (1016-2286mm). Geologically, the country was based on a foundation of coral rock (90m thick) and was known to have underground caverns. The physical environment is low-lying and hilly. A small island, Barbados is only 166 square miles (430km²), 21 miles (33.8km) long and 14 miles (22.5km) wide. Topsoil is fragile, rocky and subject to erosion from mud slides, development, and coastal degradation.

Historically, Barbados' economy was dominated by the sugarcane industry. The geological composition of the island and mild tropical weather made it ideally suited to sugarcane production. Moreover, the fibrous roots of the sugarcane spread out to hold topsoil in place thus preventing erosion. However, due to a global decline in sugarcane prices and a rise in employee wages, Barbados was unable to compete with other sugar producing countries in the region. Therefore, in recent decades the Barbadian economy has diversified into tourism, off-shore banking, information services, and light manufacturing. Although the economy underwent a deep recession during the 1990s due to fundamental macroeconomic imbalances, growth rates have since averaged between 3 to 5% (Inniss, 2007: 14). Within the Caribbean, Barbados has one of the highest per capita incomes (estimated at B\$16,900 for 2004), while in 2007 unemployment was estimated at 8%, which was the country's lowest rate ever (Inniss, 2007: 14). Since gaining independence (1966), Barbados has experienced varying degrees of social, economic and demographic development. Governments have replaced each other in a succession of free and

fair elections, and in recent decades helped guide the country through a steady increase in standard of living (Inniss, 2007: 14). In 2010, Barbados was ranked with an HDI of .788, making it 42nd out of 169 countries measured (UNDP, 2010b). This was largely due to the Government of Barbados' (GoB) efforts to “place people at the heart of the development process” (SICE, 2007). Education is universal, free and compulsory at the primary and secondary levels (until age 16). Tertiary education is also fully subsidized. Consequently, the adult literacy rate (estimated at more than 95%) is one of the highest in the region (PAHO, 1998). However, despite continual economic growth and consistently high HDI rankings (UNDP, 2005), Barbados still faces certain challenges. In 2000, approximately 9% of Barbadians were living below the established poverty line of B\$5,503 per household, per annum (FAO, 2005b). The GOB's understanding of poverty takes individual income and consumption levels into account, as well as “the ability [of individuals] to realize their full potential,” while recognizing the impact of poverty on the country's limited resources (SICE, 2007). Moreover, Barbados exhibits a high degree of commitment to the MDGs as overall policy objectives. This commitment was evidenced in Barbados' *National Strategic Plan, 2005-2025* which fully integrated strategies to promote and advance the MDGs (Inniss, 2007: 2; SICE, 2007). In this aim, Barbados has achieved and surpassed the majority of the MDGs, particularly high immunization rates, the eradication of extreme poverty and hunger, universal primary education, reduced child mortality, and promotion of gender equality and empowerment (UNICEF, n.d.).

Public health is considered a necessary part of Barbados' social and economic transformation (SICE, 2007), demonstrated in the country's longstanding commitment to the national health sector (Rodney & Copeland, 2009: 204). For example, the Maternal and Child Health Programme provides reproductive health services (e.g. prenatal and postnatal health care) through free antenatal health clinics. Clinic services include routine care, counselling, medical screening, family planning, and child health services (UN, 2007). As a result, significant and rapid gains were made in the reduction of infant mortality and improving maternal health (PAHO, 2008: 10). According to UNICEF, “With very few exceptions, children living in Barbados... are born healthy and have access to good health care services” (n.d.). Barbados' maternal mortality rate is also one of the lowest in the region at 0.9 per 1,000 live births and one hundred percent of births are attended by specialized personnel (UN, 2007). The GoB also provides free health care services for young children (e.g. testing for hearing, speech and sight impairments, free

immunization, and medication) (MoE, 2005: 4). Tremendous strides were also made in the reduction of undernutrition, particularly within the childhood population. During the 1960s and 1970s, infant malnutrition spurred country-wide school feeding programmes that continued into the present (MoE, 2005: 3). By 2008, undernutrition was estimated at less than 5% of the total population (FAO, 2011).

A small island, Barbados benefits from the ability to implement country-wide health programmes (e.g. the primary school meals programme). Within a few decades, child undernutrition rates were significantly reduced. Similar success was obtained through GoB efforts to reduce communicable tropical diseases (e.g. dengue, malaria). Moreover, through enforcement, the country has achieved almost universal immunization coverage (PAHO, 2008). According to UNICEF, Barbados' commitment to health is evidenced by,

low under-five mortality rate and the fact that few children suffer from diseases such as polio, chronic malnutrition or 'wasting' (low weight for height) and stunted growth, which was characteristic among children of previous generations. (n.d.)

In spite of these gains, nutritional and health challenges have evolved which negatively impact Barbados' potential for socioeconomic development. In recent decades, the country has been plagued with alarmingly high rates of obesity. In tandem with increasing obesity prevalence, CNCDS are also on the rise (Hennis et al., 2002a; WDF, 2011).

The burden of obesity and obesity-related diseases has been tremendous. According to the GoB's Office of Public Sector Reform, it is estimated that more than 65% of the Queen Elizabeth (QE) Hospital's budget is being used for CNCDS care (2008: 2). Moreover, because CNCDS are manifesting within persons of working age, the financial burden of disease has expanded beyond the national health care budget. For example, CARICOM stated that "there is clear evidence of reduction of labour supply and productivity as a result of premature mortality as well as increased morbidity which will affect individuals, households and the country as a whole" (CARICOM, 2007: 27). According to the Office of Public Sector Reform, indirect costs associated with diabetes (i.e. loss of productivity, sickness benefits, and loss of earnings due to premature death) total more than US\$138 million annually (2008: 2). The impact of CNCDS also effectively reduces government returns on investment in human capital, such as education (CARICOM, 2007: 27). The burden weighing on middle- and lower-income households is particularly troubling as it threatens to pull these households into chronic poverty.

CHAPTER 3.

RESEARCH METHODOLOGY

Overview

This chapter describes the methods and techniques used in the period preceding and throughout the field research in Barbados (Sept. 2008 – Sept. 2009). In this chapter, the steps taken to prepare for the fieldwork are explained. This is followed by a description of the research strategy, methodology, and research constraints. The last section concerns the writing of the present thesis.

Preparation

In an attempt to better understand obesity and rising type 2 diabetes prevalence within the Caribbean, a ten-month field placement was undertaken with the FAO's sub-regional office of the Caribbean located in Christ Church, Barbados (Sept. 2008 - July 2009). An advance visit was made (May 2008) to secure the FAO placement, introduce myself to office staff, and familiarize myself with the environment. The advance visit reduced the time needed to adjust to a new culture and office dynamic. Upon acceptance of the placement, the FAO requested that the thesis be tailored to explore the linkage between food security, obesity, and type 2 diabetes using the primary school Garden-based Learning (GBL) programme as a case study. The period preceding the FAO volunteer consultancy was then characterised by reading reports concerning food security and the obesity pandemic from both global and regional perspectives. General country information was also collected in order to become familiar with the country of research. Prior to arriving in Barbados (Sept. 2008), it was determined that very little in research specifically exploring the link between Caribbean health and food security issues had been published. At that time, I was just beginning to develop an understanding of the issues and challenges facing the region. However upon arrival, a new set of phenomena emerged, specifically the cultural preference for 'thick' women and a strong stigma against local agriculture.

Research Path

The research followed a non-linear path. According to Neuman, the non-linear approach to research "can create a feeling for the whole, allow grasping subtle shades of meaning, pull together divergent information and permit switching perspectives" (2009: 47). As new insight was obtained, the direction of the research changed. By following a non-linear path, I was better able to grasp the complexity of the obesity epidemic within the Barbadian context. For example,

the non-linear approach allowed the research to be guided by a more participatory method of problem analysis. Moreover, the direction of focus was able to adjust according to information obtained through interviews, observation and an analysis of the literature.

Literature Review

Due to the multidimensional and complex nature of obesity and other lifestyle-related diseases, a multi-disciplinary approach was used. Information was obtained from a vast array of sources (e.g. newspaper clippings, news and magazine articles, historical publications, public opinion pieces). Peer-reviewed academic articles were read from different academic fields (e.g. medicine, anthropology, sociology, agriculture, feminist theory, cultural studies etc.). Other documentation included GoB and statistical publications, Terms of Reference and other project-related documents (e.g. email communication between the researcher, project staff, volunteers and stakeholders, and requests for support from local agriculture-based initiatives). GBL project outlines were also used as background for the thesis research. Unfortunately, very little research had been performed which directly linked food security and/or health to environmental, structural, or cultural factors in the Caribbean. Furthermore, there was even less published information directly relevant to the Barbadian context. For this reason, the study borrowed heavily from international publications and whenever possible from publications directly related to the Caribbean Diaspora.

Theoretical Framework

Although obesity and type 2 diabetes are partly attributable to hereditary and genetic factors, both conditions are also significantly linked to behaviour (Daar, 2010; Gregory, 2002). As a result, both conditions have been historically categorized as ‘lifestyle diseases’ wherein personal choice and ‘risky’ patterns of behaviour are implicated as major determinants to health (Moffat, 2010: 5). At first glance, the lifestyle model appears to be the most obvious and relevant approach in which to frame the obesity epidemic. However, the problem with using a lifestyle model lies in the almost singular dependence on individual behaviour change as the solution or treatment of disease (de Vries, 2007). Within the lifestyle approach, factors affecting individual choice and behaviour (e.g. environmental, structural, and cultural health determinants) were relatively neglected. Nevertheless, according to de Vries, “Increasingly, individuals are living in a so-called ‘obesogenic’ environment where high-caloric foods are over-abundant, time is restricted, and exercise has become a matter of choice rather than obligation” (de Vries, 2007:

57). While the lifestyle model helped frame certain etiological aspects of obesity, there was little focus on the positive and negative factors influencing individual decision making and behaviour related to achieving good health. As Tesh (1981) explained,

The life-style hypothesis approaches disease as though ill health is the result of personal failure. It dismisses with a wave of the hand most environmental toxins and it ignores the crucial connection between individual behaviour and social norms and rewards. It is, in fact, a victim blaming approach to disease. (Qtd. in McLeroy et al., 1988: 352)

In line with Tesh's argument, Brownell and Battle Horgen claimed that while the "[c]hoices people make are important... the willpower and restraint cards [have been played] for years" (2004: 5). Those arguing obesity was simply a matter of choice, Brownell and Battle Horgan went on to say, found themselves "trumped again and again by an environment that overwhelms the resources of most people" (2004: 5).

Other models put forward to frame the obesity discourse included the structural and environmental models. While the lifestyle model focused on individual agency, the structural model examined broader socioeconomic factors including the expression of poverty through unhealthy dietary habits (Drewnowski & Specter, 2004: 14) and reduced access to playgrounds, gymnasiums, or other facilities geared towards physical activity (Gordon-Larsen et al., 2006). Although the structural model held much in common with the environmental model, the later looked directly at the positive and/or negative impact of one's surroundings (not necessarily related to socioeconomic forces) related to health. For example, poor urban planning may act as a barrier to walking, using a bicycle, or participating in other forms of physical activity (Frank et al., 2004). Other environmental factors included issues related to the food industry, such as child-centric marketing (Brownell & Battle Horgen, 2004: 129), and an overall environment of inactivity (Brownell & Battle Horgen, 2004: 70). According to Brownell and Battle Horgan, "The environment, much as it encourages overeating, makes sedentary behaviour almost inevitable" (2004: 69).

Each model outlined relevant aspects of both obesity and type 2 diabetes etiologies. However, standing on their own, all three models were limited due to the fact that health determinants outlined in the respective models were often intertwined or nestled within the different frames of thought. Hence, a coupled approach using an ecological health model was found to be the most effective in shaping and directing the present research path. The ecological model focuses attention on both individual *and* social environmental factors (McLeroy et al.,

1998: 351). In this regard, not only can the ecological health model serve to identify certain etiological aspects of obesity and other so-called 'lifestyle' diseases but it can also target appropriate areas for intervention. According to McLeroy et al., the ecological model for health, addresses the importance of interventions directed at changing interpersonal, organizational, community, and public policy, factors which support and maintain unhealthy behaviours. The model assumes that appropriate changes in the social environment will produce changes in individuals, and that the support of individuals in the population is essential for implementing environmental changes. (1998: 351)

Although the ecological health model does not take hereditary or genetic factors into account, it was found to be the most thorough and inclusive approach by which to identify and better understand causal or etiological factors which negatively contribute to the contemporary obesity epidemic by incorporating aspects of the lifestyle, environmental, and structural models.

Concepts of race, ethnicity and culture were further analyzed through the use of sub- or micro-theories including: social constructivist, gender or feminist perspective, as well as post colonialist theories (e.g. conflict, memory and trauma theories). These paradigms allowed for a broader understanding of the unique context in which the research was based. The social constructivism approach helped gather the multitude of social factors impacting overweight, obesity and type 2 diabetes prevalence within the ecological health framework. According to Braungart, social constructivism is based on the understanding that,

individuals formulate or construct their own versions of reality and that learning and human development are richly colored by the social and cultural context in which people find themselves. A central tenet of this approach is that ethnicity, social class, gender, family life, past history, self-concept, and the learning situation itself all influence an individual's perceptions, thoughts, emotions, interpretations, and responses to information and experiences. (2007: 65)

Within the present thesis the use of constructivism helps to make sense of seemingly incongruous information, perceptions, and actions manifesting within individual behaviour. The constructivist approach allows space for the complexity of human thought and behaviour which are not always driven by 'logic' and can be influenced by memories, social mores, fear, or trauma.

Because Caribbean women are disproportionately afflicted with overweight, obesity, and type 2 diabetes, the present thesis adopts a somewhat feminist approach. A gendered perspective was relevant – both from a physiological and psychosocial point of view – as the determinants to good health and nutrition are intrinsically related to gender (WHO, n.d.a). A feminist paradigm

was useful in such that it recognizes other factors (e.g. class, race, and culture) as powerful determinants to health (Bailey et al., 2000: 11). In an attempt to maximize remaining in-country time following the volunteer consultancy, the field placement was enhanced by participation in the 8th Caribbean Institute in Gender and Development: An Intensive Training Programme, offered through the Institute of Gender and Development Studies: Nita Barrow Unit in collaboration with UWI, Cave Hill Campus, Bridgetown, Barbados (July 2009 – Aug. 2009). The programme offered culturally tailored gender and development studies, featuring such esteemed lecturers and guest speakers as Eudine Barriteau and Kathleen Drayton. This experience provided me unique opportunity to obtain a fuller understanding of contemporary health issues from a gendered perspective while gaining insight into potential solutions and challenges relevant within the Caribbean context.

Use of post-colonialism theories helped identify, analyze, understand and give importance to aspects related to the legacy of colonialism and particularly the slave industry vis-à-vis contemporary attitudes towards diet, consumption, and agriculture. As a response to information gleaned during the field interviews, theories of memory and trauma were also used to identify and integrate issues related to the present study. According to Hodgkin and Radstone, “memory is not only individual but cultural” (2003: 5). The importance of memory to contemporary Barbadian society – particularly the impact of slavery and poverty as a form of persistent or ongoing cultural trauma – was identified during the course of the field-work. Perceptions of class and status were strongly influenced by cultural memory imbued with the suffering and stigma associated with a history of slavery, and poverty associated with the post-emancipation period. The present thesis thereby seeks to examine the cultural interplay between memory and contemporary diet and consumption patterns. According to Fraser, “The [obesity] problem is entrenched in our traditional culture, is compounded by our acquired cultures, and begins at an early age” (2003: 338). Fraser’s comments were in direct response to a cultural preference and acceptance of larger body sizes in the Caribbean. These cultural particularities, Fraser argued, were linked to historical factors dating back to the pre-slave era compounded by the impact of slavery and hunger on contemporary consumption habits. However within plantation economies such as Barbados, the link between food, nutrition, and cultural memory go much deeper. While individuals may experience ‘memory’ as private and internal, it is nevertheless constructed

within the surrounding culture (Hodgkin & Radstone 2003: 5). Indeed, within the Caribbean, the cumulative weight of cultural systems threatens food security itself.

Of particular influence within the present thesis were the theoretical underpinnings of Cole's *'Forget Colonialism? Sacrifice and the Art of Memory in Madagascar'* (2001). Although stemming from an exploration of cultural memory as it manifested within Madagascar, much was gleaned from her work. Cole emphasized the fundamental importance of how people 'remember' the past (2001: 1). According to Cole, memory at the individual and group level is shaped by a complex interplay between 'artefacts of literacy' and aspects of the material environment. However, other aspects of memory – lying outside of the material realm – also impacts how people perceived the past. Of significant importance, were “the less tangible but equally efficacious social practices that enable or disable certain kinds of memories, and on how people use these techniques to shape how they remember – and thus act upon – the world” (Cole, 2001: 1). The advantages of understanding memory in this fashion required the researcher to focus analysis on the interplay between the “social and cultural practice through which individual and social memory are woven together” thereby affording “a way out of the dichotomy that sees memory as *either* locked inside people's heads *or* available only in collective representations and embodied practices of ritual” (2001: 1-2). Moreover, Cole's study reveals how past events may be incorporated within the contemporary socio-cultural environment in such that they are 'not consciously remembered' (2001: 1-2).

The theoretical perspectives and thesis research were guided by development thinking. According to Desai and Potter, development thinking involves “the intention to change society in some defined manner” (2002: 62). The argument presented in the present thesis is that the dramatic rise in overweight and obesity prevalence over the past few decades within the Caribbean is a socioeconomic force, exacerbated by the environment, gender, and cultural constructs, as well as biological factors. The underlying intention however, is to provide a greater understanding of obesity and type 2 diabetes from an etiological standpoint in order to inform health practitioners and other stakeholders in the region. The thesis therefore, adopts a normative approach in that it attempts to use research results to inform health promotion strategies and policies thereby contributing to a reduction in obesity and type 2 diabetes prevalence within Barbados and, if possible, the broader Caribbean region.

Although the medicalization of obesity as a ‘disease’ and the characterization of the global increase in obesity prevalence as an ‘epidemic’ has been questioned (deVries, 2007; Boero, 2007; Saguy & Riley, 2005), these arguments appeared to focus more on the implicit assumptions in the language associated with obesity. For example, it has been argued that the use of the term ‘epidemic’ implies that obesity should be understood as a ‘disease’ (deVries, 2007) thereby evoking a form of ‘fat panic’ within society (Murray, 2008: 7). Saguy and Riley explained that “debates over the nature of [obesity] have largely hinged upon underlying moral assumptions about fat individuals and their behaviour” (2005: 871). In a similar vein, de Vries claimed that the modern preoccupation with obesity as a disease stems from a “contemporary social disgust with fat” (2007: 60). According to de Vries, “The predominantly medical battle against obesity could then also be explained not because of the potential harmful effects of obesity on health, but by an inclination to medicalize behaviour we do not find acceptable” (2007: 60). Saguy and Riley wrote at length on the terminology associated with obesity concluding that:

notions of morality play a central role in the controversy over obesity... and illustrates how medical arguments about body weight can be used to stymie rights claims and justify morality-based fears. (2005: 870)

The concerns expressed in these arguments focus on the medicalization of obesity and the possible societal implications of this framing which may impact both the individual and the public at large (Boero, 2007; deVries, 2007; Murray, 2008). While such arguments pose valid concerns regarding the use of language associated with obesity, it was not the intent of the present thesis to analyze the etymology of the medicalization of obesity as a disease or the classification of the global increase in obesity prevalence as an ‘epidemic’. That the condition of being overweight – and particularly obese – poses significant physical harm through its associated health risks is sufficiently clear (Gipson et al., 2005: 224; Howling, 2004: 73; Lantham, 1997: 27; WHO, 2006: 30). Furthermore, that obesity prevalence had increased dramatically in recent times is also evident (WHO, 2003).

The underlying assumption in ‘development’ is to improve not only the economic prosperity of less-developed countries but also to improve people’s standard of living which, by its very nature, includes health and well-being (CIDA, n.d.). That obesity and type 2 diabetes burdens are inequitably experienced by certain population groups is worrisome. Moreover, the gender inequality within prevalence rates poses even greater concern. Therefore, the present

thesis focuses not on the semantics associated with the epidemic, but rather on the physical implications of an increasingly heavy population on public health systems as well as the increased burden on the health of the individual, their family, and the communities in which they live.

Fieldwork

My role with the FAO (in conjunction with UNDP) was to assist local schools in obtaining funding for and setting-up agriculture projects within the science curriculum. The underlying goal of the GBL programme was to provide students with the knowledge and skills needed to grow food in hopes of expanding their diet to include more nutritious, locally grown food. The GBL programme also sought to improve food security at the house-hold level by encouraging children to become involved in agriculture and start their own gardens at home. I worked closely with a number of schools, GoB representatives, local agriculture specialists, medical practitioners, and non-government organization (NGO) members interested in the promotion of kitchen gardening within the community and the incorporation of GBL within Barbados' education system. The GBL programme is of particular relevance due to concerns regarding national food security and the prevailing obesity epidemic.

Under the aegis of the FAO the ability to do research and decipher information benefitted in a number of ways. As an FAO volunteer consultant, I was granted permission to remain in country for an extended period of time. Moreover living and working in Barbados allowed space to interview a variety of stakeholders, observe and distinguish cultural particularities, and obtain first-hand experience. A further advantage included the ability to access information that would not have been otherwise available had I remained in Canada (e.g. research information, historical documentation and articles from libraries at UWI, QE PAHO, UNDP and the FAO). This kind of information was difficult – if not impossible – to access outside of Barbados. Local news publications were also of great value in obtaining a local perspective towards health and agriculture. Finally, the ability to work closely with regional and local specialists, as well as stakeholders, provided immense fodder for the research and helped pin-point areas of concern that were not apparent through a review of the literature alone. Field research offered “the advantage of probing social life in its natural environment” (Babbie, 2008: 316). Direct observation through field research revealed the subtleties of often unspoken meanings and unanticipated information. For example, the relationship between food selection, consumption

patterns and agriculture is one that many Barbadians felt could be at least partly explained as a throw-back – or cultural trauma– resulting from the atrocities associated with Barbados’ colonial history of slavery.

The fieldwork encompassed several methods of data-collection including: (1) interviews and personal communication; collecting opinions, beliefs and ideas of the people, (2) methods of observation; observing behaviour, actions and interactions, and (3) analyses of field documents. All methods played a prominent role in the present research and are discussed at length in the following sub-sections. The study was approved by the University of Ottawa Research Ethics Review Committee and satisfied the requirements for Research Involving Human Subjects.

Semi-structured interviews

Because Barbados is an English-speaking country translators were not necessary. However, certain dialectical peculiarities were present. Having lived in the country for one year, I was able to learn many of the terms, methods of speech and slang needed to understand and be understood by those around me. When required, explanations were requested from interview respondents or from colleagues.

Every opportunity was taken to meet and speak with different stakeholders and interested parties. Parents, Parent Teacher Association (PTA) members, project participants (e.g. teachers, volunteers and principals, medical practitioners, farmers, market vendors, GoB representatives, NGO representatives), as well as regional specialists and opinion leaders were all sought after to create a truly holistic understanding of how Barbadian culture, dietary patterns, and health, as well as how these factors intersect within the contemporary obesity epidemic. Whenever possible, interviews were arranged with a set schedule and list of questions prepared in advance. Interviews were semi-structured and open to new topics of discussion where deemed relevant. Respondents were open in their answers and in most cases seemed honoured to be interviewed. To reduce the possibility of one person’s opinion being impacted by different voices, most interviews were conducted one-on-one. In addition, there was an attempt to observe and participate in workshops and discussions organized by different groups (e.g. FAO, UNDP, Bellair’s Research Institute, Barbados Agriculture Society (BAS) and Future Centre Trust).

Methods of Observation and Participation

▪ Participant Observation

Due to my position as FAO volunteer consultant the ability to undertake participant observation was both enabled and encouraged. In many ways, complete participation was undertaken through hands-on work helping teachers develop appropriate curriculum for the GBL programme, as well as working side-by-side participating students in the garden plots (e.g. digging up the earth, helping to plant, and following the rules and regulations applied by the various schools). While a degree of reactivity may have resulted from active participation, it should be noted that each school applied for FAO funding and/or created their garden prior to my involvement which indicated a genuine desire to incorporate GBL into their respective curriculums.

By taking on the role of participatory observant, I was able to build rapport with school staff and students, develop trust, and speak openly about issues related to the project. Nevertheless, a strong effort was made to ensure cultural sensitivity. It was also made clear to respondents that any questions related to the research were to be answered only on a voluntary level, and with no repercussions in terms of project funding. In some instances, it was necessary to verbally express to respondents that they would in no way be penalized *or* rewarded for research participation in order to minimize the possibility of an unequal power or status relationship with respondents or GBL participants.

▪ Qualitative Interviewing

In my role as researcher I took great pains to meet respondents when and where it was convenient to them. To enhance my relationship with relevant stakeholders, I welcomed the opportunity to eat, join in social activities, and fully immerse myself within the culture. I also participated in a number of island tours provided by GoB representatives, teachers, and local agricultural leaders. Different farms were visited as well as agriculture and animal husbandry initiatives supported by the Ministry of Agriculture and Rural Development (MARD). Interview responses added substance to the research by explaining local issues, pointing out relevant events, directing me towards other stakeholders and engaging in a two-way exchange of information where freedom was given to change the direction of questioning in keeping with what participants felt were important areas of discussion. Rather than a simple 'yes/no' format, semi-structured interviews were designed to be 'interactive.' Following Babbie's understanding of qualitative interview techniques, a general plan of inquiry was generated (whenever possible)

prior to the interview, however the order and wording of questions was left intentionally vague. Using the phraseology of Lofland and Co., the researcher assumed the role of ‘socially acceptable incompetent’; gratefully accepting and encouraging the teaching provided by respondents (qtd. in Babbie, 2008: 338). Allowing respondents the freedom to direct topics of conversation proved both relevant and useful. Listening to their ideas and observations, leaving space for additional views, comments or explanations developed trust, expanded my knowledge of local issues and brought otherwise unknown but relevant topics into the research.

- **Transect Walks**

A ‘transect walk’ is described as a ‘mobile interview’, wherein the researcher is guided around the area of interest, discussing issues of mutual interest, gathering observatory information, while learning about resource allocation and usage, rules of access and potential conflicts (Thompson & Schoonmaker Freudenberger, 1997). Several hours at a time were spent walking along the different areas of interest, guided by MARD Officer John Vaughn. Vaughn revealed a great deal of information regarding the topography of the land, agriculture and animal husbandry initiatives and resources. Catalysts and constraints posed to farmers in Barbados were also identified. A valuable resource, Vaughn took pains to introduce and arrange interviews with farmers while explaining any inconsistencies or answering any questions that I had.

- **Questionnaires**

Questionnaire drafts were generated by the researcher, and approved by Carmen Dardano, FAO Nutrition Officer. Drafts were then provided to project participants who reviewed the surveys for appropriate wording, ease of understanding, and cultural sensitivity, adding their comments and suggestions where they saw the need for change (changes were made accordingly). The final drafts were provided to participating school principals for review and approval. Once approved, the questionnaires were distributed to selected schools. Selection was based on whether or not schools had an active GLB or animal husbandry programme in place, or who had expressed interest in starting a program, as well as willingness to perform the questionnaires. All schools which met these requirements were provided with questionnaires. The researcher contacted schools directly by phone to arrange meetings with relevant parties (e.g. principals and agriculture science teachers). Those who expressed interest were responsible for distributing and collecting questionnaires.

Prior to distribution, teachers were briefed on questionnaire content and future use of the information obtained. Teachers were also assured of the anonymity of respondents, as well as the student's and/or teacher's freedom to opt out of answering questions. Due to logistical constraints and conflicting teacher/student responsibilities (e.g. exam periods), not all schools were able to complete the questionnaires within the allotted time frame. Furthermore, at one of the participating schools there may have been an issue with the questionnaires not being distributed and explained properly to students. In this case, students may have felt questionnaires were a sort of assignment wherein they may be graded or judged. They may also have felt pressured to respond in such a way as to make their teacher happy.

In total, 4 different questionnaires were distributed:

i. Fruits and Vegetable Questionnaire

A questionnaire to evaluate 'like' or 'dislike' of certain fruits and vegetables was distributed to primary school students participating in the FAO-funded GBL programme: the questionnaire was completed by 81 students at St. Alban's Primary School (West Coast), 163 students at St. Paul's Primary School (Central Barbados) and 163 students at Arthur Smith Primary School (South Coast) for a total of 407 completed questionnaires. To help children understand the questions presented in the questionnaire, images were incorporated (e.g. pictures of different fruit and vegetables, as well as smiley faces for 'like' and frowning faces for 'dislike'). This questionnaire evaluated student's taste preferences, particularly local versus imported fruits and vegetables. The questionnaire was also intended as a tool to be used to help tailor school gardens by expanding or incorporating certain foods into future garden production as determined by student health needs.

ii. Rabbit Rearing Questionnaires

Two questionnaires were distributed to schools regarding the practice of rabbit rearing. One questionnaire was geared towards non-rabbit rearing schools and the other towards schools with existing rabbit-rearing programmes. Questionnaires were completed by 49 students at St. Alban's Primary School (West Coast), 11 students at St. Paul's Primary School (Central Barbados), and 21 students at Arthur Smith Primary School (South Coast). Of these three primary schools, only St. Paul's was then participating in a rabbit rearing project (funded by the UNDP). To facilitate understanding of the questions, images were incorporated (e.g. caricatures of different animals) to determine taste preferences related to meat consumption. Due to use of

yes/no and open-ended questions, these questionnaires were restricted to form 3 students and up (determined according to the literacy capacity of the students).

iii. Teacher Questionnaires

Anonymous questionnaires were completed by 15 teachers at Foundation Secondary School (South Coast), 18 teachers at Bay Primary School (West Coast), and 19 teachers at Arthur Smith Primary School (South Coast). The teacher questionnaires gauged teacher's interest in GBL programmes, use of the GBL programmes within different curriculums, awareness of student health issues, and were used to determine whether or not teachers saw a link between GBL and student health.

Recording of Observations

With permission hand written-notes were made during interviews or immediately following all interactions (e.g. meetings, field visits and transect walks). Prior to all interactions respondents were made aware of their right to opt out of questions or indicate portions of the interviews or conversations that were to be kept 'off the record'. Whenever possible, interviews were digitally recorded with either the verbal or written consent of respondents. The digital recorder was kept in plain sight and the respondents were asked permission prior to recording. The recorder was either turned off upon the request of the respondent, or there was a digitally recorded verbal agreement to keep certain information 'off the record'. No information of this nature was included in the thesis, however some 'off the record' information was used to guide the direction of the research according to the express intent of respondents. Photography was also used as a way to capture the transformation of the projects, record the physical layout of the different garden projects, and help create a visual representation useful in both memory recall, and portraying the local landscape.

Research Constraints

Significant issues were faced in the monitoring and evaluation of the GBL programme. The provision of funding for approved garden projects, such as those required for St. Paul's primary school, were significantly delayed due to contract issues, payment of grants and impediments to construction (delayed payments, sickness, lack of communication between stakeholders, and weather). Many of these factors were in part attributable to the delegated supervisor being frequently out of country and therefore unable to respond to inquiries or requests. Hence the ability to perform comparative evaluations from the beginning to the end of the school year were

constrained or abandoned. Due to the need for long-term comparative research, conclusions on the effect of GBL at the primary levels could not be made without revisiting the field, to compare and analyze the programme over an extended period of time. However it was hoped that the knowledge and research obtained during the time spent in Barbados, complimented by extensive research both before and after my field research, would help direct future efforts to enhance food security while providing insight into potential challenges and areas of concern.

Throughout the fieldwork there were few external factors constraining the gathering of proper data. Time availability and flexibility were important factors to make the fieldwork reach its fullest extent. Respondents were generally cooperative, open, sharing and helpful. A strong relationship with participating school staff members and volunteers, GoB representatives and a variety of stakeholders from different organizations was achieved. These relationships were of great importance in opening the door to interviews with local agricultural producers, medical practitioners, as well as local politicians and opinion leaders which would have otherwise been difficult both from a logistical perspective as well as being able to access these individual's time. These relationships also helped gain the respect, trust and open communication needed to perform substantive and meaningful inquiries.

Writing the Thesis

A significant portion of the research regarding gender and obesity (e.g. perceptions of body size, cultural indicators of beauty) was undertaken during participation with the Gender and Development training programme. However, the majority of the actual writing was completed following my return to Canada. By continuing the writing portion of the thesis in Canada, the present study benefitted from direct access to the thesis advisor Dr. Joshua Ramisch and subsequent developments in my field of study (e.g. new statistics, the publication of new research reports, and changes within the international community concerning the obesity pandemic). A gap occurred during the course of 2010 due to financial constraints and personal obligations. However, the gap proved beneficial as I was able to return to my work refreshed, gain access relevant information published in the interim and look back on the research with a less biased perspective.

CHAPTER 4. FOOD SECURITY, HEALTH, & NUTRITION

Overview

Over the past few decades there has been increased emphasis by the international development community on access to food and good nutrition as a human right (De Schutter & Ziegler, 2008; Fish, 2004; Messer & Cohen, 2008). Nevertheless, as Parikh pointed out, the ability of people to obtain the necessary amount of food to sustain a healthy, productive life has been an ever present challenge (1988: v). Furthermore, as stated by FAO Director-General Jacques Diouf, “a right is not a right if it cannot be claimed” (FAO, 2007b). The focus on food as a human right grew out of the discourse on food security.

The quest for food security has been a defining feature of the 20th and 21st centuries. During the 1970s, the accepted definition of food security emphasized volume, stability, and availability of food supplies. According to the FAO, food security entailed the “availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices” (2003a: 2.2). By 1999, Hoddinott claimed that there were over 200 definitions of food security (1999: 2). Over time, the concept had been expanded to include access to sufficient quantities of food to ensure an ‘active, healthy lifestyle’ (FAO, 2003a: 2.2). However, the terminology was still very much concerned with supply issues as opposed to quality of foods. The focus on supply was indicated through the reiteration of quantity related terminology: “all people at all times to *enough food* for an active, healthy life” [italics inserted] (FAO, 2003a: 2.2). As Drewnowski and Popkin pointed out, while “economic development has led to improved food security and better health, adverse health effects of the nutrition transition include growing rates of childhood obesity” (1997: 31).

Due to the severity of obesity and its sequelae of CNCs on developing country health and development, it’s important to look closer at the role of health and nutrition in obtaining and maintaining ‘an active and healthy life’ (FAO, 2003a: 2.2). “Movement toward greater conceptual refinement of the seemingly paradoxical nutrition problems of food insecurity and obesity,” Finney Rutten et al. declared, “is an essential first step toward addressing these difficult and critical issues” (2010: 411).

Although more people might be eating more, this does not entail ‘food security’ per se. As Drewnowski and Specter pointed out, there is a distinction between food insecurity and overt

hunger. Citing previous studies based in the United States, the authors revealed that not all food-insecure households show evidence of hunger. As a result, Drewnowski and Specter concluded that “the relationship between poverty, food insecurity, and hunger was a complex one” (2004: 7). Moreover, many countries appear to trade one health problem for another (e.g. ‘double-burden’). Therefore, there is a need to further examine ‘Food Security’ as a concept and how it translates to nutrition at all levels (i.e. individual, household, local, national, and international). In order to establish a food secure future, a holistic approach that includes nutrition is both relevant and necessary.

It has been established that a person’s health and nutrition is affected by poverty. Indeed, poverty has often been referred to as the ‘root cause of malnutrition’ (Lantham, 1997: 11). With too little income, resources or access to education and medical services, low-income families are often unable to meet their dietary and nutrition needs or protect themselves against diseases of poverty.

Amidst the ongoing food security crisis however, relatively little attention is paid to food security in relation to the obesity epidemic. As Finney Rutten et al. declared, “Historically, obesity and food insecurity have been viewed as distinct public health issues” (2010: 405). As countries develop in the midst of a global food security crisis, a not-so-new phenomenon is plaguing developing countries; that is, the “paradoxical co-occurrence of under- and overnutrition” and more specifically “the coexistence of diseases of poverty and affluence” (Subramania et al., 2007: 61). Although speaking with particular reference to the United States, Finney Rutten et al.’s conclusions apply to the problems of low- and middle-income countries undergoing the nutrition transition (Kalishedi, 2007: 63).

Since the mid-20th century, the world’s diet has changed radically due to industrialization, urbanization, and liberalization of national markets into an increasingly global economy (McLaren, 2007: 30; Popkin, 1998: 5). In order to better understand how these changes impact health, it is necessary to introduce a few key concepts, specifically: (1) Demographic Transition, (2) Epidemiologic Transition, (3) Nutrition Transition, (4) Nutrition, (5) Overweight and Obesity, and (6) Diabetes Mellitus. An overview of the terminology is provided followed by a discussion on the ‘Changing Face of Diabetes’. The chapter closes with an introduction to the relationship between poverty, food insecurity, development, and obesity.

1. Demographic Transition

Evolving from the study of demography, the concept of a demographic transition gained prominence within Modernization Theory which promoted “the process of societal development involving urbanization, industrialization, rising standards of living, better education, and improved health that is typically associated with a ‘Western’ lifestyle” (Weeks, 2005: 608). The demographic transition, in this respect, was a direct result of modernization. Early theorists took an ethnocentric approach assuming, that “what is good for the goose is good for that gander” (Weeks, 2005: 94). In other words, that less developed countries should attempt to follow the same development path as highly did the developed and industrialized nations of the Global North. However, as Weeks acknowledged, “preconditions for the demographic transition are considerably different now from what they were when the industrialized countries began their transition” (2005: 94). As such, initial theories related to the demographic transition fail to address the impact of rapid globalization and industrialization on health. Furthermore, the adoption of ‘Western lifestyles’ or rising incomes are not sufficient in and of themselves in attaining better health or food/ nutritional security.

2. Epidemiologic Transition

The concept of an ‘Epidemiologic Transition’ evolved from the study of epidemiology. The term – coined by Abdel Omran in the late 1960s – describes the shift from epidemiologic patterns associated with diseases of poverty to a stage characterized by chronic and degenerative disease prevalence associated with urban-industrial lifestyles. Omran described the epidemiologic transition as being concerned with patterns of health as well as “the interactions between these patterns and their demographic, economic and sociologic determinants and consequences” (1971: 372). As such, the importance of studying the historical evolution of the epidemiologic transition – specifically socioeconomic development and contemporary determinants of obesity – cannot be understated (Omran, 1971: 372; Zimmet, 2000: 302).

3. Nutrition Transition

Dr. Barry Popkin, Professor of Nutrition and Head of the University of North Carolina’s Division of Nutrition Epidemiology and Chair of the Nutrition Transition Committee for the International Union for the Nutritional Sciences, is considered one of the world’s leaders in consumption patterns and obesity. Popkin is at the forefront of ‘nutrition transition’ studies. Spanning the past four decades, Popkin’s research has provided clear evidence that a nutrition

transition accompanies the epidemiological transition. The ‘nutrition transition’, is defined as “a predictable shift in diet that may accompany the stages of the epidemiological transition” (Weeks, 2005: 608). Within the nutrition transition, Popkin identified five stages: (1) the age of collecting food, (2) the age of famine, (3) the age of receding famine, (4) the age of degenerative diseases, and (5) the age of behavioural change (1998: 6).

The stage most relevant within the present discussion is the ‘age of degenerative diseases’ (stage four). This stage is associated with the rapid industrialization of the second half of the 20th century, specifically in highly developed countries but also occurring in under developed and developing countries. Noting the relationship between health and globalization, Frenk stated:

As for obesity, it's important to note that globalization is not just about the movement of goods and people; it's also about the movement of lifestyles and ideas. What we're seeing are changes in lifestyles, in nutritional or dietary patterns. (Qtd. in Navarro, 2005)

According to Popkin, the world is increasingly moving towards a ‘Western diet’ characterized by an increase in the consumption of salt, fat, and added sugar in the diet, a reduction of fibre, as well as a significant increase in the consumption of animal food products (Drewnowski & Popkin, 1997: 31; Popkin & Gordon-Larsen, 2004: S3). According to Lucas, the “human body needs modest amounts of sodium to facilitate absorption of nutrients and the proper functioning of cells” (2010). However, Lucas also warned that sodium is “also responsible for the adverse health effects in humans, when consumed in excess” (2010). Studies have indicated that, although indirectly, salt plays a key role in weight gain. In this context, risk factors specifically include: (1) the association between salt and flavour enhancement (Henney et al., 2010), and (2) salt and fluid consumption (He et al., 2008).

The sodium component of common salt imparts flavour in foods and hence contributes to the sensory experience of certain foods above and beyond sustenance alone. “Added salt improves the sensory properties of virtually every food that humans consume, and it is cheap,” explained Henney et al. Moreover “in many cases,” Henney et al. went on to explain, “added salt enhances the positive sensory attributes of foods, even some otherwise unpalatable foods” (2010: 67). In other words, salt makes food ‘taste better’ (Henney et al., 2010: 67). Salt not only enhances flavour, but also aids in the preservation of foods, which is why salt is heavily used in processed foods, snacks and candy, soft drinks, and restaurant fare.

Salt intake is also an important determinant of fluid consumption for adults and particularly during childhood (He et al., 2008). According to He et al., “Sugar-sweetened soft drink

consumption is an important source of calorie intake in children” (2008: 629). Findings by Drewnowski (2007), and Drewnowski and Specter (2004), also indicate a link between sugar-sweetened soft drink consumption and childhood obesity within the United States. Due to the types of fluids being consumed, salt indirectly promotes greater consumption of high sugar content drinks. As with salt, “adding sugar is a cheap way to make foods taste good” (Brownell & Battle Horgan, 2004: 30). Of further concern, He et al. explain, sugar-sweetened soft drinks are “claimed not to give rise to any feeling of satiety² and [are], therefore, linked to obesity” (2008: 629). Findings by He et al. indicate that a reduction in salt intake reduces fluid intake concluding that “a reduction in salt intake would reduce not only total fluid but also sugar-sweetened soft drink consumption” (2008: 632). While consuming a high amount of sugar in itself does not ‘cause’ diabetes, a diet high in calories from sugar, or fat intake does contribute to weight gain which is a relevant precondition for type 2 diabetes. Thus diets high in sugar – without compensation through other relevant factors (e.g. exercise) – pose serious risk to people with a genetic predisposition to obesity, or diabetes (ADA, n.d.).

The rapidity of change within people’s diets is also of key concern. “Unlike the gradual transition that occurred in the United States and most European countries” stated Kim et al., “the nutrition transition in many lower-income countries has been rapid” (2000: 44). Statistics obtained from Gardner & Halweil showed that as of 2000, the number of overweight people had met that of the world’s underfed population (2000). By 2003, the number of overweight adults had reached 1.5 billion, within this group it was estimated that 3000 million were classified as obese (WHO, 2003). By 2010, the number of overweight adults had grown to 1.93 billion, within which nearly 43 million children under the age of 5 were classified as overweight (WHO, 2010). In tandem with rising overweight and obesity prevalence, diabetes prevalence is also on the rise. According to Liberman, some 151 million people were afflicted with diabetes in 2003 (2003: 345). As Popkin warned: “Obesity [has become] the norm globally and undernutrition, while still important in a few countries and in targeted populations in many others, is no longer the dominant disease” (qtd. in Nordqvist, 2006).

² In this context, the meaning of satiate is related to the abatement of hunger rather than feelings of satisfaction which will be discussed in the Case Study (Chap. 7)

4. Defining ‘Nutrition’

Good nutrition is vital to developing and maintaining good health, as well as in the prevention and recovery of disease. But what exactly is nutrition? WHO defined nutrition as “an input to and foundation for health and development” (2009b). However, this definition is unhelpfully vague. Perhaps then, nutrition was best defined by what it was not. Take for example the term ‘overnutrition’. The term ‘overnutrition’ has its drawbacks. Certainly, if nutrition implies a desirable state of health then does overnutrition translate into a heightened state of physical wellness? On the contrary, overnutrition is yet another form of malnutrition presenting ample risk to a person’s health. In *Human Nutrition and the Developing World*, Lantham stated that:

Malnutrition or undesirable physical or disease conditions related to nutrition can be caused by eating too little, too much or an unbalanced diet that does not contain all nutrients necessary for good nutritional status. (1997: 8)

Lantham’s definition of malnutrition refers to issues concerning both over- and under consumption. Nevertheless, almost a decade later, the FAO produced a more generic definition blurring the relationship between over-eating and malnutrition. In 2006, malnutrition was defined by the FAO as “a range of conditions that hinder good health, caused by inadequate or unbalanced food intake or from poor absorption of food consumed” (FAO & FMFH Partners, 2006). That same year, UNICEF re-established the link between overeating and malnutrition. Echoing Lantham’s definition, UNICEF stated that the term malnutrition while “commonly used as an alternative to undernutrition... technically [malnutrition] also refers to overnutrition – to the current epidemic of obesity and related diseases, such as diabetes, in both the industrialized and developing worlds” (UNICEF, 2006).

Under these definitions, malnutrition may refer to either under- or overnutrition, both of which leading to an imbalance in the amount of nutrients needed and absorbed. Therefore, ‘nutrition’ may best be understood as the juxtaposition of ‘malnutrition’ which, in its simplest understanding, refers to “any condition caused by deficient or excess energy and/or nutrient intake, or an imbalance of nutrients” (CFNI, 2004: 9). Mosby’s Medical Dictionary defined overnutrition as “a condition of excess nutrients and energy intake over time... [that] may be regarded as a form of malnutrition when it leads to morbid obesity” (2009). In a similar vein overnutrition – following the lifestyle model – was defined as the result of “eating too much, eating too many of the wrong things, [and/or] not exercising enough” (JRANK, 2009). As such, in the context of this thesis, nutrition will be understood as the condition of consuming and

absorbing an appropriate amount of calories or nutrients, while maintaining a physically active lifestyle conducive to good physical health.

5. Overweight and Obesity

In its most basic understanding, “obesity is due to an imbalance between energy intake and energy expenditure” (Lantham, 1997: 17). Simply put, obesity is the physical manifestation of a nutrient imbalance; more foodstuffs are stored in the body than are used through energy or metabolism resulting in excess weight (Bray, 1996: 21). However, as Napoli and Horton revealed, there is individual variation in how well a body converts energy available through the consumption of foodstuffs into body energy stores. This might partially explain an individual’s propensity toward or resistance to weight gain over long periods of time (Horton & Napoli, 1996: 1; Brownell & Battle Horgen, 2004: 23), and the relevance of genetic factors, such as the ‘thrifty’ gene (Brownell & Battle Horgen, 2004: 5; Farooqi, 2007: 360; Neel, 1962). In other words, not all people are alike in their ability to process energy and some individuals may be more prone to weight gain than others under similar conditions.

Metabolic conditions, endocrine disorders, genetic factors, and physiologic factors (e.g. bone structure, body shape) do contribute to obesity in some cases (Bray, 1996: 27-28; Horton & Napoli, 1996: 446; Lantham, 1997: 17). However, such factors are considered as contributory rather than primary causes of overweight and obesity (Chalk, 2004; Dehgan et al., 2005; Lantham 1997: 16). Thus it is necessary to expand our explanation of obesity to include a broader range of contributing factors in order to achieve a better understanding of the current global epidemic (Chalk, 2004; Eckel & Krauss, 1998; Hill & Peters, 1998). As Chalk stated, obesity is a “complex disease that originates from a combination and an interaction of such factors as social, environmental, genetic, physiologic, behavioural, lifestyle, cultural and metabolic” (2004).

The conditions of being overweight and/or obese have a detrimental impact on individual health due to their correlation with many CNCs (Gipson et al., 2005: 224; Howling, 2004: 73; Lantham, 1997: 27; WHO, 2006: 30). “Disease prevalence,” as Diamond pointed out, “is 5-10 times higher in obese people than in those of normal weight” (2003: 600). In fact, by 2010 the condition of being overweight and/or obese had become the fifth leading risk for global death (WHO, 2011a). The WHO attributes the condition of being overweight and/or obese with 44% of the diabetes burden, 23% of the ischemic heart disease burden and between 7% and 41% of

certain cancer burdens (2011a). However, as Zimmet points out, “This may be a conservative ranking as mortality statistics greatly under-estimate the true picture [for example,] diabetes is frequently under-reported on death certificates” (2000: 302).

6. Diabetes Mellitus

Diabetes mellitus takes different forms (e.g. type 1, type 2, and gestational diabetes). Type 2 diabetes – also known as non-insulin-dependent diabetes mellitus or adult-onset diabetes (DMC, n.d. b) – is the most common form of diabetes worldwide (Horton & Napoli, 1996: 446). Type 2 develops most often in people who engage in certain risk factors, such as being overweight or inactive (DMC, n.d. a ; Horton & Napoli, 1996: 446). People with all forms of diabetes are susceptible to a host of health-related complications (e.g. fatigue, heart disease, kidney failure, LEAs, blurred vision and blindness). Without proper treatment, diabetics are prone to infections and have difficulty healing wounds (Horton & Napoli, 1996: 445).

While genetics played a role in whether or not someone is at risk of developing type 2 diabetes, it is not a *determining* factor. Rather, type 2 is a ‘lifestyle’ disorder with the highest prevalence seen in populations with a heightened genetic susceptibility wherein environmental factors unmasked the disease (Diamond, 2003: 600). In support of this claim, Diamond points out that: (1) type 2 diabetes symptoms decline or disappear in populations undergoing starvation conditions, (2) metabolic abnormalities and diabetes symptoms often reverse with the implementation of proper diet and exercise, and (3) prevalence increases rapidly in populations that remain in the same geographical area but wherein caloric intake increases and exercise decreases (2003: 600).

While studies indicate that exercise has a ‘protective’ effect against developing type 2 diabetes, physical *inactivity*, as Horton and Napoli argue, is associated with insulin resistance and reduced glucose tolerance (1996: 446). The social determinants of health impacting type 2 diabetes incidences and management have been examined (Diamond, 2003; Horton & Napoli, 1996: 446). The *most* determining risk factors were high calorie intake, low exercise, and the condition of being overweight or obese (Horton & Napoli, 1996: 446). As such, there was a clear call to reduce the development of obesity while increasing people’s levels of physical activity (Horton & Napoli, 1996: 446). Likewise in the treatment of type 2 diabetes proper diet, exercise and weight loss are recommended to help control blood sugar levels (DMC, n.d. a; Horton & Napoli, 1996: 448).

The Changing Face of Diabetes

The face of diabetes is changing. Formerly associated with ‘Diseases of Affluence’, type 2 diabetes no longer expresses itself solely as a disease of more economically prosperous nations and people. Trends indicate that certain racial groups are experiencing the brunt of overweight and type 2 diabetes more than others. Of additional concern, type 2 (a.k.a adult onset diabetes) is increasingly being diagnosed in younger patients.

- **Poverty, Food Insecurity and Obesity**

Although obesity has traditionally been regarded as a ‘disease of affluence’, the phrase is a misnomer in today’s global health arena. In contemporary times, the obesity epidemic affects both the wealthy and the poor alike (Kalishedi, 2007: 64). This fact was recently underscored by the WHO:

Contrary to conventional wisdom, the obesity epidemic is not restricted to industrialized societies; in developing countries it is estimated that over 115 million people suffer from obesity related problems. (2008)

In fact, as of 2010, nearly 35 million overweight children were living in developing countries while only 8 million were estimated to be living within developed countries (WHO, 2011a).

Thus, as Pena and Bacalloe advised,

The increased prevalence of obesity should not be interpreted as a sign of transition to development... [Furthermore,] obesity should not be considered solely as a disorder derived from energy imbalance but rather as a nutritional disorder that can coexist with micronutrient deficiencies and other deficiency diseases, particularly in the most vulnerable socioeconomic groups. (2000: vii)

In sum, obesity has grown to represent “a global problem rather than one centered in a few high-income countries” (Popkin & Gordon-Larsen, 2004: 53).

Interest in the connection between food insecurity and obesity has been increasing since the mid-1990s as people, particularly in the United States and other economically prosperous nations, began to take notice of soaring overweight and obesity levels, particularly within low-income groups (Dietz, 1995; Drewnowski & Spector, 2004: 6; Finney Rutten et al., 2011; Olsen, 1999). In the United States, studies were spurred on by a number of different factors. Of particular importance was the work of William Dietz. In 1995, Dietz published the case study “*Does Hunger Cause Obesity?*” The report examined the case of a dangerously obese 7 year old African American girl who had undergone hunger via regular food shortages at monthly intervals. These intervals were largely determined by when her single mother received her

welfare cheques. The girl's parents suffered from a history of obesity and there was a strong type 2 diabetes history on the maternal side of the family (1995: 766). Dietz posed two explanations for the seemingly incongruous coexistence of obesity and hunger experienced by the little girl: (1) the increased fat content of foods consumed to prevent hunger at times when the family lacked enough money to buy nutritious food, and (2) an adaptive response to episodic food insufficiency (e.g. binge eating) as a result of involuntary food restriction (1995: 766). The Dietz study called for further research into the co-occurrence of obesity and hunger while suggesting that "the prevention of obesity in impoverished populations may require increased food supplementation rather than food restriction to achieve a more uniform pattern of food consumption" (1995: 767). Dietz's work was seminal within nutrition research sciences and led to a concrete association between poverty, food insecurity and obesity prevalence (Dinour & Yeh, 2007; Finney Rutten et al., 2010; Olsen, 1999). Hypotheses put forth to explain the connection between poverty, food insecurity and obesity included: overeating or binge eating during times when money was available to buy food to compensate for times of scarcity (Dietz, 1995: 766; Feinberg et al., 2008: e854; Olsen, 1999: S523); increased efficiency of the body using dietary energy as a result of cyclical food and energy intakes (Feinberg et al., 2008: e854; Finney Rutten et al., 2010: 409), and increased consumption of low-cost energy-dense foods (Dietz, 1995: 766; Feinberg et al., 2008: e854; Finney Rutten et al., 2010: 409).

Further evidence from developed regions (e.g. North America and Europe) indicated that structural barriers (e.g. SES) had a direct impact on diet (McLaren, 2007: 35). Findings by Drewnowski and Specter revealed that,

poverty and food insecurity are associated with lower food expenditures, low fruit and vegetable consumption, and lower-quality diets... Such diets [being] more affordable than are prudent diets based on lean meats, fish, fresh vegetables, and fruit. (2004: 6)

On the other hand, according to McLaren, "persons in higher socioeconomic groups tend[ed] to have a healthier diet, characterized by greater consumption of fruit, vegetables, and lower-fat milk and less consumption of fats" (2007: 35). However, in least developed and transitional countries the correlation between structural barriers and obesity were more complex. McLaren's research found that although negative associations between SES and obesity existed within highly developed countries, positive associations were more pronounced within transitional countries and especially within least developed countries (McLaren, 2007: 37). McLaren hypothesized that, "Where food is less ubiquitous, the ability to afford food is an important

factor in the socioeconomic patterning of weight” (2007: 37). “[O]n the one hand,” McLaren concluded, “there exists large scale factors contributing to the dramatic increase in obesity worldwide, particularly within the developing world; on the other hand, there are forces acting to shift the burden of obesity onto the poor within developing countries” (McLaren, 2007: 37).

The obesity epidemic led to a surge of academic attention and documentation concerning the rise of overweight and obesity in both developing and developed countries alike. Nevertheless, global policy-makers were slow to create linkages between poverty, food security, and excess weight. As Kelishadi argued,

Until now, most national public health programs and policies, as well as national-level research on children of low- and middle-income countries, have focused on undernutrition and its effects on the survival and mortality of mothers and children. (2007: 63)

The view that obesity has been relatively neglected by policy makers and development strategists is shared by Fraser who lamented that:

unlike AIDS, which appeared ‘out of the blue’ and carries the stigma of both infectious and fatal features, obesity, as an epidemic, has been insidious, is not infectious in the accepted sense, and leads to death indirectly and surreptitiously. [Obesity] has therefore been ignored as the major public health problem that it most surely is. (2003: 336)

Of additional concern was the continued over-reliance by some medical professionals and academic theorists on the association between overweight and obesity with excessive food intake (Swinburn et al., 2009). This view fails to fully recognize the environmental, cultural, and structural contexts in which people gained weight. Therefore, there is a need for a shift in the vernacular associated with obesity while re-focusing global health research and development strategies to include overweight and obesity as a significant cause for concern.

- **Ethno-racial Groups Most at Risk**

Emerging trends revealed a clear link between certain disadvantaged ethno-racial groups and high diabetes prevalence (IDF, 2008; Kelishadi, 2007). For example, within the Afro-Caribbean Diaspora living in Western countries, there was a disturbingly marked increase in early-onset type 2 diabetes (Zimmet, 2000: 302). Studies based in the United Kingdom (UK) indicated that Black African and Afro-Caribbean adults face a two-fold risk of type 2 when compared with White Europeans (Whincup et al., 2010: 2). It is important to note that this increased susceptibility was evident for both immigrants to the UK and UK-born Black African-Caribbean’s (Whincup et al., 2010: 10). In the United States, rates of diabetes were 70-100% higher among African Americans when compared with White Americans. While the Government

of Canada does not collect health data by race or ethnicity, it had been indicated that individuals of ‘African Descent’ were also at increased risk of developing type 2 diabetes in Canada (BCCHC, n.d.; PHAC, 2005; The Heart and Stroke Foundation, n.d.). Moreover, research based in Ontario, Canada undertaken by Chiu et al. (2011) with the Institute for Clinical Evaluative Sciences (ICES) concluded that Black subjects – within their multiethnic cohort – were 1.99 times more likely to develop type 2 diabetes compared to White subjects. Moreover, Chiu et al. found that type 2 generally occurred 1 year earlier among Black subjects than White subjects (2011: 6). Findings from Chui et al.’s study also revealed that in *all* ethnic groups – with the exception of the Black subjects – diabetes was more common in men. Meanwhile within the Black subject group, women had a 33% higher rate of diabetes than their male counterparts (2011: 6).

- **Adult Onset Diabetes – Children at Risk?**

In the past, type 2 diabetes was diagnosed predominantly in the over 45 age group. However the age at which people are being diagnosed has steadily lowered. As President of the American Diabetes Association (ADA), paediatric endocrinologist Francine Ratner Kaufman (MD) declared, “Type 2 diabetes has changed from a disease of our grandparents and parents to a disease of our children” (2002: 217). As with adult-onset type 2 diabetes, contributing risk factors in a child or adolescent’s likelihood of developing early-onset type 2 diabetes included: ethnicity, obesity, sedentary behaviour, family history of type 2 diabetes, and female gender (IDF, 2008). In the United States, studies found that the obesity trend moved in tandem with an ‘emerging epidemic’ of early-onset type 2 diabetes in African American children (Arslanian et al., 2002: 3014) However, this trend was not limited to highly globalized industrial countries of the Global North; in recent decades an increase in the number of type 2 diabetes was reported in adolescents and children worldwide (Alberti et al., 2004: 1798; Hu, 2011: 1249; IDF, 2008).

Double Burden – The Paradox of Development & Health Transitions

Julio Frenk, Dean of the Harvard School of Public Health, acknowledged not only the transition in global health concerns but also the unique challenges faced by developing countries. Emphasizing the ‘double burden’ of malnutrition, Frenk expressed concern that developing countries “still haven’t rid themselves of the more common infectious diseases, and yet now they also have to deal with the problems of industrialized societies – like obesity, diabetes, cancer, heart disease, and so forth” (qtd. in Navarro, 2005). By 2007, four out of every five deaths linked

to CNCDs occurred in low- to middle-income countries (CARICOM, 2007: 10). Commenting on results obtained by the International Comparative Study of Hypertension in Blacks, leading Caribbean CNCd specialist Dr. Henry Fraser directed attention to the “dramatic increase in obesity with the Westernization of the cultures,” going on to say that the gradient in obesity in women was closely correlated with economic progress (2003: 337). While economic development is often presumed to have a positive impact on quality of life, increasing obesity trends threaten to impede that progress. Obesity is been shown to negatively impact quality of life. For example, findings from previous studies indicated a link between obesity, CNCDs, and higher rates of disability among working age populations, as well as daily living limitations (Bhattacharya et al., 2008: 92). Moreover, evidence suggested that obesity has a negative effect on life expectancy. According to Olshansky,

Looking out the window, we see a threatening storm – obesity – that will, if unchecked, have a negative effect on life expectancy. Despite widespread knowledge about how to reduce the severity of the problem, observed trends in obesity continue to worsen. These trends threaten to diminish the health and life expectancy of current and future generations. (2005: 1139)

The danger of increasing obesity prevalence within the developing country context lied in the mitigation of health gains associated with economic progress. The rapidity of increasing obesity prevalence demands immediate attention by international health, nutrition, education, agriculture, and development specialists. This refocusing of development strategies is critical if meaningful and effective policies are to be developed and implemented.

According to the WHO, CNCDs tend to be “erroneously characterized as diseases of affluence... Such beliefs obscure the need for urgent action to stem the growing tide of CNCDs in low-income settings” (2006). Concurring with the WHO findings, Frenk asserted that “Many low- and middle-income countries are the victim of mal-development,” where “The old and the new problems coexist in a complex present” (qtd. in Powell, 2009). Economic progress, raised incomes, improved sanitation, electricity, and the provision of national health and social services, have the potential to improve standards of living. Nevertheless, more is needed to positively impact the nutritional status of developing country populations. As Fraser argued, “The gradient in obesity in women (Nigeria 5%, urban Cameroon 13%, Jamaica 18%, Barbados 30%, Chicago 36%) was closely correlated with economic development” (2003: 337). As such, results indicate that attention needs to acknowledge the link between ‘Altered Lifestyles’ and the prevalence of

overweight and CNCDs within development strategies in order to mitigate the negative effects of economic progress, globalization, and the liberalization of food markets.

This paradoxical co-occurrence presents an obvious problem: with the onset of obesity prevalence rates within developing countries, governments are faced with the dilemma of providing health resources, services and support for medical conditions associated with both under- and overnutrition on a limited budget and with minimal resources or capacity. According to the WHO Director-General, Dr. Margaret Chan, CNCDs are “the diseases that break the bank” (qtd. in The NCD Alliance, 2011). Citing WHO studies, The NCD Alliance stated that:

the costs of scaling up a core intervention package to prevent and treat NCDs in low- and middle-income countries has shown that it will cost \$11.4 billion a year for all of these countries. This is compared with the World Economic Forum’s estimated bill of nearly \$500 billion a year between now and 2025 if a ‘business as usual’ approach is taken and disease rates continue to soar. (2011)

The *February 2004 Special Session of FAO’s Intergovernmental Committee on Agriculture (COAG)* focused on the growing burden of CNCDs and the associated rise in public health and social expenditures. Findings from the Special Session led to the commissioning of a report titled: *Assessment of the double burden of malnutrition in six case study countries* (FAO, 2006a). The report found the ‘double burden’ to be the result of various factors:

Progress in improving water and sanitation systems and development of sound public health systems has been slow, thwarting efforts to reduce undernutrition. At the same time, changing dietary patterns and lifestyles – spurred by urbanization, the liberalization of markets, demographic shifts and declining levels of physical activity – have contributed to overweight and chronic diseases. (FAO, 2006b)

These conclusions supported earlier arguments concerning the link between overnutrition and the ‘Westernization’ of consumption patterns (e.g. diets high in energy but low in fibre, vitamins and minerals) and a more sedentary lifestyle (Vatucawaqa & Marchesich, 2003: 3). From this it could be concluded that as developing countries moved towards a liberal model of economic progress and development, the actual nutrition and health status of people within those countries may be negatively impacted by increased overweight, obesity and CNCD prevalence.

Along with traditional paths towards development, there is often a shift away from national support of local agriculture. While nutrition and health are integral elements within the development process, as the research indicated, developing countries are often burdened with contradicting nutrition and health challenges. Food security is an integral aspect in promoting nutrition and health. Unfortunately, as Ballayram argued, “domestic support, market protection

and export subsidies for agriculture in the developed industrialized countries are displacing agricultural production in developing countries” (Ballayram, 2005: 183). The significance of ‘safe and nutritious’ foods was stated within contemporary definitions of food security. Nevertheless, nutritional quality is often relegated to the provision of low-cost energy-dense foods. As with development policies, humanitarian initiatives are often characterized by an over-emphasis on supply as opposed to nutrition. Susanne Jaspars – a nutritionist specializing in emergency nutrition, food aid and food security – pointed to the limitations in contemporary food aid through a nutrition lens. According to Jaspars, “The international community responds to any disaster with food aid” (2000). However, Jaspars expounded, food aid is not always the best solution. Moreover, the types of food aid delivered often fails to meet nutritional standards while exacerbating people’s health (2000). Concurring with these views, Bailey argued that the discourse on nutrition and food security within the international development industry is focused on hunger and meeting basic caloric requirements (2011: 21). The imperative to feed the ‘hungry’ overshadows both the type and nutritional quality of food aid being delivered. Unfortunately, as Jaspars pointed out, “Handing out food to hungry people also provides good images for the media” (2000). It is difficult to criticize food aid in the face of the dire images of hunger portrayed in the media. However, as Jaspars has shown, the type of food aid provided is often culturally inappropriate and lacking in nutritional value (2000). While Jaspars spoke of food aid, the problems associated with the international aid and development industry’s preoccupation with feeding the ‘hungry’ – in other words improving food security via increased consumption of energy dense foods – reaches far and wide. “The thinking”, Dr. Burlingame explained, “used to be that if people get enough energy in their diets, the micronutrients will take care of themselves. But increasingly people are eating larger quantities of cheap food that fills the stomach but still leaves the body without those micronutrients” (FAO, 2002). Development initiatives were characterized by a persistent failure to address access to quality food. It is unfortunate that the provision of energy dense foods is a socially acceptable ‘quick fix’ for those dying of starvation since the concept of being satiated does not equate to being healthy. Moreover the provision of energy dense foods to the hungry does not contribute to a sustainable solution towards improving the overall health of at-risk populations. “The challenge,” concluded Sinclair-Weir, “is to improve the availability of nutritious foods and the eating habits of the varied population” (n.d.). Improving availability of safe and nutritious foods demands that

agriculture be included as a central tenet of development strategies. However, as Brathwaite lamented, “There is a prevailing myth in the development literature that agriculture’s importance declines as a country develops. I beg to differ. Food is a critical input for sustainable development and for life” (2009: 8).

While it is evident that the world faces a pandemic of obesity and CNCDS, these issues are largely excluded from the general framework of international development discourse. For example, obesity and obesity-related diseases do not appear among the MDGs. The failure to include CNCDS within the MDGs is frequently cited as a barrier for developing countries who attempt to gain technical assistance and/or financial support. According to ECOSOC and the WHO,

requests for technical assistance from developing countries through Official Development Assistance and expertise remain largely unanswered by the international community, because these problems are beyond those targeted by the UN Millennium Development Goals. (WHO, 2009c: 2)

Of additional concern, The NCD Alliance argue that “Many donors exclusively fund the health priorities contained within the MDGs despite the fact that NCDs cause 14 million annual premature deaths in LMCs” (n.d.). In other words, omission of CNCDS within the MDG framework has resulted in public health funding inequities wherein programs are created to meet donor requirements in advance of actual public health needs.

Although the issue of obesity and CNCDS has been largely ignored by the MDGs, interest is developing within the international community. There is growing recognition of the limitations, failures, and distortions of existing economic strategies in creating sustainable paths to development sometimes termed ‘mal-development’ (ASG, 2005; Powell, 2009). As PAHO recognized, economic growth has not always translated into substantial health gains (1994: 1). As a result of increasing pressure by international advocacy groups, CNCDS have begun to make their way onto the international agenda. For example, the MDG Review Summit held at the 65th Session of the UN General Assembly (2010) acknowledged the importance of a ‘concerted action’ and ‘coordinated response’ at the national, regional, and global levels in order to address the developmental challenges associated with CNCDS (UNGA, 2010:3). According to the Alliance, the Summit was a ‘major success’ in advocating for inclusion of CNCDS and their risk-factors within the MDGs:

The inclusion of NCDs in the final outcomes document issued by UN Heads of State positions NCDs as a key issue for inclusion in the 2015 MDG successor goals, and recognized NCDs as a core development issue requiring urgent action. (n.d.)

In December 2011, the WHO held a civil society consultation to address the development of global and national targets and measurements for consideration by WHO member states during the May 2012 World Health Assembly. During the consultation world leaders unanimously adopted the Political Declaration on CNCDs, agreeing that “the global burden and threat of CNCDs constitutes one of the major challenges for development in the twenty-first century, which undermines social and economic development throughout the world” (The NCD Alliance, 2011).

CHAPTER 5.
RACIALIZING HEALTH:
OBESITY, DIABETES, & THE ‘THRIFTY’ GENE

Overview

With the advent of the Human Genome Project (1990), the discourse on obesity and type 2 diabetes had been increasingly focused on genetic predisposition to disease (Bray, 1996: 27-28; Horton & Napoli, 1996: 446; Lantham, 1997: 17). While it has been established that predisposition to obesity and type 2 diabetes is highly heritable (Farooqi, 2005: 359; Yang et al., 2007: 50), extending this idea to postulate an ethno-racial link between genetics and disease prevalence poses challenges, particularly in regards to disposed, formerly enslaved, or colonized populations.

Ample evidence suggests that certain ethno-racial groups have greater susceptibility to obesity and diabetes than others (Chiu, 2011: 6; Miljkovic-Gacic et al., 2007: 234; Zimmet, 2000: 302). However, distinguishing health determinants (e.g. group behaviour and environment) from biological contributions is not easy. Unlike relatively stable categories (e.g. age or sex), race and ethnicity are fluid, contested, and evolving terms open to subjectivity, bias, and dispute. Moreover, racial and ethnic terminology holds an inglorious – and even sinister – usage within historical contexts (Sheilds et al., 2005: 79; Wang & Sue, 2005: 38). As a result, usage of such terminology (e.g. ‘race’, ‘ethnicity’, or variations such as ‘ethno-racial’) in the discourse of health issues amongst different population groups may prove unnecessarily provocative, thereby closing off rather than opening up discussion³. Due to the socio-cultural implications of linking disease susceptibility to particular racial or ethnic groups, it is important to explore historical and contemporary usage of relevant concepts, their limitations, as well as their relevance to the growing problem of obesity and diabetes.

The following sub-sections include: (1) Problematizing ‘Race’ and ‘Ethnicity’, (2) Genetics, Race, and the ‘Thrifty’ Gene, (3) The Blame Game: Nature, Nurture, or the Environment?, (4) Confronting the Epidemic: A Holistic Approach, and (5) Confronting Biological Determination with Human Agency.

³ During the course of the fieldwork, respondents regularly referred to racial differences as being important to the understanding of obesity and diabetes, which mapped onto cultural, historical and socio-political differences within the Barbadian context.

1. Problematizing ‘Race’ and ‘Ethnicity’

It has been established that human beings – whatever their cultural, geographic, or biological history – show little difference in their genetic makeup, sharing 99.9% of genomes in common (International Human Genome Sequencing Consortium, 2001: 863; Smedley & Smedley, 2005: 19). However, race – as it was formerly understood – depicted ostensibly meaningfully distinct populations that were “relatively homogenous with respect to biological inheritance” (Last, 1995: 139). The reality posed by recent discoveries in genetic makeup challenges the biological definition of ‘race’ which dominated throughout the 19th and 20th centuries. If race is a problematic term, does ethnicity offer a more useful understanding? According to John Last’s *A Dictionary of Epidemiology*, an Ethnic Group refers to,

A social group characterized by a distinctive social and cultural tradition, maintained within the group from generation to generation, a common history and origin, and a sense of identification with the group. Members of the group have distinctive features in their way of life, shared experiences and often a common genetic heritage. These features may be reflected in their health and disease experience (1995: 57).

Although Last’s definition of ‘Ethnic Group’ is distinct from race, actual usage or operationalization of the term is challenging. By suggesting that groups shared a ‘common genetic heritage’, this definition of an otherwise socially-constructed grouping unhelpfully blurs the line between biology and culture, allowing the terms ‘race’ and ‘ethnic group’ to be used inconsistently or interchangeably (Ahdieh & Hahn, 1996: 97; Helms et al., 2005: 27; Wang & Sue, 2005: 40).

The use of race in scientific discourse has led to a contentious debate, spurred on by the failure of the scientific community to clearly define and operationalize terminology on a consistent basis. Nevertheless, within the thesis research, self-identifying ethno-racial groups including Afro-Caribbean health practitioners, researchers, and GoB officials reported distinct public health problems (e.g. obesity, type 2 diabetes) manifesting in greater numbers within certain population groups than others (Alert, p.c. 02/09/2009; Gaskin, p.c., 03/02/2009; George, p.c., 11/02/2009; Holder, p.c., 01/02/2009). As a result of the relevance of such terminology within the thesis research, and with respect towards interview participants and the integrity of information collected during the literature review, these terms are upheld in the present thesis.

Nevertheless, the need for further clarification through the use of operational definitions within scientific research when using racial or ethnic terminology has been documented (Ahdieh & Hahn, 1996; Helms et al., 2005: 27; Wang & Sue, 2005: 38). Therefore, in the context of the

present thesis, the terms ‘race’ and ‘ethnic group’ follow definitions provided by Last. The term ‘racio-ethnic’ is also presented within the literature review. For clarification the term ‘racio-ethnic’ – in the context of the present thesis – refers closely to Last’s definition of ‘ethnic’ while emphasizing the link between ethnic groups of a particular racial origin. Other terms used to describe particular racio-ethnic groups included: ‘Afro-Caribbean’, ‘African American’, ‘Black’ and ‘White’. These subsequent descriptors appeared as they had been found within the literature as well as common phraseology used by interview respondents.

2. Genetics, Race, and the ‘Thrifty’ Gene

Evidence suggests that genetic factors are associated with both obesity (Horton & Napoli, 1996: 5; Lantham 1997:17) and type 2 diabetes risk (Horton & Napoli, 1999: 446; Marshall, 2005: 734; Tremblay & Hamet, 2008: S28). The theory that population-level – rather than hereditary or family-level factors alone – plays a role in both obesity and type 2 diabetes prevalence stems from the work of American geneticist James V. Neel (1962). Neel’s ‘thrifty’ gene hypothesis was the result of a developing academic and medical interest in the growing number of people succumbing to diabetes. At the time of writing, there was no clear demarcation between type 1 (a.k.a. juvenile or insulin dependent diabetes) or type 2 (adult-onset) diabetes (1999: S2). That being said, in 1998 Neel published an evaluation of his original hypothesis stating, “in retrospect [his work] was directed at type 2” (1999: S2). In his seminal work *Diabetes Mellitus: A ‘Thrifty’ Genotype Rendered Detrimental by ‘Progress’?*, Neel hypothesized that the existence of a ‘thrifty’ genotype predisposed people – under certain environmental conditions – to increased risk of diabetes. In essence, Neel’s work presumed that many diabetics carried variations in a small number of genes making them “exceptionally efficient in the intake and/or utilization of food” (1962: 354). Although Neel acknowledged that “The precise physiologic basis for this ‘thriftness’ remain[ed] unclear” (1962: 354), the concept of a ‘thrifty’ gene remained in wide use among contemporary genetic scientists, medical professionals, and sociologists (Bamshad, 2005; Chiu et al., 2011; Farooqi, 2005: 359). For example, Drewnowski and Popkin found that “obesity represents the combined outcome of a genetic predisposition and prolonged exposure to an energy dense diet” (1997: 39). The authors expounded that “What is inherited is not obesity per se, but a vulnerability to the fattening effects of certain foods” (1997: 39). Due to the ‘thrifty gene’s’ continued presence within the contemporary discourse on obesity and diabetes, it is

necessary to explore the original concept, its contemporary usage, and the societal repercussions of its application.

In essence, the ‘thrifty’ gene hypothesis was based on the understanding that – in the evolutionary history of the human species – genes which promoted ‘efficient’ fat storage were evolutionarily advantageous within populations that underwent frequent periods of ‘feast or famine’ (Neel, 1962: 357). According to Neel, the ‘thrifty genotype’ was designed for survival:

during the first 99% or more of man's life on earth, while he existed as a hunter and gatherer, it was often feast or famine... The individual whose pancreatic responses minimized post-prandial glycosuria might have, during a period of starvation, an extra pound of adipose reserve. (1962: 355)

While essential to the survival of populations living in ‘hunter gatherer’ conditions, the ‘thrifty’ gene posed risk when these populations came to enjoy the ‘blessings of civilization’ (Neel, 1962: 357). Excess caloric intake and a more sedentary lifestyle subjects people with the active ‘thrifty’ gene to increased health risks. According to Neel,

In genetically determined diabetes mellitus the defect is postulated to be this relative "over-production" of insulin. It is argued that what we now must regard as an "over-production" with unfortunate consequences was, at an earlier stage in man's evolution, an asset in that it was an important energy conserving mechanism when food intake was irregular and obesity rare. (Neel, 1962: 357)

Neel’s summary concluded that “an hypothesis has been advanced which envisions diabetes mellitus as an untoward aspect of a ‘thriftness’ genotype, which is less of an asset now than in the feast-or-famine days of hunting and gathering cultures” (1962: 360). Neel underlined the link between genetics and diabetes while acknowledging – from a eugenics standpoint – “one of the ethical dilemmas of modern time” (1962: 360). Due to the importance of Neel’s work to subsequent research, it is relevant to cite his closing paragraph at length:

If the dietary and cultural conditions which elicit the relatively high frequency of diabetes in the Western World are destined to spread and persist over the entire globe, then, to the extent that modern medicine makes it possible for diabetics to propagate, it interferes with genetic evolution. But if, on the other hand, the mounting pressure of population numbers means an eventual decline in the standard of living with, in many parts of the world, a persistence or return to seasonal fluctuations in the availability of food, then efforts to preserve the diabetic genotype through this transient period of plenty are in the interests of mankind. Here is a striking illustration of the need for caution in approaching what at first glance seem to be "obvious" eugenic considerations! (359–360)

Although published in 1962, Neel’s work has particular relevance today. Neel’s fears regarding a global spread of diabetes resulting from changing dietary and cultural conditions – more akin to

that of the Western World – have rung true. The number of overweight and obese people in recent times is larger than at any point in history. Governments of the Global North and those of the Global South struggle in the face of increased CNCDs prevalence (e.g. type 2 diabetes), symptomatic of overconsumption and reduced physical activity (FAO, 2006a; Zimmet, 2000: 302).

Nevertheless, the idea that people of African descent are suffering an epidemic – more so than their White counterparts – risks the continuation of an old debate regarding perception of the ‘Other’ and its difference from the dominant ‘White’ Euro-descended populations (Krieger, 2003). As such, it is possible that low levels of genetic predisposition towards fat storage – thought to exist within certain population groups – could disproportionately and negatively affect people of colour. Such an argument undermines the importance of other social determinants (e.g. gender, SES, culture, and environment) largely influenced by a Westernized model of ‘development’. The focus on genetic predisposition to obesity and type 2 diabetes – as it relates to ‘race’ – poses the danger of falling into a slippery slope of racist discourse regarding racial superiority and the ongoing eugenics debate. According to Krieger, “the unnameable is again becoming named, and explicit investigation of racism as a harmful determinant of population health is gaining entry into mainstream public health and medical discourse” (2003: 194).

3. The Blame Game: Nature, Nurture, or the Environment?

Neel’s re-evaluation of his original hypothesis (*The ‘Thrifty Genotype’ in 1998*) stressed the fact that obesity and diabetes are, “in very large measure the reflection of genetically complex homeostatic systems now pushed to and beyond their limits” in which “the proper functioning... is overwhelmed by extraneously imposed parameters of very recent origin” (1999: S5). Neel specifically implicates the ‘inactivity and over alimentation’ commonly associated with Western civilization (1999: S5). This view is shared by Brownell and Battle Horgan who explain that “As the environment modernizes, diet and physical activity deteriorate, weight increases, and disease follows” (2004: 23). “In modern conditions,” Brownell and Battle Horgan argue, “biology is important but the environment steals the show” (2004: 23). This fact was not unknown to Neel, who argued for a change in terminology:

The term “thrifty genotype” has served its purpose... The ultimate genetic complexity of each of these diseases [in reference to: hypertension, obesity and diabetes type 2] qualifies it for the term “syndrome.” Perhaps collectively we can speak of the “syndromes of

impaired genetic homeostasis” or, more colloquially, the “civilization syndromes,” or the “altered lifestyle syndromes,” to which other diseases may yet be added. (1999: S5)

A decade later, Popkin also presented the global obesity epidemic as a response to the globalization of consumption patterns similar to that of a Westernized diet. In an interview with Lou Gosset Jr. on *The Profiles Series*, Popkin explained the shift,

In the last 15 to 20 years you go from a situation where people in urban rural areas in the low and middle income world ate traditional foods and very little overweight to one where they eat and drink just like us [sic]. (Profile Series, 2009)

The solution is not to change the genetic structure of people affected or to impose social eugenics practices, but rather to change the *environment*. “What we need for the United States and other countries to arrest the rapid increases in overweight,” Popkin argued, is to “begin to *change* the environment so that people can eat, drink, and move, in a healthier manner is we must change our environment” (Profile Series, 2009).

The link between the environment and the health of people within that environment is not new. The environmental impact on health was first given official recognition in the Ottawa Charter (1986). The Ottawa Charter recognized the importance of ‘supportive environments’ as they affect a person’s ability to make healthy choices in their day-to-day activities (WHO, 1986: 2). Within the Charter, the focus of health promotion shifted from individual responsibility by acknowledging the importance of all sectors in society towards the achievement of creating healthy places wherein all members of society are afforded the conditions, education, resources, and support needed to make healthy decisions. However, the Western model of development led a number of countries to fall into many of the same traps facing the highly industrialized world. The world’s diet has changed radically due to industrialization, urbanization, and the liberalization of national markets into an increasingly global economy (McLaren, 2007: 30; Popkin, 1998: 5). According to Brownell and Battle Horgen, children are being raised in a ‘toxic environment’ wherein personal choice is limited (2004: 4). Moreover, Brownell and Battle Horgan explain, “Most streets are not safe for walking, biking, or playing. Few children walk or bike to school, and once they arrive, inactivity is the norm” (2004: 70). Such an environment has been described as an ‘obesogenic’ (Swinburn et al., 1999) or an ‘obesity-promoting’ environment (Yang et al., 2007: 55), a ‘built’ environment (Papas et al., 2007: 129), a ‘toxic’ environment (Sunyer qtd. in Boero, 2007: 53), and a ‘blueprint’ for weight gain (Brownell & Battle Horgen, 2004: 70). In tandem with Western-oriented economic development there is a

shift in the type of work people undertake, and the amount of physical activity associated with those new occupations. “People were once paid to exercise – jobs required physical work”, Brownell and Horgen explained. However, “Today the most physically demanding feature of many jobs might be swivelling in a desk chair” (2004: 70). The authors go on to lament that “energy saving devices make nearly every physical action require less effort” (2004: 70). Although the present thesis examined how poverty impacted food selection, SES also influences where people live, access to facilities geared towards physical activity (Gordon-Larsen et al., 2006), distance travelled to work, areas conducive to exercise, safety of the surrounding environment (Frank et al., 2004), access to healthy and affordable foods (Papas et al., 2007), and other spatial hindrances to good health. As Lawrence et al. attest, “The probability of being overweight or obese, and to a lesser extent of being physically active, is significantly associated with the overall urban form of the country in which a person lives” (2004: 88). Such an environment, added McLeroy, is akin to an “environmental assault on health” (1988: 352).

4. Confronting the Epidemic: A Holistic Approach

According to Young, “almost all disease involves some degree of genetic-environmental interaction” (2005: 120). Nevertheless, other researchers denied this claim. Writing against the use of race variables in genetic analyses, Shields et al. argues that most diseases are not attributable to variations in genetic components. In concurrence with Shields et al, Paradis et al. conclude that “there is at present no consistent evidence to suggest that minority populations are especially genetically susceptible” to type 2 diabetes (2007: 204). Nevertheless, both studies contradicted their arguments in reference to type 2 diabetes. According to Shields et al., while most diseases lack a genetic component linking race and disease prevalence, type 2 diabetes has proven to be an exception to the rule (2005: 77). Paradis et al. also contradicts their argument by citing Bamshad’s 2005 publication *Genetic Influences on Health: Does Race Matter?* which states: “A currently unknown, but even smaller, proportion of between-group differences is directly relevant to disease susceptibility” (qtd. in 2007: 204). In this publication, Bamshad specifically referred to diabetes:

genetic variants putatively associated with hypertension, diabetes, atherosclerosis, and many autoimmune disorders are common in only a single racial group or differ significantly in frequency among groups. Therefore, disease risk and treatment response clearly are, in some circumstances, influenced by genetic factors or genetic effects that vary among racial groups. (2005: 938)

Paradis et al. argue that – because genetic predisposition to certain diseases (e.g. type 2 diabetes) accounted for only a small percentage of total genetic variation within ethno-racial health disparities (2007: 203) – the use of ethnic or racial labels in genetics based research was inherently flawed. The authors went to argue that using socially-constructed ‘ethno-racial labels’ as if they were ‘reliable genetic descriptors’ of human groups, sustains a mistaken presumption that the “sociohistorical identities remain constant over a lifetime, [and] that external human morphologic features are concordant with deeper traits” (2007: 215). However, Paradis et al.’s argument presented against the use of ethno-racial or genetic descriptors within academic research (2007: 215) risks throwing the baby out with the bathwater.

Although the level of genetic predisposition to disease – in a general sense – may be small, genetic predisposition to overweight and type 2 diabetes are statistically significant which is acknowledged by Paradis et al. (2007: 217). In fact, Brownell and Battle Horgen have determined that 25 to 40% of the variability in population body weight could be attributed to genetics (2004: 23). “Biology” explained the Brownell and Battle Horgen, “can act on body weight by affecting food preferences, hunger, fullness after eating, metabolic rate, conversion of excess calories to body fat, whether weight loss is easy or hard, and much more” (2004: 23). The relevance of genetic variation within obesity studies became evident during episodes of rapid and significant environmental change. According to Yang et al., “the importance of a gene-environment interaction is demonstrated when an individual with a high-risk genetic profile enters a high-risk environment, and the effects on risks are so great that obesity develops” (2007: 55). As such, the link between genetics and obesity is an important element within research that should be acknowledged within national and global public health strategies in order to help identify populations most at risk.

Nevertheless, we must not be blind to the impact of SES, history, or culture (Wang & Sue, 2005: 42). Obesity and diabetes are not simply problems of ‘race’, ‘ethnicity’, or genetics in a changing environment (Bamshad, 2005: 938). As such, Paradis et al.’s argument was at least partly warranted in that the authors emphasized the importance of applying an interdisciplinary approach in order to better understand diabetes prevalence and the dynamic interplay between the environment and genetics (2007: 220). Class, SES, and socio-cultural differences in attitudes towards eating and body weight must be taken into account along with the globalized and rapidly changing diet and lifestyle shifts as significant factors in the obesity and diabetes pandemics

(McLaren, 2007: 37). Adopting new terminology (e.g. ‘civilization syndromes’ or ‘altered lifestyle syndromes’) was a progressive step. As Wang and Sue admonished, geneticists, social and behavioural clinicians as well as researchers must avoid ‘race proxies’ for other biological, social and cultural constructs in order to diminish “spurious clinical judgments and research results [contributing...] to fears of genetic determinism, eugenics, and discrimination” (2005: 40). By associating lifestyle-related diseases (e.g. obesity and type 2 diabetes) solely with genetic factors – and more importantly with certain racial groups – the situation could be misinterpreted. In other words, that the source of the problem lies in peoples of certain population groups (e.g. populations of African descent) rather than in social factors such as ‘civilization’ or Western-oriented development (Brownell & Battle Horgen, 2004).

5. Confronting Biological Determination with Human Agency

While race contributes to genetic predisposition towards obesity and type 2 diabetes, it is not a *determining* factor. According to Rose, “Individually and collectively we have the ability to construct our own futures, albeit in circumstances not of our own choosing,” (2001: s6). Through the examination of body weight within Japanese migration studies, Yang et al. recognized that “even in the obesity-promoting environment, not every [genetically predisposed] individual becomes obese” (2007: 55). Other factors (e.g. environment, lifestyle, access to healthcare, cultural differences, affordability and access to food, nutrition education, and personal decisions) play a greater role in health outcomes (Rose, 2001). Therefore, genetic predisposition should not be used as a proxy for causation but rather as a contributing risk factor. As such, a holistic approach which includes but is not limited to hereditary and genetic factors is needed to better understand the complexity of and between obesity, type 2 diabetes and ethno-racial differences.

CHAPTER 6.
BEYOND NUTRITION:
CULTURE, FOOD & CONSTRUCTS OF BEAUTY

Understanding Culture

Culture is an important deciding factor in the social roles that men and women play and affects how individuals view the world. Likewise culture dictates to some extent what is important to a person and where a people sees value in others. Due to the variation between overweight and obesity prevalence rates within different racio-ethnic groups, there is a need to explore the issue from a socio-cultural perspective (Dorsey et al., 2009). As such, this chapter explores certain cultural markers indicated as potentially influential within discussions regarding perception and attitudes towards consumption and weight such as: acceptable food types (Anderson, 1996; Mennell et al., 1992; Mintz, 1996), notions of beauty (Bordo, 1993; Chernin, 1985; Wolf, 1991), perceptions of weight in relation to wealth (Csergo, 2009), and health (Fraser, 2002; Wheat, 2000). The following sub-sections include: (1) Food, Culture, and Consumption, (2) Beauty as a Social Construct, and (3) ‘Fat’ within Cultural Concepts of Health, Wealth, and Class.

1. Food, Culture, and Consumption

The role of food in society has long been a topic of discourse among anthropologists (Frazer, 1890; Radcliffe-Brown, 1922). Food is a basic requirement to human survival and plays an integral role in the formation of culture and identity. For example, previous studies focused on the importance of food as an indicator of religious beliefs, sacrificial offerings (Frazer, 1890), and sexuality (Crawley, 1902), et cetera. However, the relevance of food in the social lives of individuals and groups is also identified within wider socio-cultural processes. As Mintz stated, “The need for nourishment is expressed in the course of all interaction. Food choices and eating habits reveal distinctions of age, sex, status, culture and even occupation” (1986: 3). Throughout history, food has played an important role in the act of celebration, reward, and mercy. Likewise, food – or lack thereof – has also been a source of power, punishment, and war.

“The determinants of food selection and food intake in humans are many,” Anderson claimed, “and are both physiological and psychological in origin” (1996: 13). Anderson claimed that socio-cultural conventions act as ‘modifiers’ of the signals arising from metabolic and physiological conditions. For example, being in the presence of others eating (e.g. social events) as well as cognitive factors (e.g. sight or smell) affect whether or not a person feels satiated

which would terminate feelings of hunger (1996: 13). Due to the complexity of hunger and the different triggers inducing hunger, Anderson concluded that,

the regulation of food intake is a complex process that remains to be understood. The increasing incidence of obesity in some human populations and its negative health consequences provide impetus to understand the process and find practical means of prevention and treatment. (1996: 13)

Anderson's theory expresses the need to regard socio-cultural factors vis-à-vis consumption or nutrition policy geared towards behaviour change.

Holding substance as well as meaning, food plays a vital role in people's social and cultural lives. Likewise, within cultural groups, there are often common understandings and perceptions towards certain foods, production of, access to, and preparation of foods that hold symbolic meaning. Mintz established that the types of food people eat serves as cultural markers – or indicators – in the establishment of one's identity within a group by emphasizing similarities as well as differences (1986, 1996). As such, food plays an important role in drawing distinctions between class, caste or groups of people which shape and are reflected within identity of the self. In her analysis of the regional cuisine of Brazil, Jane Fajans use *moqueca* (a type of fish stew) as an indicator of historical, geographical, and cultural relations of 'race', class, and identity. According to Fajans, "Ethnicity, race, and class infuse all aspects of life, including food" (2008: 2). The link between ethnicity, race, class or SES and food is not new. Many historical and academic studies have pointed to the way in which consumption of particular foods and the amounts consumed reflected the SES of an individual or group within cultures (Mennell et al., 1992; Mintz, 1996; Siqueira, 2011). The same can be applied to groups over periods of time. For example, until recently the lavishing of food and drink was considered a hallmark of the upper class or wealthy elite. Particular foods were also highly prized or stigmatized as pertaining to either social class or wealth. In making reference to Günter Wiegelmann's *Alltags- und Festspeisen: Wandel und gegenwärtige Stellung* ('Everyday and Festive Dishes: Change and Contemporary Position') (1967), Mennell et al. revealed that "Until the 1740s potatoes were known over the larger part of Germany mainly as *Armenkost* (food of the poor); they took a century to conquer the bourgeois kitchen" (1992: 29). More recently, Marcos Siqueira made the association between yams and poverty in Brazil: "Yams have joined the so-called 'neglected' group of crops for several reasons, but particularly because they are associated with poor and

traditional communities” (2011: 16). On the other hand, according to McLaren, imported foods often hold both popularity and prestige regardless of nutritional quality (2007: 37).

The key processes related to globalization in regards to food and the nutrition transition, argued McLaren, widens the gap between the rich and the poor. “Whereas in high-income groups (especially in developing countries),” McLaren concluded,

tend to benefit from a more dynamic marketplace, lower-income groups are more likely to bear the brunt of economic and cultural convergence towards low-quality diets... which in some cases are popular because of earlier promotion and popularity of these products among the rich. (2007: 37)

Siqueira and McLaren’s research broadened our understanding of food selection within the developing country context. However the impact of socio-cultural food choice as it relates to the consumption habits of particular groups, and consequently the health of those populations, has been relatively neglected. Due to the direct cost of poor nutrition and physical inactivity on national budgets, as well as intangible costs associated with obesity and CNCDS such as reduced quality of life (WHO/FAO, 2003: 61), there is imperative for policy makers to acknowledge the complex relationship between food, culture, and consumption.

2. Beauty as a Social Construct

Leads Craig argued that beauty claims worth to both individuals and groups (2006: 174), going on to exclaim that “feelings of inadequacy produced by the presence of beauty standards in women’s lives are, arguably, among the most personal manifestation of gender inequality in our lives” (2006: 162). While Kant claimed “the beautiful” was an “object of universal satisfaction” in his *Critique of Judgement* (1892) (1914:55), Tate contrasted that argument by noting that “Trying to camouflage normalizations simultaneously denies the specificities of beauty itself in terms of class, race, gender, sexuality, age, ability” (2009: 5). In agreement with Tate, the present thesis has included concepts of race, culture, gender, sexuality, age, and class as relevant factors within the discourse on ‘beauty’ (Black, 2004; Kant, 1914; Leads Craig, 2006; Lovejoy, 2001; Tate, 2009).

A social construct, beauty cannot be defined consistently across time and place (Wheat, 2000; Wolf, 1991). Moreover within cultures beauty as a physical construct is dynamic and subject to change. While Wheat argued that ‘beauty’ was “more than skin deep” (2000: 44), the concept of beauty has been frequently reduced to physical appearance and body type. As such, constructions of beauty have the potential impact perceptions of body image, particularly in the

case of young girls and women who are socialized to value beauty as a medium through which they might achieve success. Due to the relationship between culture and the societal value placed on body size (Bordo, 1993; Chernin, 1985; Nichter, 2000; Shaw, 2006), the study of beauty as a possible health determinant relevant within the study of overweight is warranted.

Certainly as Wheat posited, beauty is a ‘strange concept’ encapsulating both power and oppression (2000: 42). In *Beauty Bound*, Rita Freedman argued that:

Girls are socialised to estimate their identity through the indicator of male attention... the connection between appearance and worthiness for females [is] deeply ingrained [and] remains throughout a woman’s life, making her continuously insecure about her appearance and consequently about herself. (1986: 130-131)

Wheat also theorized that “Because of the pressure in many societies for women to be attractive in order to get a man and survive economically and socially – the need to put out the right physical signals is overpowering” (2000: 42). Thus it can be argued that the concept of ‘beauty’ is so deeply ingrained within socio-cultural construct associated with power that it may be perceived as providing woman with the “key to prosperity and happiness” (2000: 44).

As previously stated, the concept of beauty is not universally constructed, nor is it consistent across time (Leads Craig, 2006; Tate, 2009). For example, although ‘thin is in’ for most contemporary North American and Western European cultures, this was not always the case. The cultural perception of fat vis-à-vis beauty has changed. As feminist advocate and acclaimed author Naomi Wolf acknowledged, in 19th century England “Fat [was] sexual in women; Victorians called it affectionately their ‘silken layer’” (1991: 192). What connotations does fat have that made it a source of beauty? Was it simply aesthetic value or did it also indicate other meanings or understandings? How do these ideas play out within different groups in today’s world? How does the concept of beauty related to the contemporary obesity epidemic? These questions are explored in the following sub-sections.

3. ‘Fat’ within Cultural Concepts of Health, Wealth, and Class

The concept of ‘fatness’ has meant different things within different cultures, spaces, and periods of time. For example, as Csergo argued,

Eating too much is nowadays behaviour associated first and foremost with the poorer socioeconomic classes. This does not seem to have been the case in the nineteenth and early twentieth centuries. During this period, popular imagery associated the ‘fat man’ with excessive food consumption made possible by wealth and was therefore in itself a symbol of this wealth. (2009: 166)



The Hottentot Venus (Saartjie Baartman) was transported from South Africa to Europe where she was displayed as a curiosity in England and France (1810)

In *Fat History*, Peter Stearns purported that prior to the turn of the century – before rural agrarian societies were transformed into industrial economies – fat was regarded as an indicator of wealth and health (1997). However Kelishadi alleged that within lower- to middle-income countries, childhood obesity remains a sign of health and high social status (2007: 64). For example, in many African countries excess weight continues to be viewed alongside wealth, health, and beauty. According to Zambian women’s rights and anti-AIDS activist Ilse Mwanza:

In African countries beauty was and is associated with wealth... Only wealthy men can afford to “keep” their wives well, that is, give them enough to eat, don’t work them too hard in the fields, and let them concentrate on home and children. (Qtd. in Wheat, 2000: 44)

Moreover, Wheat continued that “all over Africa, the Caribbean, much of the Pacific and elsewhere, thin is considered ugly – fat is beautiful – and it’s not just a confidence boosting slogan, it’s a definite state of mind” (2000: 42). Citing findings by Montiero et al. (2004), McLaren also points to cultural preference for larger body sizes which in part might explain the different SES linkages with overweight and obesity between highly developed and less developed countries (2007: 37).

In *The Embodiment of Disobedience: Fat Black Women’s Unruly Body Politics* (2006), Andrea Shaw used West African fattening huts/houses as a vantage point to explain the relevance of body weight, culture, and perceptions of beauty. The fattening houses, as Shaw demonstrated, were socio-cultural storehouses which imparted tradition and endurance skills, the physical manifestation of which was fat:

A prominent feature in West Africa, fattening houses are designed to prepare young women for matrimony. Teenaged girls are sent to the fattening house in batches, and during their tenure they are sequestered from public view, fed substantial portions of foods, and restricted in their physical movement to maximize their weight-gaining potential. These efforts are aimed at maximizing the girls’ weight to increase their attractiveness and consequently their marriage opportunities. Furthermore, fattening houses are an important site of cultural ingestion, and they contribute to the development of young tribeswomen beyond enhancing their aesthetic appeal... Hence the physical fat that they take away with them on their bodies is a symbol of the cultural immersion that fattening houses represent and locate the girls in a specific aesthetic realm with Afrocentric roots. Because of this value attached to the copious woman’s body, depictions of the gaunt female body in African literature sometimes function as a trope for desexualization. (2006: 6-7)

The conformation of body weight to societal ideals has long been a focal point of feminist writers and scholars (Bordo, 1993; Chernin, 1985; Hesse-Biber, 1996; Nichter, 2000; Thompson, 1994; Wolf, 1991). In her seminal publication *Unbearable Weight: Feminism, Western Culture*

and the Body (1993), Susan Bordo described the “education of feminine restraint and containment of impulse” in respect to patriarchal methods of forcing women to deny themselves of food (1993: 130). Ph.D. Abigail Saguy, associate professor for the Center for Advanced Study in the Behavioural Sciences at Stanford University and prolific writer on the subject of feminism and the construction of body weight, picked up this vein of ‘restraint’ and ‘containment’ of the female body. Saguy pointed to the use of morality-based fears propelled through medical arguments regarding the “so-called obesity epidemic” which she claimed were used to justify the physical subjugation of women and “stymie rights claims” (Saguy & Riley 2005: 870). In *Fat in the Fire? Science, the News Media, and the “Obesity Epidemic,”* Saguy continued her reproach situating women’s body weight within a political and feminist context. Saguy declared that “reports of ‘obesity’ as a public health crisis may make competing frames of ‘fat’ as a neutral and positive form of biological diversity more difficult to promote” (Saguy & Almeling, 2007: 78).

Patriarchal societal views and morality-based arguments have long oppressed women’s sense of self-worth and identity through external images and perception of beauty propelled through the media and other forms of both moral and physical policing. Nevertheless, the present thesis contrasts traditional feminist views (e.g. Saguy and Almeling, 2007) which argue for ‘fat’ as a neutral form of biological diversity. In fact, the present thesis proposes that – at least in the Barbadian context – larger body sizes represent a physical ideal (as opposed to thinness). Likewise, the preference for larger body size is imposed on women in certain settings through culturally influenced male ideals regarding physical beauty. Furthermore, considering the overwhelming scientific body of research focusing on the interconnectedness of excess weight and its sequelae of CNCs, there is an urgent need to better understand the socio-cultural factors influencing overweight and obesity prevalence amongst women. The present thesis is not undertaken in an effort to assign blame on Afro-Caribbean culture or propel normative understandings of acceptable body types. Rather, the present thesis attempts to explore the relationship between culture, ideals of beauty and the feminization of overweight and obesity within the Caribbean dynamic. Therefore, by focusing on the unique characteristics of Black culture – more tolerant of and engendering overweight and obese among women – the present thesis attempts to turn the traditional notion of White Eurocentric beauty (focusing on thinness and propelled through the use of media) on its head.

American culture is dominated by images of thinness through mass media (McLaren, 2007: 37). Thus, it is no wonder that findings (e.g. Bissell's findings) suggest that "adolescent girls, and college women's impressions of their own bodies are influenced by the mass media portrayals of "ideal" body type" (2002). Silverstein et al. explained this phenomenon by stating that "As female models have become thinner, women in society have tried to follow the trend. The Media is likely to be among the most influential promoters of the thin ideal for women" (1986).

The correlation between thin body shapes and perception of attractiveness in Western culture has been well documented (Bordo, 1993; Chernin, 1995; Thompson, 1994; Wiseman, 1990; Wolf, 1991). However, less discussed within the feminist dialogue is the correlation between larger body shapes and the perception of attractiveness in Black cultures which has been largely excluded in favour of discussion focusing almost exclusively on the experiences of White women. While such studies are important in understanding how media and social factors impact women and their health, it cannot be assumed that the experiences of White women are universally applicable to all women regardless of race, ethnicity, or culture (Hesse-Biber et al., 2004: 50; Lovejoy, 2001).

In *Just in the eye of the beholder?*, Wheat described beauty as a 'strange concept' influenced by deep psychological and cultural factors. Wheat highlighted the diverging cultural constructions of body image and beauty between races, particularly in regards to body size (2000: 42). In a similar vein, Levy found that "in some oriental countries overweightness is associated with beauty, contentment, grace and wisdom, whereas in some occidental countries slenderness is much more appreciated" (2002: 895). In *The Embodiment of Disobedience: Fat Black Women's Unruly Political Bodies*, Shaw related the experience of an African American woman whose self-confidence, in terms of body image, changed depending on where she lived and whether or not there was a strong Black African population or not,

I have been overweight for most of my life, but its significance has waxed and waned depending on the environment in which I lived. Those good people in Pinola, Mississippi loved me as I loved them. They thought I was beautiful. 'You's a good lookin' gal. Healthy. Got flesh. Chile, you sho' is fine. (Bass qtd. in Shaw, 2006: 7)

The view that culture and ethnicity play a role in perceptions of body image, ideal types, and overweight or obese is also supported by a number of studies examining the relationship between body image and Black culture in the United States (Dorsey et al., 2009; Howling et al., 2004;

Lovejoy, 2001). Studies indicate that Black culture creates an engendering environment for larger body types. According to Howling et al., “larger sizes were more acceptable in the Black community/culture, and thus offered little criticism for bigger bodies” (2004: 65). Gipson et al.’s findings also suggest that “young Black women are tolerant of a variety of body sizes” (2005: 225) as opposed to White females who appear to be more concerned about their body weight. Citing studies performed by Riley et al. (1998), Smith et al. (1999), Bowen et al. (1991), Cachelin et al. (2001), and Parnell et al. (1996) Bhuiyan et al.’s findings revealed how “cultural influences in the Black community deemphasize the thin body type” thereby partly explaining overweight and obesity prevalence within Black populations (2003).

The findings of Jackson and McGill (1996), Howling et al. (2004), Thompson et al. (1996) and Gipson et al. (2005) support the suggestion that there are race-specific standards of attractiveness within cultures. According to Lori Jones, St. Louis University instructor in nutrition and dietetics,

There is some truth to that in our culture... Black women with a little more meat on them seem [attractive], and that's not a bad thing. A little bit of hips, being curvier, is appealing, and sometimes you do have men telling their girlfriends and wives not to lose weight because they like the curves, the extra softness. (Qtd. in Jackson, 2007)

Hesse-Biber et al. published the results of their 2004 study: *Racial Identity and the Development of Body Image Issues among African American Adolescent Girls*. During the focus groups, African American adolescent girls strongly supported the view that their male peers preferred larger female body types. “Guys want a big butt, big chest, and just stacked, they just want you to be very healthy,” one participant stated. Another said, “They don't want anybody who is real real skinny, that can't get up. They want you to be fat and thick and healthy”. How might this understanding play out in terms of perception of ideal body type and the desire to attain a certain body type? One responded stated: “No. I'm not skinny, I'm not fat, humungous, I might be in between.” When asked how her perceived weight affected how the participant felt about herself, the girl stated: “I feel good about myself. I wouldn't want to be too skinny” (2004: 55-56). In the case of the last respondent, the desire not to be ‘too skinny’ may have discouraged her from attempting to lose weight. The Hesse-Biber et al. study found corresponding responses from focus groups held with young African American men. During the focus groups, it was found that male participants expressed an aversion to thin females and a preference for larger body types. Having posed the question: “What do you find attractive in a girl?”, one participant answered

“Black boys don’t like skinny girls.” Another respondent stated, “She has to have big bones, she can’t be skinny, it’s not sexy.” These results are in line with Jackson and McGill’s 1996 findings – as well as those of Thompson et al. (1996) – which displayed a preference, approval, and socially accepted ideal of larger female body types (particularly with larger ideal female hip/buttocks and thigh sizes) by Black male adolescents doubling that of their White counterparts (Jackson & McGill, 1996; Thompson et al., 1996).

While these results may prove convincing in helping to explain of why more Black women fall under the overweight and obese category than women of other races or ethnic groups, Gipson et al. pointed to the complicated matter of a “chicken” or “egg” effect (2005: 234). Gipson raised the question:

Might Black women have a tendency towards a larger body size than some other races/ethnic groups because Black men find a larger body size attractive? OR, might Black men find a larger body size attractive among Black women because they observe it more commonly? (2005: 234)

The answer to this question might be found in both explanations. In other words, larger bodies were historically valued in Black African cultures; a social construct which may have been carried over through the African Diaspora through time and space (e.g. Shaw, 2006; Wheat, 2000). On the other hand, the second possible explanation that “Black men find a larger body size attractive among Black women because they observe it more commonly” might be more relevant in today’s world, somewhat removed from the traditions of the past associated with the African Diaspora. That observation and existing norms affect how individuals or groups view a standard or ideal weight is noted by several researchers. According to Burke and Heiland,

Extensive research in the fields of social psychology and socio-biology asserts that standards of physical appearance are powerful motivators of human behaviour, although these disciplines may disagree on the forces that determine the content of such standards. (2007: 572)

These finding concur with Levy’s theory regarding ‘socio-cultural weight norms’ (2002: 895). In essence, Levy found that “Over- and underweightness might... stem from conforming to social and cultural norms and perceptions” (2002: 895). Likewise, Burke and Heiland concluded that “In the social process, the body weight standard becomes more relaxed as average weight increases... the relaxed standard then leads to further weight increases” (2007: 589).

Traditional associations between body weight and Black culture maintain their presence in contemporary African nations. Sun City correspondent Ania Lichtarowicz acknowledged that “In

South Africa, one in three men are overweight or obese, while for women, it is more than one in two” (2004). Reader commentary responding to Lichtarowicz’s article revealed the relevance of culture within contemporary regional overweight and obesity prevalence (e.g. South Africa, Zimbabwe, and Nigeria). The trend in reader commentary evidenced a clear link between wealth and excess weight in contemporary African countries. As one reader stated, “being fat is a sign of good living, wealth and respect.” Of further relevance was the connection between size and health within African countries. Mwanza attributed the link between perceived notions of health and larger body sizes as being culturally imposed,

Unlike in the West, slim is often thought of as unhealthy, especially in these times of AIDS. AIDS is known as ‘the slim disease’ because people lose weight fast with it, so to actually be slim is a sign of ill-health and people avoid looking too skinny if they can help it. (Qtd. in Wheat, 2000: 44)

Thus it is plausible that – in the context of some African countries – the condition of being overweight might be deemed socially acceptable and possibly a body type aspired to by women [Appendix 3]. In other words, if such an association between physical attractiveness and weight is valid (Burke & Heiland, 2007; Levy, 2002), it is expected that women may be expected to attempt to conform to such cultural standards.

Another hypothesis in explanation of the cultural preferences for larger body sizes was suggested by Shaw (2006). Shaw pointed to ‘fatness’ as a means of social disruption, confrontation or resistance against White oppression of the Black body (2006: 1). According to Shaw, the “African Diaspora has historically displayed a resistance to the Western European and North American indulgence in ‘fat anxiety’” (2006: 1). For example, within carnival or mass culture of the Caribbean, the ‘hypersexualized large Black female’ represents a bodily expression of resistance against White oppression and class structures. Shaw’s theory of resistance and social disruption expressed via the ‘fat’ Black woman’s body lends itself to conflict paradigms which focus “on the attempt of the person or group to dominate others and to avoid being dominated” (Babbie, 2008: 61). According to Shaw,

women are welcomed into performative spaces because of the transgressive qualities of these spaces, and because the site of the fat Black woman’s body is in itself a source of social disruption and she is a poignant embodiment of transgression. (2005)

Perhaps the most explicit examples the ‘fat’ female body as a form of beauty and identification within Black culture are found within the musical genre ‘dancehall’. According to Stolzoff, dancehall functions “as a space where the symbolic distinctions and the social divisions of race,

class, gender, sexuality, religion, and political affiliation... are made, reinforced, and undone” (2000: 6). As such, ‘fatness’ may be considered as both an emblem of Black identity and solidarity as well as a marker of social difference (Stolzoff, 2000: 6). Continuing this vein of reasoning, Shaw explained,

Dancehall has been the venue for the exposure of the fat Black female body beyond the platform of the hefty higgler whose association with food and later the supply of scarce imported goods helped to firmly cross-pollinate the higgler’s social function as both a literal supplier of goods and an icon of abundance. (2005)

In support of this argument, Shaw referred to Ulysse who suggested that, “Dancehall not only projected this full Black female form into public arenas, but asserted both its desirability and sexuality” (2005). In *Sisters Speak Out*, the link between Black music, performance culture, and large body sizes is re-affirmed:

Just as the once-popular hip-hop rap lyric announced that 'baby got back' – where Black women with ample derrieres were applauded for having big butts – some Black women (and their men) don't think themselves attractive unless they carry 'a little meat on their bones.' (Ebony, 2004)

Studies indicate that culture and ethnicity are significant factors in the perception of body and resultant disease prevalence within girls and women (Bhugra et al., 2003; Lee & Lee, 2000; Simeon et al., 2003). However, it should be noted that not all cultural influences related to body size within the Black community must therefore be deemed negative. For example, previous studies have shown that Afro-American adolescent girls are less prone to develop eating disorders than their White counterparts. Theories presented argue that Black adolescent girls are less likely to define themselves through the adoption of a Eurocentric version of beauty exemplified by visions of thinness portrayed in the media. Statistics from the United States, Trinidad, Barbados, and other parts of the world reveal that girls and women of African descent generally have a heightened sense of body confidence regardless of their size. Moreover, heightened body satisfaction might discourage the development of eating disorders, such as anorexia nervosa (AN) or bulimia (Bhugra et al., 2001). Citing a study performed in Curaçao (2005), Willemsen and Hoek pointed out that every case of AN observed on the island “occurred among White women or among women of mixed ethnic origin. No cases of AN were found among Black women” (2006: 353). The researchers found similar results within American epidemiologic studies. According to Willemsen and Hoek, within “985 White women and 1,061 Black women aged 19-24 years, no cases of AN were found among Black women, whereas 15

White women met the lifetime criteria for AN” (2006: 354). Thus, when a 30 year old Black Curaçao woman was referred to an eating disorders center in The Netherlands, researchers took note. Claiming to be a victim of an abusive relationship prior to leaving Curaçao, the woman explained that her partner threatened physical violence should she choose to leave the relationship. To avoid further abuse the woman “decided that she would try to lose weight to become less attractive... Her plan succeeded: Her partner told her she was no longer attractive and he lost interest in her” (2006: 354). The woman sought refuge in The Netherlands where “she wanted to lose [more] weight because she discovered that in her new country, being thin is considered attractive” (2006: 354). In the case of the AN patient from Curaçao, the effects of culture on body weight determination are evident. As Willemsen and Hoek revealed, Caribbean culture defines beauty through the adoption of larger body types where excess weight is viewed as more attractive according to social standards:

‘A woman can almost never be too fat. Even if I had weighed 80 kilos, men would have found me more attractive than if I were thin.’ [Therefore] She started to eat more to gain weight. (Qtd. in Willemsen & Hoek, 2006: 353)

In this respect, Black culture may act as a protective factor against certain eating disorders for some women. Nevertheless, culture is ever changing. The impact of media images derived from America and Europe, as well as the rapidity of which globalization and the spread of Westernization is occurring undoubtedly affects cultures both positively and negatively. Citing Becker et al.’s research with ethnic Fijian schoolgirls (2002; 2004), McLaren expressed concern regarding changing societal values taking place as a result of foreign influences. McLaren revealed that “There is evidence of a global exportation of the thin ideal of beauty in the form of Western media images” (2007: 37). In the case of the Fijian schoolgirls, McLaren explained, an increase in attitude and behaviours associated with eating disorders during the years following the introduction of Western television was observed (2007: 37). Findings indicated a similar shift in terms of the protective force of Black culture against eating disorders. According to Bhugra et al., recent evidence suggested that “among African Americans the trend [was] also towards rising risk for eating disorders and rising valuing of thinness” (2001: 423). Nevertheless, in the midst of an obesity pandemic, it must be asked why not more work has been undertaken to explore how cultural values and societal mores impact on the determination of Black women to lose, gain, or maintain body weight. According to Black African American fitness trainer Andrea Riggs,

They told me they didn't want to lose weight... It's cultural expectations and pressures. African-American women seem to say, 'We want meat on our bones, and we all want to be bootylicious and appeal to African-American men.' (Qtd. in Jackson, 2007)

While 'meaty' or 'bootylicious' are not clinically described terms, that cultural body preferences undermine efforts to improve Afro-American women's health is evident in the comments received by Riggs. Nevertheless, as Riggs argued, "It's not about being thin; it's about health... We all want to look good, but to sacrifice your health doesn't make sense" (qtd. in Jackson, 2007). That traditional notions of weight within Black culture continues to affect the health status of Black women appears evident. In *Sisters Speak Out*, it was stated that 'too many Black women are too fat'. The article expounded, "Our [Black] cultural belief system and attitudes about our body image may also work against us. Culturally, we may think ourselves into bad health" (Ebony, 2004). Black Congolese essayist Bantu Kelani expressed similar concerns. Elucidating upon the impact of Black men's perception of beauty and how that perception translates into larger female bodies within the African Diaspora, Kalani stated:

It's quite obvious the majority of Black American and Caribbean women are obese or overweight. The majority of Black men have brainwashed us as people consistently saying they like fat ass women and if a woman is not fat then she would not get much attention ...Never mind the related long-term health effects of being overweight are heart decease, hypertension, diabetes, and the list goes on. We all know that "fatness" is not healthy, so WHY are so many Black women ignorant who don't like themselves? (2004)

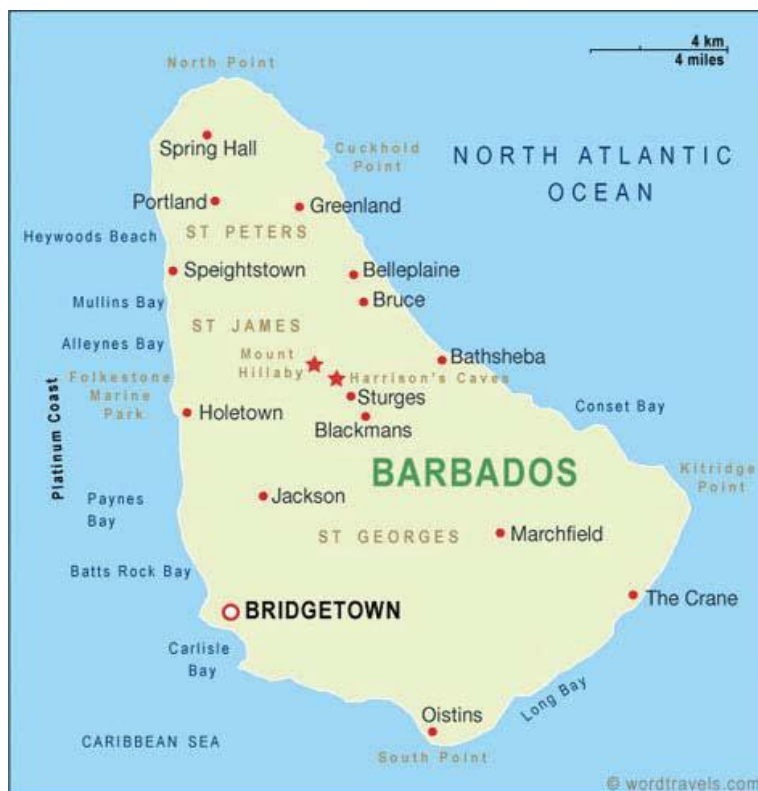
According to Jackson, "cultural factors related to diet, exercise and weight among African-Americans play a role in interfering with weight-loss efforts" (2007). Nevertheless, as Jackson revealed,

People who battle health disparities in African-Americans agree with [fitness trainer] Riggs. But they admit the topic rarely is broached because of fear of political incorrectness. Still, that well-meaning sensitivity may contribute to killing people. (2007)

This concern was repeated by the author of *Sisters Speak Out* who stated: "when your standard of beauty places you at risk for chronic disease, it's time to change your mind in order to save your life!" (Ebony, 2004).

CHAPTER 7.

CASE STUDY: BARBADOS



Overview

The Introduction to the Case Study (Chap. 2) outlines the tremendous gains in Barbados' path towards development. Barbadians have benefitted from extensive government-provided health care, country-wide public education, and rapid economic development. The GoB also places a premium on child health. For example, ensuring that no child goes hungry has become a core feature of Barbadian society. As Ministry of Education (MoE) Science Officer Pamela Hunte affirmed: "There are some things the GoB are not going to compromise on. The price of food can sky rocket, gas [can increase], that will *not* impact our school meals. *Every* school meal, *every* medical attention, it will *always* be there" (p.c., 02/09/2009). Such programmes have been tremendously successful. As a result, it is now believed that child undernutrition had been almost eradicated from the island (Alert, p.c., 02/09/2009; Gaskin, p.c., 03/02/2009; George, p.c., 11/02/2009).

However, with the onset of globalization and the transition from developing to developed country status, Barbados has experienced many of the same growing pains as other rapidly developing countries. Barbados is nearing the end of the nutrition transition. Infectious diseases are greatly controlled; however, the country has rapidly shifted towards a health profile characterized by lifestyle-related diseases. In an interview with Dr. Pamela Gaskin – Essential National Health Research Scientist for Barbados and the Eastern Caribbean – she explained, “Barbados has moved along the continuum from infectious disease to a more chronic disease type profile.” Gaskin expounded that while “many of the things we have mimics the developed world, so we are a society that is thought to be at the end of what is called the ‘nutrition transition’ and ‘epidemiologic transition’ because we have all the diseases and even the lifespan of the developed world” (p.c., 29/02/2009). Of particular concern is the prevalence of overweight, obesity, and type 2 diabetes (Hennis et al., 2002a; PAHO, 2008), as well as a reduction in the age of onset for type 2 diabetes which is beginning to manifest within the 18-25 year old population (Alert, p.c., 02/09/2009).

Information gleaned from respondents indicates that awareness of the dangers associated with adult and childhood obesity is present in the medical and education sectors. Nevertheless, that awareness has been slow to translate into action (Alert, p.c., 02/09/2009). This is particularly true in reference to the health of women and children (UN, 2007). According to acting Director John Hollingsworth, the Bureau of Gender Affairs “doesn’t have the resources to look at diabetes or obesity... We look at what we consider to be the critical areas of health. And the critical areas of health that we consider would be HIV and reproductive health” (p.c., 31/08/2009). In accordance with Dir. Hollingsworth, Dr. Kenneth George – Sr. Medical Officer for Health and Chronic Disease with Barbados’ Chronic Disease Unit (CDU) – argued that while “Barbados has one of the most excellent public health delivery services [it is] certainly tailored towards children and maternal and child health” (p.c., 11/02/2009). Barbados is not alone in this respect. According to Kelishadi, “Until now, most national public health programmes and policies, as well as national-level research on children of low- and middle-income countries, have focused on undernutrition and its effects on the survival and mortality of mothers and children” (2007: 63). “The mode,” claimed George, is “still with communicable disease so that we need to move away from that mode because communicable disease is not an issue in Barbados” (p.c., 11/02/2009). Although HIV continues to threaten population health, obesity has rapidly outstripped HIV as the

leading health burden in the country (Henry, 2007: 1). Moreover the distinctly gendered distribution of obesity and diabetes prevalence presents substantial danger to Barbadian women's health. In fact, 2010 statistics ranked Barbados 8th fattest country in the world for women's overweight and obesity prevalence⁴ (est. 83.3%) (WHO, 2010). Moreover, respondents indicated that knowledge of child health as well as public services geared towards children has not altered enough to meet changing health challenges (Alert, p.c., 02/09/2009; Gaskin, p.c., 03/02/2009). "We know about adults. In adults there's a lot of information," said Dr. George, "but we have left our children behind unfortunately... Our service being delivered to our children has been good but it needs to change. It needs to!" (p.c., 11/02/2009)

This chapter explores certain challenges Barbados' faces in the attempt to reduce prevalence of obesity and type 2 diabetes including: genetic predisposition in the Afro-Barbadian population; lifestyle changes associated with economic development; limited national capacity to finance health needs; an increasingly globalized local food supply and the impact it has on local food production; cultural norms, preferences, and attitudes considered counterproductive to health; the impact of cultural memory and trauma on food consumption and buying habits, as well as their impact on food security. This chapter is loosely organized under the following headings: (1) Disease Prevalence and Public Health Challenges, (2) Genetic Predisposition and Altered Lifestyle Syndrome, (3) Energy Expenditure, (4) Diet, Consumption, and Nutrition, (5) Food Insecurity, (6) Food Security Potential, (7) Food and Culture, (8) The Social Dynamic of Food Purchasing in Barbados, (9) Perception Towards Agriculture, and (10) Socio-Cultural Perceptions of Body Weight and Individual Agency.

SECTION 1: Disease Prevalence and Public Health Challenges

In 2007, prevalence of overweight within Barbados was estimated to be 55.8% in men and 63.8% in women. The gendered difference is even more pronounced between the ages of 18 to 29, wherein approximately 30% of young men were overweight versus 50% of young women (PAHO, 2008: 10). Within the overweight population, one-third of women are categorized as obese compared to one-tenth of men (Hassell qtd. in Gooding, 2011). However according to Dr. Colin V. Alert, who has been collecting research over recent years, obesity has begun to manifest in more than half of both sex groups. "I've been doing some work on my computer in recent

⁴ Barbados was closely followed by Trinidad and Tobago (80.8%), Dominica (80.8%), Jamaica (79.0%) and Saint Lucia (74.1%) (WHO, 2010).

times,” said Alert, “we have tremendously high numbers of people that are too fat. Women are more obese, men are more overweight. But in both groups, in adults you’re passing 50% for obesity” (p.c., 02/09/2009). Findings also suggest an increase in childhood obesity prevalence (Henry, 2004b). However, few studies were performed to determine the actual incidence of adolescent overweight or obesity. Moreover, at the time of writing no baseline studies existed to determine obesity prevalence in the preadolescent population (Alert, p.c., 02/09/2009; Gaskin, p.c., 03/02/2009, 29/02/2009; George, p.c., 11/02/2009). The last known study specifically looking at child weight was undertaken in the mid 1960’s by Standard et al. (1966). However during the 1960s, nutrition rates were significantly different from what they are today (CARICOM, 2007: 24).

In an effort to gage the health of children, interviews were conducted with public school principals and teachers as well as with local and regional health specialists. Questionnaires were also administered to 41 teachers from two primary schools and 16 teachers from one secondary school. Questionnaires inquired to student health and invited respondents to indicate any problems observed. Of the 37 primary school teachers who responded, 10 (29%) referenced ‘obesity’ as a problem within their respective student populations, no references were made to type 2, and only one reference was made to type 1 diabetes. Of the 16 respondents at the secondary level, 15 teachers (94%) noticed health problems, and 9 (56%) referenced ‘obesity’ as a specific problem. Results suggested that obesity has manifested in the primary level and has reached critical proportions at the secondary level. Interview respondents also expressed concern regarding childhood obesity prevalence. “Without a doubt,” affirmed Dr. Alert, “the amount we are seeing now, far outstrips what we saw 10 or 20 years ago. The condition of being overweight or obese was a “serious prerequisite (or ‘risk factor’) for diabetes” (p.c., 02/09/2009).

A study conducted from 1988-1996 determined that out of a simple random sample of 4709 Barbadian-born citizens aged 40-48, the total frequency of diabetes was estimated at 16.67%. The highest percentage was among Black Barbadians (17.5%), followed by mixed race participants (12.5%), and White/other (6.0%) (Hennis et al., 2002a: 234). By 2011, diabetes prevalence climbed to an estimated 20 to 25% (WDF, 2011). Diabetes forecasts present concern for the future. Citing WHO projections, Dr. George stated that “by 2025, the rate [of type 2 diabetes] might have doubled” (p.c., 11/02/2009). Actual type 2 diabetes incidence in the child and adolescent population is unknown. However informal sources reported that type 2 had in fact

manifested in the primary school population. Moreover, according to Zonia Phillips⁵ – Diabetes Association of Barbados (DAB) coordinator for the ‘Healthy Snacking through GBL programme’ – type 2 was evidencing in young children who “have to take tablets” (qtd. in Adams, 2006). Existence of type 2 diabetes in school-aged populations was restated in DAB funding applications⁶. Nevertheless, evidence suggesting type 2 had occurred in young children was lacking within the research performed for the present thesis. While type 2 *may* exist at the primary level, it is uncommon and possibly the result of other health conditions atypical of the usual causes associated with type 2 diabetes. According to Chief Public Health Nurse (CPHN) Joyce Holder, while a few cases of type 1 exist, there were no known cases of type 2 within the primary school population (p.c., 01/02/2009). However, Dr. Alert explained, “Certainly, *obesity* appears from very young age, 4 or 5 and that’s one of the main predispositions to diabetes in our population” (p.c., 02/09/2009). Unsurprisingly, there *was* evidence of type 2 at the secondary school level. According to Dr. George: “What we are aware of is that persons in their late teens and 20s are developing type 2 diabetes which was unheard of before” (p.c., 11/02/2009). Age of onset, argued Alert, “is coming down. Thirty years ago, diabetes was a disease of 60s and *maybe* 50s. Now it’s 40s, 30s, and even 20s so it’s coming down. I’ve seen [type 2] at the secondary level” (p.c., 02/09/2009).

Unfortunately GoB health strategy and programming has not kept pace with the transition away from communicable diseases and undernutrition. As a result, efforts to cope with the current obesity and type 2 diabetes prevalence rates have been focussed on controlling the epidemic rather than attempting to target the issue from a preventative standpoint. Due to the impact on health and development, Barbados’ approach to contemporary health issues needs to change. According to Dr. George, there is an urgent need to shift away from disease control towards disease prevention. “We need to look at chronic diseases as a major cause of morbidity and mortality in our adults ,” argued Dr. George, “We now know that these disorders are not only preventable but we know that many of these disorders start early life so we need to do some work on obesity” (p.c., 11/02/2009). In keeping with George’s argument, Dr. Alert also commented on the lack of preventative measures being put in place to confront the epidemic. “We haven’t established good mechanisms for dealing with it,” explained Alert. “We just sort of

⁵ Phillips performed valuable work in promoting nutrition and GBL within Barbados’ school system.

⁶ DAB application for FAO Telefood funding of ‘Healthy Snacking through GBL programme’ (20/01/2006).

attack it at a clinical level saying ‘*Okay, you have high blood pressure. Okay, take these tablets and come back and see me in a few months then*’” (p.c., 02/09/2009). Respondents also indicated a need to target interventions toward broader societal and environmental levels. However, respondents expressed concern that there may be a general lack of interest within the health sector regarding preventative measures which potentially translates to attitudes and behaviors within the general population (Alert, p.c., 02/09/2009; Gaskin, p.c., 03/02/2009). According to Laurie,

There is no pressure on [the MoH]. The fact that diabetes is rampant in Barbados, you can get the odd person like Henry Fraser from the UWI [who] might speak about healthy foods, the effect this can have on CNCDs, and so on but when it comes down to actually changing their diet, they are still going to go into Kentucky Fried Chicken. (p.c., 31/08/2009)

Failure to incorporate preventative measures has resulted in Barbados’ health care system being “bombarded with CNCDs” (Alert, p.c., 02/09/2009). The burden of obesity-related diseases has reached a critical phase. According to George, 60% of the national health care budget is being spent on CNCDs, of which diabetes-related costs represent 12%. Moreover, Dr. George warned, “The monies Barbados spends on chronic diseases and diabetes has been escalating” (p.c., 11/02/2009). Of additional concern, CNCDs are increasingly manifesting in younger age groups placing added strain at the household and community levels. According to Alert, “your neighbours and your family are all going to suffer from diabetes” (p.c., 02/09/2009). Likewise, as CARICOM reports argued: “The health or social costs of individual unhealthy behaviours are externalities that are borne by society at large or at least by the families” (2007: 30).

Considering the rapidity of Barbados’ ongoing obesity epidemic, there is an urgent need to target youth within public health strategy since the foundations for adult obesity and obesity-related diseases (e.g. type 2 diabetes) begin early in life (George, p.c., 11/02/2009). Moreover, given that childhood obesity worsens the impact of risk factors for adult diseases while contributing to greater years of life lost (Chap. 2-4), there is a need to improve knowledge of child health and nutrition vis-à-vis Barbados’ obesity epidemic. In response to growing concerns, it is hoped that more information regarding the status of childhood obesity will soon be available. Upon verification of funding (Gaskin, p.c., 03/02/2009; George, p.c., 11/02/2009), a national study to determine obesity prevalence in the primary school population was slated to begin in 2010 (Cox, 2009). Later reports indicated that funding was to be sourced from Arnott Cato Foundation with pilot studies coordinated by Dr. Gaskin and QE consultant paediatrician Dr.

Anne St John (Nation News, 2010b). Although pilot studies were to occur during the September - November 2010 period (Chill News, 2011), results had yet to be publicized at the time of writing⁷.

The link between nutrition and obesity-related diseases is a key factor in Barbados' epidemiologic transition. However, research exploring the relationship between consumption patterns and the country's changing health profile is lacking (Gaskin, p.c., 03/02/2009). Given the burden faced by developing countries and the preventable nature of CNCDS, this limitation is lamentable. Monitoring nutrition and disease prevalence trends requires adequate surveillance systems to quantify, measure, and evaluate data. However, underdeveloped and rapidly transitioning countries (e.g. Barbados) rarely have the resources or capacity needed to undertake such tasks. For example, prior to the 2002 Barbados National Cancer Study, Sharma et al. claimed that "there [had] never been a method to assess long-term dietary intake, thus precluding association studies between diet and cancer, or indeed any other chronic disease" (2008: 151). In light of this lack of research, Dr. Alert's work in the early years of the CDRC (late 1990s) was seminal towards the need for further CNCDS-related data. As a result of the absence of research related to CNCDS within Barbados and the Caribbean as a whole, Alert explained "my little bit of work that I did kind of jumped me into a sort of prominence a little bit" (p.c., 02/09/2009). Nevertheless, there remains a strong need for further research. Unfortunately, without baseline research it is often difficult to obtain funding for studies related to obesity and CNCDS (Gaskin, p.c., 03/02/2009). Moreover, funding is often tied to MDG targets in which obesity and obesity-related diseases are not accounted for (Chap. 4). As a result of this gap, obesity-related diseases are given less precedence within public health research. In fact, according to ECLAC reports, "Obesity, is perhaps one of the most neglected public health problems" in the Caribbean (2006: 21). In agreement, Alert lamented, "By and large, the Caribbean is not a place where we do that much research of such things" (p.c., 02/09/2009).

The sequelae of health-related complications directly linked to obesity and type 2 diabetes has been documented (Chap. 4). However in Barbados, diabetes-related lower-extremity amputations (LEAs) are particularly noteworthy. Long coined the 'amputation centre of the world' (Rigby & James, 2003: 22), Barbados' status was first documented by Dr. Alert who

⁷According to news reports from January 2012, the results of the study indicated that 25% of school-aged children in Barbados were overweight or obese (Bajan Sun, 2012; Nation News, 2012).

explained, “at that time, the early 1990s, we were doing about 90 to 100 amputations per year” (p.c., 02/09/2009). By 2004, the overall incidence of LEAs was rated at 173 per 10⁵ of the population and 936 per 10⁵ of the population diagnosed with diabetes (Hennis et al., 2004b: 2636). Between 2000 and 2007, more than one thousand diabetes-related LEAs had been performed on the island (CARICOM, 2007: 29). During an interview with Dr. Alert in 2009, he stated, “Right now, we are doing about 200 amputations per year. Right. In this small island” (p.c., 02/09/2009). Dr. George also lamented on the number of LEAs performed in Barbados. “We amputate too many feet, we amputate too many limbs,” said Dr. George (p.c., 11/02/2009). Moreover, studies indicate a distinct variation between diabetes-related LEA prevalence in Afro-Barbadians as compared to that occurring in the Afro-Caribbean Diaspora. For example, LEAs were 2.64 times higher in Barbados than in Caribbean-origin British residents (Hennis, 2005). Statistics also indicated a distinctly gendered difference. According to Hennis,

While Barbadian men had modest rates of lower limb amputation, Barbadian women with diabetes had inordinately high rates of both minor (through the mid-foot or toes) and major amputation (through the leg or thigh) which were exceeded only by Navajo Indian women in Montana! (Hennis, 2005)

By 2011, Barbados had retained its infamy as ‘amputation capital of the world’ (Barbados Advocate, 2011). Moreover, according to the Barbados Diabetes Foundation (BDF), diabetes-related diseases and LEAs continued to disproportionately affect national health services:

80% of the female surgical beds at the QE Hospital and 50% of the male beds are utilized by persons with diabetes related foot diseases and lower limb amputations. It is estimated that the economic cost of adequately treating all the diabetics in Barbados is approximately US\$110 million, a significant financial burden. (BDF, 2011)

Of further alarm is the high mortality associated with post diabetes-related LEAs. According to Hambleton et al., mortality rates associated with diabetes-related LEAs in Barbados are the highest reported worldwide (2009: 306). Nevertheless, the reality is that in most cases type 2 diabetes onset and many diabetes-related complications (e.g. LEAs) are completely avoidable.

This is true not only in the pre-diagnostic phase but throughout the continuum from diagnosis to premature mortality. For example certain practices are known to significantly reduce LEAs including: (1) blood glucose control, (2) proper use and sanitation of footwear for diabetic patients, and (3) daily foot self-examinations (Hennis, 2005). According to Hennis, “daily foot self-examination reduced the likelihood of amputation 80%!” (2005). Such findings

The Reality of Diabetes in Barbados:



I'll give you a sad story. For example, this came about as I was doing one of my audits. There was this lady who was going to one of the polyclinics for awhile, you know, and one day she said, 'Doctor I have this big sore on my foot!' and I said, 'Oh my God, that looks bad, maybe you're diabetic?' So we test the blood sugar, 'You are a diabetic!' So, let's go down to the hospital the administrator tried some treatments, it didn't succeed. So a few days later, she has an amputation, you know, take off that bad leg. Then send her out, send her back to the polyclinic.

You know, she goes there [to the polyclinic] for awhile but it's a problem because she has one leg, she doesn't have a prosthesis in, and you know, we have problems with prosthesis here and access to prosthesis. She has to catch a special taxi which is expensive to go to the polyclinic. So after awhile she stops going for another couple of years. Then one day, she comes back into the polyclinic again. She says, 'Doctor, there's a sore on my foot!' And of course, now, she only has one foot! 'Oh my God, let's check her blood sugar!' 'Ey, it's terrible!' Send her back to hospital, 'Uh this is bad!' She loses the other foot.

So she's had the amputation, she gets lost in the follow-up, she has the other leg amputated. Right, we have sad stories like that.

- Dr. Collin Alert (Personal Communication, 2/09/2009)
Photo of Carlisle 'Kathleen' Jack [not the same woman
Referred to in Dr. Alert story], *Nation News* 4/09/2010

underscore the role of individual agency in risk reduction for diabetes-related LEAs. According to Dr. George,

If you speak to persons who are in primary care, they will say, *'In addition to coming too late, many of [amputees] have a history of extremely poor control and patients need to take some responsibility.'* You find that, if you are going to get a limb amputation – it's usually poorly controlled diabetes. (P.c., 11/02/2009)

While the role of individual agency is a significant factor in whether or not people with diabetes succumb to complications, there is a need for greater support and education within the health care system itself. According to Hambleton et al., both “Patient factors and health care system inadequacies may contribute to the burden of diabetes-related complications” (2009: 307). In consonance with Hambleton, Hennis argued that there are “Many factors [which] are relevant in the pathways that lead to lower limb amputation. Factors are relevant to both persons with diabetes as well as health care providers” (2005). Hennis argued that blood glucose control and monitoring of other risk factors requires health care practitioners to work closely with patients:

Education, strict attention to best practice and development of the multidisciplinary approach to diabetes care are routes to improving provision of care by the health professionals...the challenge will be to translate these findings to improvements in general diabetic care, patient education and practices, as LEAs are eminently preventable. (2005)

Nevertheless, some respondents suggested a failure within the primary health care sector when it came to screening, monitoring, evaluation, and patient education (George, p.c., 11/02/2009).

This fact was highlighted by Dr. Alert who opined:

Why averages are a big thing in the hospital? Who [do patient care] at the primary care level? There is not much focus you know. Doctors don't often look at patient's feet, don't examine their eyes. They don't look for problems, it's just *'How you going today?'* *'Good'* *'Okay, here's some medicine, come back in another three months and we'll see you again.'* (P.c., 02/09/2009)

Comparing Barbados to more developed countries, Hambleton et al. argued that effective solutions to reduce the burden of diabetes-related conditions (e.g. LEAs) are possible. Examples include: “simple techniques for optimizing glycemic control, preventing and detecting foot complications, managing wounds and ulcers, and providing post amputation support services” (2009: 307). Moreover, according to Chief Operations Officer of the BDF Simone McConnie, “there is a lot that can be done to reduce the amputation rate that we have here in Barbados” (qtd. in Daily Nation, 2010). However, as Hennis argues, in order to implement these solutions “the challenge will be to translate these findings to improvements in general diabetic care, patient education and practices” (2005).

Findings clearly indicate that significant reform is needed within Barbados' health care system. However, in the course of the research, certain challenges were expressed by respondents in the attempt to create positive change at the primary care level. Of significant concern was the burden on health care practitioners at the primary care level, as well as the need to encourage more doctors to enter primary care. In explanation of this phenomenon, Dr. Alert described the relevance of motivation as a key concern:

Because we are really working on a system where when it's free to the patients, the doctors have no rewards to work for. You have, '*Yeah, I'll see her, alright going along... NEXT...alright finished.*' Their job is to hustle as quickly as they can and go home. So, that has perpetrated a system where we have very poor primary care... That's why we have all these problems with the complications of diabetes and people end up in the hospital. That's the story of why we have so many amputations. (P.c., 02/09/2009)

Although financial rewards are implicated in Alert's comments, there is also a need to re-evaluate cultural incentives and the perception of primary care as being both a legitimate and valuable profession within the health care sector. Alert expounded:

For years, the sort of prominent physicians in the Caribbean have all been hospital-based doctors. So, you know, we have prominent surgeons who did great work. But people doing preventative work, like getting people to not smoke or wash your hands, they were never given prominence. We are in paths that sort of legacy existed in. (P.c., 02/09/2009)

To a great extent Alert's arguments may also be applied to research. The lack of baseline studies and the challenges in obtaining funding from international sources has been noted. However, it was also suggested that studies attempting to harvest baseline information were not as 'novel', or acclaimed, as other forms of research. According to Dr. Gaskin,

I can't get anybody to understand that you have to do boring measurement work to do proper interventions. You need to know your incidence and your prevalence and I can't get someone from the external environment to fund that because they already know that the prevalence of obesity and chronic diseases is increasing within children in ethnic groups – That is not anything novel. (P.c., 03/02/2009)

Moreover as McConnie noted, "At the end of the day the hospital and surgeons are only seeing what needs to be seen. They are not seeing all the things that can be prevented" (qtd. in Daily Nation, 2010). Alert's comments regarding the importance of giving 'prominence' provide pause for thought. The burden of diabetes and diabetes-related complications presents an urgent need for more preventative and care practitioners in order to reduce complications. As McConnie lamented, "There are only six podiatrists and that is nowhere near enough" (qtd. in Daily Nation, 2010). "The idea", McConnie expounded, "is to build a network of primary health givers that are

able to identify and recognise diabetic foot challenges earlier on. Every single one of us has a role to play and through working together we can actually achieve a reduction in amputation rates" (qtd. in Daily Nation, 2010). To attract more health care practitioners at the preventative and primary care levels, recruitment efforts may need to generate public awareness of the crucial and highly valuable role of prevention in improving population health.

SECTION 2: Genetic Predisposition and Altered Lifestyle Syndrome

Obesity and type 2 diabetes continue to be categorized as 'lifestyle' diseases wherein personal choice and risky behaviour (e.g. sedentary lifestyle, excessive caloric intake) are major health determinants (Chap. 3). However, underlying both conditions is the possibility for heightened genetic susceptibility, particularly within certain population groups. According to Brownell and Battle Horgan, "as the weight of the population changes, 25 percent to 40 percent of the fluctuation is attributable to genetics...Given that obesity is usually blamed on personal failing, these numbers underscore the importance of biology" (2004: 23). Likewise, Diamond argued that type 2 diabetes is "a lifestyle disorder with the highest prevalence seen in populations that have a heightened genetic susceptibility" (2003: 600). Studies linking genetic differences between racial groups to obesity and type 2 diabetes prevalence could illuminate the variation in prevalence rates between population groups. As Brownell and Battle Horgan argued, "Without a 'willing' biology, a person simply will not become obese. If a person is capable of gaining weight, how much is gained will be heavily influenced by genes" (2004: 24).

Byer-Suckoo attributed the type 2 to factors associated with "genetics, diet, inactivity, and obesity" (2010: 1). However "The feeling," Dr. George argued, is "that 80% of type 2 diabetes is preventable" (p.c., 11/02/2009). Meanwhile, according to Dr. Gaskin, "you *can* avoid [type 2] altogether" (p.c., 29/02/2011). While it may or may not be true that type 2 diabetes can be avoided *entirely*, the ability to delay onset appears definite. As Dr. Alert noted,

I don't know if you can avoid it entirely but there is a difference between getting it at age 20 and getting it at age 90. If you live right you can push the age of onset back from 20 to 90-96. Hey, when you're 96 you gotta die from something right? But if you are 20 – you, your neighbours and your family are all going to suffer from diabetes. (P.c., 02/09/2009)

If type 2 diabetes can be delayed or possibly avoided altogether, what significance does hereditary and genetic factors play in disease prevalence within Barbados? The linkage between biology, race, and disease prevalence (i.e. obesity and type 2 diabetes) has been established

(Chap. 5). This section explores hereditary and genetic factors implicated specifically within the Afro-Barbadian context.

Type 2 diabetes statistics from highly developed countries (e.g. the United Kingdom, the United States, and Canada) show a marked trend in racio-ethnic disease distribution (Chap. 4-5). Within Barbados, studies suggested similar trends among racio-ethnic groups: Black Barbadians have the highest type 2 diabetes prevalence rates (17.5%), followed by mixed-race (12.5%), and White/other (6.0%) (Hennis et al., 2002a: 234). Underscoring the relevance of biological factors within national diabetes prevalence rates Dr. George stated: “We have a strong genetic component in Barbados. Our gene pool [also] suggests that there’s a strong familial component for developing diabetes” (p.c., 11/02/2009). Expounding the link between genetic predisposition and Afro-Caribbean diabetes prevalence Dr. Gaskin also posited,

The difference might just have to do with susceptibility to disease... there are differences in island cultures because they have in the past cut off small numbers of people. You have a small gene pool, so you just have a just a few genes running around. So you will see high prevalence of diabetes, particularly type 2 diabetes... of course you will find in White culture or populations that there is a little more genetic linkage with type 1 diabetes in those populations than in the Black population. But in both populations, type 2 diabetes is very strongly related to genetics. Very very strongly. (P.c., 29/02/2009)

The statement that both ‘White’ and ‘Black’ populations show the effects of a small island’s limited gene pool echo earlier findings (Chap. 4) regarding the relevance of hereditary factors in disease distribution. However, the difference in prevalence rates between ethno-racial groups within Barbados is statistically significant (Hennis et al., 2002a: 234). As Gaskin expounded, “There is greater susceptibility in [the Black] population than there is in say, a White population. This is something that a lot of people don’t get... a lot of people get very much mixed up because there *is* a lifestyle component” (p.c., 03/02/2009). While genetic predisposition contributes to type 2 diabetes risk, it is not a *determining* factor. As Henry explained, “Obesity would not be possible if the human genome did not have genes for it. But humans are not biologically destined to become obese” (2004b: 17). Therefore, the main indicator appears to be the interaction of genetic predisposition with modern conditions. According to Gaskin,

Type 2 diabetes is quite [very much] transmitted genetically but...the stressors of the environment may cause expression at different times. But, it is clearly susceptible people who express type 2 diabetes... What happens is with type 2 diabetes, you are probably born with a *capacity* for your pancreas to fail. But, your *lifestyle* will impinge upon how soon that occurs and *whether* that will occur. (P.c., 29/02/2009)

In other words, lifestyle factors such as diet (what you eat), consumption (how much you eat), and physical activity levels are far greater determinants to obesity and type 2 diabetes prevalence than biological predisposition alone (Chalk, 2004; Dehgan et al., 2005: 3; Lantham 1997: 16). “Genes make obesity possible,” as Henry explained, “but positive energy balance over time is necessary to realize that potential” (2004b: 17). In line with Henry, Dr. Alert also explained,

Most of the evidence suggests, at least around here, that it’s more the jeans, as in J-E-A-N-S than the G-E-N-E-S that’s contributing to diabetes. So, it’s more, you know you are large 48 waist inch jeans. So that, even though there is a hereditary component, it still has to be superimposed on your lifestyle of eating and exercise. (P.c., 02/09/2009)

In conclusion then, although obesity and type 2 diabetes are partly attributable to hereditary and genetic factors within Barbados, both conditions are also significantly linked to behaviour. As noted above, these conditions can be controlled, reduced, and at times avoided altogether through the adoption of a nutritious diet and increased physical activity (CARICOM, 2007: 16; Daar, 2010; Gregory, 2002: xi). However, categorizing these conditions as ‘lifestyle diseases’ wherein personal choice and ‘risky’ patterns of behaviour are implicated as major determinants to health, ignores the complexity of obesity and type 2 diabetes prevalence (Chalk, 2004; Moffat, 2010: 5).

Admittedly, hereditary and genetic predispositions are only small parts of the puzzle underlying Barbados’ obesity and type 2 diabetes epidemics. Nevertheless, biological predisposition is an important factor. The recognition of hereditary and genetic predisposition is important because – to some extent – health may be compromised by factors largely beyond individual control. According to Henry, the “Traditional passive approach [to obesity]...relied almost entirely on education for individual behavioural change” (2004c: 29). The thinking, CARICOM explained, was that it was “often felt that these diseases represent a failure of individual agency and there should be less state or government involvement in their treatment” (2007: 29). The continued emphasis on individual agency could partially explain why traditional approaches to ‘lifestyle’ disorders have largely failed in the Caribbean region (Henry, 2004c: 29).

Obesity and type 2 diabetes are inter-linked between many areas (George, p.c., 11/02/2009). People do not make decisions in isolation rather ‘unhealthy lifestyles’ are “largely socially determined” (CARICOM, 2007: 16). In other words, lifestyle factors linked to obesity cannot be disassociated from the socio-cultural and physical environment (Chap. 4). As Brownell and Battle Horgan argue, “Biology, therefore, allows obesity to occur, but the environment

causes it to occur” (2004: 24). Moreover, as Dr. Gaskin argued, “Some people are clearly more susceptible to environmental factors than others” (p.c., 29/02/2009). Likewise, Diamond argued that “environmental factors associated with lifestyle unmask[ed] the disease” (2003: 600). Environmental and structural factors, as well as cultural beliefs, attitudes, and perceptions deeply affect people’s choices and behaviours. Director of the Caribbean Food and Nutrition Institute (CFNI) Dr. Fitzroy Henry explained: “These behaviours are embedded within environmental and social contexts that may be well beyond individual control” (2004b: 15). As such, to target appropriate areas for intervention, there is an urgent need to identify and understand the broader range of contributing factors related to overweight and obesity prevalence (Chap. 4-6).

The difference in disease rates, Neel posited in 1982, might be explained by differences in when a particular group hit the new unhealthy diet typical of Westernization, rather than by genetic differences. In 1998, Neel concluded that everyone who succumbs to diabetes may have a variant of the thrifty genotype, which works well until it was stressed by over-consumption and the switch to a more sedentary lifestyle. “The genes are fine old genes,” explained Neel, “with, of course, some allelic variation” (1999: S5). Neel’s examination of genetics vis-à-vis, race, and body weight, specifically implicate the “inactivity and over alimentation” commonly associated with Western civilization (1999: S5). This view, shared by Brownell and Battle Horgan (2004: 23), refocuses the discourse from the genetic structure of people affected towards the relevance of the ‘environment’ as a major determinant to health within the discourse on obesity and type 2 diabetes. Such realizations led Brownell and Battle Horgan to conclude that, “In modern conditions biology is important but the environment steals the show” (2004: 23).

Some have opined that because dramatic increases in obesity rates within certain genetic pools occurred over short time frame, biological features should therefore not be attributed to contemporary disease prevalence. For example, Henry theorized that “our biology has just not changed sufficiently to explain this rapid weight gain over a relatively short time.” As such, Henry opined, “Our population weight gain is more likely due to factors within the environment that have influenced our behaviours in such a way as to ‘over-whelm’ our physiological regulation of body weight” (2004b: 18). However, when asked how the ‘thrifty gene’ might manifest in the Barbadian context, Dr. Alert argued: “There is some merit to that. It’s the genes. There are some specific chromosomes that predispose you to it. If you have that, and then you don’t have an appropriate lifestyle, then you are more likely to get it.” Nevertheless, Alert

continued to assert that “the genes are one thing and the environment is another” (p.c., 02/09/2009). In other words, as BDF CEO Dr. Carlisle Goddard declared, “We can’t blame where we come from for obesity, we have to blame where we are and where we are going...Somehow we seem to have adopted a far more Western state of mind than the traditional African life that we were genetically determined from” (qtd. in Nieves, 2012).

The links between the community, the environment, and health has been established (Chap. 4-6). As stated in the Ottawa Charter, “People cannot achieve their fullest health potential unless they are able to take control of those things which determine their health” (WHO, 1986: 2). In this respect, health determinants can include access to healthy affordable foodstuffs, urban planning which conducive to exercise and physical recreation activities, and social mores which may impact individual decision making and behaviour. Such findings call for new terminology – such as ‘Civilization Syndromes’ or ‘Altered Lifestyle Syndromes’ – which is associated with the transition towards a modern or ‘Western’ lifestyle (Chap. 4-5).

Studies in other parts of the world have shown that with economic development there is often a shift in the type of work people do and the amount of physical activity associated with those new occupations (Brownell & Battle Horgan, 2004: 70). Barbados is no exception to this trend. Before the 1960s, most workers did physically demanding manual labour (J.Hunte, p.c., 26/08/2009). Working in the fields demands extreme amounts of physical energy. As such, there was an imperative during former times to add energy to one’s diet in order to compensate for energy expenditure associated with labour-intensive agriculture work. Moreover, there were fewer cars, people walked more, and the average home did not have a television or telephones until the 1980s. “Back then,” explained John Hunte of the Organic Growers and Consumers Association (OGCA), “the labour helped, you walked more, you had less cars, it was a healthier lifestyle” (p.c., 26/08/2009). Dr. Alert concurred, “there was more activity in terms of your everyday things. You know, people rode to work. So you’re active without thinking of that being activity” (p.c., 02/09/2009). Moreover, Hunte argued, “We used high energy foods but without the quantities” (p.c., 26/08/2009). Although meals were energy dense, the traditional diet was described as “sparse, interspersed with special occasions and times of feasting” (Fraser, 2002). Kitchen gardening was the norm (CFNI, 1986; Julien, p.c., 27/08/2009) and Barbadians enjoyed a diet high in locally grown vegetables and fruit. Fast food did not exist and there were no Chefette restaurants (fried chicken-oriented fast food chain in Barbados) until 1972.

According to Gaskin, Barbados has “moved along from a society that was agriculture based and... rather poor by developed world standards, driven on a lot of manual labour” (p.c., 29/02/2009) towards a more sedentary work environment, characterized by “increased mechanization and decreased manual labour, improvement in transportation and low levels of physical exercise” (Henry, 2004b: 11). In contemporary times, Barbados’ economy has become dominated by off-shore financial services, tourism, and banking. As a result, “the vast majority [were] sedentary workers – at computers, in offices or assembly lines, or in service industries surrounded by food” (Fraser, 2002). Increased availability of public transportation services and use of personal motorized vehicles further reduces physical activity levels within the population (particularly those of African descent). As a result, there was a tremendous shift in the amount of energy expended during day-to-day activities (Karfakis et al., 2011: 36). Changing consumption and diet patterns also play significant roles in conditions associated with Altered Lifestyle Syndromes. In *‘Barbados has big appetite for consumer foods,’* Arias revealed that consumer food market trends followed U.S. trends (2002). In other words, consumption patterns had shifted towards a diet high in energy but low in fibre, vitamins, and minerals (CFNI et al., 2004; Sharma et al., 2008: 150). Compounding the situation Fraser lamented, “The fast food craze has consumed us and we have consumed it – eating ourselves to death in our love affair with fat” (2002). Traditional coping methods have not caught up to contemporary health challenges. While a diversity of food products are now available, this came at a high price: Barbados is undergoing an obesity epidemic and type 2 diabetes prevalence is increasing in tandem. Large agricultural tracts of land have been re-zoned for housing developments and golf courses and the life of the average Barbadian from days gone by is almost unrecognizable.

SECTION 3: Energy Expenditure

Overview

Considering the changing work environment and changes in activity levels due to type of work undertaken, it was not surprising that Barbadians are expending (or burning off) less energy than in the past. Of additional concern, people are not exercising. According to Dr. George, approximately 45% of males and 58% of females are involved in low physical activity (qtd. in Proverbs, 2010). Exercise plays a significant role in weight loss, maintaining good health, and delaying the onset of many CNCDs, particularly type 2 diabetes (Henry, 2004b: 10).

According to CARICOM reports, there is a need for government intervention in regards to public education and awareness building on health and nutrition. “Information is a public good and will in general be undersupplied,” stated CARICOM,” therefore there is a case for governments to intervene [in the obesity epidemic] to provide information” (2007: 30). During the fieldwork, it was noted that significant emphasis *was* placed on the value of physical activity by media outlets (e.g. radio broadcasts, newspapers). NGOs such as the DAB and the GoB’s National Task Force on Physical Activity and Exercise took great pains to encourage the inclusion of exercise as a part of people’s daily routine. However as Prime Minister Freundel Stuart lamented, that knowledge is not being put into practice (qtd. in Wilson, 2011). CPHN Holder concurred, “There is lots of information out there. They are reading it but they are not internalizing it. Not enough people are changing their behaviour” (p.c., 01/02/2009). Pamela Hunte also commented on the availability of public information: “They have a lot of public awareness. You can access brochures all over the place... You can access all of that information.” However, when asked whether people read the public information or applied the information to their own lives, Hunte commented, “Yeah, we take them. We read them too. But because it isn’t impacting on *you* per se, then you don’t really care. You hide it somewhere, you move along. You continue with what is convenient and that’s it” (p.c., 02/09/2009). Respondents indicated that denial also plays a role in the way people respond (or failed to respond) to public awareness efforts (Gaskin, p.c., 03/02/2009; Holder, p.c., 01/02/2009). According to Hunte, “Most people think ‘It can’t happen to me.’ You say that every day until you are suddenly 400 lbs. and have every illness under the sun” (p.c., 02/09/2009). Citing the 2007 Barbados Risk Factor Surveys, Dr. Alert also lamented the failure of Barbadians to incorporate healthy behaviours (e.g. exercise) into their daily routine:

First of all, about 50% or just over 50% of adult Barbadians do work or school, home, work/school, home. They do no additional exercise. Open question: ‘*What can you do to improve your health?*’ You know, ‘*Oh stop smoking,*’ ‘*Exercise more,*’ ‘*Don’t drink rum,*’ and so forth. The ‘*Exercise more,*’ [were about] 80% or 90% okay? ‘*Are you doing it?*’ 80-90% now ‘*maybe I’ll start next week*’ or ‘*the sun is too hot*’. So they KNOW but it’s not being translated into action. They are AWARE of what needs to be done but they are not doing it. (P.c., 02/09/2009)

Nevertheless, Holder commented that change was in fact occurring in recent years: “You see a lot more people walking along the Garrison now and get involved in exercise. A lot more people dance and are purposefully doing it” (p.c., 01/02/2009).

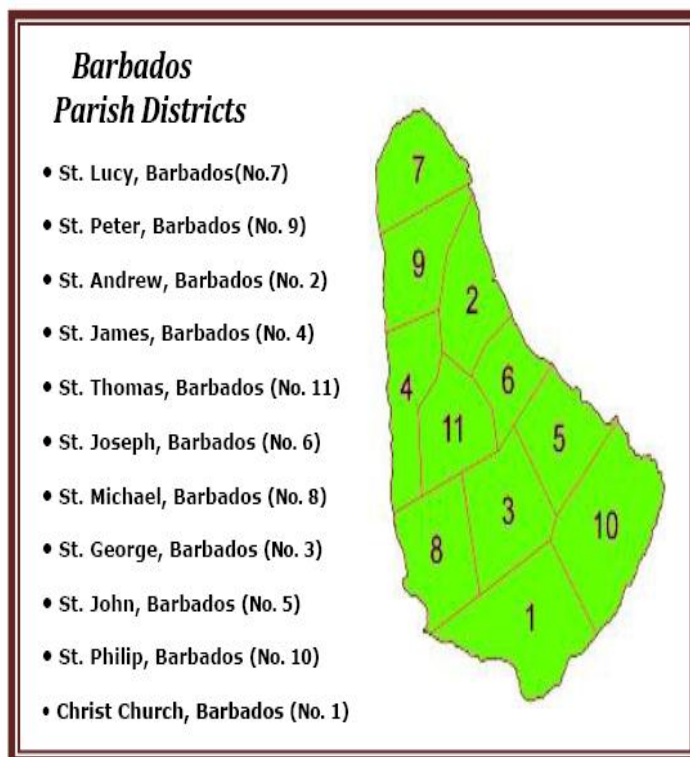
There was little academic information available to explain why it was that Barbadians are not exercising enough (CARICOM, 2007: 25). Pointing to the good weather, the open fields, the beaches, the new boardwalk along the south coast, the gymnasiums, all of which being conducive to exercise, Alert hypothesized that “People are lazy [and] we have lifestyles that encourage it” (p.c., 02/09/2009). What was interesting in Alert’s comments was the focus on individual agency. While individual agency is important, the research indicated that personal choice is deeply affected by factors outside individual control (Chap. 3). Moreover, traditional approaches to the obesity epidemic – which focused largely on individual agency – have proven unsuccessful (Henry, 2004b: 13; CARICOM, 2007: 30). The following sub-sections examine a few examples of the barriers hindering exercise and physical recreation within Barbados including environmental, structural, socio-historic, and gender barriers.

1. Environmental Barriers to Exercise and Physical Recreation

The Caribbean, Henry argued “builds communities without recreational facilities that are safe and attractive and this discourages physical activity” (2004c: 24). Regarding infrastructure and the ability to partake exercise (e.g. walking or biking), Dr. Alert also admonished certain deterrents to exercise that fell within Brownell and Battle Horgen’s urban ‘blueprint’ for weight gain:

There has never been a ‘planning’ at any level whether it’s been health or transport level, towards encouraging people to exercise. So our roads are crowded and narrow. To fit in cars and vans and jeeps, it’s never been considered for people walking or riding bicycles. This is an important component. So they aren’t good for that. People used to walk, when the roads weren’t saturated, because it was safer. (P.c., 02/09/2009)

Indeed walking along Barbados’ roadways is perilous at the best of times and almost impossible for people with a disability due to the poor condition – or non-existence – of sidewalks. The island holds many historic areas, as such roads



are narrow and sidewalks – when available – were so narrow or poorly maintained they were difficult to walk on. While the GoB attempts to maintain walkways, there is often little room to expand making it sometimes impossible to manoeuvre a wheelchair. St. Lawrence Gap (Christ Church) and Holetown (St. James) offer more amenable walkways, however these areas tended to be more expensive to live in and hence less accessible to the poor. During the winter of 2008-2009, significant progress was made on the development of a boardwalk. The boardwalk extended along Christ Church’s southern coast line. The boardwalk boasted beautiful scenery and park benches while being more ‘user friendly’ to the aged, those with difficulty walking, or people confined to a wheelchair. Although crime had increased along the boardwalk during the summer of 2009, by September increased police surveillance was visibly noticeable. Unfortunately, during 2009 the boardwalk was not well lit and thus it was unsafe to walk along the full length after night-fall. The historic Garrison Savannah (St. Michael) is another popular venue early morning walks. While those locations (the boardwalk and the Savannah) are relatively safe and excellent places set aside for physical recreation (e.g. walking or jogging), both are located along the South or South-West coasts. Hence daily access is limited to those living in Christ Church or St. Michael. While some people bicycled, it is not common to the general population due to heat and roadway conditions. Nevertheless, there are a few bicycle clubs and the annual Barbados National Cycling Championship Road Race. Club and national team practice is generally done in the early Sunday hours along Spring Garden Highway (S. West) or ABC Highway (S. East).

Acknowledging environmental barriers to exercise, PAHO Resident Representative to Barbados and the Eastern Caribbean Dr. Gina Watson emphasized the need for city planners to develop walking paths and green areas, particularly within urban centers (qtd. in Caribbean360, 2010). In recent years awareness of environmental challenges to physical recreation appears to have manifested within the public policy sector. For example, Minister of Health Donville Inniss stated:

Our national aspirations include the desire to continue to develop our physical infrastructure and to improve the social and economic conditions to a standard that will provide an optimum quality of life for all Barbadians. However, as we pursue these goals, our approach to urban development must ensure that health is incorporated more broadly into urban public policy. (Qtd. in Caribbean360, 2010)

2. Structural Barriers to Exercise and Physical Recreation

Lamenting Barbadian's lack of interest in physical activity, Dr. Alert compared the perception of tourists in relation to physical exercise and the environment to that of the local population:

Well, we have great weather. We have open fields. There is the Garrison, the beaches, the gymnasium, you know, they got a new boardwalk that goes around the course. It's BEAUTIFUL! Tourists come here on holiday and say, *'Oh, your place is marvellous! The weather is great!'* And tourists come, and they exercise but the locals, *'Nah! The sun too hot man! I ain't goin' out there! Are you kidding me?'* (P.c., 02/09/2009)

From a superficial level, the argument that Barbadians are 'lazy' or simply disinterested in physical activity appears valid. However, Dr. Gaskin presented a counter-argument. Comparing Barbados to more developed countries, Gaskin hypothesized that,

[In] other parts of the world [if you have] stress, instead sitting down and watching TV, you're gonna go do a few rounds of golf, you're gonna snorkel, scuba dive. [But we] don't have those skill sets. You can't even swim because you don't even know how to swim, you didn't learn to swim and you couldn't afford swimming lessons. (P.c., 29/02/2009)

Structural barriers (e.g. poverty) were particularly relevant. Many water sport and beach activities were geared towards tourism. While locals were generally able to access less expensive rates than visitors, many activities were still cost-restrictive (e.g. golf, scuba diving). Moreover, Gaskin underscored the fact that time constraints faced by the poor undermine physical activity and leisure:

[The poor] are more stressed, their lives are more hurried, they have to work harder and so [the poor] have less time for recreational activities. [Also] they don't KNOW how to engage in play... Say for instance, they don't know how to play lawn tennis, they don't know how to sail, they don't have the money to engage in recreation, anyhow, that is active. They don't play golf they don't do any of those things that are known to be almost *antidotes* to the negative effects. (P.c., 29/02/2009)

Acknowledging increased prevalence of obesity within low SES groups, Henry suggested that "behavioural patterns of people living in poverty are more likely to promote obesity than those of their higher-income counterparts" (2004b: 15). The impact of structural barriers (e.g. poverty) was further explored in the sub-section on Gender Barriers to Exercise and Physical Recreation.

3. Socio-Historical Barriers to Exercise and Physical Recreation

Socio-historical barriers also impact contemporary Barbadians' interest and level of participation in physical recreation as well as other forms of leisure-related exercise. As early as 1811, Hillary commented on determinants to exercise in Barbados:

I must also say something of exercise, as that, when prudently used, contributes much to the restoration of health. But as no rural diversions, such as are used in England, can be

followed here, because we have little or no game, and if we had, the country is too hot to pursue them; wherefore riding, walking, and dancing, are the only exercises here used: the two first, when taken in moderation, at suitable hours, viz. Mornings and evenings, when the air is a little cooler, do no doubt contribute much both to the preservation and restoration of health in some cases. (1811: xi)

Hillary referred to upper-class White society within the plantation economy. Nevertheless, the argument could be made that during the early years of colonialization even fewer outlets for physical recreation were afforded to the lower echelons of society including White indentured servants and eventually slaves. This was particularly true for the over-worked and undoubtedly exhausted African or Afro-Caribbean slave populations within the plantation structure. In discussing this theory with Dr. Alert, he acknowledged the justification of linking contemporary physical recreation patterns with historical events. “It’s interesting,” Alert pondered, “if you take it back even further, where you know a lot of us were coming from slaves, because slaves were not afforded leisure per se” (p.c., 02/09/2009).

During the slave era, the possession of proper paperwork was required from masters or plantation managers whenever slaves chose to leave the estates. When this requirement was eliminated, slaves were granted more immunity allowing for travel to fetes in the evening or to market on weekends (Beckles, 2006: 66). Reports of the time showed, if nothing else, slaves enjoyed dancing during their free time. According to Dr. Pinckard’s observation (1795-1796):

[Slaves] are passionately fond of dancing and the Sabbath offering them an interval from toil, is, generally, devoted to their favourite amusement; and, instead of remaining in tranquil rest, they undergo more fatigue, or at least more personal exertion, during the gala hours of Saturday night and Sunday during any four days of the week. (Qtd. in Beckles, 2006: 66)

In concurrence with Pinckard, Alert expounded that “We still had festivals and Crop Over which was at the end of the cane season where everybody gets up and has a party like thing. But you don’t get the impression that slaves were at *leisure* on our own basis” (p.c., 02/09/2009). Over the years music and dance has continued to dominate Barbadian culture. While daily – or even weekly – participation in physical recreation is lacking within the general population, national or large-scale events (e.g. Crop Over) remain widely attended. Thus it may be posited that physical recreation – other than music and dance – is not inherently associated with populations of slave descent. This cultural peculiarity could provide insight into contemporary physical recreation trends associated with Afro-Barbadians.

The subject of swimming is perhaps most curious. Nearly all Barbadians live within close proximity to the sea and all beaches are publically accessible. Attempts to privatize the island's coastal areas (particularly from increasing demands from the tourism industry), generally result in public consternation and uproar. Beaches are heavily frequented on weekends, national holidays, and for early morning bathing. The safest areas for coastal swimming are along the South and West coasts. Swimming becomes increasingly dangerous up the East coast towards the northern tip of St. Lucy. Beaches along the southern and western sides of the island on the other hand are characterized by the warmth and calm of the Caribbean Sea. Currents and undertows are less intense and less frequent. Moreover many of the popular beach areas running along the South coast and up the West coast towards St. James are manned by life guards. However, the eastern and northern sides of the island are characterized by the rough cold waters of the Atlantic Sea. Coastlines are rockier while currents and undertows are frequent and strong. Without solid knowledge of the waters around the East and West coasts, swimming is not recommended in these areas.

Historically, slaves were hailed as excellent swimmers (Ligon, 1657: 52). However during fieldwork, it was evident that many Afro-Barbadians could not swim, were reluctant to learn how to swim, or even to enter the water for fear of the ocean.⁸ According to Gadsby, the fear of the ocean that many Caribbean's hold could be attributed to cultural memories which harken back to the historical repression of slaves in the New World which began in the Middle Passage. As Gadsby explained, the ocean can "cause harm...to the unsuspecting swimmer, fisherman, hurricane survivor, refugee, or the African resisting enslavement" (1998: 146-147). It was common practice amongst captives to resist enslavement by "jumping ship and drowning themselves rather than endure bondage in a foreign land or chose to throw their children overboard for the same reason" (Gadsby, 1998: 146-147). In contemporary Barbados fear of the ocean is often instilled at an early age. For example, mothers often tell their children, '*De sea 'en got no back door*' insinuating that once you go into the ocean you will not come back.

⁸ Some progress was being made with the advent of swimming lessons delivered by *Camp Aquarius* with veteran swim coach, owner and manager Michael Young and *Bajan Bubbles* (in association with award winning lifeguard Terry St Hill).



“Jack”

(verse 1)

*I grow up bathin, in sea water
But nowadays, that is bare horror
If I only venture, from my seashore
Police Telling me, I cyan bade no more
Cause “Jack” doan want me to bade on my beach
“JACK” tell dem to keep me outto reach
“JACK” tell dem, I would never made de grade
dey STRENGTHEN SECURITY and build barricade
Dat cyan happen here in this country
I want Jack to know that the beach belong to me (we)
Dah cyan happen here, OVER MY DEAD BODY
Tell (big guts) JACK (him)
GABBY (I) say that de beach belong to me (we)*

(chorus)

*Look! That beach is mine, I can bade anytime
Despite what they say I go there anyway
(I gine bade anyway)*

- Lyrics and song by Calypsonian
‘The Mighty Gabby’, Barbados.
(Photo credit: *Nation News*, 23/05/2011)

4. Gender Barriers to Exercise and Physical Recreation

Due to the gender disparity within overweight, obesity, and type 2 diabetes prevalence rates, there is a need to examine gender barriers to exercise and physical recreation. While many barriers to exercise and physical recreation impact both sexes relatively equally, the predominately female role of care-giver did stands out. Families of African descent tend to be matrifocal or matricentric. Within the Caribbean, there were four basic types of family structures: (1) the marital union; (2) the common-law union; (3) the visiting union; and (4) the single parent family (Evans & Davies, 1996: 4). Visiting unions are common in Barbados. With the transition from rural to urban living, single parent families are becoming more common. The majority of single parent families, particularly in the lower echelons of society, are generally headed by women (Barrow, 1996 qtd. in Hamer, 2002: 140). In 1982, 42.9% of Afro-Barbadian families were headed by women, this number increased to 44% in 2007 (ECOSOC). Of these, 45.5% worked outside the home (Massiah, 1982 qtd. in Payne & Furnham, 1989: 156), a number which is expected to have risen over the years.

World Bank Organization (WBO) statistics estimate that women comprise 66% of Barbados' labour participation rates (2011). Nevertheless, statistics confirmed a wage gap between the sexes. According to the United Nations Economic and Social Council (ECOSOC), "women have not overcome the barrier of unequal pay structures for work of equal value, particularly in the private sector" (2007). Meanwhile, as acting Dir. Hollingsworth of the Bureau of Gender Affairs acknowledged, "Women make up the vast majority of persons who provide care to other persons such as the elderly, the disabled, and children" (p.c., 31/08/2009). Moreover, according to ECOSOC reports, many women are financially supporting both children and extended families warning that "The general increase in the size of the average family increases the burden of care [on women]" (2007). ECLAC reports further warned that,

Studies on gender and poverty have identified the relationship between women as heads of households and poverty outcomes, citing the fact that female-headed households are more likely to be poorer than male-headed households. This is critical for the Caribbean, where the data show that there are large numbers of female-headed households. (2006: 8)

Facing unequal pay structures, the added burden of care within the family unit, as well as added financial pressures, women and women-headed households are at particular risk. Nevertheless, as Hollingsworth pointed out, "There are no support groups for single female headed households" (p.c., 31/08/2009). In this light, it could be established that the ability of women to partake in

physical recreation activities – or to involve their children in organized activities – may be limited by financial strain or poverty. Unsurprisingly women also bear the brunt of Barbados’ obesity epidemic (Fraser, 2001: 61; Henry, 2004b: 4), while child overweight and obesity is also on the rise (Alert, p.c., 02/09/2009; Henry, 2004b: 5).

5. Exercise, Physical Recreation, and Child Health

Children experience many of the same barriers to exercise and physical recreation as the adult population. However, the consequences of childhood overweight and obesity are particularly troubling (Chap. 4). ECLAC findings revealed that Caribbean obesity trends were characterized by a ‘vicious cycle’ in which obese children became obese adults (2006: 22). As such, there is a need to understand why obesity is manifesting early in life. “Because,” as Gaskin explained, “the majority of people who are fat, who will become fat, are not fat as children!” (p.c., 03/02/2009). Exploring childhood obesity trends could shed light on the gender disparities within the adult population. “Clearly, because this is a disease that has its roots in early life,” argued Dr. Gaskin, “then you cannot identify most of those who are really operating in a manner that will cause the expression of the disease later on. Therefore, mapping the patterns has got to begin early on for us to begin to see the evolution” (p.c., 29/02/2009). Respondents also agreed that intervention at the childhood level is necessary to reduce future incidence of adult obesity.

While many point to a reduction in physical education within the school system, according to Pamela Hunte, the childhood obesity problem stems from competing interests (e.g. video games and television) which are condoned when the child is at home. According to Hunte,

People are saying that the children are obese because they are not eating properly. I think it has a lot to do with the physical activity and lifestyles at home because eyes at school it is compulsory that you engage in physical activity but then, the children go home and they have all kinds of game boys and all sorts of technology so they are not inclined to play. And that is impacting their health. (P.c., 02/09/2009)

In consonance with Hunte’s argument, teacher Edward Howell (St. Stephen’s Primary) explained that “you know children today, they are bored unless they watching TV, computers, video games or whatever” (p.c., 05/04/2009). Similarly, Foundation Secondary integrated sciences teacher Nyasha Moore stated: “Boys don’t seem to be interested in anything physical. These boys are boy’s boys and play their video games and such” (p.c., 05/05/2009). Competing interests for attention during leisure hours were frequently cited as factors contributing to low energy expenditure in the childhood population. However, Howell stated: “I’m not thinking that they wouldn’t be [interested in physical activities]. More that I’m not sure if they are *guided* in that

direction. They are not guided there” (p.c., 05/04/2009). In light of previous findings (e.g. the relationship between slavery, SES, gender constructs within the family vis-à-vis healthy lifestyles) it was expected that children might not be learning healthy behaviours at home. “We have to inculcate physical activity as a way of life,” advised Byer-Suckoo. “We adults have to lead the way, so our children don’t expect that as they grow they would automatically abandon exercise to a hectic study or work schedule, as we see even in the senior school” (2010: 3).

Although research related to childhood overweight and obesity prevalence was limited, an Adolescent Health and Fitness Study in Barbados (AHFIT) was performed in 1999. AHFIT looked at four secondary schools with children ranging from 11-16 years of age. AHFIT results revealed that 18% of children within participating schools were overweight. The AHFIT study – led by Dr. Alert – also indicated particular gender dimensions in which girls were less active compared to their male counterparts. According to integrated science teacher Nyasha Moore (Foundation Secondary), “Girls don’t have as many competing interests [as boys]. I never heard the girls say they had this or that [club, sport, music lesson]” (p.c., 05/05/2009). Unsurprisingly, Alert noted that the number of overweight and obese girls surpassed that of the boys (p.c., 02/09/2009). According to Alert, the gap in physical activity levels between boys and girls is partially attributable to gendered attitudes and interests. “When the girls get that age, they focus on how they look or dress and so on. And so, they don’t want to get sweaty and dishevelled and so on,” stated Alert, “Whereas the boys are still playing and running around and so on so they are less concerned about their looks” (p.c., 02/09/2009). Vegetable farmer and parent Yvette Cumberbatch expressed similar sentiments stating that young women didn’t like to go out in the fields for fear of having their skin darkened by the sun: “We have a mentality that the sun is too hot for us and I will get *black* and my looks!” (p.c., 01/09/2009). Although further research is needed to determine the link between physical appearance and exercise, such factors might explain why girls are reluctant to play outside or do outdoor sports. That being said, within the primary school population similar trends in obesity distribution between genders are manifesting. Respondents indicated a marked gender disparity within obesity prevalence among young children. According to physical education teacher and GBL coordinator Duane Boucher (St. Alban’s Primary), “There are lots of obese children here. I find it’s prevalent, especially for girls” (p.c., 22/01/2009).

Organic farmer and parent John Hunte explained that Afro-Barbadians felt a tremendous drive towards upward social mobility. This drive for upward social mobility also appeared to be inherent within Barbados' education system. "They compete," said Hunte, "in Barbados when children go to school it not only puts your grades on the report card, but it also puts your position in class" (p.c., 26/08/2009). Above all else, a child's success is measured according to their results and rank (i.e. 'status') on the Common Entrance Exam (CEE). How well a child ranks on the CEE determines which secondary school a child will attend. In other words, children "will either qualify for one of the islands older, more prestigious secondary institutions, or one of the newer, rather poorly regarded schools or somewhere in between" (Titilayo, 2006). Hunte explained, "children grow up rating themselves against each other and so do the parents." This system, Hunte claimed, "reinforces the whole class structure that we have in Barbados" (p.c., 26/08/2009). From a teacher's perspective, Howell (St. Stephen's Primary) stated that the biggest problem was that teachers didn't have time to incorporate other subjects (e.g. gardening, physical activity and handwriting) within their classes (p.c., 05/04/2009). According to Boucher, "our system encourages the children to be academic and pass the CEE, there's no balance" (p.c., 22/01/2009). As a result, school policies have allowed for a drastic reduction of physical education (Henry, 2004c: 24). "In the end, the truth is," stated Howell, "CEE results are going to reflect on the teacher." Therefore, Howell expounded, "teachers feel really pressured to get these syllabuses [Mathematics and English] especially" (p.c., 05/04/2009). "It's a tragedy really," said Boucher, "Obesity is a big problem" (p.c., 22/01/2009). Although physical activity might be a mandatory requirement within contemporary school policies (P.Hunte, p.c., 02/09/2009), reality is somewhat different. Some respondents argued that children are discouraged from participating in physical activity (Boucher, p.c., 22/01/2009; Howell, p.c., 05/04/2009). This claim was supported by newspaper columnist Allison Ramsay who argued: "Some of our students have that [sport] talent but some of us discourage them, advising them to just focus on academics since we are an academically driven society" (2009). In a similar vein, Howell revealed that children are not always introduced to things outside of academia. As such, children may not realize an interest or potential they may have had in certain areas. For example, Howell explained, "if some children get into playing tennis early they would want to play it for life but they never realize they have a love for it because they never have the opportunity" (p.c., 05/04/2009). This was particularly relevant for girls. While boys were a little more encouraged to do sport; "75% of

girls by age 15 don't do any sports at all, no games, no physical education classes" (Alert, p.c., 02/09/2009). Boucher lamented, "The unfortunate thing is that all is geared towards the examinations and the emphasis goes there" (p.c., 22/01/2009). Respondents indicated a strong need for reform within the school system in order to reduce health challenges faced by children. As Boucher exclaimed, "there must be a balance between physical recreation and excelling at school" (p.c., 22/01/2009).

SECTION 4: Diet, Consumption, and Nutrition

Globalization, changes in the type of work people are doing, a more affluent population, and access to different foodstuffs have all contributed to contemporary health trends. With the onset of economic development in the post-colonial period (1966-), there have been dramatic changes in the amount and types of food consumed. That food availability has altered substantially is reflected in contemporary diet and consumption patterns. The transition is characterized by greater consumption (Ballayram, 2005: 183; Karfakis et al., 2011: 3), a less nutrient-dense diet (Ballayram, 2005: 183), increased snacking (Brownell & Battle Horgan, 2004: 38), greater availability of convenient foodstuffs (Brownell & Battle Horgan, 2004: 38), and more 'fast food' (Fraser, 2002). From a health and nutrition perspective, the shift towards increased fat calories and sugar presents a dangerous trend (FAO, 2005b: Sec. 1; Henry, 2004b: 8). While increased caloric availability prior to the 1970s was necessary in overcoming undernutrition rates; greater consumption of high fat, energy dense foods has led to a surge in obesity and obesity-related diseases (Ballayram, 2005: 183-184; Henry, 2004b: 18). Caribbean populations are over-consuming fats, oils, sugars, and salt which has propelled epidemiological and nutrition transitions in the region (Ballayram, 2005: 184). Due to the increasing global overweight and obesity prevalence, achieving space conducive to making healthy lifestyle choices (e.g. healthy food options and availability) should be a priority for all countries. However, the need to create such environments is particularly relevant for countries whose populations are characterized by high genetic and hereditary predisposition to weight gain and type 2 diabetes (e.g. Barbados). One of the solutions to reducing CNCD prevalence lies in availability and access to safe and nutritious foods. As former Director General of the Inter-American Institute for Cooperation on Agriculture (IICA) Chelston Brathwaite explained, "Poor quality food and malnutrition is one of the important risk factors responsible for [CNCDs] and consequently access to good nutritious food will be a critical part of the solution to these problems" (2009: 34). However this is a

daunting task. Barbadians face many barriers to healthy eating, not least of which is access to ‘safe and nutritious’ food.

SECTION 5: Food Insecurity

Overview

The significance of ‘safe and nutritious’ foods is stated within contemporary definitions of food security. Nevertheless, nutritional quality is often relegated to the provision of low-cost energy-dense foods (Chap. 4). According to Neel Paul, Manager of Research and Development at the Shridath Ramphal Center for International Trade Law, Policy and Services, “the [Caribbean] region adopted the paradigm of buying then cheap food from the world market” (2012: 1). While increased availability of energy-dense food was paramount in the reduction of undernutrition during the 1960s, food security policies were short-sighted. Although more people are eating more this has not translated into ‘food security’. The argument presented, is that the problem of overnutrition in many developing – and particularly rapidly developing – countries, is the result of mal-development. In other words, that development paths guided by economic strategy often result in worsened food security due to the application of liberalized trade models and overzealous food import policies that threaten local food production. Cheap-food policies – while contributing to caloric availability – undermine the ‘safe and nutritious’ aspects of food security. While access to food has improved, more and more Caribbean countries have shifted towards a Western-oriented diet high in fats and calories while low in fibre, vitamins and minerals (Henry, 2004b: 8). These arguments are particularly relevant within the context of Barbados. Like many Caribbean countries, Barbados’ early food policies focused on short-term actions for immediate results. As a result, trade expansion and import policies have contributed to an environment characterized by an overabundance of low-cost energy-dense foods, chronic CNCD prevalence, and unsustainable food import bills (Paul, 2012: 2). The effects of cheap-food import policies characterized by low-quality or ‘dumped’ foodstuffs – particularly in the context of developing countries – has been described as ‘dietary colonialism’ (Connell, 2005: 51), ‘Cocacolonisation’ (Zimmet, 2000) and/or ‘dietary genocide’ (Jackson, 1994).

Lamenting the GoB’s failure to approach obesity and CNCDs from a preventative level, Dr. Alert argued that Barbados hasn’t ‘tackled it’ yet from the social and environmental levels. Alert argued that the government must begin to look at the situation in terms of, “Okay, you know you need to eat this so that means that we need to import for you to eat more or encourage

our farmers to grow this” (p.c., 02/09/2009). Senator Keith Laurie spent several decades trying to improve and promote local food production and agriculture. In concordance with Alert, Laurie exclaimed, “They don’t understand the health aspect of food production at all. I think that’s an area that’s been ignored by our Government” (p.c., 31/08/2009). “The problem,” Paul expounded, was “that the Caribbean countries continue to be trapped in the import-export paradigm of the 1970s and 1980s” (2012: 2). As Laurie exclaimed, “As a nation, we say, *‘We can import some of these foods cheaper than we can produce.’* So they say, *‘To hell with the farmer, let us get the cheapest food possible for the people.’* That is the way some people in government look at it” (p.c., 31/08/2009). In 2009, the Caribbean’s food import bill was estimated at US\$3.5 billion per year (Brathwaite, 2009: 4). However – within the Caribbean – Barbados’ food import bill was of particular concern. According to the FAO, “Barbados relies heavily on imports to meet its food needs (2005b: Sec. 1). By 2009, Barbados had become one of the top Net Food Importing Developing Countries (NFIDCs) in the world (Blackman, 2009). That year, Barbados’ food import bill was estimated at US\$350 million (Brathwaite, 2009: 4). However by 2011, the estimate had risen to US\$490.5 million (Estwick qtd. in Caribbean360: 2011). Barbados’ food import bill is expected to continue to rise if no substantial and sustained effort are made to increase local food production (Brathwaite, 2009: 4; Caribbean360: 2011).

Barbados’ food import policy, argued Henry, “encourages the consumption of high energy dense, manufactured foods” (2004a: 2). As a result, “While still retaining features common to Jamaica and Trinidad, some aspects are closer to the food supply of an industrialized nation” (FAO, 2005b: Sec. 1). Corresponding with food supply changes, population health has moved closer towards that of the developed world than to other Caribbean populations. “So, maybe countries like Jamaica and St. Lucia are more like [Barbados],” stated Dr. Gaskin, “although we’ve come a little farther along than them in the transition” (p.c., 29/02/2009). With the influx of imported foods, there has also been decreased consumption of local foods. As more and more consumers veer towards low-cost imported foods, the results are two-fold: (1) a reduction in the nutritional quality of food consumed, and (2) local food producers struggle to achieve comparative advantage. According to the General Agreement on Tariffs and Trade, countries require specific evidence to prove that a product is a health risk before allowing import restrictions. However, developing countries often lack the capacity and resources needed to meet the demands required by world trade regulations. This is particularly true for exception clauses

which omit unhealthy foods (Hughes & Lawrence, 2005: 303). For example, offals and other high-fat low-quality meats do not qualify as ‘hazardous commodities’ unless contaminated (Evans et al., 2001: 860). “The problem with such a distinction,” lamented Evans et al., “is that certain foodstuffs are hazardous when consumed frequently” (2001: 860). Examples illustrating how low-quality imported meats and vegetables aggravate the health and food security of Barbadians are provided in the following sections: (1) Poultry, (2) Sheep Meat, and (3) Fruits and Vegetables. Section 3 included the sub-sections: (i) Product Dumping, Food Safety and Consumer Awareness, (ii) Food Substitution, (iii) Land Competition, (iv) The Case of Onions: Competition, Connections and ‘Gift’ Giving, (v) praedial larceny, and (vi) Government Tax-Breaks, Subsidies and Land for the Landless. A discussion follows.

1. Poultry: Chicken production is one of Barbados’ few success stories within the agriculture sector (Fraser, p.c., 07/09/2009; Gale, p.c., 27/08/2009). WTO reports indicate that import of poultry products is under ‘monopoly’ by the GoB (2002). According to Patrick Bethell – vegetable farmer, owner and manager of Friendship Plantation – the local poultry industry’s success is attributable to it being a ‘protected’ market:

You can’t import chicken by government regulations. I know there requires a license and taxes or whatever, although I think you are allowed to import chicken wings. But you can’t import whole chickens or chicken parts. Although Chefette and what not would jump at it tomorrow because there are mountains of [left-over] chicken in the United States, because you know North Americans like white meat and chicken breast. So there are there are mountains of legs, thighs, necks, backs, wings. We’ve had this [protected market] now for almost the whole time for the industry. That is why our chicken industry has grown. The quality of chicken meat here, in my opinion, is even better than in North America. We also have a rule here in Barbados that chicken must be consumed within six months of the kill date. So you can’t store it for a year or two years. (P.c., 01/03/2009)

The benefits of protecting the poultry sector were two-fold: (1) it allowed for space in which local producers could modernize and expand while working towards an excellent quality product (Fraser, p.c., 07/09/2009), and (2) local industry regulations ensure product safety (Fraser, p.c., 07/09/2009; Gale, p.c., 27/08/2009; Laurie, p.c., 31/08/2009).

The poultry industry has made significant gains towards food security in their sector. In 2008, the industry supported more than 400 farmers who produced approximately 80% of Barbados’ total poultry consumption (Chandler, 2008). However reports indicated the local poultry sector was capable of producing more than 100% of local needs (Chandler, 2011b). Unfortunately, when faced with rising costs Barbadians often substitute more nutritious items for

less expensive foodstuffs (Bethell, p.c., 01/03/2009; J. Hunte, p.c., 26/08/2009; Julien, p.c., 27/08/2009). For example in the case of poultry, cheap turkey wing imports compete with locally produced chicken wings. President of the Barbados' Egg and Poultry Producers Association (BEPPA) Carlyle Brathwaite argued that duty-free import of turkey wings – compounded with subsidy inequities – contributed to a 30% reduction of local poultry sales. According to Brathwaite the continued import of duty-free turkey wings “will cause a lot of small farmers to go out of business” (qtd. in The Poultry Site, 2009). Of additional concern, while turkey wings are less costly for consumers; they are also fattier and less nutritious. According to Sen. Dr. Frances Chandler, “The majority of poultry imports are turkey wings, necks and backs which are needed for the lower income consumers” (2011a). Ian Julien – owner and manager of SBN Herbs and President of the Barbados Fruit and Vegetable Growers Association – was critical of cheap-food replacement imports (e.g. turkey wings). Julien explained that,

right now Barbados produces a very high grade of chicken. It's more expensive than the imported chicken and so the government is importing 50,000 kg a month of turkey wings which is basically garbage, a lot of fat. But they put it onto the local market as a low-cost alternative. So that's dangerous to the local production and the chicken producers are crying out. (P.c., 27/08/2009)

In addition, due to transportation requirements, all meat coming into Barbados must be frozen. “Frozen meat,” Laurie explained, “is *never* as good as fresh meat since much of the nutritional value is lost during freezing” (p.c., 31/08/2009). However, during lulls in production the GoB has been known to relax restrictions on chicken imports. According to the WTO:

Government, since the establishment of the Barbados National Standards Institution in 1973, has been seeking to ensure that both local and imported products adhere to international standards. There are currently over 200 domestic standards all of which are internationally compatible. (2002)

However although local chicken producers are under strict production guidelines, the same cannot be said for imported like-meat. While the increased fat content of food substitutes (e.g. turkey wings) has been explained, the safety of cheap-food imports has also been called into question. According to respondents, imported chicken products frequently endanger consumer health (Julien, p.c., 27/08/2009; Laurie, p.c., 31/08/2009). As Bethell illustrated:

I know for a fact that some chicken came in here when a friend of mine was doing here about four or five years ago. There was some chicken that got brought in because of low production. Production fell for some reason, so the Government allowed some to come in. So my friend, he went and grabbed a box. The kill date [on the box] was over 6 months. The fat was yellow! Because once the fat has aged it turns yellow. (P.c., 03/09/2009)

The reality in developing countries – such as Barbados – is that countries often lack food regulation standards. Moreover when standards do exist, the capacity to monitor imports and enforce existing regulations is lacking.

Although the poultry industry in Barbados is relatively strong due to GoB efforts, success ebbed and flowed according to external forces. For example, in 2006 the rise in availability of alternative sources of protein led to an oversupply of local poultry meat. Reports of the time indicated an oversupply of 770,000 kg of chicken in cold storage due to the drop in sales.⁹ Oversupply led then Minister of Agriculture and Rural Development Erskine Griffith to impose an import ban on chicken wings in order to provide space in the local market to sell off the excess chicken in storage (WorldPoultry, 2006). Other examples include cost of inputs such as feed. In 2011, the cost of feed increased. As a result, the price of local chicken rose in tandem (Poultry Site, 2011). Meanwhile consumers sought cheap-meat alternatives which presented added strain on the local poultry industry. Unlike other agriculture sectors, MARD has implemented successful policies in the past to help ease the burden on the local poultry industry. However, without renewed government support of the poultry industry to help overcome the rising cost of inputs, the sector faces significant risks. According to recent news reports, poultry producers are bracing for the shock of increased import of excess poultry products from the United States. Desmond Ali, Executive Director of the Caribbean Poultry Association (CPA) claimed that, "In the United States, there is a huge accumulation of dark (chicken) meat and the Americans have decided what better place to look for in disposing it than in its own backyard, the Caribbean. A lot of it is therefore ending up in the Caribbean" (qtd. in Poultext, 2011). It would seem that unless action immediately to reduce the threat of product dumping by the United States, the concerns expressed by Bethell in 2009 will ring true (p.c., 01/03/2009).

2. Sheep Meat: According to Sen. Laurie – former President of the Barbados Sheep Farmers Association – ‘Blackbelly Sheep’ is a viable meat producing sector in Barbados (p.c., 31/08/2009). However, as Thomas and Hunte acknowledged, local sheep farmers are burdened with high production costs (e.g. imported feed ingredients) making it difficult to compete with

⁹ Reports indicated that the poultry sector maintained 100,000-200,000 kg of meat in storage, enough to supply Barbados for at least two weeks in case of emergency (World Poultry, 2006).

Let me tell you a little story...



“Let me tell you a little story,” Sen. Keith Laurie said recalling an incident that happened in the past, “We had some chicken come in. It was back and necks and so on. I was at the BAS at the time and some consumers complained. So I called to find out about them. I was brought in by the BADMC and they said, *‘There is nothing wrong with it. It passed inspection by the MoH.’* Okay? So I say, *‘Can I get some of this chicken?’* And they say, *‘No you can’t buy any of that.’* So I got some other guy to go in and buy a case – because they were selling it by the case – and took the case up to Chickmonte to find out about it. We opened the case, took the meat out of the box and we called in the Health Inspector. He took one look at this stuff, and I mean this stuff was GREEN. It was horrible! The Health Inspector immediately condemned it. He said, *‘You cannot sell this. This has to be destroyed.’* Then he went and got a bottle of diesel and put it all over it. I then got another case and I took it to the vet lab where we found out that it had E-coli and salmonella all over it. It actually said on the box, *‘Ungraded, unregistered chicken’* Right? So that means that it didn’t go through any system of inspection and the MoH knew it. So then I called up the MoH and I said, *‘You have this thing here, how could you all pass it?’* The woman said, *‘Well, who are you?’* And I say, well, *‘My name is Keith Laurie and I’m President of the Agricultural Society.’* And she say, *‘Well I never heard of you.’* And I said, *‘Well to be perfectly honest I never heard of you either. Are you new?’* And she said, *‘Yes.’* So I say, *‘It’s okay that we don’t know one another but I tell you something, this thing here is disgusting and there was no right to have this passed.’* She said, *‘What is the harm? So you get a little diarrhoea.’* I said, *‘You get a little disagree? People DIE of this thing!’* (P.c., 31/08/2009)

Photo credit: Nation News, 13/10/2010

cheap imports (2005: 34). As a result, Barbados' market for sheep meat is dominated by frozen imports from Australia and New Zealand¹⁰ which hold approximately 80% of the market. While Barbados' Blackbelly lamb is considered top quality meat, 98% of imported sheep meat from Australia and New Zealand is characterized by low-priced cuts (e.g. shoulders, necks, shanks) typically derived from culled ewes (Thomas & Hunte, 2005: 33). According to Laurie, mutton and 'trunk' are being imported under the guise of 'New Zealand Lamb' or 'Lamb Trunk'. Illustrating the process, Laurie explained,

'Lamb trunk' is when you take out all the best cuts that you can sell, the Middle East, them big lamb eaters, so they will buy Halal lamb and so on. They will buy the loin and the legs. The shoulder, the ribs, the neck, the shank and so on they will *not* buy that. So what do they do? They take that all and compress it into a block that has meat, bone, gristle and everything in it. One box was even 16 year old culled ewe! They will ship it to places like us. In the United States, that is brought in as dog food. *Dog food!* (P.c., 31/08/2009)

Low grade mutton and 'trunk' imports also compete with high-quality, locally-produced meat. Unfortunately because Barbados has no National Standard for sheep meat, retailers are not required to differentiate between frozen low-quality imported mutton (or 'trunk') and fresh local lamb (Thomas & Hunte, 2005: 33). As a result, consumers are sometimes unable to distinguish between products. Illustrating this point Laurie said,

You see, it is the supermarket here will go off to New Zealand and they will look around and say, '*What is the cheapest thing here you got?*' The cheapest thing they got is dog food but they can't call it that so they call it 'trunk' and then they sell it here. And the cooks they pass it off as 'lamb stew'. (P.c., 31/08/2009)

Moreover – according to Laurie – supermarkets sometimes falsely label local mutton as lamb. Recalling an event that took place during a supermarket visit, Laurie described how some supermarkets cheat consumers:

One day I was at [name withheld]. There was a guy coming in there – a farmer – and he was bringing in lamb carcasses. And I went in there and I looked at this sheep and I could see this thing, it still had the head on it. It was at least 18 months. And they gonna sell this as 'lamb'? I say to them, '*That is wrong!*' But the manager said, '*Well our customers like it like that, they don't like this baby taste thing that you fellah's produce, they like something that have a REAL flavour.*' But it is wrong! That is not lamb by any definition. It's not the farmers that are not educated [in this case] it is the consumer. (P.c., 31/08/2009)

¹⁰ Australia and New Zealand sheep flocks were produced for meat and wool. Due to the joint product nature, the industry in both countries allows for cost sharing of production. According to Singh et al., this gives the respective industries tremendous leverage in pricing their products and maintaining a competitive position in global trade. Countries attempting to develop a sheep industry solely for meat production would find it difficult to compete on the basis of price" (2006: 4).

While consumer education has the potential to reduce consumption of certain imported meats, consumers are not always aware of what exactly they are consuming. In the case of sheep meat particularly, consumers may associate certain flavours or tastes with lamb when in reality it is actually a taste characteristic of mutton or, as Laurie revealed, ‘dog food’.

Caribbean consumers show a preference for fresh meat as opposed to frozen imported meats (Singh et al., 2006: 2). According to BAS field officer and Agro-Fest coordinator Theodore Fraser, the same is true of the Barbadian population (p.c., 07/09/2009). That being said, fresh local meats tend to be priced higher than frozen meats of a similar variety. Although Singh et al., argued that consumers are willing to ‘pay more’ for fresh meat, they acknowledged that there was a ‘trigger price’ at which imports begin to substitute fresh meats. Low-end meat products, claimed Singh et al., are purposefully targeted to low-income consumers in developing countries.¹¹ “The level of this trigger price,” explained Singh et al., “depends on the individual’s income level as well as cultural background” (2006: 2). “In Barbados,” Laurie concurred, “customers buy the thing because it’s cheap” (p.c., 31/08/2009).

3. Fruit and Vegetables: The impact of Barbados’ fruit and vegetable import policy is three-fold: (1) imported fruit and vegetables tend to be of low nutritional value (Gaskin, p.c., 03/02/2009; Holder, p.c., 01/02/2009), (2) cheap vegetable imports compete with local products (Gale, p.c., 27/08/2009; Julien, p.c., 27/08/2009), and (3) ‘dumping’ and unregulated import of vegetables lead to market gluts putting vegetable producers at severe economic risk (Bethell, p.c., 03/09/2009; J. Hunte, p.c., 26/08/2009). Due to the often intertwining relationship of the different factors impacting local fruit and vegetable production, these issues are discussed under the following headings: (i) Product Dumping, Food Safety and Consumer Awareness, (ii) Food Substitution, (iii) Land Competition, (iv) The Case of Onions: Competition, Connections and ‘Gift’ Giving, (v) praedial larceny, and (vi) Government Tax-Breaks, Subsidies and Land for the Landless.

¹¹ “As global market leaders for sheep and goat meats, one of key marketing strategies pursued by New Zealand and Australia is the segmentation of their markets. The markets range from industrial countries offering high-value returns to less developed countries offering outlets for lower value products; markets with preference for specific cuts/products to those seeking a cheap source of protein; from those that have special religious requirements to those that do not; those markets that would only consume traditional meat cuts to those that have a preference for offals. Accordingly, these countries seek to differentiate their industry products according to the characteristics of the market” (Singh et al., 2006: 6-7).

i. Product Dumping, Food Safety, and Consumer Awareness

Imported fruit and vegetables often take several weeks between harvesting and being made available for sale to the consumer. In order to improve the appearance of fruits and vegetables destined for export, producers often subject them to dyes, wax, or chemicals. The result is that much of this imported produce loses its nutritional value by the time it reaches the consumer (Holder, p.c., 01/02/2009). According to Cheapside hawker Mares Victory Gill, “The quality of food coming in is not so good. Sometimes they soft. Sometimes they come in a pretty colour but then they too young. We don’t know how they do it but it ain’t so nice. But we still buy it because we have the customers and they want it” (p.c., 29/082009). Fraser also commented on preservation and quality of imported fruit: “Sometimes we see a situation where we have yellow bananas and when you peel it and try to eat it you find that it’s not necessarily ripe” (p.c., 07/09/2009). Unfortunately, consumers are frequently unaware of the origins or quality of the food they buy. John Hunte explained that, “People don’t understand that if you get an iceberg lettuce that’s been around for three or four weeks because it can stand that long before it begins to break down, you’ve got no nutrients. It’s dead after 38 to 48 hours. But it *looks* good” (p.c., 26/08/2009). Of additional concern, Hunte argued that much of the produce imported from overseas was low-grade ‘rubbish’ of poor nutritional value: “We get dumped on. All the rubbish they can’t sell in Europe that they can’t sell in America – the oranges and apples that are second grade. When it comes to the Caribbean people’s health is deteriorating” (p.c., 26/08/2009). Expressing similar frustration, Bethell also complained that produce sold in supermarkets is often inferior or ‘dumped product’:

Then you also have the scenario of ‘dumped product’. Go in any supermarket, I’ll take you to any one, carrots are a classic point. Where they are [supposed to be] trying to restrict the importation of carrots by using local stuff quite possible...but go and see what carrot comes into the store? Go and see ‘*Canada*’ carrots and *every bag* has physical damage to the carrot. The carrots are what cannot be sold in North America. You cannot sell them. Go and look at the potatoes. *Everyone* has a physical cut on it nearly or a stick. You cannot sell those potatoes in North America because they are a health hazard. But they are dumped on Third World countries and that is what this World Trade Organization [WTO] is all about. Mark it or reject the stuff...Go and look at the apples right now. Go look at a McIntosh apple, at Super Centre, that size [indicated a very small apple], and *every one nearly* either has a little damage, or a crack, or what not. You gotta pick through very carefully to find a decent one. It is *rejected product* from North America. (P.c., 03/09/2009)

As with cheap-meat imports, trade liberalization of vegetables increases risk for farmers who are unable to compete with heavily subsidized imports. “Dumped product,” said Bethell, “has a very deleterious effect on local production” (p.c., 03/09/2009).

According to Hunte, efforts should be made to educate the consumer on the benefits of buying ‘fresh’ food: “I think that we need to educate people that ‘fresh’ – even if it’s not organic – fresh is best because you are getting that ‘live’ content and that’s where the nutrition really is” (p.c., 26/08/2009). However, although some supermarkets do sell fresh local produce, it is not always marked or easily distinguishable from imported products. While the GoB has instituted ‘Buy Bajan’ or ‘Buy Barbados’ campaigns, Hunte reiterated that, “Consumers don’t always know where their food is coming from unless they see the box” (p.c., 26/08/2009). Recounting an experience at a local supermarket, Laurie said,

JB’s had big sign up there. *‘JB’s has local food’*. And underneath the sign are shelves and they did not have a *SINGLE* thing that was local. Everything under that sign came from away. And so I went to the supervisor. He said, *‘You’re looking for lamb right?’* and I said, *‘Oh no, come and look at this!’* and he said, *‘Oh God, we have to move that sign!’* That was his response. (P.c., 31/08/2009)

Unfortunately, Barbados has shifted so far from agriculture that many consumers are not aware of what can – and cannot – be grown locally (J. Hunte, p.c., 26/08/2009). According to Gregg Marshall, “Children nowadays that don’t even know what an okra tree looks like or what a pea tree looks like. All they know is that if it comes from a box then that is what it’s supposed to be. They don’t even know that it’s actually grown from a seed or a seedling. Because they are not exposed” (p.c., 28/01/2009). As such, further public education targeting awareness of locally grown agriculture products is needed. However, because many imported products can be produced locally (e.g. onions, carrots, sweet potatoes, peppers, and okra) many respondents indicated that consumers may assume that certain produce is locally grown even when it is not. For example,

[Plantains] could be coming from Grenada but consumers will assume it’s coming from Barbados because plantains can grow in Barbados. Same with many other local tropical fruit. The consumer wouldn’t know if it has come from here or elsewhere. Education-wise, they seem to be limited to advertising. (J. Hunte, p.c., 26/08/2009)

Therefore, while campaigns promoting consumption of local food products might be assumed to be supporting local production, the actual impact on local food consumption is questionable. According to Hunte, “I don’t see what incentives programmes, like ‘Buy Barbados’ can offer if the [import policies] aren’t there to help farmers” (p.c., 26/08/2009). On a more positive note, the

Super Centre group makes great efforts to offer and promote locally produced vegetables. According to Sen. Chandler,¹²

Super Centre group of supermarkets has long recognized the need to substitute as many of the products they traditionally import with products grown by local farmers... the company is trying to displace some imported items like white potatoes by encouraging the increased use of other similar products like sweet potato and yam. (2010)

Such practices are encouraging and indicate that things *are* changing however slowly.

ii. Food Substitution

In a discussion with Freddy Gale – proprietor of Gale’s Hatcheries and Vegetables – Gale stated: “The idea that, *‘We want to provide a cheaper product so we open the door and allow things to come in from the cheapest possible source’* has a negative for your local production” (p.c., 27/08/2009). As a result of increased availability of cheap-food substitutes, the sale of locally produced foodstuffs often drops. The reduction in prices presents further economic strain on producers. According to Gale,

You don’t have the market that you could have and therefore you get lots of bottle necks in the market and that’s very discouraging. So you say, *‘Well, I’m not gonna grow that again because I couldn’t sell it’* and therefore it’s actually a negative towards improving the very food security that you’re talking about because people are not prepared to grow larger areas because they say *‘Well, last time I grow this and I couldn’t sell it so why should I grow more?’* (P.c., 27/08/2009)

Within fruit and vegetable sectors, like-food imports also impact local production. For example, white potato imports compete ‘starch-for-starch’ with similar locally-produced vegetables (e.g. sweet potato, yam, breadfruit) (Bethell, p.c., 01/03/2009). “When you give people a wide choice,” explained Gale, “then their ability to buy local and their desire to buy local is diluted because there are now ‘exotics’. In that you don’t have them here but yet they are on the shelves. They are not grown here but they are on the shelves” (p.c., 27/08/2009). Illustrating Gale’s point, market hawker Ms. Gill stated: “Potatoes move better than breadfruit. Cassava used to sell very good but not now” (p.c., 29/08/2009).

iii. Land Competition

Not only are local producers forced to compete with subsidized imports but they are also burdened by competing pressure for land (Paul, p.c., 07/09/2009; Satu, 2004: 5). “You have less land,” said CPHN Holder. “If you had seen Barbados before, we had open fields and right now a

¹² These initiatives have been driven, in large part, by Sen. Chandler. In 1979, Chandler was the first woman to be awarded the Inter-American Agriculture Award for Young Professionals for the Antilles Zone. Since that time Chandler has been a leading proponent of agriculture in the Caribbean.

lot of the open fields are housing fields” (p.c., 01/02/2009). Describing the competition for prime land between housing and tourism development and the agriculture industry, Sen. Laurie recounted his experiences in the Senate:

I remember in the Senate one day I was talking against the removal of agricultural land to put houses on. I said, *‘Come on, there is a lot of land in Barbados that is rablands.’* It’s on every sugar estate. There would always be areas of outcrop of rock where the soil has eroded away, *‘so you can go there and put houses on that. Do not go on good soil and put up houses.’* And you know people said? They said, *‘I don’t know why you say that since 70% of the food we eat is imported!’* But that is not true. (P.c., 31/08/2009)

According to Brathwaite, to improve food security Barbados’ requires “a new development model that breaks with the colonial legacy of imported food, that values our land as a resource for the production of food, water and energy and not only as a resource for recreation and real estate” (2009: 49). Nevertheless, as BAS President James Paul commented, in recent times some positive change had developed. “They are starting to put agriculture more in focus,” said Paul. “In other words,” Paul explained, “before if there was land out there that was not being used, they would not give a second thought. These days at least agriculture is being put in the mix. They are thinking more – *‘Are we gonna use this for agriculture at some point in time?’* That’s a positive step” (p.c., 07/09/2009). Of additional concern, many farmers also experience direct pressure to sell their land. Illustrating the pressure faced by local farmers as a result of unrestricted imports – particularly market gluts – Hunte described a ‘typical’ scenario:

If you’ve put in 10 acres of pumpkin and that 10 acres is all you have and you’re saying, *‘Well, if I don’t make some money on this crop this year, I can’t afford to go back in next year.’* Then someone is begging you to sell your 10 acres for \$5 million. Then you take your pumpkins to market and say you’ll get \$1 for 50 lbs. I’ve got 30,000 lbs. But there is a shipment – a container load – from Guyana that came in the same day for .10 cents a pound. You’re done. There is nothing you can do. You’re gonna sell your land and you’re gonna say, *‘Well I can’t survive, my family can’t survive without this.’* So it destroys local agriculture. I’ve known people that have walked away from farming because they haven’t been able to get their produce sold because of imports and gluts. (P.c., 26/08/2009)

Faced with unbearable economic constraints (e.g. low sales during market gluts) some farmers have little choice but to exit agriculture. “You can lose a percentage of farmers because your family has gone out of business, *that* can put somebody out of business,” said Hunte (p.c., 26/08/2009).

iv. The Case of Onions: Competition, Connections, and ‘Gift’ Giving

The case of onions was frequently cited by respondents as a classic example of how the different challenges facing farmers converge. According to Bethell, the vegetable producers “fought and

we fought and we fought. We got a licensing regime put in place for the onion industry and the onion industry expanded” (p.c., 27/08/2009). According to respondents, Barbados has the ability to be fairly self-sufficient in onions (J. Hunte, p.c., 26/08/2009; Bethell, p.c., 27/08/2009; Laurie, p.c., 31/08/2009). Previously enforced restrictions on onion imports, allowed local farmers the space necessary to increase production and focus efforts in producing a high quality Texas onion designed for the fresh market (and hence had a short shelf-life). According to Bethell, “Barbados consumed about 8,000 bags a month” of these Texas onions. However, Bethell went on to say, local importers and purchasing outlets significantly undermine production efforts.

Importers and other ‘middle men’ were aware that Texas onions had a short shelf-life. As such, Bethell explained, they would “deliberately import *more* than what they need because their onions were stored.” Unlike Texas onions, Bethell explained, Dutch onions imported from Canada have a long shelf life. “They didn’t want to buy our local onions because they had their connections and so on,” said Bethell who went on to say, “One told me straight, *‘I don’t need to buy any local onions, I can make more money on the imported onions. Don’t want local onions’*” (p.c., 27/08/2009). Even with transportation costs and duties, imported produce from developed countries are available at a cheaper price than local products (Bethell, p.c., 27/08/2009). Expounding on Bethell’s comments, Hunte explained,

In Canada, where they subsidize it or in England where they subsidize it, they are not paying the ‘true’ cost of production. So we can import it into Barbados and undercut our local producers. Because what the customer is paying here for imports is not the ‘true’ cost. The farmer *here* is charging the customer what it costs to produce at a profit. A farmer in Canada is being paid regardless of what it costs to produce. (P.c., 26/08/2009)

As a result, importers and ‘middle-men’ are able to import less expensive produce which could then be sold at a greater profit. “They didn’t want to buy our local onions because they had their connections and so on. They make more money on the imported onions,” said Bethell. “One told me straight, *‘I don’t need to buy any local onions, I can make more money on the imported onions. Don’t want local onions’* (p.c., 27/08/2009). As a result, gluts develop in the market. “We actually have gluts of onions, were we have more onions than we can sell,” said Hunte, “because they are bringing them in and bringing them in cheaper” (p.c., 26/08/2009). Two issues of note appeared in Bethell’s comment: (1) importers had their ‘connections’, and (2) that importers can often earn a greater profit when dealing with subsidized goods.

In Barbados – as in many other parts of the world – ‘connections’ (i.e. who you know) impact sector efficiency. In the context of product contracts, many respondents indicated that

oftentimes, regardless of product price or quality, contracts are determined according to pre-existing relationships between buyers and sellers. According to Julien, “We don’t go by Price Quality Service and Supply (PQS). The PQS index. That’s a North American thing, down here it’s who you know... They would rather buy a poor quality from someone they know” (p.c., 27/08/2009) According to Julien, there are approximately 30 or 40 ‘middle-men’ who determined the major contracts on the island. Expounding the severity of the situation, Julien lamented: “I know that in the big super market chains it’s very common. Because you put [a few] people in *Positions of Power*. They hold the power. They decide who lives and who dies and to get your stuff through that door” (p.c., 27/09/2009). As a result, new market entries sometimes experience difficulty finding a buyer for their products (Forte, p.c., 09/12/2008).

‘Gift giving’ and ‘kick-backs’ were also indicated as strong features within food-related industries. In other words, producers may sometimes ‘sweeten the deal’ by providing ‘gifts’ to managers in the supermarket, hotel, or restaurant industries. According to Julian, “It’s very common. At least 10% some guys as high as 15%. *‘You pay me 15% of what you sell to me or else you’re not getting through that door’*” (p.c., 27/08/2009). Further illustrating the scenario, Laurie provided a personal experience which he witnessed at a local supermarket chain:

It happened here at JB’s. I member going in there one morning and I SAW a supplier – a farmer – bringing in stuff and he waited in his jeep [afterwards]. Then he came back with a bag full of fruit and so on and he gave it to the man who was checking the till and giving him the receipt, and the man put it behind his shirt. And so I go back to talk to the manager and he said, *‘Well how you prevent these fellahs from taking a gift?’* And I say, *‘You gonna tell these people they are not allowed to receive a gift.’* This is bribery and it will lead to other things! (P.c., 31/08/2009)

Bethell also commented, “There was one guy at the Super Centre who was known for that. You handle him he would handle you. You would pay him some commission and he would make sure your produce would be sold. But he was fired” (p.c., 01/03/2009). While certain cases – such as Super Centre – are able to identify certain corrupt practices and terminate those found at fault, upper management and business owners (e.g. hotels, restaurants, large supermarkets) are not always aware of what is happening at the purchasing level (Laurie, p.c., 31/08/2009). Moreover, although aware of the impact gift-giving has on the ability farmers to compete – local producers often feel they have little choice but to participate in such activities. Nevertheless, local producers often have limited resources in comparison with importers. The result is that importers offer better ‘gifts’. Laurie explained,

You are trying to compete against these guys, you know, the man is human! *What are you offering me?* And you say, *'Well, I'm offering you a good price on my produce which is good quality and so on so I think you should buy my stuff.'* And he says, *'Well the guy out there, he's giving me the same sort of stuff imported and he's gonna give me a case of Scotch at Christmas. Are you gonna do that?'* No of course not. So who gets the contract? (P.c., 31/08/2009)

The impact of nepotism and 'gift-giving' on local production is significant. The ability and interest in product development, technological advances in production or mechanization is diminished due to lack of regulatory services (e.g. PQS Index), a climate unwelcome to new entries, compounded by nepotistic tendencies and bribery. "For example," Julien explained,

if we had a full system of contract buying based on PQS, we could boost production by 30 or 40% because I believe that farmers can generally step-up to the plate and produce high quality product. But the guys who are innovative are the guys thinking but you can't get it past the purchasing manager's door. (P.c., 27/08/2009)

In the case of onions, Bethell explained, middle-men "would hold them back long enough that the local onions would deteriorate. Then they would tell people, *'Well look, local onions are poor quality!'*" (p.c., 27/08/2009). As a result importers and buyers were able to make a case to reduce import restrictions related to onions. Recounting his experiences, Bethell said:

A few years ago a leading importer looked at me and smiled. He said, *'Well I got it from the highest source that we gonna be getting the importation of onions back again.'* So, with that I came home and I rolled up my irrigation pipes. I'm not going to go through that again. (P.c., 27/08/2009)

While initial government regulations enabled farmers to increase onion production and produce a high-quality Texas variety, changes in import policies quickly devastated the local market. New import policies reduce restrictions on onions brought in for manufacturing purposes. However because policies are not enforced, those same onions appear on the consumer market:

It's happened several times. It happened this year even! What they are doing now is even worse. They are allowed to import a certain amount of onions duty free for manufacturing processes. That is for apple sauce and what not. So these same people are importing these onions for manufacturing processes and then *selling them* on the *local market*. They are competing with the local market and there is not any duty on them. It's completely tax free. (Bethell, p.c., 27/08/2009)

According to Hunte, "MARD policies aren't really thoughtful enough" (p.c., 26/08/2009). As a result, some import restrictions put in place by the GoB have resulted in making competition worse for local food producers.

v. Praedial Larceny

Regional estimates indicate that immediate loss resulting from praedial larceny in the Caribbean is approximately US\$321 million annually (Little, 2011: 7). However, estimates are likely to underestimate true losses as more than 55% of incidents are not reported to police (Little, 2011: 8). Within Barbados, respondents indicated that praedial larceny was the single greatest threat to agriculture (Julien, p.c., 27/08/2009; J. Hunte, p.c., 26/08/2009; Bethell, p.c., 01/03/2009; Laurie, p.c., 31/08/2009; Cumberbatch, p.c., 01/09/2009; Etherington, p.c., 01/09/2009). Nevertheless, laws governing praedial larceny have not modernized sufficiently to meet the challenges faced by contemporary farmers (Julien, p.c., 27/08/2009; Laurie, p.c., 31/08/2009; Bethell, p.c., 01/03/2009). The failure of the judicial system to modernize laws governing livestock and crop theft have resulted in three intertwined issues: (1) a disconnect between praedial larceny and stealing, (2) weak sentencing structure, and (2) disregard by law enforcement.

Unlike other forms of theft, praedial larceny is not considered a ‘serious’ crime within the judicial system. Respondents suggested that the difference in attitude stemmed from the colonial era (Laurie, p.c., 31/08/2009; Hunte, p.c., 26/08/2009). In explanation of the mentality driving praedial larceny Julien explained that on the plantations – particularly during the slave era and immediately following emancipation – overworked and often abused labourers had very little food to survive. Grueling agriculture labour continued post-emancipation and for most people of African descent conditions did not immediately improve. Therefore, when slaves or poor Blacks stole from the estates it was considered a necessary evil. Moreover following emancipation, punishment for praedial larceny might have diminished. As Julien explained,

Because massa work ya *hard* and *tief* from ya, and pay ya little or nuttin’ for yer labour. So now that I’m yer cousin and I’m the *magistrate*. So I gonna make sure that when ya tief massa’s stuff I only gonna give ya three months. You understand? That was only ‘massa’s’ stuff you was tiefing. (P.c., 27/08/2009)¹³

In the contemporary context, attitudes towards crop or livestock theft have changed very little. Respondents indicated that praedial larceny is still not considered ‘stealing’ by the general population, magistrates, or the police force. “It’s a tradition that people steal food,” said Laurie. “It’s not stealing, it’s praedial larceny. It’s different from stealing. This is taking some stuff to

¹³ The emphasis and patois nature of this quote was intentionally portrayed by the respondent and written as close to the original sound as possible. In plain English the quote can be translated to: “Because master work you hard and steals from you, and pays you little or nothing for your labour. So now I’m your cousin and I’m the magistrate. So I will make sure that when you steel from the master, I will only sentence you to three months of jail. Because that was only the master’s property you were stealing.”

survive. You know, I'm just taking some food because I'm hungry" (p.c., 31/08/2009). Most farmers admitted to 'turning a blind eye' at small-scale theft (e.g. a few blades of cane, tomatoes, or ground provisions). However, the type of large-scale praedial larceny manifesting in recent years severely impacts small- and large-scale farmers. Illustrating the evolution of praedial larceny, Laurie explained: "You have this traditional thing, you planted this so you got plenty with 5 acres of yams and I come and steal a few pounds of yams, you ain't gonna bother me. But then it goes up and up because it's no longer 2 lbs., it's 2,000 lbs." (p.c., 31/08/2009). "It's something that you gotta live with. It's a problem, people crying out of it," said Cumberbatch. "One time we thought we would have 50 bags or so but we had only 10. They picked the biggest ones. You report it but it's not that you will get compensation" (p.c., 01/09/2009).

Comparing the penalty for praedial larceny as compared to stealing a television set, Julien stated: "3 or 6 months for crops and 4 years for a TV stolen. The guys [the thieves] gonna come out and laugh at you" (p.c., 27/08/2009). Under the antiquated judicial system, praedial larceny was considered a 'petty' crime. Moreover, due to the nature of farming, the concept of 'breaking and entering' does not apply to the majority of incidents. Of additional concern, unlike other commercial items, agriculture products (e.g. crops) have few easily-identifiable markers (e.g. serial numbers) thus it could be difficult to prove an item had been stolen. As a result, respondents lamented that many police officers are reluctant to investigate complaints. Illustrating the mentality behind police behaviour, Julien explained:

If there is a pile of stuff, the police will put you down at the bottom. Their problem is that – as a police officer told me – we like to arrest people. It's like any profession. They like notches on their gun. They like to put notches and say that's my 20th arrest. So if a guy has robbed a place and there is a serial number and a chain of evidence. That person is more likely to get caught. Than a person who has stolen in the middle of the night pumpkins from a field. So they would rather put their evidence in that than in your case because that person is more likely to get caught. (P.c., 27/08/2009)

However even with tagged livestock, praedial larceny remains to be viewed seriously by law enforcers. Sheep Farmer Mabel Etherington – who herself had a B\$800-1500 ram stolen – argued that police not only disregard but also mock farmers victimized by theft. Recounting the story of a young farmer who had purchased yews from her, Etherington illustrated:

The girl bought 7 yews from me and someone broke into her pen at night. Cut the string. Stole the 2 best biggest yews and used the horse string to bring them away. You know the police laughed at her. She was in tears because the police LAUGHED at her. So you know the *attitude* needs to change. They just don't think this is important. (P.c., 01/09/2009)

The concept of 'breaking and entering' also impacts sentencing, therefore determining the severity of sentencing to a great extent. While obvious challenges arose for farmers unable to contain small or large tracts of land, some farmers do take steps to overcome this barrier. For example, Cumberbatch began producing "Things that would be harder to sell". She went on to advise that "You don't plant a lot of crops that is easy to pick" (p.c., 01/09/2009). Recounting a conversation with a law enforcement officer, Julien described the advice provided to him:

A guy told me, 'I would like if you put netting around your greenhouse and I would like you to understand why.' And I said, 'Yeah but a guy could easily cut it and break in.' And the guy said, 'Yeah but then it's not just praedial larceny, it's breaking and entering. My sergeant is going to take it more seriously because that's 5 years.' (P.c., 27/08/2009)

In response to the officer's advice, Julien installed netting to protect his greenhouse. Some farmers also took additional steps by installing video surveillance systems. Unfortunately however, video surveillance is not accepted as 'proof' within the courts (Laurie, 31/08/2009; Julien, 27/08/2009). Increasing security was also suggested as a measure to reduce praedial larceny. According to Little, "a common practice in the developing world is to sleep near the crop close to or during the time of harvest, the use of trained dogs or the harvesting of the crop before it is fully mature in an effort to reduce losses" (2011: 8). However, as Bethell pointed out, "you can't be a farmer and be a guard at night" (p.c., 01/03/2009). While some farmers employ security guards during the evenings, most farmers are unable to support the additional costs. Recounting the measures taken to protect his onion crops, Bethell said:

When we grew onions, we used to employ security guards when we were harvesting. Because that's when you would get the stealing taking place. When the onions were folding on the top of the soil. People would come in and take a bag out. So we actually employed security guards with a dog. Every night. We would take about a week to do it but you can't afford to do that with long term crops. So an onion crop, which is a high value crop where you have a short period, you can afford that cost but it's not something you can do on a regular basis. It's not something a small farmer can do. (P.c., 01/03/2009)

The additional concern inherent in these kinds of practices (e.g. sleeping close by your crops or guarding areas at night) is fear of legal reprisal for any potential injury or death sustained by thieves. According to Bethell,

A chap in St. Michael's he used to produce 300 broilers each week he had five pens, he and his family, 300 broilers. He shut it down; because he said every time he went to catch the chickens 50 [were] missing. I was at the point where I wanted to take a live electrical wire up for him, but a police man friend of mine said, 'If a man tried that and the [thief] died we have to charge you with manslaughter.' So there is very little you can do as an owner of property like that. (P.c., 01/03/2009)

Moreover farmer safety in the face of large-scale organized crime is questionable. According to Little, “farmers have been killed and others have been known to have received threats and physical attacks by persons who have returned to the communities after serving time in prison for praedial larceny. Farmers crops have also been damaged by these same persons” (2011: 7).

Bethell was among the most vocal proponents of modernizing the judicial system to regard praedial larceny as a serious offence. However, while Bethell had come under repeated attack by crop thieves, he was also strongly criticized by the media and general population for his stance on praedial larceny and his unconventional response [Appendix 5]. During a food security ‘crisis’ many failed to understand why – after repeated financial losses and without support from the legal system – Bethell uprooted B\$30,000 worth of cassava plants. According to reports of the time, Bethell said, “It hurts me to have to destroy a crop just to make a point but I feel raped and violated and I have decided the time for talk is over” (qtd. in Nation News, 2008). The financial impact of praedial larceny is tremendous. However, as evidenced in Bethell’s comments, the psychological impact of crop and livestock theft also poses tremendous emotional strain on producers.

While the plight of farmers in the face of praedial larceny is evident, praedial larceny also negatively impacts ‘behind the paling’ food production (e.g. home and school gardens). According to agriculture sciences coordinator Monica Clarke, Arthur Smith Primary “had pumpkins stolen from the garden, unripe fruit picked, ground and plants trampled” (p.c., 19/01/2009). At Bay and St. Stephen’s Primary Schools, garden hoses were stolen (Brathwaite, p.c., 15/02/2009; Howell, p.c., 05/03/2009). Speaking generally on the frequency of theft, Howell stated: “Believe me, in this area, sometimes 2 or 3 times a week the school is broken into. If we leave *anything* in that garden – and people see there not anybody around – well it will go” (p.c., 05/03/2009). At the household level, Bethell claimed that many people are “fearful of planting at home” (p.c., 01/03/2009). Due to the severity of praedial larceny on attempts to improve food security, Bethell is quoted at length:

Since I took that stand [destruction of the cassava plants in 2008]... we had all these people come up and support me. And I had this one old lady say, *‘Bethell, don’t worry about that. I used to grow seasoning in a tiny garden in the front of my yard I had the sticks and fence. I had the street light outside and I see one day – I look out there – and I see a man in my thing takin’ up all my crops and I spoke to him and he threaten me! He said, ‘Why don’t you go back inside before I cut off your head or burn down your house.’ So I have nothing left today. I don’t plant anything.’* And I can give you *hundreds* of

stories like that. The other lady was telling me the other day she said, *‘Mr. Bethell I understand what you’re going through. We planted a lovely mango tree and it was now bearing fruit and we went home one day to my mother’s home and there was this man in the tree and when I spoke to him he was very abusive to me, what he gonna do to me and what he not gonna do. So I call a fellah, next day he went and he cut down the tree because I didn’t want that man killin’ my mother or killin’ me.’* (P.c., 01/03/2009)

Although the subject of praedial larceny was often featured on radio programming and within newspapers during the course of the fieldwork, there was a general perception that praedial larceny was not considered seriously within the judicial system or by the GoB [Appendix 5]. Repeating Julien’s comment, “if it was an industry that was taken seriously – then a lot of things would be done differently” (p.c., 27/08/2009).

vi. Government Tax-Breaks, Subsidies and Land for the Landless

The GoB’s Land for the Landless project was established in 2001. By 2002, approximately 880 acres were made available to farmers (Arthur, 2002: 39). At that time, Rt. Hon. Prime Minister and Minister of Finance and Economic Affairs Owen Arthur stated “there [was] an unsatisfied demand for 3040 acres to be distributed to 304 farmers” (2002: 39). However, although land is in demand, much of the land leased through the project goes uncultivated. A graduated fee structure encourages farmers to lease large tracts of land. However, contracts do not establish clauses for cultivation. According to Cumberbatch – a female Guyanese farmer participating in the Land for the Landless project – the cost of leasing land, “Depends on the acre you have, the more you lease the less you pay” (p.c., 01/09/2009). For small areas of cultivation start-up costs are financially manageable under the program. For example, Cumberbatch explained:

If you don’t have [money] at all, you don’t have to start planting all the 5, 10, 15, or 20 or 30 acres that you have. You start planting piece-by-piece and there are certain vegetables you have you don’t need anything much. For example potato, cassava, yam – those crop seeds you can plant. If you have 5 acres you can plant the entire 5 crops in sweet potato because there is really no job for you to do. You just have to buy a few chemicals that you can spray so that the potatoes won’t be worm infected. (P.c., 01/09/2009)

While Cumberbatch’s advice appears logical, the result of this technique is that several acres of land are left to lie fallow and neglected. Moreover, as Bethell pointed out,

When you saddle a man with 20 acres of land and he’s only planting 5 he’s got a cost of the remaining 15. Because if he doesn’t keep that in good husbandry, the insects and the creatures that are living in there is gonna affect his crop! So he’s going to spend *more money* on keeping that clean. In fact, there is no such thing as land lying ‘fallow’ in Barbados because it becomes covered in jungle very quickly. Within 3 years it will be covered over in trees. (P.c., 01/03/2009)

The land lease project also fell under criticism for the long-term contracts provided to farmers. Moreover, according to respondents, there is no clause in effect for the GoB to reclaim land (Vaughn, p.c., 01/09/2009). Illustrating the dilemma, Etherington explained:

That project up the road there [St. Lucy], they grow vegetables, they lease this government land, like *'Land for the Landless'*. They give them a 30 year lease of 30 acres. Some them got too old and died, 30 years *too long!* Some of them make money and left. I know some Guyanese, some Vincentians, some St. Lucians. One chap won the lottery, owed the government for the lease and now it's just lying idle. If it's a 30 year lease, they can't lease it until the time is up. So they need to go back to Parliament and change that, scrap that, get a shorter lease and less land. There are 2 or 4 Guyanese up there, they managed to lease 10 acres, so he and his brother and 2 wives are working it. But when you go up there, there are acres and acres of land covered in grass. Some people are asking about it. But they can't get it because it's tied up in these 30 year leases so they can't rent it. (P.c., 01/09/2009)

In 2011 reports indicated that land-lease acreage had been reduced to up to 10 acres per farmer (Riley, 2011); however it is unclear if original Land for the Landless contracts had been re-negotiated. By 2008, available acreage had increased from 880 (2001) to only 1400 acres (Caribbean News Now, 2008). By 2011, just over 1000 acres of land had been leased through the project (BADMC, 2011). At that time, the cost of leasing land through the project was reported at B\$150 per acre (Riley, 2011). While low leasing fees might convince small farmers to participate in agriculture production, there is also the danger that costs are too low to ensure that land use will be maximized. Of additional concern, recent reports indicate that Barbados Agricultural Development and Marketing Corporation (BADMC) provide land clearing and ripping services free of charge to Land for the Landless participants in the Scotland District (MARD, 2012). While such services might encourage new entries to the project, they do not appear to be a strong incentive to maintain or cultivate lands. Moreover, it is uncertain whether or not such a service would discourage farmers from returning uncultivated areas back to the project. While Land for the Landless appears to attract significant interest, BADMC continues to struggle to meet demand (BADMC, 2011). Moreover, according to Officer in Charge Hamilton Walcott participating farmers expressed concerns similar to the general farmer population. For example, Walcott explained, "They can produce the crops but finding markets is a problem. So no farmer wants to produce an acre of carrots, tomatoes or cabbage for instance and then in the end there is a glut and they cannot get them sold and those are areas we are looking at to address" (qtd. in Riley, 2011).

The GoB also offers subsidized equipment rentals (e.g. tractors) to small farmers. However, according to respondents, much of this equipment is frequently out of service. For example, Etherington lamented: “The government used to have tractors and plows and such to help the small farmer. But no one is going to go and fork 2 or 3 acres anymore. So those tractors are getting old and rusted up. *Alllll* rusted up!” (p.c., 01/09/2009). Likewise, MARD officer Vaughn also commented that when he became involved in the project many of the tractors were out of use due to poor management and equipment maintenance (p.c., 01/09/2009). While agriculture-related subsidies are available for the purchase of equipment (e.g. tractors, bailers, etc.) the costs are overwhelming, particularly for small farmers and start-ups. Of additional concern, the bureaucracy involved in applying for subsidies is burdensome and subject to unreasonable delays. As a result, some farmers fail to bother applying for subsidies. As Bethell illustrated:

I just imported a spray helmet, it come from Canada. Now technically I can get it duty free. If I want to get it duty free, I have to go to the Ministry and get a form, to find an officer who might be out-posted fill out a form with a whole lot of information. He will then have come to check out what I am doing, he will then have to prove it, then it will go to customs. My unit broke down, I needed one right away. I wouldn't even try. I paid the duty, forget it. (P.c., 01/03/2009)

In conclusion, while many MARD programmes seems theoretically sound, the management underpinning such programmes and ability of farmers to maximize opportunities available appears to be severely hindered.

5. Discussion

“Agriculture’s importance increases because of its linkages to agribusiness, the food industry, input supplies, tourism, agro-industry, health and nutrition. In addition, its contribution to rural prosperity is a pre-requisite for balanced development, social equity and social peace.” (Brathwaite, 2009: 8)

Opening up the market to international trade, and encouraging a cheap-food import policy has “put the sword’ to the domestic agricultural sector which couldn’t compete favourably,” argued Paul (2012: 2). Three explanations are provided by local producers to illustrate how trade liberalization had negatively affected local food production: (1) broadened product base for customers to choose from, (2) the inability to compete with heavily subsidized produce and meats coming from overseas, and (3) ‘dumping’ led to market gluts and lost sales.

During the field interviews, many respondents expressed frustration with the international trade system. For example, local producers argued that imported food products are heavily

subsidized making it difficult to compete (Julien, p.c., 27/08/2009; J. Hunte, p.c., 26/08/2009; Bethell, p.c., 01/03/2009; Gale, p.c., 27/08/2009). Bethell expressed frustration at the unequal trade rules regulating agriculture production. “If it was an even wicket, I would be fine, I would compete,” said Bethell. “But we don’t have that support” (p.c., 01/03/2009). In consonance with this argument, Hunte explained that “Right now the farmer takes all the risk. The hotel doesn’t take any risk, the supermarket doesn’t take any risk, the labour that the actual owner of the farm doesn’t have to take any risk. So the farmer is under a lot of pressure” (Hunte, p.c., 26/08/2009).

Barbados joined the WTO in January 1995. According to Julien, policy makers were heavily influenced by trade and market liberalization theories of the time. As Julien explained,

We had economists running the country who would say, *‘Man you don’t need to produce food! You can import cheap food. American’s subsidizing its food and Europe so let’s import cheap food from them.’* And remember the whole World Bank/IMF philosophy, that you shouldn’t produce things locally. That you should produce only what you’re good at. You’re a tourism destination so just do tourism. That you should import everything else. Competitive Advantage. People bought in to that philosophy. (P.c., 27/08/2009)

Moreover, Laurie recalled, “We saw here in 1991 when we had the financial crisis and we had to go to the IMF and borrow money to survive” (p.c., 31/08/2009). As a result, Barbados was already bound to international regulations to some extent. However, Laurie queried, if food could be produced locally then why borrow IMF money to purchase imports? Laurie extrapolated:

The question becomes, *‘Should you import?’* Should you spend all this thing on foreign exchange, when the only thing we are actually *earning* is coming from tourism. So we are left, with everything in that one cup there. The day that the tourists stop coming for some reason, we are in deep shit. And we’ve been saying this for the longest time. You know, *‘Let us try to balance the economy better. Food is something that you have to have.’* So whether or not you have deep problems with foreign exchange, you can still have food. So why do we have to go to the IMF to borrow money for food as against having a policy where you produce food for your people on a regular basis? (P.c., 31/08/2009)

At the time, Laurie claimed to have reproached the GoB for their willingness to join world trade regime policies. However, according to Laurie, the GoB felt pressured to accept international regulations. When Laurie broached the subject to the Prime Minister of the time, he was quoted as saying: *“We have to if not those people will just totally ban us with everything they have!”* (Qtd. in p.c., 31/08/2009). By 1994 the GoB had embarked on a liberalisation programme (WTO, 2002). However, according to Laurie, “the GoB had no right to join.” Laurie expounded:

Okay, the WTO. That deals with trade, right? If we have a commodity which we don’t need to import or export there is no trade, no international trade, no international trade in that commodity as far as that commodity as far as you’re concerned. So how can *they* tell

us what we must do if we want to subsidize in that commodity. We don't trade in it. So we should be *exempt* from WTO rules. (P.c., 31/08/2009)

Although the WTO hailed Barbados' increasingly liberalized markets as being integral to the maintenance and enhancement of quality of life in the country (WTO, 2002), as the research has indicated, the results of such practices contradict the 'safe' and 'nutritious' aspects of food security. Although attempts to protect certain sectors (e.g. poultry and pork) have proven successful (Fraser, p.c., 07/09/2009; Bethell, p.c., 01/03/2009), other attempts (e.g. onions) failed due to interference and lack of commitment (Bethell, p.c., 01/03/2009). Moreover although the GoB initiated certain land-lease projects (e.g. Land for the Landless), offers subsidies and tax breaks to farmers and has created food safety guidelines – the management of such initiatives is questionable. Therefore, while it appears that international pressure had influenced policy makers to accept trade regulations and later entry into the WTO, these actions also appear to be driven by a failure to appreciate the importance of national food security. Many respondents also indicated that – while Ministers of Agriculture may be committed to improving agriculture – the political environment is not conducive to progress [Appendix 2]. For example, Etherington explained, “the bottom line is, it's not the minister, it's the PEOPLE around him, and they don't change the civil servants” (p.c., 01/09/2009). As indicated in the course of the fieldwork, there is a general perception that agriculture is 'not taken seriously' in Barbados.

Underpinning much of the problems experienced by local producers is the socio-historical association between agriculture and slavery. As early as 1975, Gloria Francis – writing on behalf of the Eastern Caribbean Branch of the Institute of Social and Economic Research (ISER) – concluded that “the present state of domestic agriculture has been a development of the interaction of historical, physical and economic factors” (54). During the fieldwork, respondents claimed that the general population does not consider agriculture to be viable business option (Marshall, p.c., 02/02/2009; Bethell, p.c., 01/03/2009). This mentality, Etherington argued, harkens back to how people remember and interpret comments made by first Prime Minister Errol W. Barrow (1966-1976). Expounding from Etherington's comments, MARD Field Officer John Vaughn recounted, “Errol Barrow said that he will one day do a fly-round Barbados and he will not see a blade of sugarcane. *Because*, the man had the *vision* that we would diversify. That we would move from sugarcane to other viable agriculture products” (p.c., 01/09/2009). Both Vaughn and Etherington agreed that in contemporary times – within the collective memory of Barbadians – there has been a generalized reproduction of Barrow's comments which distorts the

original meaning. “All they do is take out that bit,” said Etherington, “They say, ‘*He didn’t want me to grow any more sugarcane!*’ They take it out of context. Barrow was prophesising that – in the future – we would diversify. But today, what are we seeing? We are not seeing any cane blades. Concrete jungles!” (p.c., 01/09/2009). Comments by Etherington and Vaughn reveal how Barbadians have assimilated the colonial experience – and particularly the slave experience – into a contemporary stigma against agriculture. Moreover, in line with Cole’s findings (2001), aspects of history have been changed or omitted. In the case of agriculture, the trauma associated with colonialism and slavery has been reproduced throughout successive generations. “How many times I heard repeated what Errol Barrow was *supposed* to have said about sugarcane?,” said Etherington. “*A MILLION TIMES!*”

Ironically, the ‘food crisis’ may have initiated some hope for the future of agriculture. According to several of the farmers interviewed, soaring food costs and food insecurity at the national level is needed to convince the GoB – and the general populace – that significant reform is required within the agriculture sector. “I would like to see it go to the point where we find it difficult to import any food,” said Hunt. “Where the world crisis gets to the point where it becomes *so* untenable to import food that we use what we have to a larger extent. I think that’s necessary. Unfortunately, I think it is” (p.c., 26/08/2009). The dangers associated with imported foods as well as unsustainably high national import bills have led to greater awareness of the need to improve local food production. Leading Julien to exclaim, “High cost of food is the best thing that’s happened to agriculture in Barbados in years!” (p.c., 27/08/2009). However, despite repeated claims by GoB representatives to be promoting – or ‘pushing’ – agriculture, respondents complained that there is often failure to translate promises into action (Julien, p.c., 27/08/2009; Etherington, p.c., 01/09/2009; J. Hunte, p.c., 26/08/2009; Bethell, p.c., 01/03/2009). As Sen. Laurie lamented, “I hear about this current push towards agriculture but I have yet to *see* it” (p.c., 31/08/2009). When asked if there had been a resurgence of agriculture as a priority within GoB mandates, Marshall lamented: “That has been said for as long as I know myself. ‘*Going back to agriculture.*’ But what I’m saying is that you can talk about it but don’t just talk about it” (p.c., 28/01/2009). Interviewees expressed frustration with the GoB. For example, respondents complained that research was regularly initiated during tough economic times, only to be dropped and forgotten when the economy strengthened (Bethell, p.c., 03/09/2009; Hunte, p.c., 26/08/2009). While some positive change appear to have taken place, respondents argued

this response was predominantly due to economic reasons rather than an innate value agriculture or food security. According to Laurie: “It’s been a Barbadian experience that pushed against a hard place they will start to grow their own food” (p.c., 31/08/2009). Julien also commented that interest in agriculture, “has increased. Any time there is a depression in the economy, all of a sudden people recognize there is something called agriculture” (p.c., 27/08/2009). However, respondents expressed doubt that interest in agriculture would continue if the price of food began to drop (Laurie, p.c., 31/08/2009; Julien, p.c., 27/08/2009; Bethell, p.c., 03/01/2009). Among the strategies proposed to promote local agriculture was the implementation of a Food Replacement Strategy (FRS). According to Paul, FRS would entail a “systemic replacements of foods from the import basket with those from the indigenous food sector” (2012: 3). However after decades of neglect (Karfakis et al., 2011: 3), compounded with cheap-food import policies, Barbados’ agriculture sector is flagging (Miller, 2010).

“Food is priceless,” stated John Hunte. “In doing farming, it’s not just about the cost of production. Regardless of the cost, you’ve got to eat” (p.c., 26/08/2009). Moreover, in the challenge to reduce the prevalence of obesity-related diseases, “access to good nutritious food will be a critical part of the solution” (Brathwaite, 2009: 34). However, while much emphasis is placed on the link between the consumption of ‘safe and nutritious’ foods and CNCD prevalence, this has not figured into the logistics of actual food production. When asked if the GoB took agriculture seriously, Julien exclaimed, “Ah, ah! Now you have now queried the circle! You have now come back to the crux. It is true! Because *if* it was an industry that was taken seriously then a lot of things would be done differently” (p.c., 27/08/2009). Respondents indicated that until the GoB begins to take agriculture seriously there is little hope that local producers would be able to meet population needs.

SECTION 6: Food Security Potential

A core feature of food security is the ability of people to access ‘safe and nutritious food’ (Chap. 4). While Barbados has a strong local poultry and pork industry (attributed to import restrictions), the commercial lamb, fruit and vegetable industry is flagging. Due to country’s small size, the production of large ruminants (e.g. beef cattle) is limited. Moreover, due to the island’s colonial history, there is a strong tendency towards imported food stuffs. While regulations controlling commercial food production appear strong (Bethell, p.c., 03/09/2009; Gale, p.c., 27/08/2009); the safety standards regulating imported goods are often lacking and

implementation of existing import standards is weak (Laurie, p.c., 31/08/2009; Bethell, p.c., 03/09/2009). This was found to be true for meat as well as fruit and vegetable imports. In terms of meat, the time between slaughter and delivery requires imported meat to be frozen (which reduces both flavour and nutritional value). In terms of fruit and vegetable imports, transportation times between harvesting and availability for sale result in a reduction of the nutritional value. Moreover, respondents expressed concern not only regarding the quality of imported fruits and vegetables but also the methods used to preserve and store these items (e.g. subject to dyes, wax and other methods of preservation). Concern was also expressed that proper food labelling – particularly of imported processed goods – is lacking. Due to rapid globalization and the dramatic changes in global food industry trends, low-cost imported processed foods have become staples in Barbados. Moreover, due to dramatic lifestyle changes over the past several decades, there has been a significant shift towards ‘convenience’ foods which are generally of low nutritional value (Gaskin, p.c., 03/02/2009). Media influence from overseas and targeted marketing strategies has strongly impacted local purchasing and consumption habits (Holder, p.c., 01/02/2009). As a result, a significant portion of the food entering Barbados is of limited nutritional value. Moreover, a global increase in the cost of food places added financial strain on consumers. This is particularly true for female heads of households with limited income (Holder, p.c., 01/02/2009; Gaskin, p.c., 03/02/2009).

While there is some truth in that Barbados cannot produce *all* that is required to feed its growing population needs, there was a general consensus that local food production has the potential to be self-sufficient in many areas (Fraser, p.c., 03/09/2009; Julien, p.c., 27/08/2009; J. Hunte, p.c., 26/08/2009; Laurie, p.c., 31/08/2009; Bethell, p.c., 03/09/2009). “Barbados,” argued Julien, “has one of the arable regimes in the Caribbean. Some of the best soils, best rainfall pattern, best irrigation systems, best topography... this culture is ideal for farming that’s why it survived this long” (p.c., 27/08/2009). Large tracts of suitable agriculture land lying fallow could be utilized for vegetable production. Moreover, there is an immense potential for ‘behind the paling’ food production (Laurie, p.c., 31/08/2009; Julien, p.c., 27/08/2009). “We know that we cannot grow all the food we need,” stated Sen. Chandler, however “local production, if well organized, can have a significant positive impact on the food import bill” (2011a). While much could be done to support small farmers and ease farmer risk, the average Barbadian also shares responsibility in achieving a more ‘food secure’ nation. As indicated, during times of economic

hardship, there is a general trend towards greater awareness of – and production of – local agriculture (Laurie, p.c., 31/08/2009). For example during times of war Barbados was unable to import enough food to feed its population. As a result, the government of the time had no choice but to implement policies geared towards greater vegetable production. According to Sen. Laurie,

During the war years – WWI and WWII – they passed legislation that *forced* the sugarcane farms to grow 12½% of their acreage in food crops. That meant that Barbados was virtually self-sufficient. I mean, we brought in salt fish and corned beef from Canada which was sunk in the harbour here by a German submarine! But we produced food. Everybody grew something in the backyards! We saw again in 1991 when we had the financial crisis and had to go to the IMF and borrow money to survive. There was a *huge* shift back to the land. People who had never grown anything in their life rented pieces of land because they wanted to grow crops so they could survive. (P.c., 31/08/2009)

Under the aegis of the Barbados Society of Technologists in Agriculture (BSTA), Laurie explored the potential for ‘behind the paling’ (backyard) food production. According to Laurie, the amount of food produced ‘behind the paling’ is drastically underestimated within GoB statistics (p.c., 31/08/2009). Concurring with these findings, Julien argued:

Everybody used to have a home garden, everybody raised a couple chickens, everybody. That 300 or 400, 000 tonnes of food we produced in 1966, you could add another 100, 000 tonnes that never entered the market or the official statistics. The amount of food produced in home gardens was *huge*. (P.c., 27/08/2009)

Recent BSTA reports state that consumption in Barbados is estimated at more than \$1 billion. Of this amount, food imports are estimated at \$400 million while local commercial food production totals approximately \$400 million. The discrepancy in statistics – according to the BSTA – is derived from unofficial food production (2009a). In other words, this gap is filled by small land-holders or ‘behind the paling’ production. The majority this food – estimated at more than \$200 million – is unaccounted for and thus unrepresented within national statistics (2009a: 2-3). Barbados also has a great number of wild fruit producing trees (e.g. coconut, lime, breadfruit, mango and golden apples). However no organized system exists to capture this fruit. As a result, a significant portion of the fruit is unpicked and left to rot (Laurie, p.c., 31/08/2009; J. Hunte, p.c., 26/08/2009). Harvesting of wild fruit trees also has to the potential to greatly increase food availability. With the use of technology and improved growing practices, BSTA reports indicate that contemporary ‘behind the paling’ food production could double. Practices are as simple and cost-effective as recycled tyre or bottle/bucket gardening methods. The direct benefit of increasing vegetable production ‘behind the paling’ lies in the potential to reduce the import bill

by about 50% (2009a: 4). However other benefits associated with a boost in local food production – particularly at the household level – are enormous. Improved production could translate into a reduction in the cost of food, improved food security, positive changes in diet-related attitude and behaviour and greater consumption of fruits and vegetables. The greater nutritional benefit of consuming fresh fruit, vegetables and meat – as compared to processed, frozen or aged fruit and vegetables – has been indicated.

SECTION 7: Food and Culture

Overview

The relationship between food and culture within the Caribbean is so complex and deeply rooted that it demands attention (Mintz, 1996). Tastes and preferences are affected by geography, economics, history, and culture. Barbadians – like any other group of people in the world – apply meaning to certain foods. What types of food people eat, where people buy their food, how and why people perceive these things within the cultural context must all be considered within interventions strategies targeting diet-related behaviour change. Failure to do so would be to ignore the pressures faced by individuals in attempting to incorporate healthy changes within their diet and lifestyle. The argument made by John D. Rockefeller, that “*The trouble with most people... is that they eat too much*” (Stockton, 2009) fails to consider the impact of cultural reinforcement, individual and group memory, social impetus, poverty, environment, and lack of resources on those most affected within the Caribbean obesity epidemic.

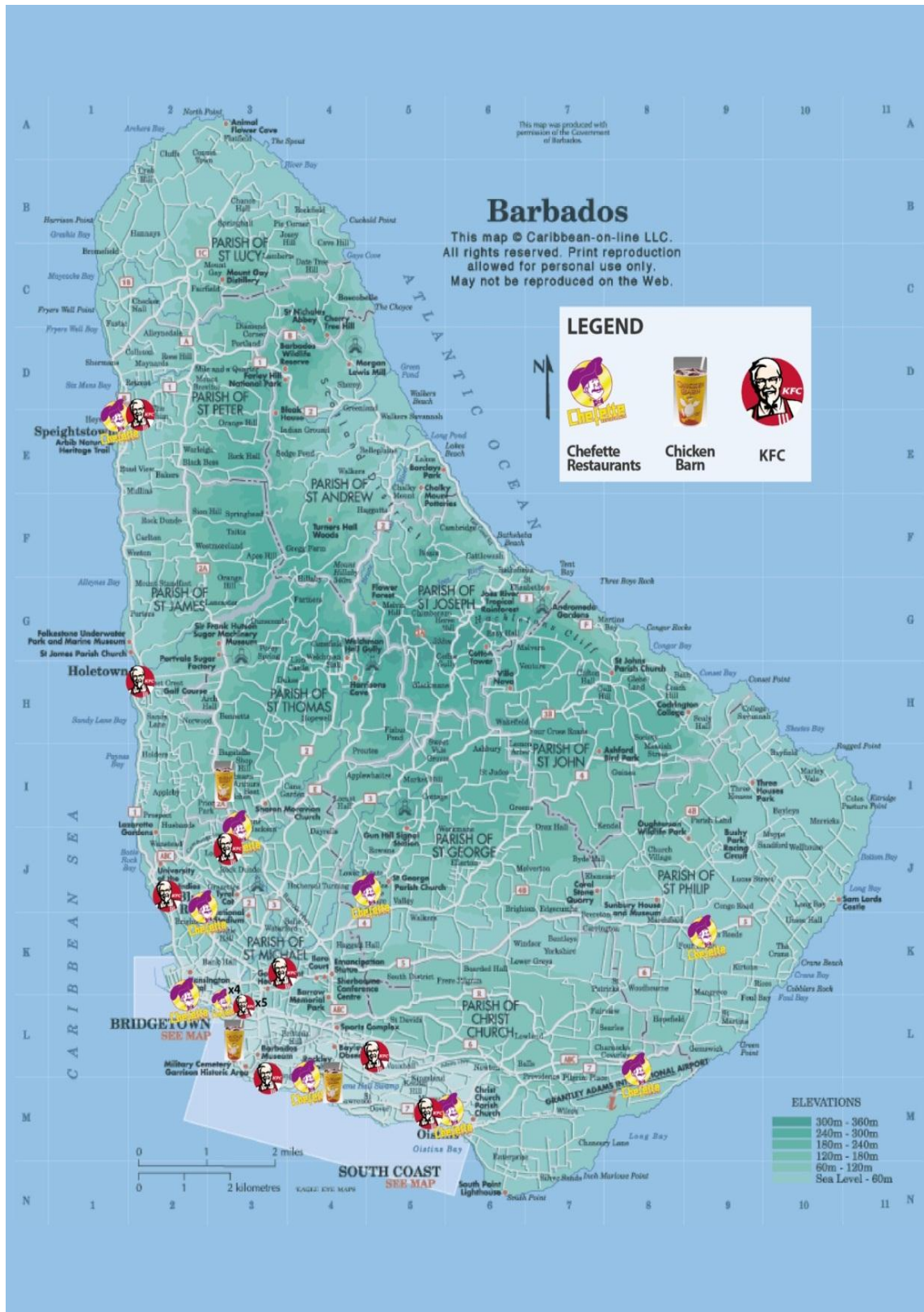
This section explores barriers to healthy eating in Barbados including factors related to food availability, purchasing preferences (e.g. time, cost, and convenience of foods), and meal preparation. Due to Barbados’ historical legacy, it is also important to explore how the significance of food vis-à-vis the colonial experience manifests within contemporary diet and consumption patterns. Attention is also given to the prevalence of convenience, snacks, and fast foods on the island. Due the complex nature of diet and consumption patterns within Barbados, environmental, structural, cultural and socio-historical barriers to healthy nutrition practices are loosely categorized under the following headings: (1) Types and Availability of Food, (2) Relationship Between Fast Foods and Traditional Foods, (3) Time, Cost, and Convenience, (4) Urbanization and Child Health, and (5) Cultural Memory, Trauma, and Consumption.

1. Types and Availability of Food

Research indicates that consumption patterns in Barbados follow regional trends towards higher fat and sugar content. According to Sharma et al., the 2000 to 2005 period was characterized by a rapidly worsening diet. Energy derived from fat had increased from 2.1% (2000) to 5.2% (2005), while sugar consumption patterns exceeded Caribbean recommendations by almost four fold (2008: 150). However, according to Sharma et al., actual increases were expected to be much higher (2008: 156). Of further concern, salt intake is estimated within 12 to 15 grams per day which was well above the daily recommended amount of six grams of salt (CMO St John Qtd. in Nation News, 2011a). Unsurprisingly these trends coincide with a proliferation of fast-food restaurants where – according to Henry – the major offerings are comprised of “fatty foods and refined carbohydrates” (2004b: 11). In recent times, there has also been an increase in the number of smaller convenience stores, gas marts,¹⁴ and road-side vendors selling a range of unhealthy snacks and convenience foods. As a result – in response to diet-related diseases in the Caribbean – much of the ‘finger pointing’ is directed at food and beverage industries (McIntosh, 2009: 9). According to McIntosh, “These industries churn out and distribute massive amounts of an increasingly wider range of ‘factory’ high-energy ‘food’ products, loaded with chemical additives, sweeteners and other ingredients that are now linked to health problems of obesity [and] diabetes” (2009: 9).

Barbados is rife with fast-food outlets, kiosks and rum shops, most supermarkets have delis to purchase take-away during breakfast or lunch hours, there are roadside vans along the major routes at lunch hours and during early evening hours selling take-away and on weekends there are “*tonnes* of little outlets that are set up with barbeque, or grill or fry” (Alert, p.c., 02/09/2009). For such a small island, there are three major restaurant chains specializing in chicken: Chefette (15 locations), Kentucky Fried Chicken (KFC) (14 locations), and Chicken Barn (3 locations). Nevertheless, in concordance with Henry’s argument (2004b: 11), chef Scott Ames lamented, “There are no balanced meals here. It’s just starch, starch, starch, fried protein, fried protein, and fried plantain” (p.c., 23/02/2009). CPHN Holder also commented on the lack of healthy options at food outlets as well as at public functions. “There is not a lot of choice for diabetics,” said

¹⁴ In 2002, it was estimated that there were approximately 60 small to medium-sized convenience stores and gas marts in Barbados (Arias, 2002).



*This map was amended to include locations of the different chicken-oriented fast food locations on the island for the 3 largest franchises: Chefette, KFC, and Chicken Barn.

Holder, “sometimes people are not *conscious* when they are making menus. They think they can serve the same for everyone” (p.c., 01/02/2009).

Within smaller convenience stores and gas marts, approximately 85% of sales are imports with best sellers including: soft drinks, salty snacks, fast foods/cooked meals, milk, and bread (Arias, 2002). Fast food and snacks are laden with salt, sodium, sugar, oils, and other ingredients that increased palatability while having a negative impact on health (Drewnowski & Specter, 2004: 6). Moreover, there is a preponderance of ‘Sweetie Ladies’ set up along roadsides, in markets and particularly around school yards. The great availability of this type of food (particularly soft drinks, fast foods, ‘junk food’ and snacks) has a direct correlation with increased energy consumption (Henry, 2004b:11) and therefore is also linked to increasing overweight and obesity prevalence (CARICOM, 2007: 24; Brownell & Battle Horgan, 2004: 38).

2. The Relationship Between Fast Foods and Traditional Foods

“As a people,” Dr. Alert revealed, “we eat out and we eat out a lot” (p.c., 02/09/2009). There are a number of explanations to account for the popularity of ‘eating out’ or ‘take-aways’ in Barbados including: availability, time, cost, convenience, and Barbadian’s ‘love affair with fat’ (Fraser, 2002). However another possible explanation arose during the field research that seems to escape most literature on the subject; that is the possible association between chicken-oriented fast foods and traditional foods. Due to the fact that many studies have indicated a ‘return to traditional diet’ could help alleviate diabetic symptoms and reduce the need for insulin (WHO & FAO, 2003: 8a), it was important to explore the nature of the ‘traditional’ diet in the Barbadian context. In recent years, Barbadians have been pushed strongly to return to the ‘traditional’ diet in hopes of improving the population health and nutrition. However, it is claimed that Barbadians are slow to translate messaging and awareness into action. For example, in the *Barbados Advocate*, it was stated that “Barbadian consumers are being urged once more to return to traditional dietary habits which are far more appropriate for our health, and in doing so reverse the trend that some of us have been creating for the youth” (2012). This statement was based on messaging delivered by MARD Deputy Permanent Secretary Lennox Chandler. Lennox was quoted as saying: “As Barbadians, we must seek to preserve and revisit the desirable and healthy aspects of our culinary heritage” (qtd. in *Barbados Advocate*, 2012). This section explores the ‘fast-food craze’ while examining certain features of the ‘traditional’ diet as it relates to fat, sugar, and salt intake.

Barbadians, Dr. Alert said, “are quite comfortable eating and eating out” (p.c., 02/09/2009). However what is it about eating out that made people feel ‘comfortable’? Fraser argued that Barbadian’s have a ‘love affair’ with fat (2004) while Sharma et al. attributed contemporary obesity rates with the wide availability of fast foods (2008), He et al. implicated soft drinks (2008), and Henry blamed ‘supersized’ portions (2004b: 17). Although these explanations are warranted, the Caribbean holds the unique distinction of being one of the few regions in the world where McDonald’s fast-food franchises have failed. For example, in 1996 – only six months after opening – McDonald’s first and only outlet in Barbados was shut down due to slow sales. In Trinidad, McDonald’s opened its first franchise in 1997, however the four outlets floundered and eventually closed in 2003 (Trinidad and Tobago Newsday, 2009). Meanwhile in Jamaica, the popular fast-food chain managed to survive for ten years with eight locations. However, McDonald’s also exited the Jamaican market in 2005 (James, 2009). In all cases, Caribbean preference for chicken over beef was cited as the main cause of McDonald’s failure.

Within Barbados however, another reason was cited. According to news reports, slow sales were due to two reasons: (1) Barbadians prefer fish and poultry, and (2) Barbadians like healthy food (Independent, 14/06/1996 qtd. in McSpotlight, n.d.). According to Patrick – web columnist for *Uncommon Caribbean* – “Ask any Bajan and they’ll tell you similar reasons for the downfall of McDonald’s in Barbados: We mostly like fish, chicken and pork. We like to eat healthy” (2010). Considering statistics for poultry¹⁵ and fish consumption, the first argument appears self-evident. However, the second explanation was ironic considering the diet and consumption patterns exhibited over the past 50 years! As such, how does the second argument (‘*We like to eat healthy*’) translate to Barbadian’s ‘love affair with fat’ (Fraser, 2002) or the popularity of fast-food chains (e.g. Chefette and KFC) characterized by ‘fatty foods’ and refined carbohydrates (Henry, 2004b: 11)? According to Dr. Alert, “Most of this food is not healthy because it’s fried with lots of oil, or it’s too salty, or it’s too greasy” (p.c., 02/09/2009) and the majority of food outlets don’t provide ‘balanced meals’ (Ames, p.c., 23/02/2009). Moreover, for a population wherein an estimated 20-25% of the population is afflicted with diabetes (WDF, 2011), there are

¹⁵ “Per capita consumption of chicken in 2004 in the Caribbean is 46 kg per annum, on par with the USA (for chicken only) and above the average of industrialized countries at 24 kg per capita and developing countries at 9.00 kg per capita. Poultry comprises over 86% of the regions meat consumption compared to 40-60% for most industrialized countries.” (CPA, 2010)

“not a lot of choice for diabetics” (Holder, p.c., 01/09/2009). While McDonald’s fare was deemed ‘unhealthy’, it might be worth asking the question: Do Barbadians consider chicken or fish oriented fast-food outlets (e.g. Chefette, KFC) to be ‘healthy’?

Sen. Laurie’s provided insight as to why some fast-food outlets failed while others thrived. Laurie’s commentary also helps to explain why – as Alert observed – Barbadians are ‘comfortable’ with existing fast-food outlets. Recounting the history of KFC and Chefette in Barbados, Laurie explained:

When KFC first opened their thing here it was interesting. That year they got the Gold Plaque for the outlet selling the most chicken in the world! Barbadians flock to it. Because you see, most Barbadians grew up with chickens in their backyard, so they grow up eating their own chicken. So when KFC came, wow, it was this huge thing. Then of course, Chefette came about 5 years later and copied the idea. Then McDonald’s came and failed because people here don’t eat hamburgers. It’s not part of our culture. (P.c., 31/08/2009)

“The culture is chicken,” said Laurie. “We eat more chicken per head here than most countries in the world!” (p.c., 31/08/2009). Like chicken, fish is also a strong feature within the traditional diet. Accordingly findings by Sharma et al. indicate that “fish and chicken dishes were the two largest sources of energy and fat” (2008: 150). Moreover oils and fats were considered necessary in the achievement and maintenance of health. During former times, labour was predominantly agriculture based and hence there was a need for energy dense diets to compensate for energy expended in the fields. As Gaskin explained,

When people do things like cut canes they have to eat quite a lot and that might be one of the reasons that we have the cultural habits of high calorie intake. They added things like coconut milk... they tended to put oil and butters in the food because they could not afford food in those ways and those were cheap ways to add calories to food...So these people, sort of intuitively, knew about adding energy to the diet. (P.c., 29/02/2009)

Respondent commentary revealed how contemporary food outlets have incorporated traditional dietary tendencies within contemporary menus. “It is that mosaic that is different for individuals in any setting, but say for a group, there are differences that are culture dependent,” said Gaskin who went on to explain: “Say for instance, oil. Oil is a high calorie food. If it is that much of Barbadian food, people culturally *like* oily stuff. But instead of it being brought as ‘fast food’, rather it is brought really in traditional food. So it is brought in what people see as ‘good’ food” (p.c., 29/02/2009). A similar argument could explain salt intake. As with oils, salt featured strongly in traditional preservation and cooking methods. In former times it was necessary to soak meats in brine. Comparing traditional foods with the contemporary diet Ames extrapolated:

You have to go back to the basics. From the colonial times when the ships came over from England, salting and preserving meat was a way to ensure that the food didn't go off because you obviously didn't have a fridge. Whereas now you are coming to Barbados 200 years later and they would capture fish, leave it somewhere, and for them to be able to eat it they would lime and salt the fish. Therefore they would then use pungent curries and such to flavour the meat. That is where I see Bajan cooking has stemmed from. All cooking around the Caribbean has amazing flavours but it's in studying the *history* of it. To me, I personally don't think it's really changed that much. (P.c., 23/02/2012)

Sugar also featured strongly within traditional foods. To offset the pungent flavours of the meat, sugar and spice were added in a harmonious balance characteristic of foods from across the region. "So we have things like pudding and souse where you add sugars, you add oils," said Gaskin (p.c., 29/02/2009). Sugar is also heavily used as an ingredient within traditional beverages (e.g. mauby). Unsurprisingly, findings by Sharma et al. indicated that "sweetened drinks and juices [make] up more than 40% of total sugar intake" (2008: 150).

Much attention has been directed at public awareness efforts to improve nutrition and consumption habits. While Barbadians are hounded in newspaper accounts and other forms of national and community media outlets about the dangers of excessive eating, poor nutrition, and obesity, awareness has not translated into physical action. "They are AWARE of what needs to be done," said Dr. Alert, "but they are not *doing* it" (p.c., 02/09/2009). Likewise, NCCNCD Chairman Professor Hassell urged vendors in Barbados to reduce the salt content of prepared meals in order to improve population health (qtd. in Gooding, 2011). However, because sodium is heavily used in processed foods to emphasize flavours and enhance preservation, it could prove difficult to convince food vendors to significantly reduce salt content. Moreover, a reduction in salt content could result in consumers complaining that food tastes bland. "For people who are accustomed to high levels of salt in their food," Henney et al. explained, "its abrupt absence can make foods 'taste' bad" (2010: 67). Such challenges could challenge consumption-related behaviour change initiatives. A significant amount of public information (e.g. newspapers, pamphlets etc.) is distributed regarding the dangers of excessive salt intake. However, according to Chief Medical Officer (CMO) Dr. St John, while Barbadians are "aware of the dangers of a diet rich in salt... this has not translated into practice" (qtd. in Nation News, 2011a).

What this section attempts to indicate is that average Barbadians are bombarded with mixed messaging. On the one hand, Barbadians are being told to avoid fast foods, oils, sugars and salt; on the other hand, Barbadians are also being told to return to the 'traditional diet'.

However – as indicated above – strategies encouraging a return to the traditional diet may not be entirely appropriate within the Barbadian context due to the heavy use of starches and calorie-adding ingredients in traditional dishes [Appendix 1]. As Ames queried, “*But what is a traditional diet?*” (p.c., 23/02/2012). Gaskin’s opinions on traditional meals – and particularly regarding methods of preparation – provide food for thought. Should contemporary Barbadians follow the advice delivered by public health campaigns – specifically those advising a ‘returning to the traditional diet’ – they may unintentionally invite greater health risk. As Gaskin explained, “you don’t really understand that you’re adding the calories there. Then you say I’m not going to eat ice cream, I’m only going to have a decent meal that may be your undoing. So it’s the cultural carriage of things that you believe” (p.c., 29/02/2009). For example, primary school staff members are keenly aware of the need to improve children’s dietary habits. In an attempt to improve the dietary habits of children, many schools have implemented ‘Healthy Lifestyle Days’. On these days, some schools replace sweets, snacks and sugar-laden drinks with local beverages. However, the foods that are being used as ‘healthy’ alternatives or sold at bake sales to promote ‘healthy living’ include such things as sweet potato pie and carrot cake (Moore, p.c., 05/05/2009). One school emphasized that mauby would be provided to students as a ‘healthy alternative’ to Chubbies or other carbonated drinks. Ironically, Ames described local mauby recipes as so sweet and laden with sugar that he couldn’t drink it (p.c., 23/02/2012). In essence, there is a need to distinguish between traditional foods and traditional methods of preparation. In this respect, focusing on a return to traditional methods of food preparation – steeped in starches, fats and sugar – poses risk of further contributing to the local obesity epidemic. As such, intervention programmes might consider factors associated with food preparation. Intervention programmes, suggested Sharma et al., “could focus on cooking methods that would reduce fat intake by decreasing intake of fried foods, and recommending stewing, steaming or grilling, and decreasing the addition of fats to foods during cooking” (2008: 158). Alternatively, interventions aimed at food replacement may also prove effective. “Replacing the most common sources of fat and total energy with lower fat or lower sugar alternatives,” advised Sharma et al., “will help focus an intervention on foods that would likely have the greatest impact on diet” (2008: 158).

3. Time, Cost, and Convenience

Time, cost, and convenience are frequently cited as contributing factors within obesity studies (Brownell & Battle Horgan, 2004). This is particularly true within the urban context (FAO, 2006b). According to Kiple and Ornelas,

Although one might decry the dietary change, the reasons for it are not difficult to understand. Foremost among them are the cost, degree of availability, and preparation time required for many traditional foodstuffs, as well as the influences of advertising and changing tastes. Certainly the highly refined imports of flour and rice, sugar, soft drinks, frozen meats, and high-fat corned beef make up a large part of the urban diet. (2000: 1362)

Barbados is one of the most densely populated countries in the Caribbean. As of 2010, 44% of the total population lived in urban areas with an annual rate of urbanization estimated at 1.7% (IndexMundi, 2011b). In 2011, population density was estimated at 666.8 persons per km² (IndexMundi, 2011a). Modernity and economic development are associated with the rural to urban transition. People move to urban areas and cities where population density is high and space is limited. However, due to Barbados' relatively small size and urban sprawl, it might be difficult to distinguish between urban and rural areas. This section examines the implications of urbanization on diet and consumption patterns. Specific attention focuses on how the rural-urban transition relate to structural and environmental factors affecting food availability, diet, consumption, and other 'lifestyle'-related factors.

Urban settings are known to impact resident health. For example, Watson stated that "Families in urban areas are much less likely to have access to arable land on which they can plant fruits, vegetables and ground provisions to provide nutritious meals" (qtd. in Caribbean360, 2010). However, the implications of urbanization go beyond access to land. The trend of rural to urban migration affects the security of single persons due to economic factors, availability of resources (e.g. land), as well as familial and community supports. According to John Hunte, "The community has broken down to a large extent." Hunte expounded,

There is a transition of rural to urban living. So the rural person who may have had a grandmother who was home with the children and may cook for these sons or daughters who've recently gone out to work have now moved closer to where they work in the urban areas. There is no body at the apartment to do for them when they come home. [So, they say,] '*On the way home, stop and have something that I like and I like chicken*'. So their diet is gonna suffer for it. (P.c., 26/08/2009)

So there are things that people don't think about, who do not have to be subject to them.



“There is another thing, this is a personal perspective, Caribbean fruits and vegetables are difficult to prepare.

If you have an imported apple you can wash it and eat it but, if you have a golden apple you have to peel it... If you lived in the developed world, you can pick up cherries, grapes, apples, even if you didn't want to process them you could tell the children just wash it and eat it. But these are things maybe people don't want to say, because some of our fruits are very nice tasting! But if you are in a hotel or a place where you have a helper, you say to them: *'Make me a fruit salad by the time I come home'*, then of course you can eat it every day.

But when you come home and you are tired, you don't blooming want to be peeling watermelons and stuff and cutting them up and paw paws, and all of this and THEN be making a meal after a difficult day and coming home on the bus.

So there are things that people don't think about, I think, who do not have to be subject to them.”

**- Dr. Pamela Gaskin
(Personal Communication, 29/02/2009)**

Being in an urban area also opens the door to competing social priorities. Moreover for those with children, the increased availability of children's programmes and the tendency (particularly within urban areas) to pick up one's child from school further impacts the burden on caregivers. Traffic was heavily congested and it often took several hours to travel only a few miles. As a result, parents may not have had a lot of time to plan, -prepare or cook nutritious meals.

The implications of a rural-urban shift are particularly relevant for single mothers who may be more vulnerable. According to Millennium Project's Task Force on Gender (2005), "women play a pivotal role in securing and preparing food for all the family." The Task Force also revealed that "women, particularly those that are heads of households are among the poorest in the Caribbean" (ECLAC, 2006: 1). Socioeconomic factors could include the expression of poverty through unhealthy dietary habits (Drewnowski and Specter, 2004: 14). Likewise, findings reveal that the poor are also the most likely to be malnourished. According to Kiple and Ornelas, "the most likely to be malnourished are the poor, often recent migrants to the towns, who have the least access to garden produce and the least cash to buy nutritionally sound foodstuffs. They may also be living in circumstances that do not facilitate food preparation" (2000: 1362). The importance of convenience in selecting foods is particularly relevant in the consideration of gender roles. Women take on many different societal roles. As Hollingsworth acknowledged, women are the 'primary caregivers' within Barbados. They are responsible for caring of the elderly, caring of children, and caring for their boyfriends or partners. The condition of women within the family structure forms part of an intricate web of circumstances entangling Barbadians within the obesity and type 2 diabetes epidemics.

There is a tremendous availability of prepared meals, particularly in urban areas. The availability of prepared foods reduces the burden of food planning, shopping, and meal preparation particularly for single mothers. According to Gaskin,

You have to get up very early [to take the bus to work], you are rushed to get there, you're probably in a low paid job that has very strict restrictions on your time so you only have, get your lunch time off and if you *do* get your lunchtime off. You can't afford a nice restaurant if you're gonna buy food, so you go to a greasy spoon restaurant where the food, to make it fast and cheap has to be done in oils, so you are getting very high calorie, trans fat foods. So there is a whole multiplicity of reasons that you as the poor *and working* are gonna get, there is no mummy at home any more cooking meals. (P.c., 29/02/2009)

According to Dr. Alert, Barbadians are aware they needed to incorporate more fruit and vegetables into their diet as a general rule. However, Alert explained, "these things are *so*

expensive around here! And relatively speaking, it might be cheaper just to buy a snack box [from Chefette or KFC] than, say, to buy a couple apples and so on” (p.c., 02/09/2009). “Anything healthy here is expensive,” commented Ames,

Using the cheaper cuts of meat and the fattier cuts of meat comes down to price...I think everyone would like to eat healthier but it’s all coming down to price. A head of romaine lettuce over here is \$6 US and that will feed 3 people a good salad and that’s just the lettuce alone. Then there are the tomatoes, the cucumbers, to make a good Greek salad to feed four people could cost you B\$30. (P.c., 23/02/2012)

From an economic perspective however, Ames opined that purchasing snack boxes and fast food oftentimes ‘just makes sense.’ According to Ames,

to go down to Chefette and buy a \$12 snack box just seems a lot more sensible. You don’t have to cook, you don’t have to wash up, you don’t have to go out and get it – you just go and line up in a queue and spend \$12. And when the average Bajan here earns only about \$100 a day, it just makes sense after a while when you look at what people earn here. Most of the population here does not earn much money. (P.c., 23/02/2012)

In other words, while fast-foods provide a convenient alternative to the burden of meal preparation, the ability to obtain healthy fast-food options “is not *that* convenient and not that accessible” (Alert, p.c., 02/09/2009). As a result, people are more likely to rely on readily available fast food of low-nutritional value (Watson qtd. in Caribbean360, 2010).

Examples provided by Hunte, Gaskin, Alert and Ames all point to possible explanations as to why Barbadians consume so much fast food and take-away, specifically: lack of time available to shop for and prepare nutritious foods, the transition from rural to urban living, and the prohibitive cost of healthy foods. When people *do* buy food directly as opposed to eating-out or take-away they may be influenced to purchase pre-made meals from the grocery store, or seek out foods that are easier to store, prepare, and serve. Lack of convenience, and laboriousness of preparation, are strongly noted as factors undermining the sale and consumption of many locally produced fruits and vegetables (Bethell, p.c., 03/09/2009; Gaskin, p.c., 29/02/2009; George, p.c., 11/02/2009; J. Hunte, p.c., 26/08/2009).

In 1975, Francis noted certain peculiarities within consumer tastes and preference. Francis observed that “the generalisation could be made that consumers do not exhibit any great taste for leafy vegetables.” Francis went on to state that “most housewives prefer to purchase ready to serve canned vegetables rather than fresh vegetables, although the former contain less than the desirable amounts of nutritive elements” (48). Almost forty years later, it seems little has

changed. Compare the following explanations for consumer preference, particularly that of housewives, for canned or processed foods:

At Home Meals

Gloria Francis, 1975

There would always be a fair proportion of consumers who prefer canned vegetables – households with working wives and mothers – since these are easy to serve and store. In addition, the relatively high cost of fresh vegetables tends to price them out of the reach of many consumers, or at least quantities purchased would be smaller than could be actually utilised or for that matter smaller than the required per capita intake for nutrition purposes. (1975: 50)

Patrick Bethell, 2009

The challenge that we have as producers, at least locally, is to present that food in a manner which is a ‘convenience’ food. The average housewife that’s coming in is not going to take up a yam and peel it and cook it or take a breadfruit, peel it and cook it. (P.c., 03/09/2009)

Francis acknowledged two specific challenges: (1) the high cost of fresh vegetables, and (2) the preference for foods that were easily prepared and stored. While Francis concluded that “consumer tastes or preferences...change but slowly over time” (1975: 48), onus was placed on the consumer to evoke change within their own buying and consumption patterns not only to improve nutrition but also to help build demand for local and regional produce. However, two clear impediments to the purchasing of fresh vegetables are specifically acknowledged; impediments which could be addressed, at least in part, by the agricultural community.

In terms of (1) the high cost of fresh vegetables, alternative buying facilities are available. While it might be more convenient to purchase supplies from one location rather than using local markets in combination with supermarkets, the difference in price when buying fresh fruits and vegetables from a supermarket can be enormous. Seasoned vegetable producer Bethell expressed his frustration at the mark-up on even locally produced foods,

Going to the supermarket is frustrating. The system is very defeatist. I will not sell to super market on principal because they are robbing people. I’m selling sweet potatoes at \$1.25 a pound and supermarket selling them at \$4 pound. Yams were selling at \$4.50 early on, I’ve sold carrots here direct to supermarket at \$2 a pound and they retail at \$5.25 a pound. I have a problem with that. I will not sell to them. (P.c., 03/09/2009)

For example, on a mid-week day during the course of the fieldwork, Big B’s was selling a head of imported Romaine lettuce for \$17 BDN (\$8.50 USD). That Saturday, 2 heads of fresh locally

produced and excellent quality leafy lettuce was being sold for \$7 BDN (\$3.50 USD). In December 2011, another comparison was made between the cost of lettuce in Canada and the cost in Barbados. One head of Romaine lettuce in Canada was priced at \$2 CDN (\$2.04 USD). Meanwhile, an imported head of Romaine lettuce in Barbados – according to Super Centre – was priced at B\$18.39 (\$9.20 USD) and a locally grown head of Romaine lettuce was priced at B\$11.55 (\$5.76 USD). While one could argue that imported vegetables – due to transportation costs and taxes – would inherently cost more, recall that many of the imported vegetables and fruit available through the grocery stores are low-quality and hence difficult to sell in North American markets. Furthermore, as Bethell said critically, “They [the grocery stores] buy it very cheap but it has not had any effect on the cost of our local sales to the consumer” (p.c., 03/09/2009). According to Bethell, the mark-ups of grocery stores and super stores (e.g. Super Centre) make buying fresh vegetables out of reach to many consumers (p.c., 03/09/2009). Having worded in agriculture for his entire life, Bethell is passionate about food security in Barbados. Moreover together with his Canadian wife (an occupational therapist), Bethell owns and manages CaribRehab, Barbados’ leading rehabilitation equipment supplier. As a result, with the spread of obesity, CNCDs, and diabetes-related complications (e.g. LEAs), Bethell is fully aware of the impact of food insecurity on population health. “The best thing in agriculture today,” Bethell declared, “is you’re seeing more and more farmers’ outlets – where product is being sold direct to people by the farmer” (p.c., 03/09/2009). By avoiding the many costly steps between farmer and grocery store display, the cost of vegetables is relaxed, more people are able to afford to eat healthier foods, and local agriculture is directly supported; thereby improving sustainability of the small farming industry and overall food security.

Nevertheless, this still left Francis’ (2) the problem of preparation, cooking, and storage. Writing in 1975, the irony in Francis’ comment that consumer tastes and preferences ‘*change but slowly over time*’ seems almost laughable if the penalties of such change were not so dire. Francis realized that the average Barbadian’s diet was lacking in nutrients, she also realized the challenges facing housewives and mothers to provide wholesome meals for themselves and their families. Nevertheless, there has not been a cohesive and unified effort on the part of the agriculture community together with MARD to package local foodstuffs in such a way as to meet consumer needs. According to Bethell, “If you offer the breadfruit slices frozen or yam sliced up and frozen that she can pop in a pot, she will eat it and she’ll give it to her family” (p.c.,

03/09/2009). Cheapside Market hawker Ms. Gill also emphasized that “In Barbados, people like more rice than breadfruit, cassava, or yams. Rice and pie, all those thing people would eat but people don’t like to dirty their hands with the yam!” (p.c., 29/08/2009). The solution, Bethell argued, lies in both consumer convenience as well as marketing: “We’ve got to make our food more attractive, convenience wise. That’s why people eat so much fast food now” (p.c., 03/09/2009). While campaigns (e.g. ‘Buy Barbados’ or ‘Fresh is Best’) may be good in theory, unless factors associated with cost and convenience are incorporated into plans, such campaigns fail to meet basic consumer requirements, particularly the needs of women.

“We are using a lot of bad things,” said Alert, “and this is probably a worldwide phenomenon because people want meals fast and [those meals] may not necessarily be more ‘healthy’” (p.c., 11/02/2009). Cantor and Cantor (1977) explained the relationship between fast foods, fast living and food choice:

Richness in diet is frequently associated with fat and sugar in the diet and “eating out” with fast foods and snack foods. The latter also not only are identified with high fat and high sugar but reflect “fast” as part of the life style and, in some respects, reinforce fast living... Fat and sugar are more than functional aids to the shelf life; they are equally associated with the richness of food and, therefore, its acceptability. (Qtd. in Mintz, 1986: 208)

Without the provision of healthy ‘convenient’ alternatives, there is little encouragement that the ‘change’ Francis spoke of in 1975 would happen any time soon. In order to succeed, campaigns (e.g. ‘Buy Barbados’) must be met with action on behalf of producers as well as MARD, not just ‘talk’. Change is possible but not without effort. While respondents are aware of some challenges facing consumers – particularly single mothers – the impetus remains on the consumer as opposed to the producer. To encourage healthier dietary behaviours, healthy alternatives must be made available to meet consumer needs.

It is not simply enough to pump-up awareness on the importance of a healthy diet or to encourage people to cook traditional foods. The inherent flaw in both of these tactics is the failure to empathize with women who are not only bearing the brunt of child rearing and care of the elderly and/or disabled but who are also bearing the brunt of the obesity epidemic and CNCDS. Convenient, nutritious and cost-enabling foods need to be made available in order to become ‘attractive’ to the consumer. With the financial burden of obesity and its many complications on national budget expenditures, such a change is both warranted and necessary.

4. Urbanization and Child Health

Many primary schools attempt to incorporate nutrition-related programmes. Nevertheless, according to Henry, “Many school canteens and the vendors outside promote high energy dense foods with little nutrient value” (2004a: 1). Within the more urban schools visited, Henry’s argument appears particularly valid. In urban areas convenience stores, gas marts, and roadside candy vendors satisfy children with an unlimited supply of treats, snacks, and Chubbies. As a result school canteens – which rely on sales to support gaps in school funding – are pressured to sell unhealthy snacks and sugary drinks. According to Principal Margaret St.Hill-Pinder of Wilkie Cumberbatch Primary School (St. Michael): “We sell unhealthy snacks [in the canteen] because if not, kids will go next door [to buy snacks] and we still need to make money too!” (p.c., 05/03/2009). St. Stephen’s Primary (urban) also attempted to incorporate healthy options within the canteen fare, however results were unsuccessful. In the past, said Howell, Thursdays were set aside as ‘Healthy Lifestyles Day’ wherein students were to eat *only* fruits and vegetables for snacks. However, Howell lamented,

Well we didn’t sell anything on those days. We provided things like apple juice. We would *just* have fruits. We have a canteen that sells everything the kids today love. Sugar stuff. The money is for school funds. But don’t get me wrong, the schools need funds. The Ministry does not provide a quarter of the things we need so the principals are on their own to get things done for the school. (P.c., 05/03/2009)

Although Bay Primary (urban) seemed to have a bit more success incorporating healthy food products into the children’s snack selection, they too faced challenges. According to Principal Marielon Gamble, while Bay Primary encourages parents to provide healthier snacks for their children, many children complain their parents don’t have the opportunity to buy fruit. In response, the school canteen offers fruit for sale. However, Principal Gamble said,

The children were not interested and sometimes the parents were not interested. I don’t think it’s cost because they have a *lot* of money to spend on other things. There is a nice fruit stand with lovely looking fruit across the road but not *one* of them would pass and buy a fruit. You know what they do? A van comes by here in the mornings and they would buy all sorts of things that they know wouldn’t be healthy for them to eat. Now they know they can’t eat it on the compound so they will keep it until the evening or they go back in the evening to buy. But they wouldn’t stop to buy the fruit out there. (P.c., 15/02/2009)

Healthy Lifestyle Days at St. Alban’s Primary (urban) were also discontinued. According to St. Alban’s Boucher, “We started to have healthy snack days but then it stopped. It’s not been consistent. We hope to have it again but the question is how to encourage it at home?” (p.c., 22/01/2009). Of further concern, Principal Small-Thompson and agriculture sciences teacher Cliff King of St. Paul’s Primary School (urban), expressed concern that children often purchase

‘snacks’ and ‘treats’ instead of eating from the government subsidized school meals programme (p.c., 07/10/2008). According to respondents Barbadian children – like children in most countries – are fond of treats and snacks. Many respondents also made the assumption that – when given a choice – many children prefer to eat fast food as opposed to a nutritious meal. Boucher commented that “A lot of students prefer to eat snacks if you give them a choice” (p.c., 22/01/2009). Boucher further explained: “Certain things that we consider wholesome – like yams and such – the children won’t eat” (p.c., 22/01/2009). Part of the reason – according to parent and organic farmer John Hunte – involves the idea of being ‘satiated’. Illustrating this point, Hunte elaborated upon children’s preference for soda pop and ‘Chubbies’:

The Chubby is satisfying, you know? You open it and Pssshhhhtttt! The children like to shut it back. Pssshhhht and *that’s* satisfaction too not just the ph ph ph ph drank a juice or glass of water that’s just got a little flavour but PSSSHHHTTT! And you’re feeling this fizz go up the back of your throat and it’s part of the sale. (P.c., 26/08/2009)

Greater availability of foods rich in fats and sugar (e.g. snacks, fast foods and soft drinks) are directly correlated with increased energy consumption (Henry, 2004b: 11) and hence, strongly associated with childhood overweight and obesity prevalence (CARICOM, 2007: 24).

Children – particularly those in urban areas – are being raised in a ‘toxic environment’ wherein personal choice is limited when exposed to toxins (e.g. greater availability, convenience, and child-centric advertising). According to CPHN Holder,

The sweet ones in the *little* bottles for the *little* babies – *the little Chubbies* – these people study the population and they *appeal* to it so they have the *little* drinks. Most parents are working. So if you can find a little drink for your child and it *reads* that it got vitamin C in it, you’re gonna think that you’re giving your child a good product. (P.c., 01/02/2009)

Fast-food restaurant chains (e.g. Chefette and KFC) also tailor their marketing campaigns toward children. Child-centric marketing ploys include ‘Kid Zones’ with free games, activities, toys and special children’s menus laden with sugar. According to Holder, “there is always some kind of little toy in the kid’s meal so children want these things as part of their entertainment” (p.c., 01/02/2009). Moreover Henry stated, “local and cable [television] networks heavily advertise fast food, especially on children's programmes” (2004a: 1). Gaskin also implicated child-centric marketing as a causal factor in the changing dietary patterns manifesting within the childhood population: “I noticed Barbadian children like chocolate cake which never used to have been something in our culture but of course chocolate has been popular in America and I believe that



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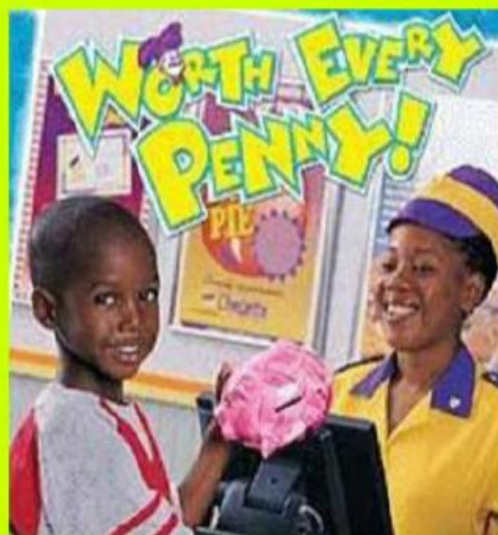
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SUPA PAK TOYS

ACTIVITIES

GAMES

TELL A FRIEND



Supa Pak Kids Meal Toys



Kids Meal

Chicken Supa Pak

- 1 Piece Chicken, Chips, Roll

Nugget Supa Pak

- 4 Nuggets, Chips, Roll, 1 Sauce

A kid's TOY is included in every Supa Pak.

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is quite a TV influence” (p.c., 03/02/2009). “It is easy to blame parents,” Brownell and Battle Horgen argued, “but they face off every day with an environment that grabs their children and won’t let go” (2004: 4).

In contrast, rural schools appear to have greater success at instigating and *maintaining* healthy lifestyle programmes. Principal Anderson Jordan attributed Boscobel Primary’s success as being attributed to three main factors: (1) rural location as it relates availability, (2) school population density, and (3) rural perceptions linking health and agriculture. According to Jordan, the closest grocery store is located approximately half a kilometre from the school. In relation to children’s health Jordan theorized, “I have no doubt that if supermarkets were in the immediate vicinity that that problem [of obesity] would arrive too” (p.c., 18/02/2010). Unlike the urban schools queried, Boscobel’s canteen enforces a strict nutrition guideline. Although Jordan admitted, “There is a little snack shop just to the west of the school,” he went on to say that the snack shop “doesn’t get as much business as before.” In terms of school lunches Jordan said,

Most of the children eat the school lunch. Certainly they like some things more than others. The children surprisingly eat what we call pelau. If vegetables are incorporated in the main dish like vegetables and rice or vegetables and macaroni, they will eat more of it than if there were just vegetables. There are some who have a preference for beets, cucumbers and lettuce... They love the watermelons. (P.c., 18/02/2010)

When asked how Boscobel succeeded in changing the dietary habits of their student population, Principal Jordan explained,

Before we spoke to the parents in relation to what is regarded as junk food by the medical practitioner, business [at the snack shop] was very thriving [but] it’s not thriving now. And we sell juices in the snack room, nuts and natural chips. Nobody [else] sells on the compound it is not allowed here. (P.c., 18/02/2010)

Along with factors associated with availability, some of the difference between urban and rural schools as they relate to nutrition interventions lie in population density. “Urban schools are larger as a result of the density of the population,” Jordan illustrated. “You have schools that are 400 or 500. But in the country you have a large distribution of schools and there are less students” (p.c., 18/02/2010). As a result, teachers are better able to communicate with parents on a one-to-one basis about the importance of proper nutrition as well as being better able to monitor student activity, particularly in the enforcement of nutrition-related rules.

Greater availability of land in rural settings is also more conducive to gardening, agriculture or animal husbandry and hence there is less need to rely on purchased food items.

According to Principal Jordan, many people in the area around Gays have a garden plot and/or raise livestock (p.c., 18/02/2010). Moreover with fewer prepared-food, snack and fast-food outlets, there is less competition against healthy meals. However, although fewer food-purchasing outlets are located within the rural areas (Jordan, p.c., 18/02/2010), Principal Jordan revealed that “Even though some parents in the country might have been able to afford it too, they knew the necessity and the wisdom of growing what you want to eat so [agriculture] was more or less continued in the country” (p.c., 18/02/2010).

In an attempt to influence the diet of young children towards greater appreciation of and consumption of fruits and vegetables, there was a tremendous push to incorporate agriculture – through the use of GBL – within both rural and urban primary school curriculums. For example, during the course of the field research, DAB coordinator Philips made great strides to promote awareness of healthy snacking and GBL through school visits, having interviews published in the media, and helping schools obtain the funding and resources needed to establish school gardens. There was also a surge in activity and awareness surrounding youth programmes (e.g. 4-H Club, Youth in Agriculture) attributed to the efforts of Sen. the Rt. Hon. Haynesley Benn (MARD, 2007-2009).

Because children spend much of their time in school, school staff and education practitioners are in a powerful position to influence positive behaviour change. The central role of agricultural education is to train students in the basic principles of agriculture, provide skill building and empowerment over their own food security, as well as positively influence the attitudes of young children towards agriculture. Furthermore, studies performed in the United States indicate that child participation in horticultural activities promotes nutritional attitudes and consumption towards fruits, and vegetables (Koch et al., 2005; Morris et al., 2002a). According to the Nutrition Services Division of the California Department of Education (CDE),

Schools with a healthy nutrition environment provide dynamic settings, such as a school garden, that foster improved student health. Students who participate in school garden projects discover fresh food, make healthier food choices, and are physically active. Anecdotal evidence is strong – teachers relate that students eat what they grow. Research corroborates this – children who plant and harvest their own fruits and vegetables are more likely to eat them. (CDE, 2007: 1)

Findings from the United States by Morris et al., indicate that although many children claim not to like certain vegetables, that could be because they had never seen nor tasted them (Morris et al., 2002a). Findings also suggested that children involved in horticulture are more likely to taste

vegetables they grew themselves as opposed to vegetables served to them (Koch et al., 2005; Morris et al., 2002a.). Within the Barbadian context, respondents suggested similar trends. Bay Primary – located in an urban area of St. Michael – has a thriving garden programme run by agriculture sciences teacher David Brathwaite. Recounting his experiences with the GBL programme, Brathwaite illustrated involving children in the growing process improved attitude towards certain vegetables:

We have a little girl here; she never used to eat lettuce. But after we started the program, because she actually grew it *herself*, she would eat it. I find it strange. When school meals come, the children will sometimes not eat the vegetables or plants when you give it to them but as long as *they* grow them themselves, they will eat them take them home and eat it. I saw a little girl take up an okra, wash it and ate it raw. But these are the *same* children who *would not* eat them in the school meals. So I guess it has its benefits. (P.c., 15/02/2009)

“If they grow them, they are gonna eat them,” Brathwaite went on to say,

They also love to eat the small little cherry tomatoes. Some children will wash off the lettuce leaves and eat them straight. Depending on what it is, I actually have children that will fight for them. Beats, cherry tomatoes, these are specific things they like. So what I will sometimes do, I will ask them what *they* want to plant this time. So instead of having things they not gonna use, we actually have things they *will* use. They like lettuce, they love cherry tomatoes, they like beats and they especially like the red lettuce. They don’t take to Chinese cabbage very well. Sometimes we plant potatoes also. (P.c., 15/02/2009)

There was also some indication that children – through the agriculture lessons learned at school and their experiences in the school gardens – had begun to plant their own vegetable gardens at home. According to Principal Jordan, “Some [children] have available space for a garden and some of the students have already started gardens at home, which is one of the main aims of the practical aspect. To give them that experience so that they can start one at home” (p.c., 18/02/2010). While results from Bay and Boscobel Primary are encouraging, other schools did not have the same degree of success. When asked whether there were any changes in the children’s attitude towards vegetable consumption after incorporating a garden into his form 3 curriculum, Howell (St. Stephen’s) admitted that while his students enjoyed garden tasks, there was no noticeable change in attitudes toward vegetable consumption. Howell ascribed this failure to the preponderance of ‘junk food’ and child-centric marketing:

The truth is that children are bombarded with a lot of junk out there. I think though that if they are *into* growing these things, and they are really serious about it in a sustainable manner, then they would want to eat it. Because hey, you are growing it! But I can’t really say that I have noticed a change. Truthfully I cannot say that I have noticed a change. But

in saying that, it is *also* because the amount of junk out there for them that is easier for them to obtain anyhow. (P.c., 05/04/2009)

A few possible explanations could have accounted for the difference in results expressed by teachers at Bay Primary and Boscobel in comparison to St. Stephen's. Unlike Bay and Boscobel, the garden programme at St. Stephen's Primary School was not incorporated into the school as a whole but rather the result of an individual teacher's passion for agriculture being incorporated only within his one class. Although the principal of St. Stephen's was described as 'encouraging', Howell acknowledged that there was little support from other school staff, parents or community members with the exception of a donation made a few years prior of approximately 1,000 seedlings which were used in the garden as well as being distributed amongst children and school staff (p.c., 05/04/2009). In contrast, both Bay Primary and Boscobel Primary school staff commented on the support of community members in obtaining seedlings, equipment, manure, and with helping to tend gardens during weekends and school breaks. The St. Stephen's garden was also characterized as stop-and-go according to time availability, resources, equipment-related concerns due to theft, as well as heavy rains which made soil preparation and planting difficult. The topic of school gardening is further explored in relation to perceptions of agriculture (Chap. 7, Sec.9).

More research is needed to fully grasp the potential of GBL within primary schools, and particularly within Barbados' urban schools. However, results indicate that incorporating garden projects into the curriculum may have significant potential in altering perception of vegetables as well as consumption habits within the childhood population. Ensuring healthy child development is a vital component of the development process. According to the Center on the Developing Child at Harvard University, "children's health is a nation's wealth, as a sound body and mind enhance the capacity of children to develop a wide range of competencies that are necessary to become contributing members of a successful society" (2010: 2).

Contemporary lifestyle choices undermine health. "We are using a lot of bad things," said Dr. George, "and this is probably a worldwide phenomenon because people want meals fast and they may not necessarily be more healthy so that a lot of the foundations of chronic disease are probably set in childhood" (p.c., 11/02/2009). However, according to CARICOM, "Parts of the population, in particular children, are not yet the rational economic actors that economic theory assumes" (2007: 30). According to interviews with health practitioners and teachers, there is an urgent need for nutrition interventions targeting the country's primary school-aged population. GoB

support of programmes and initiatives targeting obesity-related interventions related to diet and consumption patterns are critical – particularly within childhood populations – in order to reduce the future prevalence of obesity and obesity-related diseases (CARICOM, 2007: 30).

Within interventions however, attention must also focus on care-givers. All interview respondents repeatedly cited the preference of children towards fast food, snacks, and other ‘junk’ or energy-dense foodstuffs of little nutritional value. However, there is cause to question this assumption. Adult perception of child preferences appears to play a significant role in determining what kinds of foods are provided to children. Moreover certain philosophies underpinning adult behaviours related to children play a critical role in childhood diet and consumption patterns. For example, Boucher stated that “The children prefer to eat mac and cheese or macaroni pie. Even bananas and apples certain children won’t eat” (p.c., 22/01/2009). Moreover while Principal Jordan (Boscobel Primary) “the majority of the children do not eat the tomatoes” (p.c., 18/02/2009), in contrast Brathwaite boasted that the children at Bay Primary “love cherry tomatoes” (p.c., 15/02/2009). In truth depending on which person or school was queried the perception of child ‘likes’ and ‘dislikes’ changed drastically.

Of additional concern CPHN Holder argued, was the way in which food is presented to children. Holder commented that while there is a school meals programme in place, the food is often not presented in a way that the children find ‘pleasurable’: “Sometimes the meals they prepare are not what the children like so they won’t eat it. But that is the point! If you think these are the meals that the children should be having you should prepare them in a form the children find pleasurable” (p.c., 01/02/2009). According to information gleaned from teachers, principals, government officers and parents, Holder’s concerns are warranted. For example, Pamela Hunte explained the schools “have dietitians who determine what the menus would be to ensure that the children have a balanced meal but some children do not take it” (p.c., 02/09/2009). Principle Gamble also stated that “With their school lunches, [the children] get the apples, the oranges, but some children don’t like that” (p.c., 15/02/2009). John Hunte argued that “Even bananas and apples certain children won’t eat” (p.c., 26/08/2009). This was repeated by Pamela Hunte: “some of the children take [school lunch] but they don’t eat the fruit” (p.c., 02/09/2009). Ironically according to Principal Gamble, “if you prepare [apples, oranges and bananas] as a fruit salad they love it” (p.c., 15/02/2009). However, Gamble complained that making a fruit salad “takes a longer time to prepare” (p.c., 15/02/2009). While many schools argue that children will not eat

fruits and vegetables served during school meals, Brathwaite and Jordan provided a long list of options that children enjoy (e.g. lettuce, red lettuce, cherry tomatoes, eddoes, beets, cucumbers and watermelons). While there may have been some merit in the concept of an innate child preference for certain foods over others, presentation and socialization appears to be the driving factors behind children's dietary habits. As Pamela Hunte concluded, "They'll throw out the apples or bananas because at home that's not how they're socialized. Some of them don't eat fruit. They'll eat it if they are forced" (p.c., 02/09/2009). Moreover, while school respondents expressed concern regarding child consumption of excess sugars and fats, the majority of schools supplemented their funding through the sale of sugar-laden snacks. Although some schools attempt to implement fruit within canteen selection, as Gamble explained, "we found that a bit challenging. Because then to go to the whole fair place and bring the fruit in on a particular day" (p.c., 15/02/2009). A number of school representatives also commented that fruit is expensive and tends to spoil quickly, therefore fruit is not considered a viable option to sell within canteens. Principal St. Hill-Pinder explained: "We try to sell fruit but it goes bad. Fruits spoil and they are expensive" (p.c., 05/03/2009). Similar challenges were expressed by respondents from Arthur Smith Primary. According to Clarke, "Every Wednesday we have a 'Fruit Day' where the children are encouraged to bring only fruit as snacks" (p.c., 19/01/2009). In line with other respondents, Clarke stated that "Fruits are expensive for parents." However, unlike other schools, Arthur Smith adopted a different approach to the problem. Rather than abandoning Healthy Lifestyle Days, school staff encouraged *local* fruit. According to Clarke, due to the high cost of imported fruit, "We encourage the children to bring local fruit that are in season. For example, sugar apple, golden apple, sour sop, avocado, bananas or figs, cherries, lime" (p.c., 19/01/2009).

5. Cultural Memory, Trauma, and Consumption

Although slavery was abolished in 1834, the memory of slavery has been passed down through the generations in a multitude of ways including perceptions towards food, the drive for social mobility as well as other more subtle influences, such as the possible link between slavery and the lack of physical recreation. In terms of health, the role of cultural memory has directly contributed to the rise in obesity and CNCs. According to Fraser and Alert (1999), contemporary dietary habits are a throwback to the slavery experience and malnutrition which was endemic during that period. Gaskin et al. also acknowledged the impact of "cultural memory of food insufficiency and debilitating physical labour" (2007: 42).

Research indicated that families experiencing both hunger and obesity is attributed to (1) increased consumption of high-fat foods to prevent hunger during times when there were insufficient financial resources to purchase nutritious food, and (2) an adaptive response to episodic food insecurity characterized by oversized portions and ‘binge eating’ (Chap. 4). According to results from The Eastern Caribbean Child Vulnerability Study (2005), 14.7% of Barbadian households surveyed are classified as ‘food insecure’ (Racine et al., 2008: 1446). According to Racine et al., there is a strong correlation between food insecurity and the presence of a chronically ill parent and/or a parental divorce within the year preceding the survey (2008: 1447). Prior to the Vulnerability Study, no research existed to determine the relationship between food insecurity, CNCDs, and divorce. Nevertheless Racine et al. argued,

nutrition has been repeatedly found to lead to poorer health outcomes. Food insecurity may lead to poor health of a household member; poor health may inhibit the ability to work, reducing resources available to purchase food for the home. Food insecurity may cause stress that leads to an increased risk of divorce. (2008: 1447-1448)

During the course of the fieldwork it was also observed that meals served by less costly food outlets are characterized by generous portions. According to Ames, Barbadians consume more. “I generally find,” Ames said, “when we cook for Bajans, we have to cook 20% more food” (p.c., 23/02/2012). Moreover Henry argued, ‘supersized’ portions had contributed to contemporary obesity trends in the region (2004b: 17). Expressing concern regarding contemporary consumption habits, Dr. Alert commented that “We know that [Barbadians] have an appetite for eating because you know we eat and we eat and we eat” (p.c., 02/09/2009). In explanation of the propensity towards larger-sized portions, it was revealed that the cultural memory of slavery and the hardships experienced during the post-emancipation era are directly relevant to contemporary attitudes towards consumption. John Hunte opined, “The biggest fear the older generation has is going to bed hungry and it was something they live through every day” (p.c., 26/08/2009). This compulsion, Hunte expounded, has less to do with actual hunger and more to do with the memory of hunger. Illustrating, Hunte explained:

[Barbadians] pile it on their plates and they can’t get enough, even if they can’t get all of it eaten. They pay a set fee #1 so they paid their money so they say, ‘*Let me eat my money up! Let me eat this up. It’s free!*’ Greed is a problem where people remember not having much. (P.c., 26/08/2009)

The driving force behind consumption and ‘supersized’ portions, Hunte argued, is fear of the future: “People think, *‘We aren’t gonna have this tomorrow so let me enjoy this today.’*” (p.c., 26/08/2009).

SECTION 8: The Social Dynamic of Food Purchasing in Barbados

Overview

In *‘Eating the Other,’* bell hooks pondered on the commoditisation of ‘Otherness’ saying that “mass culture is the contemporary location that both publically declares and perpetuates the idea that there is pleasure to be found in the acknowledgement and enjoyment of racial differences” (1998: 181). Nowhere is this idea more evident than within the context of food. In most countries today, the pace of globalization and liberalization of food and agriculture markets allow for a kaleidoscope of foodstuffs regardless of season, climate, or topography. Popular intrigue or attraction with the ‘other’ is a common feature within many societies (Chap.6). However, within Caribbean small island plantation economies, taste preferences are further guided by historical trends towards mono-cropping and a failure to diversify local agriculture production. According to Ahmed and Afroz (1996) Caribbean people are,

conditioned to accept imported food which is supposedly better in quality, tastier, cheaper and trendier than locally produced food. Foreign cultural penetration and commercial advertisements by the local and overseas media have led to the further development and refinement of such tastes. It is perhaps, a legacy of slavery, when cereals, salted codfish, canned fish and meat, butter, cheese and flour, etc., were imported into the region free of any taxes or duties. The import of basic food items strengthened monoculture and the creation of capital which was invested abroad. (Qtd. in Brathwaite, 2009: 7)

The impact of social conditioning on taste preference is particularly relevant in Barbados. Unlike other larger Caribbean islands (e.g. Jamaica, Trinidad, Guyana), Barbados is burdened by limited land availability. Moreover conditions in Barbados are ideally suited to sugarcane production; as a result, the diversification of the agriculture sector has been stymied. Comparing taste preferences in Barbados to those in Guyana, Cumberbatch stated that “In Guyana the Guyanese use more local than import stuff. I guess that’s what they accustomed to, we accustomed to you know we in Guyana you want fresh vegetables every day” (p.c., 01/09/2009). Julien also argued that in other larger Caribbean populations that are less regionally isolated and have greater access to land (e.g. Trinidad and Jamaica), there is less of a tendency towards imported products: “It is definitely not the same in the other countries like Trinidad and the other Caribbean countries or Jamaica which is really into agriculture” (p.c., 27/08/2009).

Writing as early as 1975, Francis noted that Barbadian consumers showed ‘no great taste’ for fresh produce but would prefer to purchase ‘ready to serve canned vegetables’ (1975:48). While other arguments exist to explain this cultural peculiarity (e.g. convenience, time, laboriousness of local ground provisions), it could also be argued that that taste preferences in Barbados have been conditioned for centuries. Such social conditioning – beginning as early as the 1640s – was necessary as the plantation economy shifted away from small land holdings towards large-scale sugarcane production. Social conditioning, combined with import trends associated with colonial mono-cropping practices, have resulted in a ‘taste’ for imported or foreign foods products. Following emancipation however, the socio-historical impacts of slavery and poverty compounded conditioned taste preferences. This situation was further exacerbated by increased liberalisation of markets and the rapidity of globalization combined with changing lifestyles and the rural-urban migration. Moreover, structurally imposed class barriers have resulted in negative attitudes towards the production and consumption of locally grown foods which have become associated with the lower echelons of society. Attraction towards the ‘Other’ – in the Barbadian context – manifests on several levels including the association between class status and foods, stigma against local foods, and ability to shop at formerly cost-restrictive supermarkets (e.g. ‘social supermarkets’). The following sections describe the contemporary manifestation of social conditioning on food selection and purchasing habits. Sub-sections include: (1) Cultural Memory, Trauma, and Food Selection, (2) Food Purchasing Dynamics.

1. Cultural Memory, Trauma, and Food Selection

A review of the literature (Chap. 6) indicates that certain foods – due to their cost, availability or prevalence during times of hardship, poverty or slavery – are associated with low social status, while other foods are associated with the upper echelons of society. For example, one way that the nutrition transition manifested in Barbados is the evolution of formerly high status – or ‘Big Up’ – foods being eaten only occasionally (e.g. ‘Sunday’ or special occasion foods) into daily fare. As better paying employment opportunities became accessible to Afro-Barbadians, so too did their ability to partake in the ‘upper class’ food culture. In other words, foods hitherto restricted to certain sections of the population (e.g. the poor and predominantly African origin population), became accessible. According to McLaren, imported or foreign foods – regardless of nutritional quality – often hold popularity and prestige (2007: 37). Corresponding with these findings, Gaskin revealed that Barbadians “would be enthused with things from the outside

world” (p.c., 29/02/2009). In contrast Laurie explained, “We were always brought up that something imported is always better. It’s part of the modern Barbadian culture” (p.c., 31/08/2009). In consonance with these claims, Marshall stated: “That is another problem in Barbados. We tend to say, if it comes from overseas, it’s better” (p.c., 28/01/2009).

During an interview with 4-H Field Development Officer Wayne Morris, and 4-H Programme Coordinator Blackman at the national 4-H office in Bridgetown, we discussed the relevance of food in terms of social status, and whether certain foods are considered ‘poor man’s food’ – or low-class food – in the Barbadian context. Morris explained,

That’s true you know. Because I invite you home for dinner, I should be offering you the local foods and so on. But I gonna *impress* you, I want the macaroni pie, the peas and rice, the lasagna. I want you to come to my home and see me eat *that* food. But, the codfish, the cou cou, the ground provisions, dumplings, they be very frugal. As a concept, I don’t want the average person to come to my home and see me eating breadfruit cou cou and stuff like that. They look at it as a ‘*poor man’s food*’. Even swordfish and rice, because you can get a lot of swordfish here from the local fisherman, they look at it as ‘poor man’s food’ so they ain’t gonna eat it. (P.c., 02/09/2009)

Foods identified by Morris included: “Breadfruit, cou cou, cassava, swordfish, yams, pumpkin, squash, macaroni corn beef, even soup or stewfood those are all low-life foods” (p.c., 02/09/2009). In explanation of why particular foods hold a negative stigma, Laurie disclosed that some local foods (particularly ground provisions) are historically tied to the plantations:

These are all grown on the sugar estates. I was born on a sugar estate and I remember we always had these things, people harvesting these things and then at times like Crop Over and such, the workers were given 20 lbs. or something of yam. These things come back from those days. (P.c., 31/08/2009)

Barbadians – particularly Afro-Barbadians – “remember the days of poverty when they had to eat these things” (p.c., 31/08/2009). Therefore, as Laurie expounded, “They think, *‘I used to have to eat that because I was poor. Now I’m not poor so I’m not going to eat it!’*” (p.c., 31/08/2009). The stigma against ‘poor foods’ extended to fruit bearing trees. According to Laurie, “They say, *‘Well I don’t need that anymore. I work for money I can buy what I want. I can buy apples, and pears, and grapes. Why should I bother with a golden apple tree that’s shedding’*” (p.c., 31/08/2009). Cheapside Market hawker Doreen Went also commented on the association between food and social status: “It’s poor food and it’s *better food!* But some bodies don’t eat it because it’s poor food!” (p.c., 29/08/2009). Unsurprisingly, certain foods are not only associated with ‘poor man’s food’ but also with slavery. According to Laurie, “It’s exactly like that in terms of attitudes towards some foods like eddoes, cassava, and breadfruit. For example,

breadfruit was brought here as food for slaves. So it has that connotation at the back of people's heads" (p.c., 31/08/2009). In consonance with other respondents, Dr. Gaskin agreed that certain foods are considered 'low status,' particularly breadfruit cou cou (p.c., 29/02/2009). It should be noted that everything on these lists – with the exception of macaroni corn beef – is able to be grown or caught locally. When the subject of food stigma was raised with Julien, he exclaimed, "We have a saying here, *'Too local!'*" According to Julien, "There is a stigma against anything local. Everything here in Barbados is garbage. It comes from a form of self-hate. In other words, not feeling good about yourself so you don't feel good about what you produce" (p.c., 27/08/2009). CPHN Holder expressed similar thoughts. According to Holder,

Culture plays a key role in what people believe. Sometimes Barbadians think that things are better than what they have. It's their perception – if it's from overseas it must be better... You don't see what you have as being 'superior' – or just as good – to what other people have. So we need to get the cultural aspects *right*. So yam is good, it has nutritional value and you don't have to have this processed food or this canned food from another country. (P.c., 01/02/2009)

On the other hand, foods identified with the upper class include *'Sunday foods'*. Illustrating how local preferences have evolved, Morris explained:

You come up as a young person, from Monday to Friday you having cou cou, plantain and swordfish but Sunday is a special meal. Sunday everybody come together and you have your salad, your coleslaw, baked chicken or your baked pork and you feel good. Right? And, it probably drifts back to the slavery days where that in Sunday would be a treat. Master and everybody call you in and you have your big meal on Sundays. Sunday is a special day so Sunday you get *all* the works. (P.c., 02/09/2009)

Concurring with Morris, Blackman agreed that on "Sunday you must have a different meal. Sunday is a *special* meal" (p.c., 02/09/2009). For example, as Morris expounded,

Those who exposed to the Caribbean culture, you cook macaroni corn beef, and if you cook it, you know we call it *'local food'* for such a long time, macaroni and corn beef, right? So they say, 'You know, everybody in here, you *cannot* cook macaroni and corn beef pie on *Sunday* in Barbados!' (P.c., 02/09/2009)

Respondents indicated that foods associated with social status and prestige include: peas and rice, lasagne, fried or baked chicken, and lamb. Other things, such as Coca Cola and ham are associated with times like Christmas (Blackman, p.c., 02/09/2009). Of particular note both Morris and Blackman identified macaroni pie as *'fancy food'* during times gone by.

Macaroni pie is served all over the island in restaurants, rum shops, roadside stands, as well as within the home. Due to the prevalence of macaroni pie availability and consumption, I first believed that it must be a traditional Bajan dish. However, Dr. Gaskin clarified, "Macaroni

pie is absolutely not traditional!” (p.c., 29/02/2009). The dish is so prevalent that – as Gaskin recounted – many children believe it was *the* National Dish of Barbados: “It was very striking to me, I spent 10 years all over the country and I was shocked to find out that there are children in Barbados that think [macaroni pie] is the national dish” (p.c., 29/02/2009). The National Dish of Barbados is actually cou cou and flying fish. However, as the research indicates, cou cou is strongly associated with poverty and considered by many as ‘low-life food’ (Blackman, p.c., 02/09/2009; Gaskin, p.c., 03/02/2009; Morris, p.c., 02/09/2009). According to Julien, “It is a culture issue. They feel ashamed. It was also with the cou cou and flying fish, you know, it’s a nice dish. That was the traditional dish here but has been replaced with macaroni pie because the flying fish was ‘*too local*’” (p.c., 27/08/2009). On the other hand, according to historical records (Davidson Kaufman, 2002: 14) and interview respondents (Julien, p.c., 27/08/2009; Morris p.c., 02/09/2009), macaroni pie is a dish brought over from England. Associated with the upper classes, macaroni pie would be eaten by plantation managers and their families as special Sunday fare. Macaroni pie, explained Julien, used to be “eaten by the well-to-do. So when the not-so-well-to-do became the well-to-do, they figured they must eat it too” (p.c., 27/08/2009). In other words, Julien explained, the consumption of certain food stuffs (e.g. macaroni pie) acts as a cultural marker displaying upward social mobility and SES:

Because you know now, it is my right. It is not for the rich people alone, I must eat it and because it’s seen now that as soon as you’ve achieved a certain status that you must have it. You must have the macaroni pie, you must have a car and a big screen TV. [This has happened to] virtually *all* traditional dishes. (P.c., 27/08/2009)

However in recent years the attitude towards macaroni pie has shifted. No longer considered a ‘Sunday’ dish, macaroni pie is eaten relentlessly by young and old alike (Blackman, p.c., 02/09/2009; Morris, p.c., 02/09/2009). “The development of macaroni pie,” lamented Gaskin, “is almost insidious.” In examining the possibility of a Barbadian fascination with social mobility expressed through diet and consumption, Dr. Gaskin was asked whether or not Afro-Barbadians sought social mobility through food selection. “That is true,” replied Gaskin, “and you captured it.” Gaskin expounded that,

People would be enthused with things associated with the outside world and so, maybe mac pie, the development mac pie is almost insidious to me. I can’t say that I ever thought of it as a dish that had high status or low status. Say, for instance, maybe breadfruit cou cou had low status but I didn’t think about the status of mac pie very much so I wouldn’t argue about it. You’ve now put it in my head honestly. (P.c., 03/02/2009)

The impact of this change on health in the Barbadian landscape – citing Gaskin – is insidious. Blackman exclaimed that “most of the youngsters between 20-20 something age group, their main meal is macaroni pie and chips. That’s their *main meal*” (p.c., 02/09/2009).

Barbadian parents, Blackman argued, have “gone overboard with [their] children” (p.c., 02/09/2009). Illustrating the mentality driving childhood obesity in Barbados, Blackman provided examples comparing his childhood with the experiences of children in recent times. Due to the significance of the information gleaned in understanding behaviour patterns, Blackman is quoted at length:

Most of us when we came up, our parents had it fairly tough. So you know what I mean? When I was growing up ham was a Christmas-do. The sort of things, you wouldn’t get on *Sundays*, you know what I mean? Drinks, like cola drinks. My father was a meal assistant, so we would get a whole coke plus free yams from the grocery so we were a little different. But I knew families with like 6 children and so on, and if you got a drink like that you had to divide it among 5 or 6 brothers. So we come up with this thing – and this is the problem – that *‘MY children MUST NOT endure the hardship that I endured.’* And we go overboard. We’ve damaged our children. There are some excesses that go on here. You got some children going to school today and they go on with \$20 in their pocket to buy lunch! I remember going to school, 50 cents would last me a whole week! But people feel that *‘I must give my children ALL the things I didn’t have.’* (P.c., 02/09/2009)

Concurring with Blackman’s comments, Marshall also commented on the association of cultural memory of poverty on how parents raise their children in respect to food selection and diet.

According to Marshall, “So a parent might say *‘You know, I went through a hard time, so I’m gonna make my child’s life a little bit easier’*” (p.c., 28/01/2009). However such practices, compounded with the increased buying power of children, have resulted in healthier foods served in the school lunch programme and canteens competing with treats, snacks, and fast food. When asked if Barbadian parents realize what this type of diet is doing to their health and to their children’s health, 4-H Programme Coordinator Hamilton Blackman’s reply was the same as that given by Dr. Alert and Dr. Gaskin, “I don’t think people realize” (p.c., 02/09/2009).

“The greatest fear that is left over from the transition from slavery to freedom is hungry children. There should be no hungry children. So you’ll find a lot of little overweight fat kids. As soon as they say *‘I am hungry’*, the parents ask, *‘What do you want?’* They don’t say *‘Eat a banana.’* They want to satisfy the child. They say, *‘I wasn’t satisfied so I want to satisfy you.’* Whatever it takes, if its food let me give it to you, because I don’t want you to go to bed hungry.”

- J. Hunte (P.c., 26/08/2009)

2. Food Purchasing Dynamics

As incomes rose within the ranks of Afro-Barbadians, so did access to certain locations previously closed to them. Being able to access and afford to shop at such places represents elevated social status to many Barbadians of African descent. As a result, SES is a determining factor regarding *where* a person purchases food. Findings by Arias indicate that “Consumers with higher incomes generally shop at supermarkets; middle-income shoppers frequent small supermarkets and convenience stores; and lower income residents typically choose traditional farmers' markets and mom-'n'-pop shops” (2002). Respondents supported Arias’ findings. According to Gale,

It all has to do with your disposable income. If you can afford to shop there then you are gonna shop there [e.g. Big B’s or Super Centre]. And if you can’t afford to shop there then you’re gonna go to the next level of supermarket down or if you can’t afford to shop there then you will go down to the next level at the country shop. (P.c., 27/08/2009)

In other words, being able to shop at locations formerly priced outside the range of the average Afro-Barbadian represents a physical manifestation of social mobility. For example, Bethell described such locations as ‘social supermarkets’: “Big B’s is a social place; supermarket shopping is a place to see your friends” (p.c., 03/09/2009). But it’s not just ‘anybody’ who shopped at such places. “Shopping at those places is a status symbol,” John Hunte explained:

Super Centre and JB’s used to attract more wealthy and affluent people in society and they were located in those areas – like Christ Church and Rendezvous areas – and the White people and Big Ups Blacks would shop there because it was *expensive*. The average person couldn’t afford to shop at places like that. It’s changed now. (P.c., 26/08/2009)

Concurring with Hunte, Julien claimed that “Where you shop in Barbados is almost as important as the car you drive. That’s the way our society is” (p.c., 26/08/2009). The mentality driving food purchasing behaviour carries through to ‘eating-out’ habits. According to Hunte, “Fast food, like Chefette, is *expensive* here. There is a psychological status thing, it’s like, *‘I can afford to eat at Chefette twice a week with my children if I want to!’* That’s the kind of mentality it is” (p.c., 26/08/2009). Likewise Julien claimed that to be seen frequenting Chefette and KFC represents upward social mobility: “It’s a status thing as well. You gotta get into the class thing. It’s a way of people now – of certain financial independence – they say, *‘Well I have made money now, I gotta spend it.’* Guys will dress up to go to KFC” (p.c., 27/08/2009). Respondent commentary was used as an entry point for the final in-field interview with the 4-H Foundation. When asked how social dynamics manifested in food buying habits, Blackman explained:

It's a part of the Barbadian psyche. We got a place in St. Philip that sells agriculture produce. They will have sweet potatoes \$5 a pound, and they will have a box with sweet potatoes that might have been damaged or just gone off. And they have another box with sweet potatoes selling at 50 cent a pound. People will be ashamed to be seen buying the potatoes for 50 cent a pound! They wanna be seen buying the one for \$5 a pound. There's something wrong here. It will be different now when times are tough but people like to be seen walking up and down Broad St. in the JB's or the Super Centre. They don't want to be seen with [bags from] *Popular* or at Cheapside. (P.c., 02/09/2009)

Respondent comments reveal that food purchasing habits are loaded with socio-cultural and socioeconomic significance, particularly for average middle-class Afro-Barbadians. Although quality and cost of fruit and vegetables are significantly lower at outdoor markets, socio-cultural mores appears to drive consumers towards more socially 'acceptable' venues. According to Julien, members of the Afro-Barbadian middle class "would not be *seen* dead in Cheapside road Market [they] have to go into a supermarket where there are high prices and hob nob with the who's who. You see that's the way our society is. It's all about prestige" (p.c., 27/08/2009). Road-side hawker Wayne Maynard concurred with respondent claims. According to Maynard, "You'll find the really classy person goes straight to the supermarket." However, Maynard expounded, "the quality of food is better in the market" (p.c., 28/09/2009).

Results obtained during the fieldwork indicate that the psychological trauma of slavery, poverty, and feelings of insecurity associated with socially imposed class structures contribute to a situation in which many people are literally dying for positive social affirmation. To display that one has overcome poverty – that you have 'made it' – and achieved the ranks of the 'Big' Ups' appears to have escaped economic rational and health imperatives. In the meantime, people are over-spending on often inferior food products that negatively impact their health.

Although writing specifically in relation to White youth and advertising in America, bell hook's ideas translate into the Barbadian context. Like Gadsby (1998), who wrote of the balancing feature of salt within Afro-Caribbean culture, hooks' theories linking consumption, pain and pleasure can be witnessed within contemporary Barbadian food buying and eating behaviours. hooks wrote:

Encounters with Otherness are clearly marked as more exciting, more intense, and more threatening. The lure is a combination of pleasure and danger. In the cultural marketplace the Other is coded as having the capacity to be more alive, as holding the secret that will allow those who venture and dare to break with the cultural anhedonia...and experience sensual and spiritual renewal. (1998: 186)

"If you want it.....Super Centre's got it"



"People want you to know that they were once poor but now they are not poor. So you'll find one time, Super Centre and JB's used to attract more wealthy and affluent people in society and they were located in those areas [like] Christ Church and Rendezvous area where the White people and Big-ups Blacks shopped because it was expensive. You see the average person couldn't afford to shop at Super Centre. It's changed now. Shopping at those places is status. It's a status symbol. Some people don't want to be seen at 'Popular' or Cheapside Market. A lot of what goes on in Barbados, and you'll find it at different social events as well, people aren't really spectator of the event, they are looking at each other. They want to know who's there, who's been there, what jeep did you arrive in. So there is very much a social consciousness."

- John Hunte, Organic Farmers & Consumers Association
Personal Communication, 27/08/2009
(Photo Credit: TotallyBarbados.com)

There is a balancing of pleasure and pain when indulging in certain foods, showing one is able to afford to buy from expensive supermarkets, or to take one's children out to Chefette several times per week. Pleasure is derived from behaviours and actions which also satisfy a taste for the 'Other', while pain stems from simultaneously putting one's health at risk of obesity and diabetes. The drive for elevated social status takes precedence over the quality of foods people can afford. As Julien explained, in order to shop at high status food outlets, people are "cutting the qualities of food they buy. They are cutting the brands, they are shifting from more expensive cuts to cheap cuts" (p.c., 27/08/2009). In summary there is a trend to pay more for less. As farmer and Cheapside vendor Lorena Riley stated,

We selling things here soooo cheap. So people don't worry about the cost here. Everything [at Cheapside] is cheap, cheap, cheap! [But], the rich people prefer to go to the supermarket because they have the money. You get the same quality in here – even better – but it be cheaper in here than over there. (P.c., 29/08/2009)

In essence, the drive for upward social mobility is a compelling factor regarding where people choose to shop and therefore what foods they eventually select to feed themselves and their families. Meanwhile, cost does not equate to quality which is evident visiting the island's grocery stores and markets. Nevertheless, social mobility and fear of being thought of as 'poor' or reminded of times of poverty seems to supersede nutrition and thereby health. While these trends might experience slight reversals during tough economic times they tend not to take hold on a permanent basis (Blackman, p.c., 02/09/2009). Returning to John Hunte's comments, there is a deep psychological scarring in Barbadian culture. This 'fear syndrome' Hunte expounded,

It's a 'fear syndrome' in our mentality, whereby we fear things that we consume... Look at the amount of people at Chefette that are overweight! I tell my children, '*Go look and see,*' and my children are realizing it now. That most of the people they see there are overweight in or around those environments and I'm saying those people that are scared about something in their lives personally or spiritually are just trying to consume whatever is available. '*Let's have the car, let's go into debt, let's go use the credit card,*' because they see life as short and there's plenty of things I can see joy in so lets me enjoy it while I'm alive because there is so much horror going on everywhere... there's strife everywhere, there's crisis coming up the road and I'm dying of diabetes so let me enjoy my life. I think it's what's pushing consumerism as well as social fate. (P.c., 26/08/2009)

In consonance with these views, Gaskin also opined that Barbadians hold a somewhat 'carpe diem' type of attitude. In other words, that insecurity of the future and feelings of pre-determinism, lead people to adopt a 'life for today' mentality. As such, personal satisfaction and enjoyment through consumption are seen as ways to maximize pleasure and fulfillment in life.

“Food is a vehicle of culture,” said Gaskin. “And you cannot expect to come and take away things that people eat and tell them oh it’s bad for your health. When you are 70 you are going to die of a heart attack, and so don’t enjoy the weddings, don’t enjoy the after-funeral, and after graduation treats because you’re going to die at 70. No one cares about it when you’re 25” (p.c., 03/02/2009). Such comments poignantly expose the vulnerability within Barbadian society and the need to go beyond simplified prescriptions of ‘eat healthier foods’ or ‘exercise more’. While some within the medical community criticize that ‘laziness’ is a factor in Barbados’ obesity epidemic, there is clearly more to the story. When one digs deeper in the quest to understand what people choose to eat, how and why, a full mosaic appears beneath the surface. In order for public health policy strategists to positively affect behaviour change, the impact of social psychology must be examined, understood, and incorporated into public health programmes.

SECTION 9: Perception Towards Agriculture

“There are those who believe that a focus on agriculture is a focus on the past, a focus on slavery and a focus on a non-glossy, non-sexy parts of development. Agriculture is the bedrock of all economies and the corner stone of development.” (Brathwaite, 2009: 6)

Overview

Limited academic research exists to identify and better understand cultural impediments to food security in Barbados. However, during the fieldwork it was evident that a stigma against agriculture – and particularly agriculture labour – exists within the general population, particularly in people of African descent (Bethell, p.c., 01/03/2009; Fraser, p.c., 07/09/2009; Gale, p.c., 27/08/2009; Hoyte, p.c., 15/01/2009; J. Hunte, p.c., P. Hunte, p.c., 02/09/2009; Julien, p.c., 27/08/2009; Laurie, p.c., 31/08/2009; Paul, p.c., 07/09/2009;). For example, Marshall explained that “A lot of the time it will be, you know, ‘*Oh agriculture*’ – as soon as you say agriculture it will be ‘*fork and hoe*’” (p.c., 28/01/2009). This section explores the origins of the stigma against agriculture followed by examples of how this stigma manifests within contemporary society.

1. Origins of the Contemporary Stigma Against Agriculture

That slaves experienced horrendous treatment at the hands of plantation overlords is neither new knowledge nor a surprising revelation considering the vast amount of literature on the subject. Therefore, due to the historical legacy of slavery within plantation economies it might be expected that an aversion towards agriculture labour would manifest among Afro-Caribbean populations. However, findings suggest this aversion is more pronounced in Barbados than other

parts of the region. A full regional comparison was beyond the scope of the present thesis. Notwithstanding, respondents made negative comparisons between attitudes towards agriculture in Barbados and that of Guyana (Cumberbatch, p.c., 01/09/2009), St. Vincent (Bethell, p.c., 01/03/2009), Jamaica (Marshall, p.c., 2008-2009), and Trinidad (Julien, p.c., 27/08/2009).

Due to the island's location – the most Eastern or 'windward' of the Lesser Antilles – Barbados is isolated from other Caribbean islands. Barbados is also significantly smaller than most. As a result, while holding much in common with the evolution of the plantation economy in the rest of the Caribbean, Barbados' development is unique in many ways. The sugar revolution began in Barbados (Higman, 2002: 41), as did the transition towards slave labour in the British West Indies. Prior to Barbados' shift towards the cultivation of sugarcane (1640s), planters relied predominantly on the labour of White indentured servants from the British Isles (Beckles & Downes, 2000: 239). As the sugar industry evolved, small landholders were pushed aside to make room for the large-scale production necessary for the cultivation, refining, and export of sugar. Large-scale cultivation demanded a large workforce. As a result, "During the 1640s and early 1650s, as the demand for servants rapidly increased, so did their prices" (Beckles, 2006: 36). Moreover Campbell argued, "The White indentured workers from Britain, contracted to work three to six years, were no longer sufficient to satisfy the plantation needs" (1976: 19). As the sugar industry rose in power, other countries began to compete with Barbados for White indentured servants leading to a severe shortage of labour:

In 1661, [Governor Atkins] informed the Colonial Office that the 'price of servants,' among other commodities, 'being doubled what they were must ruin the planters'. He pleaded for an increase in supply in order to reduce price levels, but it was not forthcoming. During the 1660s, prices continued to increase, while the length of service was being rapidly reduced. (Beckles, 2006: 36)

Competition for servants was particularly stiff between Barbados and Jamaica. Jamaica offered higher rewards to White labourers (e.g. access to lands). However according to Governor Richard Atkins (1675), "there [was] no encouragement and no land for [White indentured servants], nor anything but hard service for small wages" in Barbados (qtd. in Beckles & Downes, 2000: 248). "[I]t was therefore toward Africa," stated Campbell, "that planters began to look for their chief source of labour" (1976: 19). Meanwhile as the Dutch sought to regain profits lost in Brazil, they soon found economic refuge in Barbados where,

Dutch merchants saw the potential of Barbados as a market for slave merchants and sugar-making machinery. By financing sugar planters, these merchants expected a derived

demand for Africans that the English could not supply themselves, as they had no secure slave-trading base on the West African coast. As leading slave traders, they desired to replace White indentured servants with enslaved Africans everywhere they could. (Beckles, 2006: 28)

English planters in the West Indies – and particularly Barbados – became “the first to employ black slave labour on a large scale in the Americas” (Beckles & Downes, 2000: 239). The entry of the Dutch slave trade led to a significant shift in the demographic make-up of Barbados. Slaves of African origin soon became the dominant source of labour within English Caribbean colonies and particularly in Barbados. “Black slavery gave the necessary stability of the plantations,” wrote Campbell, “a prerequisite for economic progress and development” (1976: 19). In consonance with Campbell’s argument, Beckles and Downes concluded that following the 1690s “black labour was not only cheaper but much easier to procure. West Indian planters had no choice but to obtain slave labour if they wished to remain viable sugar producers” (2000: 250). By the 1690s, African slaves constituted 80% of Barbados’ total population (Sheridan, 1985: 5). Within the British colonies, Jamaica held the largest number of slaves at 311,000 while Barbados’ slave population totalled 83,150 (1834). However, the density of Barbados’ slave population was the highest amongst the British Colonies at 500.9 slaves per square mile compared with 70.5 in Jamaica, 11.1 in Trinidad, and 1.0 in British Guiana (Higman, 2000: 366).

Barbados was also unique in its reliance on child and female slave labour. Citing records dated from 1807-1834, Higman recognized that Barbados’ agricultural labour force was dominated by gangs of children overseen by female drivers: “more than 40 percent of Barbadian slaves were in the field by age 9 and more than 70 percent by age 14, compared to only 5 and 25 percent in Trinidad” (1995: 189). Higman pointed out that “the Barbadian system of large gangs of children supervised by female drivers was unique” (1995: 199). During the 18th century Barbados’ Black population was characterized by a female majority and rapid rate of creolisation. According to Beckles, “No other Caribbean sugar colony developed a similar sex ratio for this period” (2006: 62). Citing population records from 1673, Beckles reported that of the 33,184 enslaved blacks, 30.8% were men, 35.9% women, and 33.3% were children (2006: 62). The rationale behind the unequal sex distribution had to do with the expectation that female field-hands would produce at least two healthy children (Beckles, 2006: 62). Moreover – although less physically strong than males – females were familiar with agricultural tasks and hence assumed to have more stamina for fieldwork (Beckles, 2006: 62).

Population density and land availability were significant factors in whether or not slaves remained on plantation estates. After slavery was abolished in Barbados (1834), many people of African descent had little choice but to remain on the estates. Due to Barbados' relatively small size and high population density, few income generating options existed outside the plantation. For example the post-emancipation period in Jamaica, Trinidad, and Guiana witnessed a surge in peasantry population. However in these countries, rangelands and other areas unsuitable for cane production were plentiful and less costly to purchase (Bolland, 1996: 111). According to Beckles, Jamaican slaves were allotted large tracts of land – unsuited to cane production – on which to plant their own food (2000: 733). However most of Barbados' land coverage was highly suited to cane production: “As for the lands in Barbados,” wrote Governor Atkins (1976), “I am confident there is not one foot that is not employed down to the very seaside” (qtd. in Beckles, 2006: 29). Bolland concluded that “The monopolization of arable land by the planters in Barbados restricted the growth of a peasantry and limited the independent cultivation of provisions to the function of supplementing wages earned from estate labour” (1996: 110).

2. Women, Children and the Guyanese – Agriculture Labour in Barbados

That Afro-Barbadians hold a greater stigma against agriculture than their Caribbean counterparts may be partially attributable to relative size which impacted the island's economic development both pre- and post-emancipation. While other Caribbean islands developed diversified agriculture sectors in the years following emancipation, limited land availability and a monopolization of arable land by large plantation estates in Barbados restricted the development of a small-holder industry managed by populations of African descent. In addition, heavy reliance on female gang drivers and child labour in Barbados – more so than their Caribbean counterparts – may have further contributed to the pronounced stigma associated with agriculture labour. According to respondents, field labour – and particularly harvesting – continues to be dominated by women and children. Recounting his experiences, Bethell stated:

I remember one Sunday I had 120 people here working. Harvesting [onion] crop is not a problem. All Bajans. It attracts a different cadre of people. Women who are not working or 'stay-at-home', young children, people who come home from school and come to help. So it's a family affair. So from harvest point of view it's not a problem. (p.c., 03/01/2009)

Nevertheless Bethell was quick to differentiate between harvest and other types of agriculture work. “Where you get the problem is in the production of it, controlling the weeds etc. Even with chemical weed control you still have to do hand weeding.” When asked why there was a

distinction between harvest and production, Bethell explained: “Because it’s physically more demanding. You’re out in the mud and the sun day-in and day-out. Whereas when they come to harvest on the weekend or during the week, they come when they want they leave when they want. They do it as job work or day labour” (p.c., 03/01/2009). As a result, most farmers have to rely on labourers from Guyana, St. Vincent, St. Lucia and other Caribbean islands (Julien, p.c., 27/08/2009; Vaughn, p.c., 01/09/2009). However, the majority of agriculture workers in Barbados comprise Guyanese residents or migrants. According to Bethell,

The whole difference is attitude. They come here to work, they want money and if you price everything by the job they will work seven days a week, they don’t even want to stop Christmas day! They will work through the rain, they will work through anything. That’s the way that they are accustomed in Guyana. (P.c., 03/01/2009)

Cumberbatch expounded, “Guyanese are the people working in agriculture here. The workers are Guyanese or other countries but the people who own the land are Bajan. If the owners could hire Bajan they would but the Bajan they not comin’ for the jobs” (p.c., 01/09/2009). “The Barbadians are not too keen [to do agriculture work],” said Bethell (p.c., 03/01/2009).

3. Agriculture Work and the Perception of Slavery

With increased availability of work in other sectors (e.g. tourism and food services), more and more young people have shifted away from agriculture-related fields. According to Girvan,

The reality is that the Barbadian economy and society has evolved in such a manner that the present generation of native Barbadians is no longer attracted to the physically taxing and repetitive labour of the agricultural, manual and low level service jobs that their parents and grand-parents were prepared to do! (2009)

Girvan’s observations were confirmed by respondents. According to Moore, “Bajans don’t want to do [agriculture]. They think it’s too much labour. Not a lot of prestige. Most people want to work in an air conditioned job at a computer and dress up to go to work” (p.c., 05/05/2009).

Julien concluded that the situation could be reduced to “Factors of race and colour difference”:

You will find that Black Barbadians are the most anti-agriculture. White Barbadians are the most pro-agriculture, maybe because of a historical attachment to the land. But, most of the Black sense of ‘freedom’ in Barbados came from education, through the middle class, through what they see as ‘clean’ fields of endeavour. Coming up through the management class – so they see that as the path to achievement, never agriculture. (P.c., 27/08/2009)

However while many respondents suggested a local preference towards office work or other less physically demanding labour, commentary presented conflicting views. For example, construction work (characterized by intense manual outdoor labour) is deemed ‘socially acceptable.’ Noting the discrepancy, Bethell argued, “The conditions that those people work. The

noise of a jackhammer, nothing on their ears or on their hands, and yet they are happy. But ask them to go and cut canes and they say, *'No that's slavery'*” (p.c., 01/09/2009). According to Marshall, “There’s a picture painting of agriculture were you are using a hoe and a fork and you gonna be out in the hot sun and you breaking your back and so on. It’s a picture of misery” (p.c., 02/02/2009). “Most of the kids,” said Fraser,

their parents or their grandparents would have worked on the plantations and I think social advancement at that time meant that you worked in an office or you dressed pretty to go to work. So they saw agriculture as pretty much slave work and it had no room for them personally to evolve into being more than they were at that point in time. So I think that’s the mentality they push to some of the youngsters. You know most of the students when they leave school now they are more interested in working for a bank or an accounting firm. You know the doctor-lawyer syndrome.” (P.c., 07/09/2009)

According to Cumberbatch, people look down on farmers: “I think that they feel that if you were this person [doctor, lawyer, engineer or celebrity] you’re more respectable than somebody who is a farmer” (Cumberbatch, p.c., 01/09/2009). However, the negative stigma attached to agriculture and the pursuit of agriculture-related careers extends beyond animal husbandry or vegetable farming. According to respondents, the average Barbadian is unaware of the various options existing within agriculture (e.g. agricultural engineers, biotechnologists etc.). As a result most – if not all – agriculture-related jobs have been stigmatized (with the exception of land-holders). However, according to Cumberbatch, “Even the GoB was trying to *give* them land, they were *pleading* with them to take the land and they would give you the money to get it, whatever you need they would give it to them, but they didn’t go for it.” In the end, Cumberbatch lamented, “You can’t force a man to work the land” (p.c., 01/09/2009).

4. Cultural Regeneration: Media impact on public perception

When Marshall spoke of agriculture as a ‘picture of misery’ he was referring to the mental impression of that many Afro-Barbadians hold. However, in many respects, these comments are also literal. During the field research, the ‘push back to agriculture’ was frequently mentioned in major newspapers however – while advocating agriculture and home gardening – many articles reinforced the connection between slavery, poverty, and agriculture (Bethell, p.c., 01/09/2009; Julien, p.c., 27/08/2009; Laurie, p.c., 31/08/2009). Two images were frequently cited as contributing negatively to the local stigma against agriculture. The first image portrayed ‘Boys on the Block’ participating in a youth programme meant to encourage interest in agriculture. The portrayal was marked by two features: (1) agriculture as being a suitable vocation for delinquent



Barbados, 1880's "shows that the abolition of slavery hadn't necessarily changed things very much. The pecking-order couldn't be more apparent. Field-workers, their black foreman - who looks like a man you wouldn't want to cross - their white supervisors and their kids."

(Retrieved from: <http://partleton.co.uk>)

Black males as a means to re-socialize negative behaviour (e.g. crime, drugs, laziness) thereby harkening back to the perception of agriculture as a vocation suited to the lower echelons of society, and (2) the image of agriculture as backbreaking labour. Although it was not possible to obtain a back copy of the article, Julien provided a description:

rehabilitate what we call the 'Boys on the Block'. The kind of guys that come out of school, don't do anything, pushing weed, basically do nothing. They are trying to rehabilitate some of them so they have this area of land in the Pine. But there was this big photograph in one of the leading newspapers – '*Youth in Agriculture*' – and one guy has a hoe and the other guy has a fork. The people who are putting the article in there – that is *THEIR* view. (P.c., 27/08/2009)

The second frequently cited example appeared in *The Nation* (p.265). Describing the article, Julien said:

A full page of a leading newspaper [pictured] agriculture workers – old ladies like women close to 70 – all their boots on, a hoe over their shoulders comin' out of a cane field. You see, when people see those types of photographs, the image of what agriculture is – or what it used to be – it's just not on. It's something *master* made us do, it's *slavery*, it's slavin' in the sun, you're dyin' for no wages, and that's the view of it. (P.c., 27/08/2009)

Bethell's also expressed dismay at the representation of agriculture in the picture displayed in *The Nation*. According to Bethell,

It was a very negative presentation of them. You know, it was '*Back in Time*' – *Oh, you tied up in several dresses and you don't see that much*'... That article is typical of what we have in Barbados, here are these people doing an honest day's work and they are being portrayed as being stuck *back in time* and that sort of attitude. It's not perceived as an attractive field to work in. (P.c., 01/09/2009)

Bethell expounded that such images could be portrayed in a "very positive way" as opposed to reinforcing negative perceptions towards agriculture. According to Bethell, the women should have been portrayed as practical, resourceful, strong, and worthy of respect:

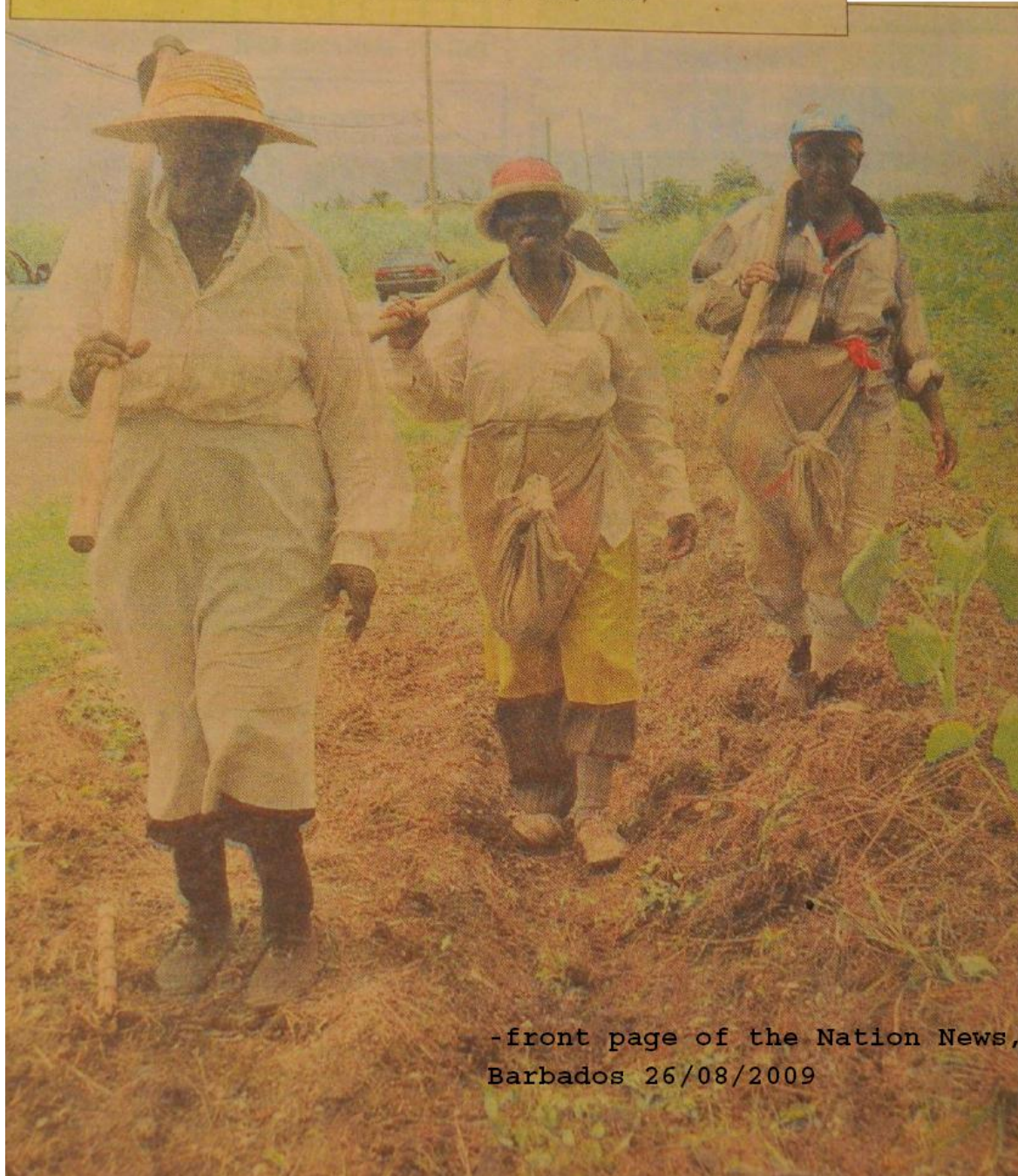
Those women were the bedrock and the builders of this country and they are dressed appropriately. The reason that you see them with several different dress, is they will wear a dress outside which gets dirty. You take that off and you have clean clothes when you go home. You will also see them with long socks and pants. The socks are tied around the pants just in case a centipede crawls up their leg so it goes outside their clothes. There is a practical reason for it. (P.c., 01/09/2009).

The media's power to impact public perception and the degree to which people are exposed to media representations make it one of the most significant influences in society. A primary source of public information, efforts to improve the perception of agriculture within the general population must not fail address role of media in creating change. The media must make efforts

JUST LIKE OLD TIMES.

These agricultural workers, spotted at the Ridge Plantation in Christ Church, were like a scene out of the pages of yesteryear.

The women, with hoes in hand, were on their way to take a lunch break after working in the hot morning sun. With crocus bags tied around their waists, acting as pouches, and the traditional layered clothing, they were a sight to behold along the busy motorway. (MR) (Picture by Donnay Deane.)



-front page of the Nation News,
Barbados 26/08/2009

to address the common portrayal of agriculture as an inferior occupation or as a throwback of the slave era [Appendix 6]. In other words, the media must be encouraged to use positive imagery and take effort to project role models (from the farm-hand to the research scientist) within an industry deserving the attention and respect of all facets of society. Agriculture must be made a noble venture.

5. Cultural Regeneration: Education and the Stigma Against Agriculture

The image of agriculture – as it was viewed in former times – has been culturally regenerated throughout successive generations. So too was the image of education as a source of ‘freedom’ and escape from the toils and trauma associated with slavery and working in the cane fields. According to Beckles, emancipation “opened up new possibilities for blacks to pursue educational development” (2006: 140). From this, Beckles observed, a ‘cult’ of education has developed within Afro-Barbadian society wherein the ‘blessings of education’ are regarded as the means towards upward socio-cultural mobility and freedom from the plantations (2006: 140). In contemporary Barbadian society, nowhere is this phenomenon more evident than in the education of children. According to Pamela Hunte,

Because this is a slave society persons do not want to be involved in agriculture. Even persons who are involved do not want it for their children because you want better for your children. So you want your children to go off to school and become doctors and lawyers and that is the reality. (P.c., 29/01/2009)

Likewise, Principal Angela Ramsay stated, “The stigma and aversion go back to slavery. Parents who worked on plantations didn’t want the same things for their children” (p.c., 20/01/2009). Respondent commentary is in stark contrast to Cumberbatch’s recount of the instruction of children in Guyana. According to Cumberbatch, “It’s not the same. Back in Guyana you find that you do whatever your parents do because it is what you know and you enjoy that. I think that’s why I’m still in it too” (p.c., 01/09/2009). Expounding on the contrast, Cumberbatch stated: “Being a farmer in Guyana is an honourable job, a respectable job. [But] here in Barbados, they look down on farmers. The environment itself” (p.c., 01/09/2009). Julien also made a negatively comparison between attitudes towards agriculture in Barbados and Trinidad: “The culture that I come from, it isn’t like that. It’s totally different. *Everybody* was involved in agriculture. I was 13 when I moved here, so that was already instilled in me when I got here” (p.c., 27/08/2009). As a result, according to Marshall, “Most parents [in Barbados] want their kids to go into more recognized fields like teachers, doctors, lawyers. My grandparents would sacrifice to have their

kids go into those [career] fields” (p.c., 28/09/2009). A parent of two, Cumberbatch lamented that Barbadian youth are discouraged from agriculture:

Everybody want their son to be a doctor, a lawyer, a minister, even a signer – a little Rihanna, a little Chris Brown – so farming is totally out. And if your son says, *‘Mummy, I want to go into farming,’* you find they say *‘What? That ain’t true!’* You see what I’m saying? They want their little one to be a little Rihanna or a little Chris Brown or a little whoever, a doctor, lawyer, engineer. (P.c., 01/09/2009)

Likewise, Julien stated that agriculture is considered “an inferior industry for inferior-minded people to work in. So if you really want to be ‘with it’ you gotta become an accountant, a doctor, a lawyer, an architect” (p.c., 27/08/2009). Fraser coined this phenomenon as the ‘Doctor-Lawyer Syndrome’. Although parents are strongly implicated as negatively influencing the perception of children (Cumberbatch, p.c., 01/09/2009; P.Hunte, p.c., 02/09/2009; Marshall, p.c., 02/02/2009), teachers are also held accountable (Bethell, p.c., 01/09/2009; P.Hunte, p.c., 02/09/2009); as well as the community at large (Cumberbatch, p.c., 01/09/2009; Julien, p.c., 27/08/2009; Moore, p.c., 05/05/2009).

In former times, most schools had small garden plots. However, garden tasks were generally delegated to impoverished children. Respondents indicated that many people continued to associate school gardens with poverty. For example, in advocating the reintroduction of school gardens, Laure explained: “I talk to guys about the school gardens and they say, *‘The only body went to school in the school gardens is if you came without shoes!’* You know, if you couldn’t afford shoes you went to the school garden” (p.c., 31/08/2009). Moreover, garden tasks and agriculture studies are often directed at those children identified as less academically inclined. Moreover, vocations associated with agriculture continue to be viewed as a last resort. In other words, agriculture as a career – even fields such as agriculture engineering – is for the less academically gifted students. According to Marshall, this perception harkens back to socio-historical factors: “It’s the history of Barbados because of the slavery. Agriculture was *‘dumb’*.” “The way we were educated, people don’t want to work in agriculture,” said Marshall. As a result, Marshall expounded, “Kids that are doing well in school are directed away from agriculture and those who do not do well are directed towards agriculture” (p.c., 02/02/2009). However, greater participation was achieved through the incorporation of agriculture within the science curriculum of public schools. Nevertheless – in consonance with Marshall’s observations – Pamela Hunte also noted that children directed towards agriculture studies are “The ones that are not seen as the academics” (p.c., 02/09/2009). Although some stigma remains, many schools

participating in GBL also view garden tasks as a way of building confidence (Hoyte, p.c., 01/15/2009; Jordan, p.c., 18/02/2010; Small-Thompson, p.c., 07/10/2008). According to Principal Gamble, GBL “helped reinforce the importance of some children who may not be necessarily the academics.” However, Gamble expounded:

I’m not saying the garden is only for those students who are *not* academics – but it gives those children something that they can enjoy *more* – not just the academics but the practical aspects of garden which they can feel involved in. It helps to build their confidence. (P.c., 15/02/2009)

Primary school respondents also indicated that GBL participation is being utilized as a form of ‘reward.’ For example, following the CEEs class 4 students were allowed more access to gardens. While such practices contribute positively towards children’s perception of garden tasks, there is an underlying assumption that agriculture is not a ‘serious’ subject. In other words, that agriculture sciences (including GBL) are of lesser importance than core subjects, such as mathematics and grammar (Boucher, p.c., 22/01/2009; Brathwaite, p.c., 15/02/2009).

Agricultural studies being regarded as the ‘last option’ in contrast to other fields of study, it is not surprising that people pursuing agriculture-related studies at the post-secondary level also bear a stigma. According to Moore (who studied botany and plant physiology with the Environment and Natural Resource Management programme at the University of Trinidad), young people pursuing agriculture at the post-secondary level are often belittled by their peers. “They couldn’t see me getting my hands dirty,” said Moore. However Moore qualified, “It was mostly here and not Trinidad that I got this reaction. Friends reacted negatively, they want you all dressed up and preppy and they don’t see you like this. They only see a certain side of you.” (p.c., 05/05/2009). Nevertheless according to Dr. Litta Paulraj – Plant Pathologist for Caribbean Agricultural Research & Development Institute (CARDI) and FAO consultant – many Barbadians studying agriculture are reluctant to sully themselves in the fields:

From my experience in the community college which has a diploma in agriculture program, one day I went to collect 4 students to bring them into the field but they didn’t even want to get out of the vehicle! It had rained a bit and it was muddy so they didn’t want to come out – these are diploma students! (P.c., 27/01/2009)

Paulraj went on to explain that “If you are academically good you won’t do agriculture... People look down on you.” Paulraj explained:

That you are doing agriculture means you are no good. That’s the public perception here... No parent will encourage a student to do agriculture. I know this girl – she’s the technician in the Biology Department. She’s a B+ student and she is so interested in agriculture, but

you know what the lecturers are saying? They say “Agriculture is dead. Don’t go into agriculture. (P.c., 27/01/2009)

However, as Pamela Hunte emphasized, “It’s not only the teachers, the general public has some warped perception of what agriculture involves and the jobs that you can access after you’ve studied agriculture.” Hunte went on to explain that “Even with the golf courses coming on stream and horticulture. It is just that stigma, *‘NO! Agriculture is going in cane fields and being whipped by master’* (p.c., 02/09/2009). Another example provided in explanation of why students avoid agriculture studies is that agriculture-related careers are low-income generating vocations (Bethell, p.c., 01/03/2009; Marshall, p.c., 02/02/2009). According to Paulraj, “Agriculture also doesn’t pay well. It’s still in the 1960-70’s pay scale when looking at agriculture salaries in the public sector. It’s much lower than other sectors, so people don’t want to do it” (p.c., 27/01/2009). However, even successful farmers running profitable businesses bear the burden of stigma. According to Julien,

The people who laugh at me for going into agriculture are my Black friends. They say, *‘Man why you gonna go do that? My Black friends think I’m just eccentric. So when I say, ‘I gotta go now, I gotta get to work on the tractor.’ They say, ‘Oh well that’s just Ian, he’s just a bit of a loonie.’* (P.c., 27/08/2009)

As a result, young people are pressured to pursue socially acceptable careers contributing to what Marshall described as a ‘brain drain’. According to Marshall, “The cream of our academic minds are not encouraged to get into agriculture” (p.c., 02/02/2009). Moreover, shifting career trends also contribute to a rural-urban migration while reducing both the agriculture labourers as well as number of people willing to pursue agriculture-related careers. Such a trend negatively impacts both efficiency and innovation within the agriculture sector (Julien, p.c., 27/08/2009).

6. Overcoming the Stigma Against Agriculture

The stigma against agriculture extends to home gardening. According Pamela Hunte, “In this country, there is a stigma attached to working in the garden because of slavery and all of that” (p.c., 02/09/2009). Principal Jennifer Hoyte (Arthur Smith Primary) also mentioned that “People used to grow their own vegetable gardens in their backyards but with the coming of free education, everyone is looking for upward social mobility and they go to the supermarkets to buy food for status and convenience” (p.c., 01/15/2009). Likewise, CPHN Holder explained,

As your cultural values change, you see these things as a sign of your upward mobility. It’s a change that would catch you that you wouldn’t even think of it until you look back... All our older persons had some kind of fruit tree or vegetable on every premises. It is part of a

transition and you wouldn't even recognize it was happening. In the 1980s there was so much change. (P.c., 01/02/2009)

However, according to Principal Jordan (Boscobel Primary) while parents in urban areas may have an aversion to their children participating in GBL, 'country' residents continue to see value in growing what they ate:

In the city schools, there was an objection by the parents of their children going into the soil because the parents could afford to give them everything. Even though some parents in the country might have been able to afford it too, they knew the necessity and the wisdom of growing what you want to eat so [agriculture] was more or less continued in the country. It is a culture unlike in the city schools so there was not that ready willingness of parents even to allow children to go into that sort of thing. (P.c., 18/02/2009)

Moore overcame peer pressure through the support of her family. According to Moore, "My family was supportive. They thought it was a good entrepreneurial idea. Actually my father has a garden and raises chickens and rabbits at home" (p.c., 05/05/2009). The same held true for Marshall, a consultant agriculture engineer with a successful irrigation company. Recounting his youth, Marshall explained: "My fathers' a carpenter and my mother is a maid in the hotel industry, so I didn't have any silver spoon or big wig family members. We were taught to save and make use of what we have. When I was young, we would grow our own food" (p.c., 28/01/2009). However, Marshall also faced resistance by his peers. "People didn't perceive you as a true engineer. Or a '*real real*' engineer as people would say here," said Marshall. "They would say, '*You are not a civil engineer.*' You do get a lot of resistance" (p.c., 28/01/2009).

According to Marshall, family upbringing was the driving force behind his interest in agriculture:

It was my upbringing. My parents had a small bit of land. My parents made sure that that entire family had a section for themselves. So, my mother had a spot, my sister, myself and my father. We were encouraged to grow short crops: lettuce, beans, what we call seasoning – scallions or 'munchie' onions – that grow in about 6 weeks. The income, we had in our own bank accounts. So I had a credit union account and a bank account. (P.c., 28/01/2009).

However, as Laurie argued, this was not true for the majority of the population. "You're vilifying maybe 10% who get satisfaction from taking a seed and watching it grow or having rabbits and chickens that produce and so on," said Laurie. "There is a percentage of those kind of people who emotionally enjoy that. But then there are the rest that if you ask, '*What do you want your child to be in? Tourism or Agriculture?*' 90% of them will say, '*Tourism*'" (p.c., 31/08/2009). Nevertheless, it appears that attitudes are changing, at least in relation to school gardens.

Most respondents admitted that prior to garden installation, there was concern about how parents might react. In other words, school administrators worried that parents might refuse to

allow their children to participate in GBL. According to Principal Hoyte (Arthur Smith Primary), “At first we feared the parents would be against it. They would rebel because academic competition is high in Barbados. Also, people look down on agriculture work/tasks. It’s stigmatized.” However, Hoyte expounded, “We tried to re-educate both the kids and the parents regarding growing their own food. Fortunately, the kids really enjoyed it and the parents were happy” (p.c., 15/01/2009). Nevertheless, according to Clarke, although Arthur Smith did not have that problem, “other schools do.” Clark expounded that parents “don’t want their kids to go out in the sun, getting dirty, etc. but I already knew the parents so for me it was easy” (p.c., 19/01/2009). Although Clarke suggested schools could “plan a parent meeting” to involve parents garner support for GBL, most respondents indicated that parents were not made aware prior to garden installation (Boucher, p.c., 22/01/2009; Howell, p.c., 05/04/2009; Moore, p.c., 05/05/2009). It is unclear why parents were not notified of the introduction of GBL prior to garden set-up. According to one respondent, parents were not notified because “there was a slot in the curriculum for it” (King, p.c., 26/09/2009); another stated that “We didn’t send out any letters. We just accepted that it was part of the school and the development of the children and I’m sure the government would have told the parents but we didn’t get any feedback” (Howell, p.c., 05/04/2009). At another school it was stated that “Once parents see what it entails, those persons who have an aversion – once they see what it entails – I don’t think they will object” (Boucher, p.c., 22/01/2009). Schools which had successfully managed to build and maintain solid GBL programmes, appeared to have strong parent support regardless of advance notification. For example, agriculture science coordinator Brathwaite (Bay Primary) commented “we don’t have a problem with that here” (p.c., 15/02/2009). Expounding, Principal Gamble proudly stated:

We have some parents that are *impressed* with the garden. We had one parents say that her reason for choosing this school... was because we had a school garden. She said she thought that this was *so* good because now her child will actually know where food *came* from. So she was very pleased and I had never even thought about that one. That a parent would actually *choose* a school because they had a school garden. (P.c., 15/02/2009)

In a similar vein, Moore commented that parents were not only enthused with the GBL programme but looked forward to an expansion to include animal husbandry. According to Moore, parents offered to donate volunteer time as well as livestock:

We had parents say when we are ready for rabbits and sheep they would help us. We had a few parents offer to donate animals. I had one parents say she’s really happy about the

project and that it's important for youth to learn about these things and that Barbados has gotten too far away from agriculture. (P.c., 05/05/2009)

While school respondents indicated that parents tolerated – if not approved – the addition of GBL within the agriculture science curriculum, this did not hold true in every instance. According to Pamela Hunte, “There are parents who tell their children, when you go to school, you will *not* be going to the garden” (p.c., 02/09/2009). Likewise Principal Jordan stated:

In the city schools, there was an objection by the parents of their children going into the soil because the parents could afford to give them everything. Even though some parents in the country might have been able to afford it too, they knew the necessity and the wisdom of growing what you want to eat so [agriculture] was more or less continued in the country. It is a culture unlike in the city schools so there was not that ready willingness of parents even to allow children to go into that sort of thing. (P.c., 18/02/2009)

However, concerns by Hunte and Jordan were negated by the overwhelmingly positive experiences recounted by urban schools with an active GBL programme. However, not all community members were enthused. For example, one community member freely expressed his anger towards the school principal by stating, “The principal is a jerk. She leaves the kids outside in the hot sun, doing nothing for no reason. She's got a bad reputation in the community!” (Anon., p.c., 08/09/2009). However, it must be acknowledged that in this particular case, garden installation was hindered by a number of factors despite the efforts and commitment of the principal, agriculture science coordinators and PTA members. Unfortunately, by not involving the general community and due to unexpected delays, negative attitudes towards GBL were compounded by the visual image of children toiling under the hot sun without seeing progress in the garden itself. On the other hand, a few years prior, the same school had a thriving GBL project¹⁶. During a chance encounter with a parent, the response to GBL was overwhelmingly positive. According to Adrian Cox,

The oldest one did agriculture at primary school. Even though she's at secondary school now, she's started a little small garden at home growing a couple of things in it. It shows me she still has an interest in it even though she's now at secondary school. I like it because it's fun for the children as well. It gives them something to do and gets them to value things in life. Start with a seed and think little bud then it blossoms into a flower and then goes from there step-by-step to the actual tree bearing fruit. It's similar to where we are. We start as a little thing, then we grow up into a little plan and then you mature and bear fruit. We are similar to plants. It all starts from a little seed. (P.c., 20/01/2009)

¹⁶In Aug. 2007, the school was affected by a natural disaster wherein nearby buildings collapsed above an unknown cave. As a result the school was relocated until it was declared safe to occupy.

Contrasting responses reveal the importance of proper management and integration of GBL in ensuring both community support and the support of parents. As Clarke emphasized, “It’s important to get the parents interested too” (p.c., 19/01/2009).

According to Julien, the agriculture sector is only attracting one-fifth the number of post-secondary students (e.g. polytechnics) that it should be:

The problem is that we have 3200 students come out of school every year. That’s the whole school population. So in agriculture including livestock, crops, everything, we should be getting about 3-4% of those students. That’s what they get in Europe and Canada. So, that’s about 90-100 students. But in total, no more than 20 students went through in agriculture in 2008. (P.c., 07/09/2009)

Respondents indicated that the solution to changing prevailing notions surrounding agriculture lies in Barbados’ children. Interest needs to be generated at an early age in order to develop enough interest for children to consider agriculture as a viable career option (Boucher, 22/01/2009; Howell, p.c., 05/04/2009; Marshall, p.c., 02/02/2009). According to Clarke, “You need to prepare the land and get kids interested. Don’t allow them to think agriculture work is inferior” (p.c., 19/01/2009). Sen. Laurie also envisioned the future of food security in Barbados beginning with inculcating children at the primary school:

There is potential with these school gardens at the primary level, *if* we can get into the minds of these young children *before* they reach secondary school. I still think we will lose 90% of them BUT we may get about 10% when they grow up from primary school who will catch on, who will start something at home and graduate. (P.c., 31/08/2009)

Although change may be occurring slowly, GBL programmes have begun to shift attitudes towards agriculture. According to agriculture science teachers and principals with established GBL programmes, participating students have begun to see the value in growing food and express great joy in performing garden tasks [Appendix 4].

SECTION 10: Socio-Cultural Perceptions of Weight and Individual Agency

Overview

Understanding what motivates people’s behaviour is a powerful tool in the creation of effective health interventions. Studies indicate that the perception of one’s weight is important in the cognition of health risks (Dorsey et al., 2009; Potti et al., 2009). Moreover, as Cox explained, “The knowledge of what contributes to a client’s motivation and how motivation might be manipulated can lead to the development of interventions that support health-generating behaviours and/or reduce health-negating behaviours” (1985: 177). The following sub-sections introduce cultural perceptions of body size in the Barbadian context, followed by overview of

eating disorders – or lack thereof – within the Caribbean context. This is followed by an analysis of how overweight and obesity trends are shaped and reflected by social constructs (e.g. racial weight categorizations, normalization of overweight and obesity, determinism, individual agency). The section concludes with a discussion of the findings.

1. Body Weight as Cultural Indicator of Health, Wealth, and Happiness

Studies indicate that socio-cultural perceptions of weight in some Afro-Caribbean populations mimic that of African populations (Chap.6). For example, Simeon et al. performed a cross-sectional survey examining body image within a multi-ethnic group of 1090 participating adolescents in Trinidad and Tobago. Findings revealed a significant correlation between body size and perceptions of wealth: 76% of respondents chose an overweight or obese male silhouette as the wealthiest, while 67% chose the overweight or obese female silhouette (2003: 160). Similar results were observed in Barbados. Hoyos and Clark's found that out of 502 adults (409 women, 93 men), "18.7% of respondents thought that obesity was associated with good health, 29.9% associated obesity with wealth and 36.3% associated obesity with happiness" (1997: 95).

According to *The National Health and Nutrition Survey of Barbados* (1981):

24% of the obese women – reported that their spouses/partners preferred them to be fat, but this was stated by only 12.0% of the nonobese women... 33.5% of the obese women also stated that their spouses/partners did not want them to lose weight. However, among the non-obese women, 66.0% said that he wished them to remain at their present weight. (CFNI, 1986)

In Hoyos and Clark's study 40.6% of female respondents believed that "men preferred their women to be fat" (1997: 95). Over a decade later, the statistics were grim. Lynch's 2001 study involving 600 participants aged 15 and over, revealed that "Half of the respondents (51.8%) thought men preferred women to be a little fat" while "15.7% thought men preferred women to be fat" (7). In 2006 Adams et al. investigated beliefs surrounding the notions of obesity in health. Adams et al.'s study included 600 persons attending two public primary care clinics (384). Results found that "Of the 559 persons who answered the question, 311 (55.6%) thought that men preferred women a little fat." Of which, "Women (59%) were more likely than men (42.5%) to answer yes." Meanwhile, "94 (16.5%) of 568 persons thought that men preferred fat women" (387). The median age for respondents who thought men preferred fat women was 54 (387). Findings by Lynch (2001) and Adams et al. (2006) suggested that mental associations linking larger body size with wealth had significantly diminished. Nevertheless, respondents indicated a continuation of linkages between wealth and larger body sizes. According to Ames, "It goes back

to times when to have a fat child was a sign of wealth in your family, is what I've heard quite a few times over here" (p.c., 23/02/2012). Principal Jordan also observed that provision of unhealthy snacks is a common practice of reward-giving by parents:

children are allowed to eat what they want and being overfed by members of the family that think being able to give the children lots to eat – that's love. You know these children are free to eat from different homes at any time because they are loved by their family and [those] would represent academically gifted children. Surprisingly, parents feel like they are doing them a favour by allowing them a lot of junk food. (P.c., 18/02/2009)

In light of the information gleaned from respondents, excess weight remains to be viewed alongside wealth and perceptions of high social standing, particularly in regards to children. However, although findings reveal a continuation of the way Barbadians view obesity, some change was noted. Findings from Lynch's comparison study indicated that Barbadians continued to "think that a little fat is healthy looking and is not linked to the health risks associated with overweight and obesity" (2001: 28). On the other hand, Lynch argued "Barbadian society no longer believes that obesity and wealth or health is related" (29). In 2006, Adams et al.'s findings indicated a continuing association of 'a little fat' with good health (384). Results also found that "Being fat and a little fat were thought to be a sign of health by 2% and 27% respectively" (384). The study also revealed that 3% of participants continued to associate wealth as a causal factor for obesity (2006). Likewise, thinness is associated with ill health. According to Mwanza, "Unlike in the West, slim is often thought of as unhealthy, especially in these times of AIDS." Therefore Mwanza expounded, "people avoid looking too skinny if they can help it" (qtd. in Wheat, 2000: 44). Although far removed from Zambia, Mwanza's conclusions are applicable in the Barbadian context. For example, one respondent argued that it was difficult to lose weight. After being diagnosed with type 2 diabetes, the woman went on a strict diet and began exercising more. However, a drop in weight led people to accuse her of having AIDS (Anon., p.c., 08/09/2009). Dr. Alert confirmed the association between weight loss – particularly rapid weight loss – with AIDS:

Since the AIDS epidemic came about, anybody who loses a lot of weight, '*Well, they must have AIDS!*' So this is our perception to it. One of the features of someone who is suffering from AIDS is that they lose weight rapidly. And you know, when you look at our beggars on the street who are powerless because they use cocaine, a lot of them are *skinny*. So if somebody loses weight quickly then either they have AIDS or they are a beggar or something. (P.c., 02/09/2009)

While studies indicate that some change occurred in the perception of a “healthy” body weight vis-à-vis actual healthy body weight, misconceptions surrounding notions of health and excess weight remain. Moreover, although associations of being ‘fat’ are no longer strongly associated with wealth, the perception that ‘a little fat’ is associated with wealth or considered attractive persists (Alert, p.c., 02/09/2009; Boyce, p.c., 22/08/2011; Hollingsworth, p.c., 31/08/2009). Moreover, as Byer-Suckoo argued, in order to ‘fight’ the obesity epidemic, “We have to change the mindset regarding ‘falling way’ and ‘looking hard’” (2010: 3).

2. Eating Disorders within Caribbean Populations



Nobody wants a bone bird...

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Bhugra et al. acceded that eating disorder studies conducted in developing countries are relatively rare. “As a result,” Bhugra et al. concluded, “although it is suggested that White women from western countries may experience greater eating disturbance and body dissatisfaction than non-White women, very little is known about the true prevalence of eating disorders in non-western, non-White populations” (2003: 410) Bhugra et al.’s research was the first of such studies performed in either Trinidad or Barbados. Findings showed that eating disorders were of low prevalence amongst the 362 schoolgirls surveyed. However, while none of the girls were diagnosed with eating disorders (420), the study found that Caribbean adolescents had adopted ‘Western’ ideals of thinness. According to Bhugra et al.’s results, 67.7% admitted having a ‘fat phobia’ (422). However, in consonance with similar studies conducted in the

United States, Bhugra et al. observed that “although girls worry about their weight, this neither has influenced the way they view and judge themselves nor has interfered with their functioning yet” (422). As indicated in the present thesis (Chap. 6), this phenomenon could be attributed to protective features associated with Black culture (e.g. more accepting of larger body sizes). When asked, *‘Do you think there is a problem with eating disorders such as AN or bulimia?’*, Dir. Hollingsworth replied: “No, at least not that I know of. Even if there is a problem, it’s so miniscule that it is not highlighted.” According to Hollingsworth, the rarity of eating disorder could be the result of a local preference for the ‘well-rounded’ figure:

There may be some pressure not to be ‘fat’ but that doesn’t necessarily mean ‘thin’ only from a social sense in that everybody prefers to have a well-rounded figure. I don’t mean rounded in the sense of ‘round’, I mean an average-sized figure. (P.c., 31/08/2009)

A conclusive determination regarding ‘protective’ elements within Black culture vis-à-vis eating disorders was not possible due to limited research. However, findings suggest that eating disorders are rare within Afro-Caribbean populations. In determining why Afro-Caribbean girls and women seem almost immune to the ‘cult of thinness’ predominating in western media and culture, Bhugra et al. suggested the “protective function of cultural beliefs and practices” (2003: 425). These results concurred with later findings by Willemssen and Hoek which indicates that Caribbean culture define beauty through the adoption of larger body types wherein excess weight is more accepted and attractive according to social standards (2006).

According to Fraser, the Caribbean obesity epidemic stems from a “background of cultural traditions that favour female obesity” (2001: 61). “Part of the Caribbean problem” Fraser argued, “has been the tradition that obesity is healthy and that fat women are preferred” (2001: 61). A belief, Fraser argued, that “goes back to Africa, where in some places it was customary to place brides-to be in ‘fattening huts’” (2001: 61). Within the contemporary context, Fraser described the practice of advising new mothers to ‘eat for the baby’ or ‘eat for two’. “Such practices,” Fraser expounded, “have been reinforced by three centuries of slavery and undernutrition and also embedded in the psyche of males and females, with the constant refrain that ‘our men like us fat’” (2003: 338). Respondents generally agreed with Fraser’s arguments. “Not too many absolutely want to lose too much weight or tonnes of weight,” said Dr. Alert. “But generally speaking, it was found that most of our women are BMI 27 and above. I think most people are comfortable with what’s around. Anything less than that is a little too skinny” (p.c., 02/09/2009). The idea that Barbadian men ‘like their women fat’ is clearly a stereotype that

cannot be ascribed to all men. However, when asked how cultural attitudes linking weight and attractiveness might play a role in Barbados' obesity epidemic, Alert replied: "It's better to be a little heavy, you're stocky, for males and females." Alert went on to say: "We actually have a song about that here, it's a Calypso, *'Big, Fat & Thick'*. And one of the lines is that, this guy said he *'likes 'em big and fat and thick'*. You know, *'Don't want no broomstick!'*" (p.c., 02/09/2009). Commenting on the popularity of *'Big, Fat & Thick'* Barbadian entertainer entrepreneur Peter Boyce explained: "As the song won the people's choice award would speak to its popularity. It was popular because here fat is seen as a badge of honour, so a song praising fat up would be well received" (p.c., 22/08/2011). In line with studies linking Black music, performance culture and larger body preferences (Shaw, 2005), *'Big, Fat & Thick'* projected the full Black female form into public arenas through Calypso while asserting the desirability and sexuality of obese women. The popularity of *'Big, Fat & Thick'* is a testament to the reality of a cultural preference for larger-sized women while supporting earlier arguments that Caribbean men prefer their women 'fat' (Adams et al., 2006; Fraser, 2001; Hoyos & Clark, 1997). Considering respondent comments (Alert, p.c., 02/09/2009; Boyce, p.c., 22/08/2011; Hollingsworth, p.c., 31/08/2009) in light of previous studies, it may be hypothesized that preference for larger body sizes is so deeply embedded within Barbadian culture that concepts of 'thin', 'fat' and somewhere in between are all skewed in relation to clinical categorizations.

3. Racial Weight Categorizations and Normalization of Overweight and Obesity

Lynch's finding indicated that "Barbadian society although aware of obesity and its causes [continued to have] difficulty perceiving a body image with respect to mass, with most respondents believing they were smaller than their actual selves" (2001: 7). Lynch's study clarified confusion surrounding the notions of 'a little fat,' and 'fat', by defining them as synonymous with 'overweight' and 'obese' respectively (17). However, results indicated that: "Most of the overweight and obese respondents thought they were the right size or a little fat. [However...] respondents who thought they were "a little fat" did not associate it with being overweight" (28). The terms 'fat' and 'a little fat' complicated Lynch's results as perceptions may have been culturally influenced and not necessarily akin to standard clinical definitions. For example, Adams et al.'s study revealed that 39% of all respondents were obese and 30% were overweight. However, only 7.9% of respondents considered themselves 'fat' while 41.9% thought they were the 'right size'. According to Adams et al, "Of obese persons who responded,

18%, 32%, 31%, 18%, and 2% thought they were fat, overweight, a little fat, the right size, or thin, respectively” (2006: 386). Respondents presented two theories in explanation of the disconnect between clinical categorizations and perceptions of overweight and obesity: (i) medical categorizations of body weights are based on White European ideals that do not apply to other racial groups, and (ii) the normalization of overweight and obesity.

i. Weight Categorizations and Racial Constructs

According to Dr. Alert, “There is a belief that a lot of these concepts that start in Western countries don’t directly translate here in the Caribbean” (p.c., 02/09/2009). In other words, Alert expounded, “A lot of our perception of body size, where we look at what’s coming out of the UK, what’s coming out of America, people don’t think that’s happening to us. We think *‘that other race,’* we have different ideal body sizes” (p.c., 02/09/2009). Alert’s comments are reminiscent of ideas expressed by Shaw (2006). Shaw opined that “the African Diaspora has rejected the West’s efforts to impose imperatives of slenderness and to mass market fat anxiety” (2006: 2). While findings by Adams et al. (2006) and Lynch (2001) provide insight into notions surrounding body size within the Barbadian context, they fail to acknowledge the possibility of a growing normalization of overweight and obesity. In other words, results may have underestimated contemporary associations between excess weight and good health. Results imply that perceptions of ‘a little fat’ and ‘fat’ are not synonymous with mental interpretations of overweight and obese. Thus it could be inferred that perceptions linking ‘a little fat’ and ‘fat’ with health are much higher than the 27% and 2% recorded by Adams et al.

ii. Normalization of Overweight and Obesity

Findings by Burke and Heiland revealed that body weight standards become more relaxed as average weight increases. As a result, the relaxed standard then leads to further weight increases (2007: 24). Illustrating this phenomenon in the context of North America, Moffat opined:

as a society we have forgotten what...bodies looked like in the past so many have shifted (and will continue to shift in greater numbers) from the so-called normal BMI range, between the 15th and 85th percentiles, to BMIs above the 85th percentile. Thus, the normal range of variation, or bell curve, has been skewed to the right, and with this shift there has been a decline in our ability to recognize obesity. (2010: 9)

Boyce supported the idea of ‘fat’ becoming normalized within contemporary Barbadian society. Reflecting on the normalization of overweight and obesity Boyce stated: “That’s a lot of truth. I was... talking to my doctor cousin who was telling me how years ago Bajans weren’t so fat...I didn’t know that” (p.c., 22/08/2011). Julien expressed similar comments:

I had a startling revelation this Kadooment Day. Two days before Kadooment, they showed the 1982 Kadooment festival and 95% of the people were bony and skinny. Then 2 days later they showed the 2009 Kadooment and 95% of the people were seriously overweight! It was incredible. (P.c., 27/09/2009)

According to respondents, there is a failure within society to recognize how far population weight has shifted in recent decades. President of the Food and Vegetable Growers Association, Julien was aware of the shift in diet and consumption patterns. Nevertheless, the contrasting images presented in the 1982 and 2009 Kadooment videos were a ‘startling revelation’. That people had ‘forgotten’ how Barbadians ‘used to look’ and become desensitized to larger body sizes, could partially explain the gap between perceptions of overweight and obesity vis-à-vis clinical definitions. Moreover, the normalization of overweight and obesity (Moffat, 2010) may have contributed to a persistence of cultural perceptions linking larger body size with beauty. For example, Julien opined that availability affected what people viewed as attractive. “Guys have changed their taste because the women’s bodies are changing,” said Julien. “So let’s say you’ve been away [overseas] and you like slim girls, but [when you return] you have to change that because you would be hard pressed to find slim girls in Barbados!” (p.c., 27/08/2009). In other words, as the population’s waistline expanded, there may have been a return to pre-existing associations between larger body sizes and attractiveness. Therefore, past studies may have underestimated the impact of overweight and obesity on contemporary body preferences.

4. Determinism and Individual Agency

That Afro-Barbadians view clinical categorizations of overweight and obesity as being racially defined – hence not applicable to Blacks – manifest within the cultural dynamic of biological and theological determinism. The present study underscores the relevance of both hereditary and genetic predisposition in understanding the variations across prevalence groups (Chap. 4-5). However, there is a need to consider the psychological impact on populations identified as ‘at risk’ and how this manifested at the level of individual agency. To illustrate, a comparison is presented between two distinct public health issues manifesting within the Caribbean (lymphatic filariasis and diabetes-related LEAs). Barbados has escaped many of the infectious diseases common to less developed Caribbean countries. However, a certain irony is presented in Barbados’ transitioning health challenges. In former times, Barbados suffered from a high prevalence of lymphatic filariasis (a.k.a ‘Barbados leg’). Although the condition was largely

'Big, Fat & Thick'



Background male singer: Big girl! Look at this one!

Background female singers: Turn him on, fat girls turn him on. (x3)

Captain Sawyer:

Don't want no broomstick. Don't want no broomstick girl. (x3)

I want them big and fat and thick!

Chorus:

I love them big and fat and thick. (x3)

And that is how Sawyer love it.

I love them big and fat and thick. (x3)

For that is how Sawyer love it.

120 too bony, 130 they too hungry, 160 they just too small for me, ya have to weigh a tonne to get my attention.

250 you could spend my money, 300 pounds does got me dribbling, at 500 pounds ya get de wedding ring.

(Chorus)

You too sweet girl, you too sweet girl, the way you jiggle and you wiggle turn me on girl. (x2)

Some fellahs like macaroni, but macaroni does keep me too hungry.

I like a pork chop and a good gravy cause you have to weigh a tonne to get my attention.

250 you can come and rob me. 300 pounds don't try to get slim and don't let me come and catch you in no gym.

(Chorus)

You too sweet girl, you too sweet girl, the way you giggle and you wiggle turn me on girl. (x2)

Slim girls them aint gon want me.

They like Peter Ram and Timmy

They wanna make total sport at me.

But I gon tell ya something gon mek wunnah laugh I had a slim thing and miss and break she in half, she went home crying bring she mother for me, I end up with the mother she done big and lovely

(Chorus)

You too sweet girl, you too sweet girl, the way you giggle and you wiggle turn me on girl. (x4)

(Chorus)

Don't want no broomstick. Don't want no broomstick girl. (x8)

- Lyrics and song by Calypsonian Captain Sawyer (a.k.a. Stephen Grant), Barbados
(Photo credit: Rollock, 2011)

eradicated in Barbados it remains a serious health risk in less-developed Caribbean countries, such as Haiti.

In the *New York Times*, McNeil Jr. told the story of Antoinette St Fab, a 30 year old market vendor in Léogâne afflicted with lymphatic filariasis. Recounting her experiences, St Fab commented: “I stepped on someone's foot by accident, and she said, *'Hey, yam leg, don't put your fat foot on me.'* I told her: *'Oh, be quiet. God gave me this leg. Do you think that if I went to the store to buy a leg, this is the one I'd choose?'*” (Qtd. in McNeil, 2006). What is interesting in this story is the comment ‘God gave her’ that leg, not of her choosing. St Fab’s circumstances – the victim of poverty in a country lacking the most basic health services (e.g. mosquito netting) – is different from the average Barbadian. Nevertheless, how St Fab understood her condition hints to thoughts of pre-determinism in Barbados. For example, Dr. Alert opined, “I think a lot of what people believe in this regard is that if they get [diabetes] then, *'The Lord willed it on me and I'll go home and wait to die.'* They are not necessarily aware that they *can* do something about it.” Alert also noted that thoughts of heritable inevitability impact how people understand individual agency vis-à-vis health: “They think, *'Oh I can't do anything about it. My uncle had it, my father had it so I gonna get it too'*” (p.c., 02/09/2009). Another example is derived from Calypsonian Captain Sawyer. Commenting on the inspiration behind *'Big, Fat & Thick,'* Sawyer disclosed: “They said it was a health risk and it hurt me. [But] people who are considered fat... ain't make themselves. Everybody can't be slim, I am not a slim person and never was” (qtd. in Rollock, 2011).

Bearing in mind religious belief and thoughts of heritable inevitability, there is a need for caution when promoting awareness with respect to predisposition. Misconceptions regarding disease predisposition negatively impact how overweight individuals or persons with type 2 diabetes see their condition and the measures they adopt to obtain – and maintain – good health. According to Alert, deterministic beliefs manifests in two ways: (1) “there is prevention in the first place, they are not aware” and, (2) “in terms of minding it to prevent the complications, they are not aware as well” (p.c., 02/09/2009).

5. Discussion

The role of misperceptions in the health and wellness of Barbadians should not be understated. Understanding how people view weight and factors determining body satisfaction differentially across racio-ethnic groups can be used as a tool within interventions designed to promote healthy

lifestyles. Moreover, as Gaskin argued, “We have got to *understand* our own people and their patterns of behaviour... it’s the only way in which to make proper interventions in your *own* situation” (p.c., 03/02/2009). For example, the belief that people are predisposed – or have no control in health outcomes – can manifest in defeatist attitudes thereby hindering or stymying the impact of public awareness campaigns. Moreover, favourable attitudes linking health, wealth and excess weight posed serious concerns regarding the influence of cultural perceptions on the gender gap in obesity and diabetes prevalence. For example, studies indicated that Afro-Barbadian women are generally comfortable with the condition of being overweight or obese (CARICOM, 2007: 26). This could be a result of male preference – or perceived preference – for larger female body sizes. According to *The National Health and Nutrition Survey of Barbados* (1981), “The view is commonly held that Caribbean men prefer their women to be fat and hence would be reluctant to assist their female partners to lose weight” (CFNI, 1986). Due to distinctly gendered overweight and obesity prevalence rates, there is a critical need to adopt a gendered approach within health strategies. However health and policy practitioners would be wise to heed the dangers of propelling excessive ‘thinness’ so as not to negatively impact the psychological status of overweight adolescent girls and women which may result in reverse trends in eating disorders.

CHAPTER 8.

CONCLUSIONS & POLICY OPTIONS

Overview

Since the 1950s, positive health changes in the Caribbean have been extraordinary. Life expectancy rose from 52.1 years to 68 years by the late 1990s (ECLAC, 2004). The reduction of infant mortality is also exemplary, dropping from 127 per 1,000 live births to 47 by the 1990s (PAHO, 1995). There was also a significant reduction in communicable disease prevalence; this is evidenced by the eradication of small pox, measles, and polio. Moreover, the region holds a commendable record of achievement in the reduction of childhood malnutrition wherein average rates fell from 20% to less than 5% by 2010 (Henry, 2010). However, today the region faces new challenges. The Caribbean is undergoing rapid nutrition and epidemiologic transitions. Evidence is most apparent in the shift from communicable diseases towards CNCDS, particularly obesity-related diseases (CFNI, 2004: 1). This is particularly true for rapidly developing countries – such as Barbados and Jamaica – where obesity rates for young children exceed global prevalence rates. The speed at which obesity is increasing presents a dire trend. In tandem with overweight and obesity, type 2 diabetes prevalence is also on the rise.

Among the most developed countries in the Caribbean, Barbados successfully eradicated of a number of communicable diseases through mandatory immunization programmes, insect control, and public education initiatives. However, Barbados has also come furthest along the transition and today faces an epidemic of obesity and CNCDS. Within Barbados, health administrators, educators, farmers, specialists and GoB respondents are all concerned with increasing obesity prevalence, particularly within the childhood population. Increasing obesity prevalence in the childhood population is significant cause for alarm. While national efforts to reduce childhood malnutrition have proven incredibly successful, the country struggles to reduce the incidence of obesity and obesity-related diseases. It is an ironic fact that Barbados – a leading Caribbean nation – also suffers from the highest prevalence of diabetes in the region and the highest per capita number of diabetes-related LEAs globally.

The transitions manifesting in the Caribbean – and particularly Barbados – are only part of a greater change as these countries follow a Western-oriented development path. Among these changes, consumption of local produce has reduced while consumption of foreign foods, particularly processed foodstuffs, has increased. Since 1972, Barbadians have been subjected to a

rapid proliferation of fast-food options. The popularity of fast food outlets (e.g. Chefette) negatively contributed to people's health. Increased consumption of foods high in fat, sugar and salt, combined with a more sedentary lifestyle shift partly explain contemporary overweight and obesity prevalence. Other factors include over-dependence on imported foods as well as the failure of local farmers to produce and market conveniently packaged healthy alternatives to imported foods. While the Caribbean region has long relied on food imports due to its colonial heritage which focused on mono-cropping, the types and quality of such foodstuffs have changed substantially. Increased consumption of preservatives, salts, sugars, oils, and fat (associated with heavily processed foods) combined with the onslaught of fast-food has significantly reduced nutrition. Moreover, of fruits and vegetable imports, much of that available to consumers is characterized as 'low grade' product. In essence, respondents asserted the Caribbean has become a dumping ground for rejected produce from highly developed countries. The nutritional value of fruit, vegetables, and meat are further compromised by transit requirements and length of time between harvest and market. The result is a significant reduction in the nutritional quality of outwardly 'healthy-looking' foodstuffs. Other factors affecting obesity prevalence include a rural to urban demographic shift contributing to a shift from active to sedentary lifestyles. Shift in lifestyles are impacted by increased time constraints as well as the breakdown of societal structures which formerly emphasized communal sharing of resources and care-giving tasks (e.g. child-rearing, food production and preparation). In addition, there was a shift in the types of work available and undertaken, as well as changes in transportation, entertainment, and leisure contributing to an overall drop in energy expenditure. From a socio-cultural perspective, beauty, SES, and food-related habits further impact obesity prevalence. Barbados also faces additional challenges in the struggle to achieve and maintain population health due to its socioeconomic history. The historical legacy of colonialism and slavery is observed in cultural nuances and peculiarities which directly impact food and lifestyle choices and ultimately obesity and type 2 diabetes risks. Examples underlying the significance of culture within Barbados' obesity epidemic include: body size preferences vis-à-vis cultural perceptions of health, wealth, happiness and beauty; attitudes guiding food selection and consumption behaviour; food preparation; and the stigma against agriculture. Tremendous efforts are made to increase awareness of the values of proper nutrition and exercise. However, such efforts do not translate into significant positive behaviour change within the general population. Although part of the

failure is attributable to structural barriers, respondents indicated that reducing the cost of nutritious food will not solve certain problems with the country's health and nutrition challenges. Significant efforts must be made to increase availability as well as convenience of nutritious food options. Moreover, population lifestyle modifications require significant environmental change to enable people to adopt healthy behaviours and improve overall nutrition. While health awareness campaigns litter local media, Barbados lacks the infrastructure and resources to support those most in need. Physical leisure activities are often costly, sidewalks are not always amenable to walking and roads are dangerous to manoeuvre on bicycles due to traffic congestion and lack of available space for widening. Socio-cultural values and attitudes towards weight gain and weight loss acted as barriers to good health and nutrition. Misperceptions surrounding racially defined body sizes and health continued to dominate public perception. For example, cultural preferences continue to favour larger-sized women while notions of pre-determination propel a 'live-for-today' attitude which undermines national awareness efforts. Moreover, there is a tremendous need for support groups, particularly for single mothers. Women, more than men, carried the brunt of obesity and type 2 diabetes prevalence. Of additional concern, many of the nutrition and health problems experienced by primary care-givers were transferred onto the childhood population. In the context of health, socio-cultural values also undermined efforts to reduce food insecurity and improve overall population nutrition and health. The colonial history of slavery and the persistence of plantation-style agriculture following emancipation contribute to a situation wherein cultural memory and trauma exacerbate food security and population health. There is an admirable effort on behalf of the GoB to shift public attitude towards agriculture. For example, public schools are increasingly adding GBL into the sciences curriculum, agriculture programmes are initiated, and home gardening is strongly encouraged. Nevertheless, efforts are often stymied by poor management, lack of resources and capacity, mixed messaging, and stigma against agriculture.

The intention of the present thesis is to contribute to existing knowledge of obesity prevalence in high-risk groups, as well as to inform future efforts to reduce obesity-related health disparities within Afro-Caribbean populations (including the Afro-Caribbean Diaspora). As such, there is an attempt to identify and investigate causal factors and consequences of obesity and obesity-related health conditions using Barbados as a case study. The present thesis is based on certain assumptions. On the one hand, body types are formed by nature. Size, weight, sex, age as

well as racial and hereditary determinants are all real factors contributing to body form. On the other hand, there is the supposition that body types are also partially constructed by environmental, structural, and socio-cultural norms, memories, and discourse (e.g. pictures, texts, and values). It is hypothesized that socio-cultural mores – compounded by globalization and development – have created a situation of dire concern. The following overarching research question is addressed: *What were the causes and consequences of obesity in Barbados?* In addressing the research question, the thesis aims to: 1. identify the causes of obesity (e.g. cultural, socioeconomic and environmental barriers to health, as well as hereditary and genetic factors), 2. evaluate the importance of gender constructs vis-à-vis the obesity epidemic, and 3. evaluate the importance of plantation history on cultural constructs which negatively impact prevalence. The present thesis found that while biological factors contribute to body shape and health, dietary patterns, lifestyle, socioeconomic, cultural and environmental factors are the main drivers of the obesity epidemic. However, in the context of Barbados, compounding factors have resulted in a situation akin to dietary genocide. Moreover, health determinants are enmeshed and not easily disentangled from the greater reality experienced by small island developing plantation economies. As the Caribbean region struggles to achieve economic progress and improve quality of life for its people, the financial burden resulting from obesity will undoubtedly stagger development. An increasingly sick population – particularly within the work force – reduces productivity. The burden of caring for the sick also increases pressure on women who are not only primary caregivers for the children and the elderly but also most at risk of becoming obese and developing type 2 diabetes. Further research is needed to identify and fully comprehend the causes and consequences of the Caribbean obesity epidemic. However, since socio-cultural attitudes, beliefs and mores are not easily captured using quantitative methods, the application of methodological triangulation combining quantitative and qualitative methods is advised. The present thesis strongly supports a multifactorial and holistic approach within health and wellness strategies. It is further recommended that such an approach include a solid understanding of the complexity of diet and consumption patterns while paying particular attention to culturally constructed concepts which negatively impact behaviour.

Policy Options

The policy options advocated in the present thesis are consistent with the Caribbean Charter on Health Promotion (CARICOM, 1993: 2). Following Charter recommendations, the policy

options offered include strategies that support healthy lifestyles and influence policy conducive to positive social, cultural and environmental change. Strategies that ensure the understanding, planning and implementation of the kind of health promotion adhering to the overriding principle of equity in matters of health suggested by the Charter include:

- Formulating public health policy,
- Reorienting health services,
- Empowering communities to achieve well-being,
- Creating supportive environments,
- Developing/increasing personal health skills,
- Building alliances with special emphasis on the media. (CARICOM, 1993: 2)

Many of the policy options provided take a distinctly child-centric approach. The importance of intervening at the childhood level is apparent. If action is taken to create positive change within the childhood population there is greater chance that these children will be in a better position to lead healthier, active lives, while potentially delaying age of onset for type 2 diabetes or reversing trends altogether.

Disease Control to Disease Prevention

The cost of treating diabetes and the resultant burden on economic development far outweigh the cost of scaling-up prevention programmes to reduce obesity prevalence and improved health (Chap. 4). Moreover, due to the inherent social costs associated with obesity-related diseases (e.g. type diabetes and other CNCDS), there was an urgent need to move beyond disease control towards disease prevention. The benefits of prevention interventions are the avoided economic and social costs of CNCDS, as well as the overall well-being of the population. Obesity and obesity-related diseases are complex, multi-dimensional, and affect all aspects of society and the economy. GoB policy-makers are advised to take immediate steps to implement a public policy approach to population-level obesity prevention. However, prevention efforts must not solely lie within the responsibility of the MoH. Informed interventions require a broad conceptualization of the complex factors that determine population health. Therefore, other sectors of government must be actively engaged in prevention strategies. Although progress has been made to recognize environmental factors, further emphasis on multi-level interventions and policy change are needed to create healthier environments which positively impact behaviour by widening options and increasing the capacity of individuals to make healthy choices.

Moving Beyond Individual Agency

Traditionally, public health campaigns geared towards obesity and type 2 diabetes have focused on increasing public knowledge regarding disease risk. The expectation is that increased knowledge will translate into changed behaviour. However, experience indicates that public health campaigns focusing on individual agency (i.e. individual behaviour change) are largely unsuccessful within the Barbadian context. Moreover, over-emphasizing individual agency risks the possibility of a ‘name and shame’ or ‘blame’ mentality, such as that which manifested in Western cultures. There is also the danger that overweight – and particularly obese – people may at some point face increased discrimination or pressure towards eating disorders. Within prevention efforts, there is an imperative to support a ‘do no harm’ approach. Public health advocates recognize that Barbadians are ‘aware’ of both the dangers of overweight and CNDCs as well as the means by which to reduce risk. However, little public attention focuses on ‘why’. Public health practitioners and strategists are advised to empathize with those struggling with overweight while actively recognizing and taking steps to overcome barriers to good health. The present thesis has pointed to a number of barriers that negatively impact health promoting behaviour. In order to positively influence behaviour, it is advised that public health strategy moves beyond individual agency by acknowledging these greater barriers to exercise and nutrition (e.g. gender, structural, environmental, and socio-cultural barriers). Only by creating an environment conducive to healthy lifestyle choices will individuals be enabled to create lasting change within their own lives and that of their communities.

Public Health Awareness

Public health campaigns might have better results if messaging is delivered in a more positive way. For example, outreach strategies could include not only the dangers of obesity and diabetes but also the advantages of healthy living and particularly how to support family and friends in making healthy lifestyle choices. Moreover, rather than targeting awareness efforts at the individual level, focus might be re-directed towards greater societal change. Research indicates that socio-cultural factors undermine individual efforts towards achieving good health. Traditional value systems, perceptions of slimming in relation to HIV/AIDS, deterministic attitudes, combined with the cultural memory of hunger and slavery, exacerbate efforts to counteract population trends towards overweight and obesity.

From Messages to Messenger

Respondents indicated that ‘messages’ hold little clout in public perception. However, greater success was achieved when messages were enhanced by example. As Julien explained,

In our culture we don’t tend to follow ‘messages’ rather we tend to follow ‘messengers’. In other words, we follow people. So there needs to be somebody that we can identify with. A typical rootsy-type Barbadian person who is pushing it in our faces *every day*... The way HIV programming is, in your face *every day*. That way it will sink in. We need a ‘face’, a person that people will listen to. (P.c., 27/09/2009)

In the past, ‘messengers’ were a key motivational factor in campaigns encouraging healthy lifestyles through home gardening. The late Sen. Carmeta Fraser was described as one of these ‘messengers’. A food enthusiast and former Food Promotion Officer of the Barbados Marketing Corporation (now the BADMC), Fraser promoted a ‘grow what you eat and eat what you grow’ philosophy. However, Fraser also embodied her ‘message’ through example. According to respondents, Barbados needed ‘another Carmeta Fraser’ (Blackman, p.c., 02/09/2009; Morris, p.c., 02/09/2009). Illustrating the significance of ‘messengers’ Julien explained,

because we admire our leaders. If the leaders would come out every week or every month in and say, *‘This is where we are in food production and food consumption and it’s not good enough. That we have to eat more local foods et cetera’* – it would have an effect. Put the resources in place to develop another Carmeta Fraser, and put her on the TV once or twice a week, and show how you can make local dishes, and how you can make them tasty and put it into the school so that instead of having pie, you have crushed yam... You have to use celebrities. (P.c., 27/09/2009)

Positive awareness campaigns might also include ‘Weight Loss’ and/or ‘Healthy Lifestyle Ambassadors’. Such campaigns could draw attention to success stories of those who improved their health through behaviour change (e.g. physical activity, nutrition, home gardening, or other behaviours associated with ‘healthy’ lifestyles). Success stories could highlight:

- i. Before and after photos emphasizing individual agency in achieving weight loss goals;
- ii. Specific examples of how Ambassadors improved health by incorporating fresh fruit and vegetables in their diet while reducing reliance on processed foods, fast foods, oils, and fats;
- iii. Examples of how individuals overcame constraints (e.g. time, financial resources) to incorporate exercise within daily routines (e.g. walking to work, partaking in physical exercise during lunch breaks, joining a club, or learning how to swim);
- iv. Identification of psychological – as well as societal challenges – faced in achieving goals and how Ambassadors overcame such challenges;

v. Acknowledgement of support Ambassadors received (e.g. health programming and practitioners, family, friends, and community) in achieving goals.

The inclusion of ‘messengers’ within public health approaches could positively reinforce awareness campaigns and programming. Ambassador – or messenger – campaigns may also reduce socio-cultural hindrances related to perceptions of body weight, health, and wellness. For example, such an approach could diminish perceptions linking rapid weight loss and HIV, as well as mental linkages connecting race and larger body types. Moreover, public campaigns focusing on positive reinforcements could compliment or be used in conjunction with fear campaigns which focus on ‘negatives’ (e.g. dangers of overweight and diabetes, hereditary or genetic predisposition, etc.) Some studies have indicated that fear or anxiety arousing campaigns cause anxiety and act as a barrier to screening (Consedine et al., 2004). Moreover, some studies indicate that fear techniques – when not accompanied by strong efficacy messaging (solutions to overcome dangers) – may have a boomerang effect (Green & Witte, 2006). In other words, fear or anxiety promoting messaging may lead to overwhelmed or defeatist attitudes. As such, public health warnings regarding the dangers of overweight and obesity – as well as public ‘prescriptions’ – could be counter-balanced with positive reinforcement. By emphasising positive changes in people’s health, well-being, happiness and quality of life through healthy lifestyles could help shift public attitudes. For example, if messengers were depicted as healthy, happy, and successful (combined with definite examples of how they improved their health) more people might be persuaded to mimic such a lifestyle. Use of communication for development strategies combined with social media marketing tactics, such campaigns hold almost unlimited possibility for creative ways to follow people through the challenges and successes of improving health and adopting positive lifestyle behaviours.

Approach to Agriculture Campaigns

Strong agriculture and home gardening campaigns are in place. However, campaigns often feature mixed messaging. For example, words such as ‘back’ or ‘return’ combined with images associated with ‘times gone by’ emphasize linkages between agriculture and slavery, poverty, and low social standing. Restructuring campaigns away from negative perceptions towards agriculture could be as simple as changing the wording from ‘back’ to ‘forward’. By using progressive wording combined with positive imagine and success stories, there is greater chance that public attitudes may shift in favour of agriculture and home gardening. The use of ‘success

stories' in the agriculture sector – highlighting different career options available within agriculture-related studies as well as the potential for viable agriculture-related business – could also be used as a means to encourage youth to participate in the sector and reduce cultural associations between agriculture and poverty or low social standing.

Farmer's Markets and Open Markets

There is tremendous potential to improve food and nutrition security by promoting markets and/or direct purchasing from farmers. Market promotion and expansion (including direct outlets) has the potential to: reduce consumer costs, reduce corrupt practices (e.g. gift-giving, kickbacks, connections), improve population diet, improve consumer product knowledge, and support local agriculture production. However, in promoting markets and direct purchasing from farmers, certain challenges are presented including: socio-cultural associations between status and food shopping, consumer insecurity, and convenience. While there is a definite stigma associated with market shopping, there are also signs that this is changing. According to Bethell, “The best thing that is happening in Barbados is you're seeing more and more farmer's outlets – where product is being sold direct to people by the farmer” (p.c., 03/09/2009). However, while Brighton Plantation Market appears to successfully attract high-income shoppers (particularly ex-patriots), other markets such as Cheapside continue to be viewed as ‘low-class’. Moreover, respondents expressed a general concern that middle- and high-income earners are reluctant to frequent markets due to uncertainty regarding price mechanisms. Convenience was also cited as a factor which negatively contributes to shopping trends. These issues may be alleviated through the following interventions:

- **Socio-cultural attitudes towards food shopping**

Illustrating the challenge in promoting and installing more markets, Julian described certain cultural barriers within the Barbadian context:

Right now for example, we are trying to push farmers markets to get cheaper food to the local people but [Black Barbadians] look down on it. They think only scruffy people go to a farmers market. Not a good accountant or an executive secretary. (P.c., 27/08/2009)

Rastafarian farmers and Cheapside Market vendors Melvin Jordan, Mike Hinkson and Clarence Hurley also commented that, “The average middle class or high end people would more get in their car and drive to a store. They would feel more safe. People don't really mix too much with the average Bajan. They think it's beneath them to come to the market” (p.c., 29/08/2009). However, recent trends show promise. For example, more ‘upper class’ farmer's markets such as

Brighton Market could spark change. Unlike other open markets, Brighton incorporates sale of fresh produce with local arts and crafts, entertainment, rest areas, and live music. This type of market structure creates space between the traditional and the modern while sparking a return to direct transactions between farmer and consumer. However, respondents indicated that Brighton attracts a predominantly White clientele and is also quite popular amongst expatriates and tourists (Black and White) rather than Afro-Barbadians.

The solution perhaps, is to create market outlets somewhere in between Cheapside and Brighton, wherein middle-income people would feel comfortable. According to Julian, efforts have been taken by the Fruit and Vegetable Association of the BAS to encourage middle-class markets. Illustrating the rationale, Julien explained:

What my group is trying to do is say, *'Great we trying to put up a nice farmers market for you in a nice mall that everybody would be happy to drive there'* and we push it to the middle class. Obviously at elevated prices to other places – like Cheapside road market – but you gotta bring the middle-class up and even more the 'Wanna Be's'. Buy the veg from a nice tended market and invite the right celebrities and people will say, *'Hey, did you know who was shopping there?'* Then people will come. (P.c., 27/08/2009)

In a similar vein, John Hunte commented, "Some people don't want to be seen at 'Popular' or 'Cheapside'. A lot of what goes on in Barbados... [is that] people are looking at each other. They want to know who's there and who's been there... So there is very much a 'social consciousness'" (p.c., 26/08/2009). Therefore, the inclusion of celebrities or other personalities associated with 'Big Up' or elevated social status within market promotion campaigns appears both warranted and justified. In consideration of the importance of upward social mobility in the Barbadian context, a campaign highlighting the participation of the upper class or 'well-to-do' in market activities could attract middle-class participation.

- **Price Mechanisms**

Although Farmer's markets targeting average middle-class Barbadians could spark consumer shifts towards fresh, locally grown foods, attention must also be paid to pricing mechanism within the market structures. Cheapside hawkers Gill, Went, as well as farmer-vendors Riley and the Rastafarian group all emphasized that – regardless of colour, appearance, or dress – all customers are served (and charged) equally. Nevertheless, observations reveal that some hawkers do increase prices according to perceived socioeconomic status. According to Rastafarian organic farmer/market vendors Jordan, Hinkson and Hurley,

That's do to your look. People presume that you probably have money to spend. That would scare some people away. People that *know* what the prices are, they won't let them get away with it! Some people will just pay but other people will question. Yeah that would scare away a few customers. (P.c., 29/08/2009)

Concurring with such views, Bethell asserted: "That is one of the issues why White people and Black middle class don't go to the open markets" (p.c., 03/09/2009). Clearly displayed prices may help to resolve this issue and improve consumer confidence. However displayed set-pricing could be somewhat problematic. While market hawkers and vendors indicate no real form of organization in terms of pricing¹⁷, respondents acknowledged that prices are generally driven by market trends rather than true costs. Illustrating the scenario, Went explained:

We look around and see what people are selling it for and we do the same thing. If somebody selling it at \$1 we can't put it at \$1.50 or we won't be selling anything. To be truthful, we can't determine the price of anything. When we buy it we just got to hope we can sell it to get somethin' off of it. We can't determine how to buy. If the merchant is selling it for \$1 then we have to buy it to sell it that day. (P.c., 29/08/2009)

Moreover, vendors feel pressured to reduce prices nearing end-of-day to push sales. While constraints limit the ability of hawkers to form definitive prices, respondents did express the desire for capacity building resources (e.g. business training). With the exception of the Rastafarian group, hawkers and vendors had little knowledge of budget practices or total input costs (e.g. transportation, supplies), or significant understanding of profit and loss. By addressing these limitations, a more unified and productive system may evolve to improve the condition of hawkers and vendors while contributing to customer comfort, convenience, and service.

- **Convenience**

Convenience was often cited as a barrier to market shopping. In this respect, many respondents felt that supermarket shopping provides 'one-stop' convenience. Moreover, unlike supermarket shopping which can be done straight throughout the day or week, markets generally open only one or two days per week (e.g. Saturdays, Sundays). When shopping at open air locations, it is also necessary to arrive early in the day as stalls tended to shut down by early afternoon. Due to the sometimes intense heat occurring later in the day, expanding market hours may prove difficult. However, shifting attitudes towards market shopping could improve public perception

¹⁷In this case, exception is given to the Rastafarian group which specialized in organics, had greater input costs and were working on a somewhat co-operative basis and hence were in a slightly different category than the general hawkers and vendors population.

and willingness to partake in market activities. Like supermarket shopping, frequenting open air or covered markets could be advertised in a positive manner. For example, market shopping could be portrayed as a way to get fresh air, increase activity by walking, while highlighting produce quality. Market shopping could also be advertised as a way to support small-business owners and local farmers. The incorporation of rest areas may be advertised as social hubs where people may connect with friends or have a light meal. Markets could also be expanded to include live music and other public entertainment. Supervised child-friendly zones may also encourage and enable mothers to bring their children. By emphasizing the benefits of market shopping (e.g. walking, cost efficiency, quality, product knowledge) and combining social elements, attitudes may shift in favour of markets while diminishing the importance of ‘one-stop’ shopping.

Central Purchasing System

By establishing a central purchasing system, the GoB would have greater awareness of local production. Moreover, such a system would enable local producers to better meet consumption requirements. The installation of a central purchasing system would also enable farmers to better organize crops and harmonize efforts while reducing harmful practices such as ‘gift-giving’, kickbacks, corruption and bribery. Moreover, a central purchasing facility would reduce the burden on farmers while providing a viable option for purchases (e.g. hawkers, supermarket, restaurant and hotel buyers). Although some hawkers sell excess behind the piling produce or purchase direct from farmers, when local produce is unavailable they will turn to import wholesalers. In addition, many hawkers purchase predominantly from import wholesalers or from other hawkers due to factors associated with convenience, availability, and consumer demand. Nevertheless, some hawkers emphasized a strong preference for local goods. According to Went, locally produced fruit and vegetables last longer, have better quality and flavour, and – unlike imported goods – do not need to be kept on ice. With the addition of a central purchasing facility, greater variety and amount of local fruit and vegetables would be readily available in one convenient location. This would also reduce travel requirements by hawkers who often rely on public transportation. Many of the same advantages would apply to wholesale purchasers as to hawkers. The incorporation of a grading mechanism could ensure that supermarkets, restaurant, and hotels have greater access to quality produce on a consistent basis from one convenient location as opposed to small contracts with local farmers unable to meet product demands. Pooling and grading produce for sale to wholesalers would also reduce the burdens

faced by local producers in obtaining and maintaining buyer contracts. Such a system would also inevitably reduce corrupt practices associated with contract trends within the food industry.

Calypso as an Entry Point to Good Health

Calypso is a powerful influencer in Barbadian society. Although primarily used as a forum for political commentary, calypso has also been a vantage point for disseminating public health information and awareness. While songs such as *'Big, Fat & Thick'* helped promote body confidence and appreciation for larger-sized women, calypso may also be used to promote healthy lifestyles and the seriousness of obesity and diabetes. According to Lowe, health themes emerged within calypso as early as the 1940s and 1950s (1993: 61). For example, Lowe pointed out that calypso served as a powerful tool during a meningitis outbreak, advising people to keep up their health by taking the following advice: "Drink cold eddo soup, A piece of boiled shark, On mornings two fried eggs, And break meningitis legs" (1993: 61). In 1990 Peter Ram released *'Dangerous Test,'* a calypso promoting awareness and the societal impact of HIV/AIDS ("It's a dangerous disease that nobody can't test. A I D S.") To date, there seems to have been only one calypso on the subject of diabetes. According to Boyce, during the 1988 Crop Over festivities someone sang a song called *'I am a Diabetic.'* However, Boyce went on to say, the song had no apparent message and appeared to have offended people. The chorus of the song was very simple, "I am a diabetic ram it ram it ram it ram it... I am a diabetic so I will ram it at fetes"¹⁸ (Boyce, p.c., 25/03/2012). While *'I am a Diabetic'* lacked popularity and was deemed socially unacceptable, it also appeared that the failure of this song to achieve the same kind of popularity as Ram's *'Dangerous Test'* or Captain Sawyer's *'Big, Fat & Thick'* lied in the lack of messaging. Due to the popularity of other health-related calypsos, with appropriate messaging there appears to be a tremendous potential to encourage awareness of obesity and type 2 diabetes as well as encouraging exercise through dance (e.g. Lil Rick's soca track *'Girls Gone Wild'*). The promotion of public health messages through jingles or calypsos could be used as public reminders on the benefits of good health, to promote awareness, as well as to approach public health campaigns through culturally accepted and recognized mediums.

¹⁸Although the name of the artist and song were unknown, Boyce recited the chorus translating it to mean: "I am diabetic, dance, dance, dance... I am diabetic so I will dance at celebrations/parties."

Church Involvement

Respondents indicated that involvement in church and religious activity is very strong. While CDU efforts include church representatives to garner support in reaching the general population, efforts may also consider discussing how attitudes towards pre-determination and religious belief impact individual agency. In addition, places of worship often hold large areas of land. While some churches have become involved in agriculture through IICA involvement, more can be done to shift attitudes related to agriculture through enhanced involvement of religious leaders and maximizing use of lands surrounding churches and other places of worship.

Ministry of Health (MoH)

Greater attention should be devoted to the distinction between disease prevention and disease management within MoH budget resource allocations. Health budgets and resources were disproportionately allocated towards the treatment of diabetes and diabetes-related complications. The cost of treating obesity-related diseases (e.g. type 2 diabetes) and diabetes-related complications (e.g. LEAs) is staggering. Meanwhile although much focus is directed at public awareness campaigns, there are few resources committed to prevention strategies and programming despite urgent need. While an immediate shift in resource allocation would prove difficult, greater funding allocations may enable the MoH to adopt a more dynamic approach to disease prevention. Moreover, awareness campaigns are advised to target the medical community itself. More effort must be placed on confronting overweight, obesity and diabetes at the preventative level in conjunction with patient education and monitoring following diagnosis. Support for general practitioners is crucial. Efforts must be made to highlight the role of general practitioners and prevention specialists (e.g. dieticians) in stemming the tide of obesity and CNCDS. Such efforts may lead to elevated social status and public esteem while encouraging new entries. Efforts to support prevention efforts and awareness may also emphasize:

- identification of early warning signs and advance screening for diabetes,
- the importance of encouraging healthy lifestyle practices and educating patients on risk mitigating behavior,
- the need to enforce strict follow-up guidelines for at-risk patients,
- the provision of practical information on preventative health resources which can be relayed or distributed to patients,
- providing specific examples of how patients may incorporate positive change within their day-to-day routine such as food replacement options,
- the importance of educating patients on the signs and symptoms of diabetes and diabetes-related complications,

- emphasizing individual agency and community support for patients, particularly for those with a family history of obesity or diabetes,
- greater emphasis on the importance of preventative practitioners within health studies programming at the post-secondary level.

The role of nutrition and exercise is central to the prevention of obesity and the control of type 2 diabetes. As such, primary care doctors and preventative care practitioners (e.g. dieticians, nurses, fitness specialists and environmental health officers) must also be given public prominence as well as greater resource allocation for programming and services.

Ministry of Agriculture and Rural Development (MARD)

Agriculture is the cornerstone of development and achieving proper nutrition through food security. As such, MARD plays a crucial role in the ability of Barbadians to access healthy food options. However, a strong anti-agriculture stigma pervades within the general population due to the island's former plantation-style economy and colonial history of slavery. While this stigma is acknowledged by some members of the Ministry, more effort must address how agriculture is presented to the general population. Future programmes and campaigns must address this issue and unearth the manifestations of a stigma against agriculture which run deep. However, MARD may also benefit by exploring the implications of a stigma against agriculture on the management and sustainability of programmes. While respondents indicated that certain Members of Parliament (e.g. Minister Benn) are committed to improving the agriculture sector, the same does not hold true for commentary regarding bureaucrats or civil servants.

MARD must shift away from 'cheap-food' policies while prioritizing healthy food options. While a diverse range of food products are available, the quality of imported foodstuffs is questionable. Due to the financial and societal burden of obesity epidemic, there is an urgent need to discourage import of 'cheap foods' high in sugar and fats. There is also a significant need to limit the import of vegetables and other foodstuffs which may be produced locally while strengthening local agriculture production. While national health campaigns promote 'healthy' lifestyles (e.g. consumption of fruits and vegetables) local production is flagging. Without immediate action, farming for many medium- and large-scale agriculture producers will become untenable. Local agriculture producers face substantial risk due to market fluctuations and other factors (e.g. weather and water shortages). With concerted effort and strong management, Barbados' agriculture sector – including behind the paling production – has the potential to produce more and eventually reduce production costs. While some food production industries

(e.g. pork and poultry) may gain immediate benefit, other areas of production take years – and sometimes decades – to develop and come to fruition. As such, it is advised that sustainable long-term agriculture strategies be initiated, maintained and managed in a consistent and reliable manner in order to maximize yields, increase production and improve relations between MARD and agriculture producers. For long-term sustainability, such programmes are advised take advantage of opportunities (e.g. strong economic periods) to do undertake research and market testing for optimal solutions to future price fluctuations. By moving beyond ‘talk’ to action, MARD has the potential to significantly improve national food and nutritional security while simultaneously reducing consumer costs by increasing availability of reasonably-priced vegetables. Long-term outcomes may also include a reduction in consumer reliance on processed food as fresh vegetables become more widely and consistently available. Moreover, it is advised that farmers must be included in national efforts to improve population. Such changes would have long-term positive effects on national food security and inter alia population health. The promotion of farmers – in terms of preventative health tactics – may also improve public perception of agriculture and those participating in agriculture-related activities.

Ministry of Transportation and Works

Although public transportation is extensive, the Transportation Board struggles to meet the needs of the disabled. With an increasingly aged population and the extraordinary number of LEAs, there is a disparity in services for the disabled. In 2009, there were only five wheelchair-friendly buses within a fleet of more than 300. Those buses could accommodate a maximum of three wheelchairs at a time. In attempting to bridge this gap, the Barbados Council for the Disabled offers a publically available wheelchair shuttle bus service (the first of its kind in Barbados). However, the shuttle service only runs on weekdays and requests need to be made three days in advance which is not always convenient. Lack of mobility is problematic for people who suffer from diabetes-related complications (e.g. LEAs). Without convenient access to transportation, the inability of amputees to go about their daily lives manifests in an increased burden on caregivers who are obliged to fill that gap. Furthermore without regular and convenient access to transportation services, these people face increased challenges in attending regular medical check-ups to monitor the progression of their disease. Although improving transportation for the disabled may not directly reduce obesity or diabetes prevalence, it may alleviate many of the problems associated with the epidemics. By increasing public transportation for the disabled,

more LEA patients will be able to attend regular doctor's visits wherein which their condition may be monitored and preventative measures put in place to avoid further complications and disability. The provision of regular and reliable transportation services will enable amputees to participate more fully within society while reducing the burden on caregivers. Moreover, amputees will have increased access to job locations and, in some cases, join the workforce thereby contributing to national productivity as well as household income.

Bureau of Gender Affairs

Considering that women bear the brunt of obesity and diabetes prevalence, it would seem that this issue would be of utmost concern to the Bureau of Gender Affairs. However, according to acting Dir. Hollingsworth, conditions of being overweight, obese, or diabetic do not fall within the Bureau's mandate (p.c., 31/08/2009). Rather, the Bureau's focus is disproportionately committed to priorities concerning maternal health and HIV/AIDS. The disparity in programmes targeting obese women and women at risk of obesity is disturbing. Furthermore there are no support groups available to single mothers. There is an urgent need to fill the gap in services provided to these women and enable women to confront societal pressures which influence weight gain and weight reduction. Moreover, the relevancy of targeting women in the reduction of childhood obesity is essential. Women in Barbados typically assume the majority of child rearing or care-giving roles (e.g. feeding, education, leisure or recreation activities), as well as the transmission of beliefs, cultural understandings, or attitudes. Attitudes towards food and diet are learned behaviour. While the body needs sustenance to survive, what we choose to eat, how we chose to eat it, and where we choose to buy food, are all culturally imposed. Intervention is necessary to ensure that negative attitudes and behaviours towards food – manifested in diet and consumption patterns – are not transferred onto children. Although the education system plays a strong role in creating change, lessons must be reinforced within the home as well as the broader community. Without knowledge of the dangers of poor diet on child health combined with practical solutions, children were at increased risk of becoming overweight or obese. Clearly parents wanted what was best for their children. However, in trying to satisfy children's wants, some parents unintentionally enabled or promoted behaviour that negatively impacted child health and nutrition. The provision of unhealthy snacks as methods of reward further reinforced unhealthy habits. However, due to memories and trauma associated with hunger during times of poverty and slavery, cultural sensitivity is necessary. Care must be taken not to withhold or

necessarily restrict the amount of food children are allowed to eat, but rather promote healthier options (e.g. local fruits and vegetables). Interventions may also include efforts to reducing the amount of money provided to children. By limiting financial independence, parents will have greater control over what their children eat when not at home. Moreover, parents might be encouraged to find new ways to reward children that do not include snacks.

Asthma as an Entry Point for Healthy Eating

School respondents expressed concern with the number of children afflicted with asthma and the frequency of attacks. Three separate incidents described as an ‘asthma attack’ of primary students were also observed during school visits. Upon the recommendation of teachers and principals, questionnaires were amended to include ‘anxiety’, ‘allergies’, and ‘asthma’. Of the 53 teachers surveyed at the primary and secondary levels, 7 responded that their students suffered from anxiety; 36 mentioned allergies; 47 mentioned asthma; and 2 specifically referred to eczema which was not included on the list of ailments to check off. While the present research did not set out to discern whether or not asthma was a problem at the primary school level, it does bear relevance to the topic under discussion. Concern regarding asthma prevalence presents a unique vantage point for the encouragement of healthier lifestyles, including changes in diet. Moreover, unlike overweight or type 2 diabetes, the condition of being asthmatic does not carry any socio-cultural baggage (e.g. determinism, perception of wealth, beauty or SES, etc.) A relatively new health challenge, increased asthma prevalence seemed to evolve within the recent cohort of primary students over a few years as opposed to decades or generations (e.g. obesity, type 2 diabetes). In this regard, heavy use of canned and dry goods as well as a largely eat-out or take-away food culture has resulted in excessive consumption of food preservatives. Many food preservatives – such as sulphur dioxide, benzoic acid and sodium benzoate – are known triggers for asthma attacks (Freedman, 1980: 128; Wargo et al., 2004: 10; Wibbertmann et al., 2005: 5). National health awareness campaigns would be well positioned to encourage a healthier diet high in fresh local vegetables and fruit (while reducing processed foods and fast foods) as a response to this concern, in addition to weight reduction campaigns.

Healthy Lifestyle Days

Primary school respondents are eager to promote Healthy Lifestyle Days. However, schools also face significant challenges controlling what foods and drinks children consume on school properties. Although children are encouraged to bring healthy snacks to school, many

respondents commented that parents had neither the time nor financial resources to purchase fruit. School respondents also lamented about the degree of food competition by Sweetie Ladies, vendors and convenience stores. While some respondents claimed to have banned the consumption of candy and sugar-laden drinks, candy wrappers, and empty bottles (e.g. Chubbies) were frequently observed around school grounds. Moreover, several respondents acknowledged that soft drinks and other ‘junk food’ are sold by canteens to fill gaps in funding. Many schools do attempt to sell fruit as a healthy alternative. However, student disinterest, the cost of fresh fruit and limited shelf-life frequently undermine such efforts. Attempts to resolve challenges could involve face-to-face meetings to appeal for parent support in providing healthy snacks and drinks. Other efforts may involve parent information sessions featuring dieticians as guest speakers. While some schools face challenges in sustaining Healthy Lifestyle Days, Arthur Smith Primary was able to successfully incorporate *local* fruit as opposed to imported fruit. Moreover, Arthur Smith and Boscobel Primary Schools attributed part of their success to strong parent-teacher relationships and having educated parents about the values of healthy snacks. In addition, GBL participating school respondents indicated that positive changes had developed in children’s attitudes towards fruit and vegetable consumption (with the exception of St. Stephens). Administrators might also consider hosting fundraisers featuring healthy lifestyle plays, music and bake sales to supplement funding as opposed to over-reliance on canteen sales.

School Meals Evaluation

Barbados has established an exemplary and extensive public school meal programme. However, although respondents indicated that dieticians are involved in the planning of school lunch menus, lunches are often characterized by large energy-dense servings. Moreover, there is some indication that foods are not always prepared in ways the children found appealing which may have contributed to the purchase of unhealthy snacks. School meals may be better received if children are somehow involved in menu creation. For example, teachers indicated that although many children do not like to eat apples or bananas, they do enjoy eating fruit salad. By appealing to children’s likes, there is greater possibility that more students will eat school lunches and rely less on unhealthy snacks. Although the incorporation of GBL within primary school curriculums proved beneficial in changing child attitudes towards fruit and vegetables, schools without a GBL programme could attempt to incorporate fruits and vegetables into physical education and health programmes in order to introduce different foods to children. Moreover, several

agriculture producers expressed both interest and willingness to host school groups. Farm visits may encourage children's interest in agriculture and improve their understanding of food comes from as well as attitudes towards different foods.

The Need for Baseline Studies and Further Research

There is a misperception that Afro-Caribbeans are inherently endowed with larger body sizes. Moreover, research indicates a growing societal 'normalization' of overweight due to population shifts in the normal range of weight variation. The normalization of larger body sizes is problematic since, as Moffat indicated, "without recognition and acknowledgement of overweight or obesity, there can be no treatment" (2010: 10). As such, baseline studies may act as a tool for confronting misperceptions and defeatist attitudes (e.g. determinism) that stymie weight reduction efforts. While it is impossible to turn back time, other options exist which may act as visual representations within public health campaigns. For example, Julien spoke of the visual impact of watching Kadooment Day videos from 1982 and 2009. By utilizing visual aids (e.g. videos, photographs), public health campaigns may successfully alter racially-oriented body stereotypes or factors associated with the normalization of overweight and obesity. However as with other public messaging (e.g. agriculture, return to traditional food), media and awareness imaging campaigns should be wary of imagery which characterized by mixed messaging which may confuse public perceptions or encourage negative attitudes towards weight reduction.

Parent Awareness

Barbadians are passionate about their children and want the best for them. However, it is advised that caregivers be educated in the distinction between 'satiating' a child and providing what is best for a child's physical, mental and emotional health. Parents play a crucial role in introducing children to healthy life-styles. Moreover, respondents emphasized that children learn by example. As such, efforts to improve childhood health may focus on 'example-setting' as well as encouraging children's interest in sport, gardening and other health-promoting activities. In this respect, parents are encouraged to value other areas of interest and child accomplishment in tandem with academic rank.

Garden Based Learning (GBL)

Positive family influence and introduction to certain practices – such as home gardening and animal husbandry – is beneficial in terms of health as well as attitudes towards agriculture. However, because children spend much of their time in school, school staff and education

practitioners are also in powerful positions to influence positive behaviour change. The central role of GBL is to train students in the basic principles of agriculture, provide skills building and empowerment over their own food security, as well as positively influence attitudes towards agriculture. The incorporation of practical agriculture exercise is shown to positively influence children on many levels. This is particularly true of horticulture activities. The majority of GBL participating schools indicated an improvement in child attitude towards fruit and vegetable consumption. There is also some indication that early involvement in horticulture and/or livestock rearing led to continued interest at the secondary level (Cox, p.c., 20/01/2009; Jordan, p.c., 18/02/2010). GBL also increases confidence for some children while promoting outdoor physical activity. In caring for gardens, students must dig and shovel, rake and carry, et cetera. GBL also invites opportunity for parent and community involvement in garden-related activities (e.g. fundraising, maintenance, seedling donations, or – for schools that included a market element – purchasing fresh produce directly from schools).

In child education, encouraging parent involvement and support is important. Respondents indicated that involving parents in GBL programmes led to reduced burden on teachers, sustainability of gardens, and increased parent approval of GBL participation. Young respondents involved in agriculture-related careers (e.g. Moore, Marshall), indicated that involvement in agriculture from an early age and parent support are crucial motivators in their decision to adopt agriculture-related careers. Parental support is also crucial in overcoming peer pressure and stigma from their respective communities. Moreover, mature farmers and agriculture specialists (with the exception of J. Hunte) indicated that upbringing is a critical factor in their career selection. This was particularly true for those who were born and spent their early years in other countries (e.g. Guyana and Trinidad). In the case of John Hunte, it is possible that having been raised in England, Hunte may have been less exposed to the negative stigma associated with agriculture than other men of his age group.

There has been a return to GBL within the primary school system and significant efforts have been made to heighten awareness of the value of gardening to improve food security. However, efforts to incorporate GBL at the primary school level are hampered by a strong stigma against agriculture as well as perceptions of stigma that do not always concur with actual parent views. Furthermore, teachers face a number of other challenges including but not limited to:

- Lack of knowledge in regards to gardening and other forms of agriculture,
- Space constraints for vegetable production and livestock rearing,
- Lack of permanent classroom space for agriculture science lessons,
- Lack of awareness and capacity to access funding,
- Lack of GBL curriculum resources,
- Time constraints,
- Prevailing and perceived stigma associated with agriculture.

While curriculum resources are available through the MoE Media Resource Centre and NGOs (e.g. FAO), teachers are generally unaware of resources or how to access them. There is a significant amount of available knowledge and resources which could alleviate challenges faced by GBL teachers. Nevertheless, access to information is hindered by time and resources limitations as well as awareness of support options. These challenges may be alleviated by:

i. Capacity Building Workshops

There is a strong need for capacity building to enable teachers to build and maintain strong GBL programmes. While much of this can be achieved through workshops, there is also a pronounced workshop ‘fatigue’ manifesting in the Caribbean. This fatigue is partly due to the overwhelming number of workshop and the amount of money invested, compounded with the feeling that workshops are comprised with a lot of ‘talk’ but very little action or sustainable results. To ensure positive reception, workshops should be thoughtful and lead to sustainable results. In developing workshops, goals should be well-defined and a plan in place to monitor, evaluate and adjust according to participant needs and requirements. In developing a successful workshop, participants should also be provided with the tools and resources to continue building their skills and strengthening relationships in future. Moreover, monitoring and evaluation should continue throughout the event and following session end. This can be easily achieved by setting a fixed time at end of session for a brief wrap-up and suggestion period. Post-workshop evaluations may also include a plan for future participant correspondence to evaluate effectiveness, gaps and real-life applications of lessons learned. Moreover, with advances in social media, activities to ensure sustainability of lessons and efforts to build a community of practice wherein participants and new members may share experiences and knowledge are easily achieved and require little physical, financial or time requirements. Workshops should also include a strong emphasis on contributing to the formation of a community of practice, wherein like-minded individuals may share experiences and work together in achieving mutual goals.

- **Agriculture:** Workshops related to agriculture techniques, maximizing space and methods to incorporate GBL into the curriculum would be of great benefit. Agriculture-related workshops could also incorporate attempts to compile information and develop resource-sharing and support mechanisms to carry through into the future.
- **Garden Based Learning (GBL):** To maximize garden use and sustainability, GBL must to move beyond agriculture science classes. There are many opportunities to incorporate GBL within the greater curriculum. For example: **(1) Art:** Posters for agriculture marketing campaigns and plant diagrams; **(2) Mathematics:** Calculate garden inputs (e.g. water, fertilizer), growth times, outputs, sales, profit and loss, time between planting and harvesting, et cetera; **(3) Writing:** Short-stories or create journals outlining plant growth and child GBL experiences; **(4) Sciences:** School gardens are ‘living laboratories’ in which students learn first-hand about plant biology, life cycles, weather, nutrition, et cetera.
- **Proposals Writing:** GBL funding is available through several outlets (e.g. GoB grants, private sponsorship, NGOs, etc.). However, accessing funds was often hindered or stymied by lack of awareness regarding options and limited capacity to successfully maneuver through the bureaucratic requirements necessary to access funds. Workshops may increase awareness, provide proposal writing and grant application training.
- **Fundraising:** Fundraising techniques and management workshops may build capacity to obtain financial support for garden start-up and maintenance costs. Fundraising events could highlight GBL successes while encouraging community participation and awareness. Events may also increase community ownership, responsibility and pride thereby improving garden and GBL sustainability. Direct benefits may include: increased community surveillance of gardens to reduce praedial larceny incidents, increased volunteerism for garden-related activities (e.g. fundraising, marketing, skill-sharing, and maintenance). Moreover, community events are a vantage point to acknowledge GBL teachers and participants while highlighting their successes. Positive reinforcement and public accolades may motivate teachers and students to maximizing GBL as well as management and maintenance of the garden itself.

ii. GBL Resources:

Teachers with active GBL programmes – or who showed interest in GBL – expressed a general need for teaching aids and resources. The development and distribution of resources enabling teachers to learn more about garden set-up, maintenance and how to incorporate GBL into the

curriculum would be of great value. Garden 'tool kits for learning' would reduce time constraints and enable teachers who lack permanent classroom space or storage facilities. The provision of teaching aids and resources that can be easily unpacked, packed, and stored between lectures would facilitate teaching and heighten student learning.

GLOSSARY

4-H Foundation: A charitable organisation focusing on youth empowerment through a learning-by-doing philosophy. The 4-H mission is to “enable young people to build self-esteem and strong interpersonal skills while acquiring knowledge and basic skills related to agriculture and ecology through community activities, apprenticeships and self-teaching” (MARD, n.d.a).

Adult-Onset Diabetes: The former terms, adult-onset diabetes or non-insulin dependent diabetes mellitus (NIDDM), are now properly referred to as type 2 diabetes.

Altered-Lifestyle Syndromes: ‘Altered Lifestyle’ or ‘Civilization’ Syndrome refers to conditions associated with Neel’s ‘thrifty gene’ hypothesis (see Chap. 5), wherein obesity and diabetes were in large part a reflection of genetic systems ‘pushed beyond their limits’ by the ‘inactivity and over alimentation commonly associated with Western civilization (1999: S5).

Bajan: A colloquial term for Barbadian.

Barbados Leg: A type of filarial elephantiasis, wherein the parasitic filaria roundworm is transmitted and carried via mosquitoes (Laurence, 1989: 487). Imported from Africa along with the slaves, lymphatic filariasis – or ‘Barbados’ Leg’ – is an incurable infectious disease wherein the “leg and foot are thus continually enlarged to an enormous bulk, when in size, shape, and all other external appearance it exactly resembles the leg of an elephant, from whence the disease takes its name” (Hillary, 1811: 218-221). Barbados’ Leg is also known as ‘yam leg’ due to the resemblance between a leg affected by filarial elephantiasis and the shape of a yam (Dunlison, 1845: 770).

Barbados National Cancer Study (BNCS): Funded by the National Institutes of Health, the BNCS was established in 2002 to document the incidence, and risk factors, for prostate and breast cancer among Barbadians.

Barbados Society of Technologists in Agriculture (BSTA): An organisation of experienced professionals in Agriculture (founded in 1939), the Council of which meets on a monthly basis to discuss agricultural issues and make recommendations where possible to relevant authorities.

Beauty: In the context of the thesis, beauty is defined as a quality or combination of qualities that evoke social affirmation, attraction, emotion, desirability and worth. Beauty is a variable and ever-changing concept which may be affected by culture, age, race, gender, sex or class. Beauty may also be constructed according to social or cultural norms.

Big B’s: A middle- to high-end supermarket associated with high costs and social status.

Blackbelly Sheep: Barbados’ Blackbelly lambs are purported to have less body fat than other breeds. Their meat is considered to have a milder, less muttoney flavour than the lamb from woolled breeds (Schroenian, 2009).

Boys on the Block: Young men sometimes described as ‘ghetto youth’ who are commonly characterized as unemployed and bored. ‘Boys on the Block’ may be seen along roadsides selling drugs, playing dominoes, cards or gambling, et cetera.

British Guiana: The name of the former British colony now known as Guyana.

Bureau of Gender Affairs: Established in 1999, the Bureau of Gender Affairs is responsible for the implementation and monitoring of policies and programmes pertaining to gender and development.

Calypso: According to Boyce, “Calypso is a Caribbean parochial musical art form which allows the average man to sing and speak out on social issues affecting the people, or produce songs to make people dance” (p.c., 22/08/2011). A form of social commentary, calypso may include humorous satire, political commentary or public messaging to inform, educate and entertain. Speaking on the importance of messaging, calypsonian Austin Lyons (Superblue, 1992) argued “Music has a job. Hearing songs that say nothing but jam is not good enough” (qtd. in Lowe, 1993: 56). Calypso is a prominent feature of **Crop Over** festivities.

Captain Sawyer: Captain Sawyer is the stage name for Stephen Grant, a prominent Barbadian Calypso artist.

Caribbean: In the context of this thesis, the Caribbean is loosely defined as including the 15 CARICOM Member States, and 5 Associate Members States territories that lie within or border the Caribbean Sea. Member States: Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago. Associate Members: Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Turks and Caicos Islands.

CaribRehab: Barbados’ leading rehabilitation equipment supplier. Owned and managed by Hilary Bethell (Canadian-born Occupational Therapist) and her husband Patrick Bethell (from Friendship Plantation). For more information refer to: www.caribrehab.com

Cheapside Market: A semi indoor/outdoor fresh fruit and vegetable market in Bridgetown, St. Michael known for affordable (‘cheap’) prices and locally grown foods.

Chefette: A leading fast-food restaurant chain in Barbados, specializing in chicken. For more information refer to: www.chefette.com.

Chips: Also known as crisps or French fries.

Christmas Foods: Foods associated with special occasion such as ham and coca cola (Blackman, p.c., 02/09/2009)

Chubby: A type of sugar laden drink marketed towards children and commonly available in Barbados.

Civilization Syndromes: See with **Altered Lifestyle Syndrome**.

Common Entrance Exam (CEE): Also known as the ‘11+ exam’, the CEE is an examination consisting of predominantly Mathematics and English questions. Oftentimes in Barbados, a child’s success is measured according to their results – and ranking – on the CEE. Likewise, CEE rank determines which secondary school a child will attend. In other words, as Titilayo wrote, children “will either qualify for one of the islands older, more prestigious secondary institutions, or one of the newer, rather poorly regarded schools or somewhere in between” (2006).

Common Law Union: A form of family structure wherein a couple lives together, but are not legally married.

Connections: Who you know. Your familial, social or professional connections that can help a person get a job or obtain a contract for products or services. For example, in the case of agriculture products, contracts may be determined according to pre-existing relationships between the seller and the buyer as opposed to quality or cost.

Cou cou: Barbados' national dish (when combined with flying fish). Cou cou (also spelled coo coo) is made with corn meal and okra however several varieties exist (e.g. breadfruit, cassava, and green bananas cou cou).

Crop Over: The most popular, and long-standing, national festival in Barbados. Originating in the 1780s, Crop Over was a time of joy and celebration following the end of the sugar season.

Culture: E.B. Tylor, the first professional anthropologist, defined culture as “that complex whole which includes knowledge, belief, arts, morals, law, custom, and any other capabilities and habits acquired by man as a member of society” (1871: 1). Essentially, culture involves a “whole way of life” (Williams, 1958: 11-12). Moreover, as O’Hear explained, “Culture comprises those aspects of human activity which are socially rather than genetically transmitted” (2000: 185). In other words, culture is about nurture rather than with nature.

Dancehall: A genre of Jamaican music developed in the late 1970s.

Demographic Transition: A theory referring to: “the process whereby a country moves from high birth and high death rates to low birth and low death rates with an interstitial spurt in population growth” (Weeks, 2005: 602).

Demography: is the study of human populations (Weeks, 2005: 4) which is a useful tool for the social planning of population needs, including health needs.

Determinism: The concept that events, including human form and health, are ultimately determined by causes external to the will (e.g. religious determinism or biological determinism).

Diabetes: “Diabetes is characterized by deficiencies in the secretion and/or action of the hormone insulin, resulting in high levels of blood glucose” (PAHO, 2001b).

Diabetes Mellitus: Refers to “a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both” (ADA, 2008: S55).

Diseases of Affluence: Diseases including behavioural and lifestyle-related CNCDS (e.g. obesity, diabetes, heart disease, cancer, high blood pressure, etc.) These chronic diseases were once regarded as a condition resulting from increased wealth within a society or, in other words, diseases associated with the rich or affluent.

Diseases of Poverty: Diseases of poverty are generally understood to include HIV/AIDS, tuberculosis and malaria. Other diseases closely linked to poverty include measles, pneumonia, diarrheal diseases and vector borne diseases.

Doctor-Lawyer Syndrome: The drive for upward social mobility expressed through career aspirations of a person or their children. Career choices deemed as socially acceptable include those which are associated with office work, dressing up, and with minimal to no physical labour involved. Examples could include: doctors, lawyers, accountants, celebrities, as well as clerks, managers or other white collar positions.

Double-Burden: The double-health burden of countries simultaneously dealing with conditions associated with both under- and overnutrition.

Ebony: Black-oriented general-interest online magazine featuring general interest, culture, news and perspective articles. For more information refer to: www.ebony.com.

Environment: According to the Centers for Disease Control and Prevention (CDC), the environment can be defined as “all that is external to an individual” (2007).

Epidemiologic Transition: A term coined in the late 1960s to describe “the shift from a pattern of prevalent infectious diseases associated with malnutrition, periodic famine, and poor environmental sanitation to a pattern of prevalent chronic and degenerative diseases associated with urban-industrial lifestyles” (Popkin, 2011).

Epidemiology: The study of epidemiology is defined as “the study of how often diseases occur in different groups of people and why” (BMJ, 2011).

Healthy Lifestyle Days: A weekly day set aside by primary schools to promote healthy snacks and sometimes exercise.

Errol W. Barrow: See **Prime Minister Errol W. Barrow.**

Ethnic Group: Following Last’s definition, Ethnic Group refers to, “A social group characterized by a distinctive social and cultural tradition, maintained within the group from generation to generation, a common history and origin, and a sense of identification with the group. Members of the group have distinctive features in their way of life, shared experiences and often a common genetic heritage. These features may be reflected in their health and disease experience” (1995: 57).

Falling Away: Falling away (or ‘looking hard’) means to lose weight usually from some kind of illness. Could be associated with ‘wasting’ which is used to describe a recent and severe process that has produced a substantial weight loss, usually as a consequence of acute shortage of food and/or disease (ECLAC, 2006: ii). Chronic malnutrition, ‘wasting’ and stunted growth was characteristic among children of previous generations in Barbados. (UNICEF, n.d.).

Food Security: “A situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 2003a).

Garden Based Learning (GBL): An instructional strategy that utilizes a garden as a teaching tool.

Gender: Socially constructed roles, behaviours, activities and attributes that a society considers appropriate for men and women; within socially constructed gender roles, gender inequalities can result from systemic differences that favour one group to the detriment of the other (WHO, 2012).

Gift-Giving: The practice of topping up business contracts with gifts or financial reimbursements. Used to ‘sweeten the deal’ when bartering for contracts.

Golden Apple: Also known as June Plum, Jew Plum, Dew Plum or a Pommecythere. Golden Apples grow locally in Barbados may be eaten raw or made into juice.

Hawker: A hawker is a vendor of merchandise that can be easily transported such as produce (e.g. fruit, vegetables) or snack foods (e.g. drinks, candy, etc.).

Healthy Places: According to the CDC, ‘Healthy Places’ are, “designed and built to improve the quality of life for all people who live, work, worship, learn, and play within their borders – where every person is free to make choices amid a variety of healthy, available, accessible, and affordable options” (2007).

Human Development Index (HDI): A measurement system introduced by the Human Development Report. HDI goes beyond Gross Domestic Product (GDP) to include indicators of life expectancy, educational attainment, and income into a composite Human Development Index (HDI). The HDI established a single statistic which served as a frame of reference for socio-economic development. The HDI sets a minimum and a maximum for each dimension, called goalposts, expressed as a value between 0 and 1 (UNDP, n.d.a).

Individual Agency: Refers to the capacity of individuals to act independently and to make their own choices. The concept of individual agency builds from the idea that people have the ability to shape their own destiny through individual choice.

JBs: A upper-middle to high-end supermarket associated with high costs and social status.

Kadooment Day: Part of **Crop Over** activities. On Kadooment day people masquerade while parading about the streets. On this day, there is mass participation.

Lamb Trunk: Parts of the lamb or culled ewe rejected for human consumption by highly developed countries. For example, the shoulder, ribs, neck, and shank, bone, gristle et cetera. The parts are compressed into a block which is then sold either to developing countries or for use in dog food processing.

Land for the Landless: A GoB initiative where arable land (private and public), is available through lease or license arrangements to farmers who would otherwise not be able to access lands. The Land for the Landless programme is run out of the BADMC. According to MARD, “The programme is designed to empower Barbadians not only to provide for their families through Agrarian reform, especially in rural areas, but also to increase the productivity of value added agricultural products that will enable Barbados to become less dependent on imports” (n.d.b).

Léogâne: A seaside town in western Haiti.

Lifestyle-Related Diseases: Diseases associated with the way a person or group of people lives. For example, lifestyle diseases can include associated with diet, consumption, and physical expenditure or with alcohol, tobacco and drug abuse.

Looking Hard: See **Falling Away**.

Low-Life Foods: See **Poor Man’s Food**.

Mac Pie: See **Macaroni Pie**.

Macaroni Pie: Also known as ‘**mac pie**’. A baked dish of elbow pasta combined with milk, butter and cheese sauce topped with grated cheese. Originally derived from England and formerly associated with upper-class **Sunday Foods**.

Mauby: A traditional Barbadian drink brewed from bark, sugar, and spices.

Millennium Development Goals (MDGs): At the Millennium Summit (Sept. 2000) world leaders gathered to adopt the UN Millennium Declaration, committing their nations to a global partnership which set out to achieve certain targets by the year 2015. These targets – known as the MDGs – address extreme poverty, hunger, disease, lack of adequate shelter, and exclusion while promoting gender equality, education, and environmental sustainability (UN Millennium Project, 2006). The MDGs include:

1. Eradicate extreme poverty and hunger,
2. Achieve universal primary education,
3. Promote gender equality and empower women,
4. Reduce child mortality,
5. Improve maternal health,
6. Combat HIV/AIDS, malaria and other diseases,
7. Ensure environmental sustainability,
8. Develop a global partnership for development.

National Medical Association (NMA): The largest and oldest national organization representing African American physicians and their patients in the United States. For more information refer to: www.nmanet.org.

NCD Alliance: See **The NCD Alliance**.

Nutrition Transition: A term defined as “a predictable shift in diet that may accompany the stages of the epidemiological transition” (Weeks, 2005: 608).

Obesity: Obesity (BMI >30 kg m⁻²) is defined as a condition resulting from an imbalance of energy consumed with energy expended.

Offals: Refer to the parts of an animal carcass which is discarded after butchering or skinning.

Overweight: Overweight (BMI >25 kg m⁻²) is defined as a condition resulting from an imbalance of energy consumed with energy expended.

Pelau: Originally a Trinidadian creole dish, pelau is a common feature in Barbadian cuisine. Caramelized well-seasoned meats are stewed down in rice with a touch of hot pepper to which each cook adds his/her own secret (e.g. pigeon peas, raisins, olives, nuts, etc.). Derived from the Spanish paella the caramel makes for a rich brown colour. Popular meats are chicken, duck and beef and fitting in to new concepts, fish or veggies.

Pine: See **The Pine**.

Poor Man’s Food: Also known as ‘**Low-Life Foods**’ associated with poverty and low SES. Poor man’s food tended to be associated with locally grown or caught produce (e.g. breadfruit, eddoes, cassava, swordfish, yams, pumpkin, and squash). Macaroni corn beef, **cou cou**, soup and **stewfood** were also considered poor food.

Popular Discounts: A supermarket chain strongly associated with inexpensive prices. According to respondents, Popular Discounts also had a ‘lower class’ clientele.

Praedial Larceny: The theft of agriculture produce including crop, livestock, fresh fish (from aquaculturists) and marine fish (from fishermen/women).

Prime Minister Errol W. Barrow: Errol W. Barrow (1966-1976) was Father of the Independence and Social Transformation and a National Hero of Barbados.

Pudding and Souse: A traditional Barbadian dish that is still popular, particularly on Saturdays. The pudding is made of pig intestines stuffed with sweet potatoes while the souse is comprised of boiled-down pig head and trotters.

Rablans: Areas of outcrop of rock where the soil has eroded away. This land is not well suited to agriculture.

Race: Race depicts ostensibly meaningfully distinct populations that were “relatively homogenous with respect to biological inheritance” (Last, 1995: 139).

Racio-Ethnic: The term ‘racio-ethnic’ refers closely to Last’s 1995 definition of ‘ethnic’ however emphasizing the link between ethnic groups of a particular racial origin. Other terms used to describe particular racio-ethnic groups include: ‘Afro-Caribbean’, ‘African American’, ‘Black’ and ‘White’. Subsequent descriptors appear as they have been found within the literature as well as common phraseology used by respondents.

Scotland District: Scotland District is an area in the northern part of Barbados known for its sedimentary rock formations, mountain ranges and steep cliff faces. The area is sparsely populated, and while some areas are conducive to agriculture much of this district could be characterized as ‘**rablands**’. The Scotland District extends through the parishes of St. Joseph, St. Andrew and St. John.

Slave Food: Closely connected to ‘**Poor Man’s Food**’, ‘Slave Food’ was associated with the slavery experience. Slave food tended to be energy-dense ground provisions high in starch which was grown for the purpose of feeding slaves on plantation estates. Slave food includes: yam, cassava, eddoes and breadfruit.

Soca: A form of calypso music with elements of soul, originally from Trinidad.

Social Supermarkets: High-end another supermarkets associated with high costs and social status (e.g. Super Centre, Big B’s, JB’s). Social supermarkets are described as a place to ‘see and be seen’. In other words, social supermarkets are associated with the upper echelons of society and represent increased SES. Being able to shop at social supermarkets represents the physical expression of upward social mobility.

Stewfood: A variation between soup and stew using breadfruit or local ground provisions, fish and dumplings.

Sunday Foods: Like many cultures, Sundays were hailed as a day when Barbadian families and friends joined to partake in a special meal. ‘Sunday foods’ include coleslaw, macaroni pie, peas and rice, baked chicken or pork, lamb, coca cola, ham, and lasagna (Morris, p.c., 02/09/2009; Blackman, p.c., 02/09/2009).

Super Centre: A high-end supermarket associated with high costs and social status.

Sweetie Ladies: A type of vendor or huckster who lay out sweets, snacks and other children’s treats on a sheet, in boxes, or in some other fashion. Sweetie Ladies sell candy, sweet drinks, chips, ‘puffs’ or corn-curls, and other ‘junk food’. Sweetie Ladies generally appear as children are arriving to school, during school breaks, and immediately after classes end, although some stay in position throughout the day.

The NCD Alliance: An alliance composed of four international federations: International Diabetes Foundation (IDF), World Heart Federation (WHF), Union for International Cancer Control (UICC), and the International Union Against Tuberculosis and Lung Disease. Together they unite a network of more than 2000 organizations representing the four main NCDs outlined in the WHO’s 2008-2013 Action Plan for NCDs (cardiovascular disease, diabetes, cancer, and chronic respiratory disease). These conditions share common risk factors (e.g. tobacco use, physical inactivity, unhealthy diets) and common solutions. As such, there is a mutual platform

for collaboration and joint advocacy. The NCD Alliance brings a united voice to the global campaign advocating CNCD prevention and awareness.

The Pine: Collection of government-funded housing projects for the underprivileged and working class located in the parish of St. Michael near the Bussa Roundabout. According to respondents, ‘the Pine’ can be described as a Barbadian ghetto area.

Thrifty Gene Hypothesis: Hypothesis suggesting that obesity and diabetes – within certain racial groups – was in large part a reflection of genetic systems ‘pushed beyond their limits’ by the ‘inactivity and over alimentation’ commonly associated with Western civilization (Neel, 1999: S5).

Too Local: A Barbadian expression indicating something is ‘common’. This expression also encapsulates a subtle stigma against local products, including food. According to respondents, there is an underlying assumption that Barbadians consider local products to be inferior to products imported from highly developed countries.

Type 1 Diabetes: What used to be called juvenile diabetes or insulin-dependent diabetes mellitus (IDDM) are now properly referred to as type 1 diabetes.

Type 2 Diabetes: The former terms, **adult-onset diabetes** or non-insulin dependent diabetes mellitus (NIDDM), are now properly referred to as type 2 diabetes.

Visiting Unions: In a visiting union, the mother remained in her parental home while the father (or partner) resided at a different address. In this context, fathers generally entrusted care-giving of the elderly, as well as parental duties to the mother under the belief that women were better at dealing with these things than men.

Yam Leg: see **Barbados Leg**.

Appendix 1

<i>Description of the Commonly Consumed Composite Dishes in Barbados¹⁹</i>	
Dish	Description
Cou-cou	Part of the National dish made from ground corn (cornmeal) and boiled okras, cooked into a firm paste. Usually served with steamed fish and frizzled salt fish.
Chopped Seasoning	A blended mixture of chopped onions, fresh herbs (e.g. thyme, marjoram) and hot peppers, to which salt and ground black pepper are added for preservation. This raw mixture is then added to meats and fish as a seasoning and marinating agent prior to cooking.
Fish Cakes	Deep-fried dumpling made with flour, salted fish (usually cod) and herbs (scallion, hot pepper, onion). Eaten mainly as a snack.
Coconut Bread	Dense cake made with grated coconut, vanilla essence and dried fruit (raisins, cherries). This is a traditional Barbadian delicacy.
Conkies	It is a tradition in Barbados for conkies to be made during the month of November. They are a mixture of corn flour, grated pumpkin, sweet potato and grated coconut, to which raisins and powdered mixed spice and nutmeg are added. A small amount of the mixture is then wrapped in banana leaves and steamed until firm. Conkies are usually eaten alone as a snack.
Bakes	A flour-based dumpling, which is shallow-fried in oil. Usually eaten as a breakfast item or snack, with fish cakes or on their own.
Pumpkin Fritters	A flour based dumpling to which grated or boiled, pureed pumpkin is added. The mixture is sweetened with sugar and cinnamon, and shallow or deep-fried in oil. Usually eaten as a main meal.
Creamed Yam	Boiled yam is mashed with butter or margarine. Milk and cheddar cheese (optional) are then added until a soft consistency is formed. This dish is then served as a main starchy food at mealtime.
Dumplings	Flour-based or corn-flour-based sweetened dough balls added to soups or stews.
Roti Skin	Unleavened flat bread made from white or whole-wheat flour. Cooked on a flat griddle. They are eaten as the starchy food with curried dishes mainly.
Mauby Drink	Sweet traditional Barbadian drink made from the steeped infusion of the 'mauby bark'. Spices, vanilla/mixed essences and sugar are used to enhance the bitter flavour of this popular drink.
Ginger Beer	A drink served chilled made from steeped grated ginger, or a boiled and cooked ginger infusion, to which sugar is added.

¹⁹Source: Amended from Sharma et al., 2007: 473-474.

Description of the Commonly Consumed Composite Dishes in Barbados²⁰

Dish	Description
Lemonade	A blend of limejuice, vanilla essence, sugar and water. Served chilled.
Frizzled Salt Fish	A popular dish of boiled salted cod sautéed with tomatoes, onions, chopped and fresh seasoning/herbs, to form a thick sauce. This dish is usually served with rice, cou-cou or creamed yam.
Peas & Rice	A mixed dish of dried or fresh legumes (kidney beans, lentils, black-eye peas) and parboiled rice. Boiled in salted water seasoned with onion and herbs until dry. Salted cured meat may also be added during boiling. This dish is a staple in the Barbadian diet.
Chicken/Lamb Soup	A thick soup made with either chicken/lamb cooked with mixed vegetables (pumpkin, carrots, spinach), root tubers (yam, eddoes), onions and herbs. Eaten as a main meal with dumpling usually added.
Fish Soup	A thin broth made with fish, vegetables, onions and herbs. Eaten usually as a main meal which may have dumplings added as well.
Pork/Lamb/Chicken Stew	A dish made with meat, tomatoes, onions, vegetables and herbs. Root tubers may also be added to this dish, which is then eaten with a starchy food, such as rice and peas.
Sautéed Corn Beef	A dish of tinned corn beef, onion, tomato, sweet pepper and other seasonings sautéed to form a soft mixture in thick gravy.
Fried Giblets	Chicken giblets, coated in seasoned breadcrumbs and flour, deep-fried until crisp. Usually served with bread as a light meal or snack.
Stewed Liver	A dish made with liver (pig, beef or chicken in origin), tomatoes and onions cooked to a thick sauce. Served with rice and peas, cou-cou or root tubers.
Souse	A dish of boiled pig's feet and head meat (ears, snout, tongue) seasoned with a brine mixture of cucumber, hot pepper and parsley. This is a traditional delicacy usually served with pickled breadfruit/sweet potato or steamed pudding, especially on Saturdays.
Steamed Pudding	A mixture of grated sweet potato, hot pepper, herbs, clove and sugar, steamed until a firm consistency is reached. Usually served with souse as a main meal, especially on Saturdays.
Steamed Fish	A dish of fish poached in a mixture of tomatoes, onions, herbs and other seasonings until thin gravy is formed. Usually served with rice and peas, cou-cou or root tubers.

²⁰Source: Amended from Sharma et al., 2007: 473-474.

*Description of the Commonly Consumed Composite Dishes in Barbados*²¹

Dish	Description
Minced Meat	Sautéed ground beef, seasoned with onions, tomatoes and herbs. May be served with a macaroni, cow mien or rise as part of a main meal.
Chicken & Potato Roti	Chicken and potato curry wrapped in a roti skin and eaten as a meal.
Pilau Rice	A mixture of seasoned meat or chicken, parboiled rice and seasonal vegetables to form a composite main meal dish.
Vegetable Rice	A mixture of seasonal vegetables, most commonly carrots, beans or spinach, cooked with parboiled rice to form this composite dish. It is eaten as a starchy food.
Macaroni Pie	Baked dish of macaroni mixed with a seasoned cheese-based sauce, a popular Barbadian starchy food dish.
Gravy	A blend of onions, tomatoes, sweet peppers and dried and fresh herbs, used as an accompaniment to a starchy food.
Fried Flying Fish	Part of the National dish. Breaded flying fish seasoned with chopped seasoning shallow-fried in oil. This fried fish is eaten with cou-cou, rice and root tubers. Fried flying fish may also be eaten with bread as a lighter meal.

²¹Source: Amended from Sharma et al., 2007: 473-474.

Appendix 2

Respondent Commentary:

Ian Julien: “The political environment in which [Minister Benn] works is not favourable to local agriculture” (p.c., 27/08/2009).

Patrick Bethell: “The MoA is probably one of the most frustrating ministries to work in. Things don’t happen, even if the Minister [Benn] wants it... The Minister has experienced difficulty, he means well. I know him very well, but I think his hands are tied. He wants to get things done but the bureaucracy doesn’t get them done. The civil service run this country and the politicians are birds of passage, to put it bluntly” (p.c., 01/03/2009).

Sen. Keith Laurie: “The problem is the civil service. You can’t force people to produce [results]. You can’t say, *‘Produce or perish’*” (p.c., 31/08/2009).

John Hunte: “There are people entrenched in positions of policy making that are getting a living, they are being paid every week irrespective of what happens in agriculture. There is no performance-related payment. So I can sit on my butt all day and draw my \$5,000 a month irrespective if a farmer goes out there and makes crop or not. If that’s not the case and he has to relate to performance of inputs or outputs from farmers, he’s gonna try to make policies that pay him well. Right now, he doesn’t have to. He can just draw his money based on his degree or whatever... the civil servants who manage policy, they don’t want change. So policy hasn’t really changed. The civil servants haven’t gone in another direction and they are the advisors... Civil service holds power. Governments can come and go. The politicians come and go, so the civil servants, they have in mind what *they* think adds value for the land and they gonna make or break agriculture” (p.c., 26/08/2009).

Freddy Gale: “The problem with governments, is that the governments come and the governments go, but what remains in place is your civil service personnel. Therefore, changing the government does not change the behind the scenes policy. Because a lot of the policy is sort of carried on from one government to the next by your civil service industry, the permanent secretaries and various people in the ministries. So it needs a very *very* dynamic minister who is very focused and knows what he really wants to do to change policy. And quite often he will get a lot of opposition to changing policy from the very people who are supposed to be working for him! So, when a minister says, *‘We are going to do X, Y, and Z,’* – it’s the right thing to say but maybe it never gets done because you can’t get the machinery [behind him] to do it” (p.c., 27/08/2009).

Mabel Etherington: “[Minister Benn] knows a lot he should make a good one. But the bottom line is, it’s not the minister, it’s the PEOPLE around him, and they don’t change the civil servants. They are there from government to government if you understand what I mean, and those secretaries (the receptionists etc.) are very *very* hard to get. They are the ones that threw the Sheep Farmers Inc. project plan in the bin! She THREW it in the bin. I was so angry. The minister’s [Sen. Hon. Minister Griffith] accusing us of not doing what he asked, but we did. So from that time, I did not go on the [Sheep Farmers Inc.] committee... So that is the problem with agriculture in this country – too much interference from the civil servants in the government. There are a lot of promises and nothing materializes. The farmers are losing faith. I hear they are thinking of having another feed lot, but I don’t think anything will come of it because the farmers are fed up” (p.c., 01/09/2009).

Appendix 3

Discussion Thread: South Africans as Fat as Americans

“Growing up in Kwa-Zulu Natal, which is predominantly populated by the Zulu people, I believe that it is indeed a sign of wealth. This is a very male oriented idea as the more “fuller” your wife and children appear, the wealthier the man of the house will appear to others. I think that obesity is the least of the problems in Africa when you take into account the spread of AIDS, the poverty and the lack of education for children.”

– Natasha Samuel, United Kingdom [Originally from South Africa]

“Being fat in Africa is a sign of health and wealth. Our mothers-in-law demand to see daughters-in-law who make the earth tremble when they walk (umfazi ohamba kunyakazele umhlaba). This is the sign of a true African woman. In a country like Zimbabwe where an estimated 1.4 people are suspected to be living with HIV/AIDS, you just cannot contemplate losing weight without fearing that your neighbours will start whispering that you have AIDS. Men and women alike feel comfortable dating a fat/big person because they are considered “clean”. Hence the colloquial name for AIDS in west Africa is “slim”.

– Thoko Elphick-Pooley, Bulawayo, Zimbabwe.

“Obesity is not a problem in my country. Because not everyone can afford to buy food, so when a person is “thick, healthy, solid and fat” it is considered a great sight. Men love, I mean love fat women. Whenever a man tells a woman you are fat, it is considered a compliment and ladies love to hear that. The rapid spread of AIDS is our major problem in Nigeria. Not Obesity.”

– Yoknyam Love Dabale, Taraba States, Nigeria

“I think it’s generally believed and agreed especially in Africa that being fat is a sign of good living, wealth and respect. In some parts of Nigeria, the middle belt to be specific, you will not be given a wife if you can’t eat very much hence you’ll be tested with food before their daughter can be released to you for marriage. It is believed that if you can’t eat much then you are a stingy man and you will not be able to feed your wife hence they don’t want their daughter to suffer when she eventually gets married to you.”

– Salau Oladele Martin, Lagos, Nigeria

“Yes it is true that in Zimbabwean African culture, for a man to be obese means that they are rich and well off in the contemporary era. Historically, before money came into the equation, one’s status was judged by one’s livestock. These days, now people dwell in urban areas, being overweight is definitely sending a message to the public that one is well-off. It is also a must in Zimbabwean culture for one’s children to be seen obese – as a sign that they are being taken care of. If they are seen being skinny and always eating at the neighbour’s household, this is a sign that the children’s father is poor as a church mouse.”

– Tariro Mkondo, Marimba, Zimbabwe

Source: Lichtarowicz, 2004. Comments on ‘S Africans ‘ as fat as Americans’ [sic]

Appendix 4

Respondent Commentary:



Monica Clarke: “I like the eagerness of the children. I don’t have to badger them. As soon as they know their time for the garden, they’re ready. They ask to *‘please go to the garden.’* The eagerness...” (P.c., 19/01/2009)

Clifford King: “After the start of the garden projects, kids got enthusiastic about it, parents started asking about it and they made a suggestion of becoming involved. Three of the children involved – their parents were on the executive committee of the PTA. That’s how they began to show interest.” (P.c., 26/09/2008)

Edward Howell: “I tell you, my children in form 3 they started in class one and they are very very keen. I don’t know if it’s an excuse to get out of the classroom? But the truth is they are *always* keen to get out there into the garden, get the plants and get their hands in the soil. So I think that, it’s not that they wouldn’t be interested but that there are not a lot of opportunities given to them to get involved in agriculture more so than anything else.” (P.c., 05/04/2009)

David Brathwaite: “Can’t get rid of them. Most of the things that we have difficulty controlling is because the children get so excited. Ma’am [the principal] will tell you that most of the time if I cannot come for them – because I have to hold another class – they will come and *look* for me to find out where I am. If I cannot *come* for them today, can I *come* for them tomorrow?” (P.c., 15/02/2009)

Principal Marielon Gamble: “Just being able to be involved, the practical aspect of it. When they go and reap some of the produce they say, *‘Ma’am, ma’am, look what we got from the garden!’* They are really excited about it and that alone boosts their confidence. That *they* have produced something or helped to produce something. To me I think it helps to build that... It is something I like to see the children to be involved in as well. I can see their faces light up when

they have to go out to agriculture science. As I observe them in the garden, I see that that's really an important part of their lives... and there are lots of benefits that can be gained from that. In actual fact, there was one child this afternoon he was just happen in the flower garden, and the comment he made really made me realize the importance of the garden to the school children because he was commenting that he would spend *all* day in the garden if we would allow him because it makes him feel really happy. And when he said that – a class 4 boy – I was surprised to hear him say that.” (P.c., 02/15/2009)

Nyasha Moore: “The boys who are in [the garden], I think decided on their own. I can't say their parents initiated it. There are other boys who want to join but they have piano or swim classes at the same time. They would probably join if we had the meetings on different days. But more girls are involved in the garden. They don't have as many competing interests. I never heard the girls say they had this or that... We had probably 18 or 19 [students] and then it grew. I've seen a couple of new faces recently. We would be working in the garden and the kid's friends would see them and you know, they actually do more work than some of the members!” (P.c., 05/05/2009)

Principal Anderson Jordan: “Some of the successes are the attitude of children towards cultivating the soil. They see the usefulness. They see the economics of it too and from a nutritional point of view. They understand. Right. And so I see that as a major success. Two major advantages. They see that it's more economical to grow your own and it is very *healthy* to use what you grow. Because in the theoretical aspect, you explain to them the dangers and you show them the effects of sprays, how the residual effect of the sprays can affect the body cells. They don't like to hear that with the prevalence of cancer, you know, you explain to them that some of these things, according to medical findings, would have been caused by using foods which are heavily laden with chemicals but when you grow your own thing and you can avoid the chemicals, you can avoid the chemicals and use the natural things or even grow them in small things where you can just attend to them, space them, pick out the little worms. Some have available space for a garden and some of the students have already started gardens at home, which is one of the main aims of the practical aspect. To give them that experience so that they can start one at home.” (P.c., 18/02/2010)

Principal Jennifer Hoyte: “We tried to re-educate both the kids and the parents regarding growing their own food. Fortunately, the kids really enjoyed it and the parents were happy. Outdoor lessons were a get-away from the mundane-ness of the classroom and the children became more physically fit through lifting and garden work. Their language improved too – they could talk about things. All subjects in the curriculum could incorporate the garden as a learning tool.” (P.c., 01/15/2009)

Appendix 5

DO YOU CARE?

Praedial Larceny – a Thorn in Our Side

With the modern technology available, dedication and good management by farmers, cooperation from government and loyalty from consumers, an acceptable level of food security can be achieved in the coming years. However, one problem which has plagued agriculture for decades and which poses a serious threat to achieving this goal is praedial larceny. Although legislation exists, the will to enforce that legislation appears to be lacking and so the saga continues. It seems much easier to convict a person who steals an item from a supermarket than one who steals that same item from a field. Why is this so?

As far back as 1987, the Nation newspaper quoted the then Prime Minister Sandiford as saying “government shares the agony of farmers who grow crops only to have them stolen and will soon announce measures to stop crop thieves” but no positive results have been forthcoming from whatever action was taken.

In 1988, the then President of the Barbados Agricultural Society Carl Rayside, noted that crop theft, more than anything else was discouraging to farmers and asked what the Ministry of Agriculture and the Police department were doing about it (Advocate October 1988).

Later that year the then Attorney General Philip Greaves was quoted in the Nation newspaper as saying that praedial larceny was on the increase and posed a serious threat to both large and small farmers. He recommended increased police patrols, improved intelligence, more effective legislation and public support to deny a market for persons stealing agricultural produce. Again, we have seen no positive action taken over the years.

In 1991, the then Acting Chief Justice Clifford Husbands (now His Excellency Sir Clifford Husbands, our Governor General) was quoted in the Nation newspaper of February 25 as saying that “thieves caught stealing from farmers’ fields will be jailed” and signaled his intention to “deal very seriously” with crop thieves who previously only faced fines. However, many years later, a thief was reportedly captured on video tape as he stole chickens from a poultry farm, but no action was taken until he later stole a can of corned beef from a supermarket and was jailed for this.

In 1998, the then CARDI Executive Director noted that praedial larceny was no longer a crime, it was an industry (Nation October 2 1998). How true! Crop thieves are now organized, equipped with pick-up trucks and weapons and have organized markets. Praedial larceny has indeed become a lucrative industry which pays no income tax, national insurance or VAT, but reaps high returns. The thieves have become bold, often carrying out their activities in broad daylight.

Farmers have reported being shot at while trying to protect their crops, some have actually sustained serious injuries and had to be hospitalized. Other farmers have been forced to hire security to patrol their fields, adding significantly to the cost of food.

Successive governments have vowed to control food cost, but not only supermarkets must be targeted . Government must look at praedial larceny as a significant cause of increased food costs. They must “bite the bullet” and be harsh in the handling of these criminals who reap what they do not sow. (con’t on next page)

While farmers seek positive action, their cries have only been met by the hosting of praedial larceny seminars. What good will this do? We know what the problem is, what we need is the will of the authorities to enforce the law and bring these crop thieves to justice.

The Ministry of Agriculture introduced Certificates of Purchase of Agricultural Produce and Livestock to be issued by farmers to buyers of produce. Persons not able to show proof of purchase could be apprehended by police. These certificates remained idle until 2005 when Super Centre supermarket lunched a purchasing system which entailed the need for farmers to produce photo identification to prove that they were bona fide and brokers to produce the abovementioned certificates as proof of purchase from farmers.

This is a good initiative, but the system needs constant monitoring to be effective. This is a national issue and one supermarket chain should not be expected to bear the entire burden of enforcing this system. However, it seems that funds to host seminars on praedial larceny are relatively easy to obtain, but funding of personnel to assist in this monitoring is much harder to come by.

So the problem continues. The headline of the MidWeek Nation of August 15 2007 reads “Stop the Thieves....Crackdown on praedial larceny”, and quotes Mr James Paul, CEO of the Barbados Agricultural Society and now a member of parliament, as saying that theft continues to be a major problem for this island’s agricultural sector, adding that Chickmont Foods \$10,000 reward for information about the culprits who had stolen over \$35,000 worth of chickens from one of its farms showed the level of frustration farmers experience. How much longer should farmers have to endure this scourge?

Of course another way of reducing this problem is to improve productivity and also increase the volume of food produced so that the unit price will fall, which itself is a benefit to the consumer, but also makes the pursuit of this illegal activity less attractive.

Source: BSTA, 2009



Praedial larceny lament Manager of Friendship Estate, Patrick Bethell (right) has decried the impact of praedial larceny on agriculture, after suffering at the hands of thieves once more. Here, he inspects one of the uprooted cassava plants along with CEO of the Barbados Agricultural Society, James Paul. Both want the police to do more about the theft of crops. (CA) - Nation Newspaper

Secondary Source: David - Barbados Underground, 2008

Appendix 6

Media Portrayal of Agriculture in Barbados



Images such as these, reinforce negative perceptions towards agriculture. In this photo, the imagery depicts a farmer and field hands. While there is nothing inherently 'wrong' with this photograph, it can be viewed as reminiscent of White superiority and the back-breaking labour of Black slaves. Thereby, rather than promoting agriculture, this type of imagery reinforces the division between Whites as wealthy land-holders and Blacks as subservient labour forced to work the fields.

Appendix 7

Respondent List		
Name	Relevant Information	Date
Alert, Colin	Dr. Colin V. Alert MB BS, DM (Family Medicine) was the first physician at the CDRC where he worked for more than 8 years. Dr. Alert was heavily involved with the 1999 Adolescent Health and Fitness Study in Barbados (AHFIT) and is a Fellow with the Caribbean College of Family Physicians (FCCFP).	11/02/2009
Ames, Scott	Scott Ames is a British chef classically trained in French, English, and Italian cuisine. Ames moved to Barbados in 2000 and – since that time – has become one of the island’s most distinguished chefs. Over the years, Ames has worked as Head Chef in a number of restaurants in Barbados. In 2006, Ames won the <i>J. Moreaux Chef of the Caribbean</i> for wine and food pairing. That same year, Ames established Scott’s Catering Ltd.	23/02/2009
Bethell, Patrick	Patrick Bethell is a vegetable farmer, part-owner and manager of Friendship Plantation, and former President of the Caribbean Food Corporation (CFC). Having spent his life working on his family’s plantation, Bethell was passionate about agriculture and Barbados’ food security challenges. Bethell studied agriculture at McGill University. Moreover Bethell’s wife (Canadian by birth) is an occupational therapist. Together they own and manage CaribRehab, Barbados’ leading rehabilitation equipment supplier.	01/03/2009
Blackman, Hamilton	4-H Programme Coordinator.	02/09/2009
Boucher, Duane	Agriculture sciences and physical education teacher at St. Alban’s Primary School. Boucher has been teaching in the Barbadian school system for more than a decade and was involved in other GBL programmes before helping to initiate the FAO funded GBL programme at St. Albans.	22/01/2009
Boyce, Peter	Barbadian entertainer entrepreneur and Public Relations consultant Boyce ran a Calypso tent called ‘Celebration Time’ during Crop Over. Boyce was also the author of an online entertainment blog called ‘BoyceVoice’.	22/08/2011

Appendix 8

Respondent List		
Name	Relevant Information	Date
Brathwaite, David	Agriculture sciences teacher at Bay Primary School . Brathwaite initiated the re-introduction of GBL at Bay Primary.	15/02/2009
Clarke, Monica	Agriculture sciences coordinator and teacher at Arthur Smith Primary School. Clarke managed the FAO-funded container garden at Arthur Smith. Prior to the installation of the container garden, Clarke was involved in planting fruit trees and flower beds around the school grounds.	19/01/2009 16/04/2009
Cox, Adrian	Adrian Cox is a plumber and a father of five. During a chance encounter, Cox told me of his daughter's experience with GBL. Cox's daughter attended St. Paul's Primary, however the garden itself was at a different location while the school was temporarily relocated due to a structural collapse in earlier years.	20/01/2009
Cumberbatch, Yvette	Guyanese farmer participating in Barbados' Land for the Landless programme. Although Cumberbatch is Guyanese by birth, her father was a Barbadian. Cumberbatch used to do trading between Guyana and Barbados before deciding to move to Barbados permanently in hopes of securing a better quality of life for herself and her children.	01/09/2009
Etherington, Mabel	Etherington was born and raised in Barbados. At 25 years of age, Etherington moved to England where she worked as a nurse and married a British accountant. Etherington and her husband returned to Barbados after she was diagnosed with arthritis. Having returned to Barbados, Etherington began farming Blackbelly sheep. Etherington is one of the top breeders on the island and is a member of the Sheep Farmers Association.	01/09/2009
Forte, Steve	Farm manager at Teen Challenge. Teen Challenge is a faith-based drug and alcohol addiction centre serving men (16 and over) from the Caribbean region.	09/12/2009
Fraser, Theodore	BAS field officer and Agro-Fest coordinator.	07/09/2009
Gale, Freddy	Proprietor of Gale's Hatcheries and Vegetables.	27/08/2009
Gamble, Marielon	Principal at Bay Primary Primary School.	15/02/2009

Appendix 9

Respondent List		
Name	Relevant Information	Date
Gaskin, Pamela	Dr. Gaskin is the Essential National Health Research Scientist for Barbados and the Eastern Caribbean, a post supported by the UWI's Caribbean Health Research Council. Gaskin has an extensive academic and professional career, and has co-authored a number of peer-reviewed published papers. Her research interests include: body composition, childhood obesity, and the relationship between energy expenditure and weight gain and diabetes aetiology.	03/02/2009 29/02/2009
George, Kenneth	Dr. Kenneth George Senior Medical Officer for Health and Chronic Disease at the Barbados' Chronic Disease Unit (CDU).	11/02/2009
Gill, Mares Victory	Cheapside Market hawker.	29/08/2009
Hinkson, Mike	Organic farmer and Cheapside Market vendor. OGCA member. Interviewed with Clarence Hurley and Melvin Jordan.	29/08/2009
Holder, Joyce	Chief Public Health Nurse, MoH.	01/02/2009
Hollingsworth, John	Acting Director of the Bureau of Gender Affairs. Hollingsworth was also a fellow student of the Gender and Development programme at UWI.	31/08/2009
Howell, Edward	School teacher, St. Stephen's Primary School. Howell initiated a GBL programme for his form 3 class.	05/04/2009
Hoyte, Jennifer	Principal of Arthur Smith Primary School. Arthur Smith had an FAO-funded container garden.	15/01/2009
Hunte, John	British-born Barbadian, Hunte moved to Barbados as a young adult where he began farming organics. Hunte has been running Stillwaters Farm since 1995. Hunte is a member and Secretary of the Organic Growers and Consumers Association (OGCA).	26/08/2009
Hunte, Pamela	Ministry of Education (MoE) Science Officer Pamela Hunte has more than 20 years of experience teaching within the Barbadian school system. Hunte has been working for more than 8 years as agriculture science officer.	02/09/2009

Appendix 10

Respondent List		
Name	Relevant Information	Date
Hurley, Clarence	Organic farmer and Cheapside Market vendor. OGCA member. Interviewed with Mike Hinkson and Melvin Jordan.	29/08/2009
Jordan, Anderson	Principal of Boscobel Primary School and heavily involved in 4-H and GBL.	18/02/2009
Jordan, Melvin	Organic farmer and Cheapside Market vendor. OGCA member. Interviewed with Clarence Hurley and Mike Hinkson.	29/08/2009
Julien, Ian	Owner and manager of SBN Herbs and 2009 President of the Barbados Fruit and Vegetable Growers Association, BAS. Julien is a Trinidadian who moved to Barbados with his family when he was 13 years old. Julien studied agriculture at McGill University.	27/08/2009
Hurley, Clarence	Organic farmer and Cheapside Market vendor. OGCA member. Interviewed with Mike Hinkson and Melvin Jordan.	29/08/2009
Jordan, Anderson	Principal of Boscobel Primary School and heavily involved in 4-H and GBL.	18/02/2009
Jordan, Melvin	Organic farmer and Cheapside Market vendor. OGCA member. Interviewed with Clarence Hurley and Mike Hinkson.	29/08/2009
Julien, Ian	Owner and manager of SBN Herbs and 2009 President of the Barbados Fruit and Vegetable Growers Association, BAS. Julien is a Trinidadian who moved to Barbados with his family when he was 13 years old. Julien studied agriculture at McGill University.	27/08/2009
King, Clifford	Agriculture sciences teacher, St. Paul's Primary School.	07/10/2008
Laurie, Keith	Senator Keith Laurie, Honorary Consul Haiti, Sugar Cane Technologist, current President of the Barbados National Trust and former President of the Sheep Farmers Association, the BSTA, and the Professional Agriculture Association and avid environmentalist. Laurie has spent a lifetime trying to improve local food production while promoting agriculture within Barbados.	31/08/2009

Appendix 11

Respondent List		
Name	Relevant Information	Date
Marshall, Gregg	Owner and manager of BaJam (agriculture and irrigation company in Barbados). Marshall attended Cumberbatch Secondary School and later studied agriculture engineering at the post-secondary level in Jamaica. Marshall was hired as a consultant by the FAO to help construct gardens at St. Paul's Primary School and St. Alban's Primary School.	22/01/2009 28/01/2009
Maynard, Wayne	Road side hawker, Bridgetown, Barbados	28/09/2009
Moore, Nyasha	Integrated Science Teacher at Foundation Secondary School. During her post-secondary studies, Moore participated in an agriculture extension officer course on botany and plant physiology with the Environment and Natural Resource Management programme at the University of Trinidad.	05/05/2009
Morris, Wayne	4-H Field Development Officer.	02/09/2009
Paul, James	BAS President.	07/09/2009
Paulraj, Litta	Plant Pathologist with the Caribbean Agricultural Research & Development Institute (CARDI). Paulraj was also hired as a consultant with the FAO.	27/01/2009
Ramsay, Angela	Principal at St. Albans Primary School.	07/09/2009
Riley, Lorena	Cheapside Market vendor and farmer. Riley and her sister have a small farm in Christ Church which they inherited from their parents.	29/08/2009
Small-Thompson, Sandra	Principal at St. Paul's Primary School.	07/10/2008
St.Hill-Pinder, Margaret	Principal at Wilkie Cumberbatch Primary School.	05/03/2009
Vaughn, John	MARD Field Officer.	01/09/2009
Went, Doreen 'Lolita'	Cheapside Market hawker.	29/082009

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