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# Food Security Assessments and Vulnerability Profiling in Jamaica, St. Lucia and Belize

#### Fitzroy Henry and Ballayrama

his is the second of two issues of CAJANUS focusing on the theme Food and Nutrition Security in CARIFORUM countries. This issue draws from studies<sup>b</sup> on Jamaica, St. Lucia and Belize, which were conducted by the Caribbean Food and Nutrition Institute (CFNI) for the Food and Agriculture Organisation (FAO) in 2007.

The studies focus on groups within the societies which are either food insecure or at-risk to food insecurity and identify the factors which create this insecurity. The studies also advance several recommendations that policymakers should consider to address the conditions of vulnerability and food insecurity among the various groups in the countries.

All the livelihoods analyzed have low levels of human, physical, financial, social and natural capital. This condition that has potential to sustain a propensity to push or keep members of these livelihoods below the food security threshold. Indeed, the limited assets and the noticeable absence supportive policies enhancing the activities outcomes of these livelihoods' severely restricted choices, constrain the ability of households to withstand or adapt to shocks and stresses, and thus increase their vulnerability to food insecurity. Moreover, limited assets compromise and/or reduce ability to cope with risks.

There was evidence of some hunger, reflected in the skipping of meals and reducing the

<sup>a</sup>Dr. Fitzroy Henry is Director, CFNI and Dr. Ballayram is Food Economist, CFNI.

b(i) Food Security Assessment and Vulnerability Profiling in Jamaica. Kingston, Jamaica (CFNI/PAHO, 2007);

<sup>(</sup>ii) Food Security Assessment and Vulnerability Profiling in St. Lucia. Kingston, Jamaica (CFNI/PAHO, 2007); and

<sup>(</sup>iii) Food Security Assessment and Vulnerability Analysis of Belize. Kingston, Jamaica (CFNI/PAHO, 2007).

# EDITORIAL

quantity and quality of food intake, due largely to lack of money to purchase food. The more prevailing food security problem among the livelihoods is the prevalence of worrying that food will run out before money is available to purchase food. This is understandable in the context of high unemployment and underemployment, loss of jobs due to structural or seasonal adjustments in the labor market, low savings and some level of indebtedness.

Guided by these findings the studies advance several options to address the food insecurity and vulnerability situation of the livelihoods. Emphasis is placed on the importance of providing people with the conditions and the resources to increase production, increase income and improve their assets. These can be advanced within the national development strategy which can provide the overall framework for supporting

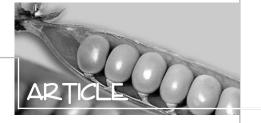
and sustaining agricultural growth, employment creation, institutional development, community-oriented programmes, etc., designed to increase food production and enhance food security.

This issue of CAJANUS and the studies on which it is based, are invaluable contributions to the literature in the Caribbean on food security and vulnerability analyses. In addition to the information provided on the three countries, the studies also present discussions of the core food and nutrition security and vulnerability concepts, the methodology collecting the quantitative and qualitative data, and demonstrate the use of key indicators for assessing food and nutrition security and vulnerability to food insecurity. The reader is encouraged to consult the detailed studies on which this issue of CAJANUS is based.

#### **CAJANQUOTE**

".....The primary role of food guides, whether in the United States or around the world, is to communicate an optimal diet for overall health of the population".

Food Insight February, 1999



# Introduction and Analytical Framework

#### **Background to the Studies**

The studies seek to:

- Generate a clear understanding of selected food insecure and vulnerable livelihoods in Jamaica, St. Lucia and Belize and their characteristics;
- Analyze the potential impact of economic and other policies on the various dimensions of food security among these vulnerable livelihoods; and
- Inform policy and programming interventions for addressing the vulnerability situation that is experienced by these selected livelihoods.

The focus on vulnerable livelihoods reflects insights from more recent work on food insecurity and in particular the Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS) framework developed by the Food and Agricultural Organization (FAO) (FAO, 2000). This framework is particularly useful because it draws attention in a dynamic way to who are vulnerable, why they vulnerable and where they are located, and to the full range of factors that place people at risk of becoming food insecure (FAO,

2000). The Sustainable Livelihood Approach (SLA) complements the vulnerability analysis by providing a lens for analyzing how people combine different assets (natural, human, financial, and social capital) to which they have access to maintain a living (Ellis, 2000).

#### **Analytical Framework**

#### **Key Concepts**

The conceptual and analytical framework used in this study is guided by two main considerations:

- A definition of food security that incorporates food availability, accessibility and consumption/ utilization of food; and
- A focus on vulnerability, which is grounded in the FAO's Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS) framework, and complemented by insights from the sustainable livelihood approach. Accordingly, food security exists

Accordingly, food security exist when:

"all people at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life." (World Food Summit, 1996).

Likewise, vulnerability is the propensity to fall, or stay, below a food security threshold within a certain time frame (Løvendal and Knowles, 2006). Households inevitably face seasonal and intra-household changes in their level of food security due to internal and external shocks that may shift them from food secure to insecure in a short period. Thus, the goal must be for households to reach an adequate level of food security whereby shocks or temporary setbacks (crop loss or sickness) can be absorbed.

The studies utilize a sustainable livelihood approach to food security and vulnerability profiling. livelihood comprises the capabilities, assets and activities required for a means of living; a livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation, in the short- and long-A livelihood system classified as vulnerable when the system is exposed to various factors that create risks for most people belonging to that system and which can be difficult to manage. Within any livelihood-based vulnerable group some people will be more vulnerable than others. Those most likely to be food insecure are those

who are economically dependent or otherwise socially marginalized. Because of its general applicability, its links to sectoral policies and its focus on micro-meso-macro levels and links, this approach is used for profiling vulnerable groups.

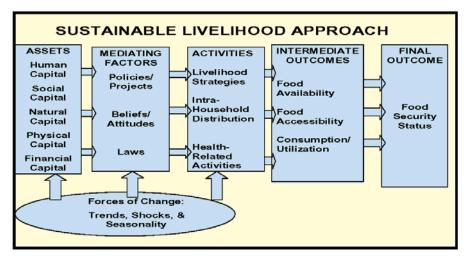
Figure 1 illustrates the relationship between the various entry points to analyzing food security and the different information subsets. Using the minimum information set, the profiles show how the assets, external factors (i.e., forces of change, mediating factors) and livelihood strategies combine to create a situation in which households are food insecure or are likely to become so.<sup>a</sup>

#### Methodology

The data collection exercise for conducting food security assessments for these studies combined qualitative and quantitative methods. The qualitative methods include national consultations, key informant interviews and community level focus group discussions (including semi-structured interviews with selected households). The quantitative methods include rigorous analyses of secondary data (population census, surveys of living conditions, surveys of agricultural production, etc.) and household surveys using a formal structured survey instrument. Figure 2 depicts the sequence of the data gathering process for this exercise.

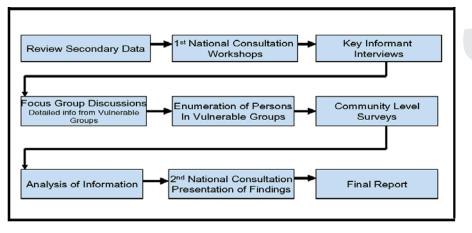
 $^{a}$ For a detailed discussion of the minimum information set and the sustainable livelihood approach, see FAO (2002; 2000) and Ellis (2000).

Relationship Between Different Information Sub-sets for Analyzing
Livelihood Food Security



Source: FAO (2002).

Figure 2
Steps in Conducting food and Nutrition Security Assessments
and Vulnerability Profiling



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# Identification of Livelihoods and Survey Design

The identification of livelihoods was a two-step process. First, a general list of livelihoods that were considered vulnerable to food insecurity was suggested by participants at a national consultation workshop in each country. This list was further refined through key informant interviews. The second step necessitated establishing the population of the targeted vulnerable livelihoods from which statistically appropriate samples could be drawn. The sampling frame was constructed with the assistance principally of the Statistical Institutes/Departments, Ministries of Agriculture, Farmers and Fishermen Associations and other rural and community agencies in the respective countries. Additionally, focus group discussions (FGDs) were conducted in specific communities and parishes where the targeted vulnerable groups were located.

#### Survey Instrument

Household surveys were conducted among the vulnerable livelihood households using multisectioned questionnaires, containing mostly structured questions. The questionnaire collected information on the various data subsets including: demographics, income, employment history, indicators of vulnerability and food insecurity – food availability, food access, disease/health profile; community interventions, government interventions; food intake; etc.



"Ugh, a contact lens. I wish he'd had corrective surgery because I hate artificial ingredients."

# Food Security Assessments and Vulnerability Profiling – Jamaica

# Food Security Issues at the National Level

Although the relative contribution of Jamaica's agriculture has declined over the years the sector provides a large proportion of food for domestic and export markets. Agriculture also provides employment and livelihoods for a large rural population.

#### Agricultural Performance

Crop production has declined over the past decade, while there has been some expansion in chicken, goat and pig meat (MOAF, 2006). The reduction in crop production in 2004 resulted largely because of hurricanes Charlie and Ivan in August and September, respectively. Other factors of influence include poor farming infrastructure and competition from imports. Overall, total meat production increased by 43 percent over the 1997-2004 period, with the highest increase in poultry (63%) followed by goat (20%) and pigs (15%). However, meat from cattle declined by 26% over the 1997-2004 period. Egg production has fluctuated over the years but has been consistently in excess of 120 million eggs per year. Over the period 1997-1999, milk production was relatively constant but has been on the decline since 2000 due mainly to import competition.

# Food Availability and Accessibility

Tables 1 and 2, respectively, show the availability of macronutrients and three selected food groups in Jamaica. Table 2 shows that all macro-nutrients are above recommended population goals (RPG). There has been an increase in the amount of fat available for consumption over the past decade. This has serious implications for the nutritional status of persons in the country as it has been established that high fat calorie intakes are risk factors for obesity and its co-morbidities. Equally important, there is a deficit of fruits and vegetables and an over-supply of sweeteners (Table 2). Given the prevalence of overweight and obesity in the country, the oversupply of fats/oils and sweeteners is a cause for concern. Consequently, policy must seek to rectify these food imbalances in light of the prevalence of overweight, obesity and nutrition-related chronic diseases in the country. An

increased intake of fruits and vegetables decreases the risk for some cancers, diabetes and other lifestyle diseases.

There has been a general increase in the prices of staples since 1996 with slight reduction in prices during 1999 and 2003 (Figure 1). The sharp increase observed in 2004 may be as a

result of Hurricanes Ivan and Charlie which destroyed a significant amount of crops. For the period 1996 to 2004, the prices of staples have seen a general increase. A decrease was observed in 1999 for Irish potato, yellow yam and dasheen and in 2001 for the 4 crops shown.

Table 1
Jamaica Food Availability (Calories), Selected Periods

Food Availability	Availability <sup>1</sup> (Calories/caput/day)						RPG <sup>2</sup>	2000-03 Calories Availability Relative to
(Calories)	1991-03	2000-03		RPG (%) (Surplus (+) or deficit (-)				
Total Food Calories Carbphydrates Fats Protein	2,825 1,766 746 313	2,677 1,734 671 272	2250 1462.5 562.5 225.0	19(+) 19(+) 19(+) 21(+)				

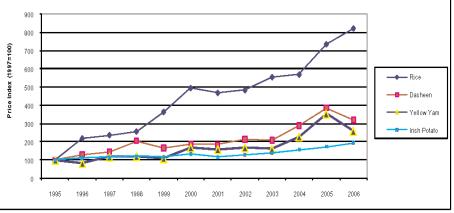
Table 2

Jamaica – Availability of Selected Food Groups (Calories)

Availability of		ability <sup>1</sup> /caput/day)	RPG <sup>2</sup>	2000-03 Calories Availability	
Selected Food Groups (Calories)	1991-03	2000-03		Relative to RPG (%) (Surplus (+) or deficit (-)	
Fruits/Vegetables Sweeteners Staples <sup>3</sup>	167 393 967	212 519 1079	225 180 1012.5	6(-) 188(+) 7(+)	

<sup>1</sup>Calories/caput/day; <sup>2</sup>Recommended Population Goal; <sup>3</sup>Staples=Cereals +Starchy Roots. Source: FAOSTAT: www.fao.org. August, 2006.

# Figure 1 All-Island Indices of Farm Gate Prices for Selected Staples, 1995-2006 (1997=100)



Sources: (i) Farm and gate prices (Ministry of Agriculture, Forestry and Lands, Jamaica, www.moa.gov.jm (2006).

#### **Poverty**

The incidence of poverty in Jamaica declined from 19.7% in 2002 to 19.1% in 2003, with the Kingston Metropolitan Area (KMA), other towns and rural areas having poverty indices of 9.5%, 15.8% and 24.2%, respectively. The high incidence of poverty in rural areas may be as a result of the fact that in rural areas, most persons are small hillside farmers with low-income levels as a result of a number of factors. These factors include:

- Cultivation of small (<5 acres), poor quality plots of land;
- Poor farming practices e.g. overuse of land, inappropriate technology

- Limitations due to adverse weather conditions and pest infestation
- Limited access to credit.

There is inequality in consumption expenditures between income groups where the lower deciles consume about 11 times less than the highest decile (Table 3). This pattern of inequality in consumption is not new as in 1994 the lowest decile of the population consumed 2.52% of total consumption while the highest decile consumed 29.9% and in 1998, the lowest decile consumed 26%, while the highest decile consumed 29.9%. This needs to be addressed in order to reduce the level of inequity in food consumption.

# Table 3 Food and Non-Food Consumption Expenditures by Deciles for 2003

Decile	1	2	3	4	5	6	7	8	9	10
% of Total Consumption	0.7	3.9	4.9	5.8	6.9	8.1	9.6	11.9	15.8	30.3

Source: Planning Institute of Jamaica, 2004.

#### **Nutritional Status**

#### Children 0 to 35 months

The status of young children is one of the most sensitive indicators of nutrition in a country as they are the most vulnerable to the effects of malnutrition. With respect undernutrition, in 2006, 6.7% of children were found to be above normal. 3.5% had grade (moderate) undernutrition and 0.1% had grade III (severe) undernutrition. In addition, 43.7% of children were exclusively breastfed at six weeks while 32.8% were exclusively breastfed at 3 months (CFNI, 2007).

#### Nutrition and Lifestyle Diseases

The presence of non-communicable diseases has increased over the years. In 2000, the prevalence of hypertension and diabetes was 20% and 8%, respectively. Hypertension is a major health problem globally. From the lifestyle survey conducted in 2000, 54.4% of the

Jamaican population was found to be overweight including obese (Body Mass Index (BMI) >25) and so are at risk for diabetes, hypertension, cancer and other lifestyle (Ministry of Health, diseases Jamaica, 2000). Obesity is more prevalent among women. There was a significant difference when overweight in the males (32.5%) was compared to the females (65.8%). In fact, the average BMI was found to be 30.79 kg/m<sup>2</sup>. By World Health Organization (WHO) standards the population is obese. Inactivity may be a large factor approximately 40% **Jamaicans** insufficiently were active, engaging in less than 30 minutes moderate activity daily (CFNI, 2007).

In summary, Jamaica's economy has resumed on a positive growth trend in contrast to several years of negative growth. However, there are several macroeconomic challenges that the country faces, including high debt, a large informal economy, reduction in

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# ARTICLES

factory productivity, limited access to finance by the private sector, and a high crime rate in the country. The incidence of poverty in Jamaica is still high although it has been declining. High rates of poverty combined with an increasing inequality in income and consumption do not augur well for national food security. Finally, nutrition-related diseases are the main public health problem in the country, and the over-consumption of fats/oils, sweeteners, and underconsumption of fruits and vegetables have compromised food security in the country. The current agricultural development strategy focuses on quantitative food production/supply goals. However, the prevailing nutrition related public health problem in the country is a compelling reason for integrating food and health goals in Jamaica.

# Characteristics of Food Insecure and Vulnerable Livelihoods in Jamaica

This section analyzes data from the household survey and information from the focus group discussions with a view to identifying the factors and constraints that negatively affect four vulnerable livelihoods in Jamaica. The analysis focuses on the livelihoods' food security situation, including access to food, health status and uptake of food. The aim of this analysis is to show how assets, external factors and livelihood strategies combine to create a situation in which households are food insecure or at risk of becoming food insecure. The section is structured to identify: who are vulnerable to food insecurity in Jamaica; why livelihoods are vulnerable; and finally to summarize the main findings of the previous two sections, focusing on common traits, overall comparisons among the livelihoods, and the key factors that impact on the food security and vulnerability situation of the livelihoods.

# Who are Vulnerable to Food Insecurity?

Food insecurity among the vulnerable groups in Jamaica takes expression in:

- Insufficient availability of food at the individual and household level;
- Inaccessibility to food; and
- Consumption and utilization of food that reflect poor food choices and inappropriate diets.

Many factors can be implicated in food insecurity, including constraints to food production (e.g. low productivity due to poor soils, low incomes, poverty and unequal distribution of income, lack of knowledge of what constitutes appropriate diets, etc.). While food insecurity is a concern for many

groups in Jamaica, this study focuses on four livelihoods. Table 4 identifies these livelihoods, the estimated number of persons in these livelihoods and their proportion in the population. These four vulnerable livelihoods comprise 388,211 persons or 14.9 percent of the Jamaican population.

Table 4
Vulnerable Livelihoods in Jamaica

Vulnerable Group	No. of People	% of Population
Fisher Folk	40,0001	1.5
Sugar Workers	39,000 <sup>1</sup>	1.5
Subsistence Farmers	129,211 <sup>1</sup>	5.0
Inner city Poor	180,000 <sup>2</sup>	6.9
TOTAL	388,211	14.9

Source: <sup>1</sup>Ministry of Agriculture, Fisheries and Lands, Jamaica.

# Why the Vulnerable Livelihoods Are Food Insecure?

In this sub-section, the question regarding why the vulnerable groups are food insecure is analyzed. The information from the household survey, focus group discussions and secondary data sources is used to analyze the food security and vulnerability situation for each livelihood.

#### Livelihood 1 - Fisher Folk

The Fisher Folk<sup>1</sup> livelihood system comprises artisanal fishers and

other persons who derive their main livelihoods from this system. Most of the fishers go out to the sea and return to land on a daily basis. This system can be found along the shorelines of Jamaica's sea coast and lagoons. According to government's fisheries surveys there are 40,000 fishers in Jamaica. This

constitutes 1.5 percent of Jamaica's population (MOAF, 2001). This livelihood activity supports several categories of fisher folk. These include: persons who operate their own fishing vessels; persons employed as fishermen to work on other persons' vessels; on-shore workers who provide support services such as mooring the boats, mend-

ing nets, cleaning, painting and other services and fish vendors. This last category includes those who purchase and resell the fish, and those who purchase the fish, cook it and sell it on street corners or in more established premises ("fish place").

#### Assets Available to the Livelihood

Human Capital

In this livelihood, the level of human capital in terms of edu-

<sup>&</sup>lt;sup>2</sup>Statistical Institute of Jamaica.

 $<sup>^{1}</sup>$ There are inland commercial aquaculture farmers in Jamaica, but they are not included in this study.

cational achievement is low-53 percent completed or did not finish primary school, 20 percent attended secondary school and 28 percent had some tertiary education. However, fishermen do have good skills about the weather, navigating difficult seas locating good fishing grounds. Those support who provide services such as constructing and or repairing fish-pots and nets have also developed these areas as specialist skills. In terms of dependency ratio, 7 percent of households had a dependency ratio above 5, i.e., in these households on average there are five dependents per working family member. Additionally, 21 percent of households reported that at least one member had a non-communicable disease.

#### Social Capital

Among all livelihoods only 27 percent know about associations that are related to their livelihood. Among these, only 11 percent received any assistance from the associations in the form of training (6 percent), and food and relatedassistance in times of need (3.2 percent). The social capital available in this livelihood includes associations (e.g. fishermen cooperatives, Non-Governmental Organizations (NGOs), etc), assistance from neighbours and the community, and support to

livelihood activity by members of the household. The household data indicate that the 50.9% of those within this livelihood believe that the social fabric of the community is strong. However, 34% felt it is weak and 16% said it is moderate. The fishermen complained that the stealing of each other's fish-pots aggravated an already bad situation. For those who do have access to social capital the assistance takes the form of provision of food in times of need (usually when natural disasters or emergencies occur), and training and representation of the households' interests (by associations). Within this livelihood, only a small proportion of the fisher folk receive some support from household members, usually in selling fish.

#### Financial Capital

Financial capital in livelihood is low. Just over 9% in this livelihood earn less than J\$3000, the weekly minimum wage. The largest percentage (37.8 %) earn between J\$6,000-J\$8,999 weekly, followed by 31.5% who earned between J\$3,000-J\$5,999, 4.8% who earned between J\$9,000-J\$11,999, and 16.2% who earned in excess of J\$12,000 per week. Among persons in this livelihood, 3.6% had no savings, 19.8% had at least 2 weeks income as savings, 26.6% had between 3-4 weeks, and 44.1% had more than 4 weeks

income as savings. More than a third (35.8%) of those in this livelihood are in debt.

#### Physical Capital

In terms of private physical capital, just over 50 percent of the fisher folk own boats and fishing nets, which are the essential capital requirements in this livelihood. fisher folk also own on a range of other essential private physical assets such as farmland (19%), kitchen garden (26%), livestock (23%) and tools (33%). The fisher folk's assets are not always in good condition. Lack of financial capital constrains the size of boats they can operate and also the income earned in this livelihood.

In terms of access to public capital, most of the participants have access to water, electricity and flush toilets. Table 5 shows public physical capital that is available/not available in fisher folk communities to which they have/do not have access.

Table 5: Public Physical Capital Available in Fisher Folk Communities (%)

Public Capital	Yes	No
Electricity	99.0	1.0
Primary & Secondary Roads	90.6	9.4
Water piped inside yard	81.5	18.5
Water piped inside house	68.2	31.8
Health Clinics	57.0	43.0
Secondary School	51.4	48.6
Vocational/technical School	27.3	72.7
District Hospital	11.7	88.3
Tertiary School	2.8	97.2

#### Natural Capital

The natural capital available to this livelihood includes marine, forestry and communal/state land resources. Most of the participants rely solely on fishing; there are a few who did odd jobs – outside of the fishing activities – in order to survive. For fisher folk, 37.7% saw these resources as the main source of household income while 59.0% as source for food and the main income source. Forestry is an important source of materials for making fish-pots (44.2%), cooking (32.6%) and wood for sale (11.6%).

#### Mediating Factors

Mediating factors include supportive or non-supportive programmes by government, laws, regulations and belief-systems in the For example, livelihood. importation of fish into the island results in a reduction in the demand for their catch and thereby reduces their income. This was evident in the cessation of fish sales to hotels. Moreover, the importation of fish at lower prices attracts the shoppers to purchase in supermarkets and away from fish vendors.

#### • Forces of Change

The fisher folk are vulnerable to shocks, trends and seasonality which affect the sustainability of their livelihood. The major shocks

faced by these livelihoods are natural disasters such as hurricanes, storms, drought or floods. In particular, frequent storms and hurricanes destroy equipment (boats, nets, fish-pots, sheds, etc.), damage the reefs and keep the fish away from the regular fishing zones. Household data reveal that 95.7% of fisher folk are affected by storms and hurricanes, 43.1% by flooding and 30.3% by drought. Rains also bring other forms of destruction, as well as the state of the winds which may impact negatively or positively on fisher folk. Fishing is a seasonal occupation and scarcity of fish leads to higher prices which deter consumers.

In terms of trends, the liberalization of the Jamaican economy and with it the increasing imports of fish and fish products, has had adverse effects on this livelihood. The fishermen point out that government is quick to implement policies regarding fishing licensing, catch size regulations and regulating fishing seasons, but is not equally swift to implement policies to reduce cost of production (subsidy on gas and fishing equipment) and protection against imported fish.

#### Livelihood Activities

With little help from the State, social networking is important. Families, friends and neighbours offer whatever little help they can in times of food shortage. Most of the food consumed is cooked in the household. The source of food is the sea and they eat the smaller fish and sell the bigger ones. During hard times, fisher folk will turn to a multiplicity of jobs and pull resources together.

#### Livelihood Outcomes

Food Insecurity and Hunger

Overall, 25.1% of all four vulnerable groups studied revealed that they did not have enough to eat sometimes or often. Among these the highest proportion were the sugar workers (37.6%), fisher folk (31.2%), inner city (23.2%) and subsistence farmers (17.7%). The main reason for not having enough food to eat is lack of money.

Only a very small percentage of fisher folk (1.7%), never or rarely eat green vegetables. However, only 9.3% eat it daily, and 40.3% consume it 2-3 times per week. With respect to fruit consumption, 6% of fisher folk eat fruits daily, 44.5% 2-3 times per week, and 3.9% rarely or never. For the fisher folk, 31.5 percent considered that the quality of meals they ate was poor. A similar proportion reported that they did not have enough to eat, while 74.9% did not have enough money to purchase the kinds of food they want to eat, sometimes or often. Among the fisher folk, 69.8% worry about food running out before they had money to purchase

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the kinds of food they want to eat, sometimes or often. Among the fisher folk, 69.8% worry about food running out before they had money to purchase food, with 14.9% of these worrying on a daily basis almost every month, 53.2% some months and 31.8% occasionally. To cope with this, 54.9% of adults cut or skip meals almost every month (8.9%), some months (50.0%), or occasionally (41.1%). Additionally, 27.8% of the fisher folk reported that their children cut/skip meals on a daily basis almost every month (5.0%), some months (30.0%) or occasionally (65.0%).

A Household Food Insecurity Access (HFIA) Prevalence Indicator: (FANTA/USAID (2007) was computed based on household responses to the five sets of conditions/ experiences/behaviours. These latter focus on whether the household has enough money or food to meet basic food needs and on the behavioural responses to that condition. This HFIA prevalence indicator categorizes households into four levels of household food insecurity (access): food secure, and mild, moderately and severely food insecure. These four levels of household food insecurity (access) are described follows:

 (i) A **food secure** household experiences none of the food insecurity (access) conditions, or just experiences worry, but only occasionally.

- (ii) A mildly food insecure household:
  - worries about not having enough food some months or almost every month, or
  - Adults cut or skip meals occasionally or some months.
- (iii) For **moderately food insecure** households:
  - Adults cut/skip meals almost every month, or
  - Adults go without food all day occasionally or some months.
- (iii) For **severely food insecure** households:
  - Adults go without food all day almost every month, or
  - Children cut/skip meals some or almost every month, or
  - Children go without food all day occasionally, or some or almost every month.

The HFIA prevalence indicator for fisher folk shows that 29.2% are food secure and 70.8% are food insecure, of which 37% are mildly, 23.3% moderately and 10.4% severely food insecure, respectively (Table 6).

#### Health Risk Indicator

The most prevalent disease among fisher folk is non-communicable and upper-respiratory diseases (21%, respectively). Just under half of the fisher folk sampled reported not suffering from any diseases.

Table 6: Household Food Insecurity Access (HFLA) Prevalence Indicator – Fisher Folk

Food In	0/0	
Food Se	29.2	
Food Insecure	Mildly Food Insecure Moderately Food Insecure Severely Food Insecure	37.1 23.3 10.4

Constraints and Coping Strategies

The major constraints faced by persons in this livelihood and which prevent them from expanding their livelihood activities include "Lack of Own Capital" (47%), a combination of "Lack of Market, Lack of Capital and High Risk" (14%), and "Lack of Credit" (12%). About 10% were not interested in expanding livelihood activities.

In terms of coping strategies used by persons in this livelihood, Table 7 shows the range of mechanisms used in this livelihood.

The fisher folk represent a very vulnerable group in Jamaica. Given the limited access to all five types of capital, it is not surprising that they do not at all times, have physical, social and economic access to safe and nutritious food which meets their dietary needs and food preferences for an active

and healthy life. Food security is linked to economic viability in the fishing villages and that varies in this livelihood as fisher folk revealed that they experienced both bad and good times. Food availability is tied mainly to the risk factors previously noted. The so called good times consisted of relatively well balanced meals including fish, all types of meats, starches and vegetables, while bad times consisted of 'anything' available.

Table 7: Coping Strategies of Fisher Folk

Coping Strategies	Inner City %
Use up Savings	80.1
Borrow from Friends/Relatives	47.7
Reduce Quality of Meals	46.5
Fewer Meals for Adults	36.8
Assistance from Relatives	29.2
Abroad	
Fewer Meals for Children	13.5
Sell Livestock/Physical Assets	9.9
Assistance for Welfare Organ.	5.9
Loan from Bank	3.3
Beg	2.0
Sell Jewellery/Valuables	0.7

Livelihood 2 – Sugar Cane Workers

The sugar cane workers live close to sugar cane factories and in areas where sugar cane is being cultivated. A small number of these workers are seasonal migrants who seek work during cropping season.

Currently there are seven sugar cane factories operating in Jamaica down from 18 in 1996. These factories are located in several parishes - one each in St. Thomas, Trelawny, Westmorland, Elizabeth, Clarendon and two in St. Catherine. The sugar industry provides a livelihood for about 39,000 sugar workers (1.5% of Jamaica's population) and their families. Full time employment for sugar workers is available during the cane harvesting season and some part-time employment is available off-season.

#### Assets Available to the Livelihood

Human Capital

The educational level among members of this livelihood is low-65% completed or did not finish primary school. Their work on the sugar estates cutting cane, maintaining drains, applying fertilizer and related chores requires unmanual labour. skilled human capital is insufficient to break the cycle of poverty. In terms dependency ratio, households had a dependency ratio above 5. Additionally, 24% of households reported that at least one member had a non-communicable disease.

Social Capital

Among sugar workers, 83% felt that the social fabric in their livelihood system is weak or nonexistent, while 17% said it is strong to moderate. Whenever assistance is forthcoming it is usually in the form of food (from neighbours/ friends/relatives) or training (from associations/NGOs). Big businesses and governmental organizations are perceived as 'heartless and uncaring'. These included the sugar estates to which thev are employed.

#### Financial Capital

Figure 2 shows the weekly income among sugar workers. In terms of savings, 11.3% had no savings, 41.3% had at least two weeks income as savings, 23.8% had 3-4 weeks income, and 17.5% had more than 4 weeks income as savings. In this livelihood 62.0% were in debt.

#### Physical Capital

Sugar workers had an average 3.1 pieces of physical assets, higher than the overall average of 2.7. Table 8 shows public physical capital that is available in sugar workers' communities to which they have access.

#### Natural Capital

The main natural resource to which sugar workers have access are forests and to a very limited extent, marine resources. Forestry is an important source of materials for cooking (50%) and wood for sale (50%).



Table 8: Public Physical Capital Available in Sugarcane Workers Communities (%)

Public Capital	Yes	No
Electricity	98.7	1.3
Primary & Secondary Roads	98.7	1.3
Farm Roads	93.5	6.5
Health Clinics	73.1	26.9
Water piped inside yard	65.4	34.6
Secondary School	64.1	35.9
Water piped inside house	29.5	70.5
Tertiary School	16.7	83.3
Vocational/Technical School	11.5	88.5
Wells	3.8	96.2
District Hospital	1.3	98.7

#### Mediating Factors

The sugar workers are particularly vulnerable to the international and state policies. As the regulations of the World Trade Organization become increasingly entrenched, agriculture increasingly comes under threat. This is the case with Jamaica's sugar industry. Sugar workers report having received

limited assistance from the government, but feel abandoned by their political leaders. Indeed, sugar has lost some of its importance to the Jamaican economy as tourism and bauxite have greater shares in the Gross Domestic Product (GDP). Government has attempted to put several policies in place to ease the threats from globalization but the sugar workers report that they do not experience any of the real benefits that these policies are supposed to bring.

#### Forces of Change

Sugar workers reported that they are adversely affected by flooding (38.8%), storms (73.8%), and drought (22.5%). In addition to low wages and salaries received by sugar workers, the seasonal nature of working in the cane industry causes additional problems. "When the sugar crop is over after June, starvation kills you."

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#### Livelihood Activities

Like counterparts in the other vulnerable livelihoods, the sugar cane workers' livelihood activities are not conducive to a sustainable livelihood system. Although the sugar workers have access to employment, they are still vulnerable. The participants' main source of income comes from cane cutting, preparation of soil, planting and burning and spraying of cane. Some also do farming (sugarcane, bananas, plantain) mainly "captured land"1 in order to feed themselves and the rest of the household. The sugar workers complain that they do not receive decent wages and have very bad working conditions. They have little or no health insurance from the companies.

#### Livelihood Outcomes

Food Insecurity Indicator

In terms of diets, only 2.5% of sugar workers eat green vegetables daily, 44.3% eat it 2-3 times per week, and 2.5% never or rarely eat this type of food. With respect to fruits, 13.2% eat fruits daily, 18.4% 2-3 times per week, and 7.9% rarely or never. Overall, 6.3% of the sugar workers reported that they always had enough of the kinds of food they wanted to eat. Hunger does not appear to be a problem for this

set of persons. However, 37.6% said they did not have enough to eat sometimes or often. The main reason for this, is the lack of money to purchase food, with 84.9% saying that they lacked money to purchase foods. Among the sugar workers, 69.8% worry about food running out before they had money to purchase food. Among these, 13.8% worry on a daily basis, almost every month, 48.3% some months and 37.9% occasionally. To cope with this, 62.8% of adults cut or skip meals. Among these 6.1% cut or skip meals almost every month, 49% some months, and 44.9% occasionally. Additionally, of the sugar workers reported that their children cut/ skip meals some months (45.5%) or occasionally (54.5%)

The HFIA prevalence indicator for sugar workers shows that 23.1% are food secure and 76.9% are food insecure. Among those who are food insecure 56.4% are mildly, 14.1% are moderately and 6.4% are severely food insecure, respectively (Table 9).

#### Health Risk Indicator

Most persons in this livelihood use public health care (60.8%) followed by private care (28.3%) and both (10.1%). The main diseases from which sugar workers suffer include non-communicable and upper respiratory diseases (24%, respectively)

<sup>&</sup>lt;sup>1</sup>A term used to denote illegal occupation of state and absentee-owner lands.

Table 9: Food Insecurity Access (HFLA) Prevalence Indicator – Sugar Workers (%)

Food In	0/0	
Food Se	23.1	
Food Insecure	Mildly Food Insecure Moderately Food Insecure Severely Food Insecure	56.4 14.1 6.4

Constraints and Coping Strategies

The main constraints faced by sugar workers at attempts to expand their livelihood activities include, "Lack of Own Capital" (54%), a combination of "Lack of Market, Capital and Risk" (14%), and "Lack Access to Credit" (14%). Seven percent were not interested in expanding livelihood activities.

In order to cope in difficult time, persons in this livelihood engage in a range of coping strategies including "Use up Savings" (88%), "Borrow from Friends/Relatives" (55%), "Reduce Quality of Adult Meals" (53%), and "Sell Livestock/Physical Assets" (29%).

# Livelihood 3 – Subsistence Farmers

There are about 185,637 farmers in Jamaica (MOAF, 2007). However, Jamaican agriculture has been characterized as a long standing structural dichotomy. On one hand there is a large-scale sector which produces crops such as sugarcane, banana and coffee for the export market. Then there is a small-scale farming sector which accounts for the greater proportion of farm labor and produces a wide range of crops, mainly for the domestic market. This group of farmers represents over 80 percent of all farmers in Jamaica, and only between 50-60 percent of the land they cultivate is owned.

Within the small-scale farm sector there is a group that is considered subsistence farmers. These farmers engage in a mode of agriculture in which a plot of land is used to produce food for home consumption and for income generation. However, the amount produced depends on climate, soil conditions, agricultural practices and the crops grown. Subsistence farming, definition, produces only enough food to sustain the farmers and their families through their normal daily activities. Because of low production capacity (due to small plot sizes, poor soils, etc.), subsistence farming does not allow for growth, the accumulation of capital or even for much specialization of labour. This group of subsistence farmers (129,211) constitutes 60 percent of all farmers in Jamaica and five percent of the Jamaican population.

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#### Assets Available to the Livelihood

Human Capital

Human capital among subsistence farmers is low in terms of formal education - 50% reported attending and/or completing primary education. Subsistence farmers have accumulated a good sense of weather patterns, suitable planting seasons and soil conservation practices. They also understand how the market works, but lack the marketing intelligence to inform decisions. Information from focus group discussions indicate that subsistence farmers would prefer to abandon produce on the farms rather than sell it to middle-men at prices below cost of product. In terms of dependency ratio, 9% of households had a dependency ratio above 5. Additionally, 20% of households reported that at least one member had a non-communicable disease.

#### Social Capital

More than half of the subsistence farmers reported that the social fabric in their livelihood system is weak, while 26% said it is moderate, and 20% said it is strong. Subsistence farmers accuse their fellow farmers of stealing from them. Combining different variables (e.g., associations at community level, support from neighbours, other household members, etc.) into a single indicator of social capital, 53% of persons within

this livelihood experience a very low level of social capital.

#### Financial Capital

Figure 3 shows the weekly income for subsistence farmers. In this livelihood, 8% earned less than the J\$3,000 minimum weekly wage.

With respect to savings, 13.0% had no savings, 41.3 % had at least two weeks income as savings, 22.3% had 2-3 weeks income, and 28.6% had more than 4 weeks income as savings. Among persons in this livelihood, 38% were in debt.

#### Physical Capital

Subsistence farmers had average of 4.0 pieces of physical capital, higher than the overall average of 2.7, and the highest average of the four livelihoods under study. Primary roads and electricity are almost universally accessible (Table 10). However, 46.9% do not have access to potable water in their yards, 46.8% have no access to secondary schools, 35.2% have no access to health clinics and over 98% have no vocational/technical schools and district hospitals in their communities. Even among those who have access to or own land, few have titles to gain access to credit. Some of the farmers live and produce on captured land.

#### Natural Capital

A large proportion of subsistence farmers have access to

Figure 3: Weekly Income of Subsistence Farmers

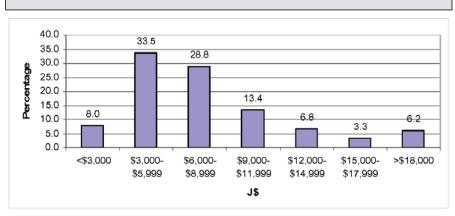


Table 10
Public Physical Capital Available in Subsistence Farmer
Communities (%)

Public Capital	Yes	No
Primary and Secondary Roads	98.6	1.4
Electricity	95.8	4.2
Health Clinics	64.8	35.2
Secondary School	53.2	46.8
Water piped inside yard	53.1	46.9
Farm Roads	43.7	56.3
Water piped inside house	42.2	57.8
Vocational/Technical School	2.0	98.0
District Hospital	0.6	99.4
Tertiary School	0.3	99.7

natural capital such as land for farming (86.9%) and forestry for firewood and lumber for sale (28.5%). The farmers had some natural capital but limited access to credit.

#### Mediating Factors

The farmers felt that they are not receiving enough support from the government. They complained that they had limited market opportunities and that the local consumers preferred foreign products. Knowledge and manipulation of the market is essential to sustain food security.

#### Forces of Change

Agriculture has always been susceptible to trends, shocks and seasonality. Globalization and

liberalization have presented threats for the farmers. Competition from markets, other an increasing demand for better quality products and elimination of government subsidies and farm support pose challenges for the subsistence farmers. The natural forces, e.g. hurricanes, have caused great losses for the farmers who have no access to insurance and therefore have little resource to recover from their losses. Among subsistence farmers, 52.4% reported that they suffered damage adverse weather conditions including floods, storms, drought, pest infestation, political unrest and violence. Praedial larceny affects 19.8% of these farmers.

#### Livelihood Activities

The main economic activity of subsistence farmers is small-scale farming. However, they also get involved in fishing and various marginal jobs to supplement their main income. Focus group discussions also reveal that some of these farmers resort to illegal activities including land capture and stealing of fruits, vegetables and livestock.

#### Livelihood Outcomes

Food Insecurity Indicators

In terms of foods eaten, 3.4% eat green vegetables daily, 39.5% eat it 2-3 times per week, and 3.6% rarely or never eat green vegetables. With respect to fruit consumption, 21.9% eat fruits daily, 25.4% 2-3 times per week, and 5.3% rarely or never. Among 20% of subsistence farmers hunger is not a problem. These persons reported that they always have enough and the kinds of food they want to eat. However, 18.7% said they did not have enough to eat sometimes or often, while 53.7% reported that they have enough to eat but not the kinds of food they want to eat. Several reasons are given for not having enough food to eat. For subsistence farmers, 57.8% did not have sufficient money to purchase food often or sometimes, 16.5% did not have the time to shop for food or to cook it, and 14.8% could not find the food of their choice.

Among the subsistence farmers, 66.3% worry about food running out before they had money to purchase food. Among these, 25.8% worry on a daily basis, almost every month, 48.8% some months and 25.4% occasionally. To cope with this, 51.9% of adults cut or skip meals almost every month (20.7%), some months (48.4%), or occasionally (30.9%). Additionally, 18.0% of the subsistence farmers reported that their children cut/skip meals almost every month (16.7%), some months (39.4%) or occasionally (43.9%).

The HFIA prevalence indicator for subsistence farmers shows that 38.7% are food secure and 61.3% are food insecure, of which 16.0% are severely food insecure (Table 11).

# Table 11: Food Insecurity Access (HFLA) Prevalence Indicator – Sugar Workers (%)

Food In	%	
Food Se	38.7	
Food Insecure	Mildly Food Insecure Moderately Food Insecure Severely Food Insecure	30.4 14.9 16.0

#### Health Risk Indicator

In this livelihood, 46.6% use public health care followed by private health care (37.8%) and both (12.2%). From the focus group discussion, participants reported illnesses such as diabetes, hypertension, sinus problems, etc, with stress causing most of these illnesses. The children suffer from fever, flu, asthma and kidney problems. The household data indicate that among subsistence farmers, 53.2% had no major illness in the past 12 months. However, 20.3% suffer from non-communicable diseases such as hypertension, diabetes, heart diseases, etc, 13.2% suffer from upper respiratory diseases and 4.8% suffer from acute and chronic pains of the joints.

#### Constraints and Coping Strategies

The main constraints to expanding subsistence farmers' livelihood activities include "lack of

# ARTICLES

own capital" (37%), followed by a combination of "lack of market, own capital and excessive risk" (20%). Lack of markets (9%) and too much risk (8%) were other reasons. Seven percent were not interested in expanding their livelihood activities.

Subsistence farmers engage in a wide range of coping mechanisms when faced with difficult situations. Table 12 shows the main coping strategies used by persons in this livelihood.

Table 12: Coping Strategies of Subsistence Farmers Livelihood

Coping Strategies	0/0
Use up Savings	69.9
Borrow from Friends/Relatives	64.1
Reduce Quality of Adult Meals	54.3
Sell Livestock/Physical Assets	40.5
Fewer Meals for Adults	37.6
Asst. from Relatives Abroad	23.0
Fewer Meals for Children	16.8
Beg	8.6
Assistance for Welfare Organ.	7.6
Loan from Bank	5.0
Sell Jewellery/Valuables	1.0

Given these unsustainable livelihood characteristics, the subsistence farmers' livelihood outcomes are precarious. Low levels of income are linked to high levels of food insecurity. All focus group members spoke of the risks to income generation. For the farmers, it was praedial larceny, natural disasters and bad crops. The issue

of limited market opportunities for produce and livestock is directly linked to food shortages within participants' households. Most of the cash crops are harvested at the same time and therefore prices fall as supply outstrips demand. Food access for persons in this livelihood is seasonal. There are times when food is plentiful to the point of wastage. There are diverse types of fruits, vegetables and coconuts in abundance and during the glut vendors offer low prices for the produce, which gravely affect their returns and ability to save for emergencies. However, the consensus was that although food is scarce, they always manage to find something to feed the family such tinned mackerel, sardines, cornmeal, etc. The group reported that there is a preference for name brand chickens, therefore the home grown ones are not in demand.

#### Livelihood 4-Inner City Poor

The Inner City Poor are located in cities, towns, and other densely populated areas in Jamaica. The largest percentage of this vulnerable group is in Kingston, Jamaica's capital. Other areas in which these groups are located include St. Catherine, Clarendon and St. James. These are an essentially urban marginal population, consisting of youths (males and females) without schooling, adults who are unemployed, and persons

who live from day to day working as traders, casual workers in local urban areas, and any other activity from which they would derive some income. The core defining characteristic of the inner city poor is that they are circumscribed by a range of factors that combine to keep them in poverty and vulnerable to food insecurity. They face serious problems and difficulties in education, housing, healthcare, and employment. One main source of their population increase is the migrant from the rural areas.

The locations of this livelihood system are variously described as "ghettos", "inner cities" and more politically-oriented "tribalized communities" and "garrison communities". The Kerr Report (1998) described these garrison communities as exhibiting an element of autonomy, i.e., "a state within a state" and linked to a political culture extending beyond the communities which are under tight control of politicians and the local enforcers, the "Dons". Another study of these communities suggests that while the political influence exists, the criminal elements have become more independent of the politicians (Mogensen, no date).

The following are among the more visible aspects of inner city life:

 Abandonment of legally owned houses and business premises

and their subsequent illegal occupation;

- Permanently derelict conditions in the communities which foster criminality and violence;
- Living conditions that reek of abandonment and neglect and which take expression in substandard housing (including shacks made from cardboard and pieces of zinc), poor sanitation, numerous environmental hazards, etc.

One estimate of the number of the garrison communities in Jamaica puts it at eight: Kingston, West; St. Andrew, South; St. Andrew, South West; Kingston, East and Port Royal; St. Andrew, West; St. Andrew, East Central; St. Catherine, Central; St. Catherine, East Central. These do not include areas in the other parishes of St. James and Clarendon.

#### Assets Available to the Household

Human Capital

Human capital, both in terms of educational achievements and skills training, compares well with the other vulnerable livelihoods studied. Within the inner city poor, 28% had very low level education compared to 65% among sugar workers, 53% for fisher folk, and 50% for subsistence farmers. Moreover, there is a relatively large pool of skilled

artisans (30.1%), clerical/professional (14%), and person with small businesses (6.4%) in this livelihood. One reason for the higher educational level observed is that this population is constantly being replenished by rural migrants (usually with secondary education) in search of better life opportunities in the urban areas. In terms of dependency ratio, 27% of households had a dependency ratio above 5. Additionally, 24% of households reported that at least one member had a non-communicable disease.

#### Social Capital

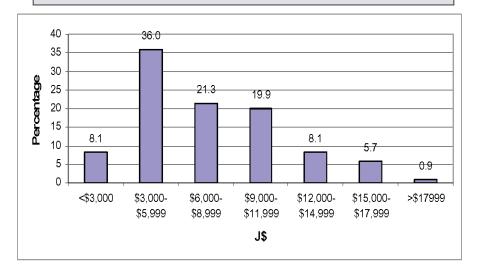
Among the inner city poor, 29% felt that the community's social fabric is strong, 42% said it was moderate and 29% said it was weak. This is one of the most important assets available to this livelihood.

#### Financial Capital

Figure 4 shows the weekly income of the inner city poor. In this group 8.1% earned less than the weekly minimum wage (J\$3,000.00).

In term of savings, 7.1% had no savings, 13% had at least 2 weeks, 12.1% between 3-4 weeks, and 47.1% more than 4 weeks income as savings. Among the inner city poor, 23.3% were in debt. Combining several variables (e.g., no/low savings, lack of access to money and debt) into an index of financial capital, 38% of the persons in this

Figure 4: Weekly Income of Inner City Poor



livelihood had low financial capital.

#### Physical Capital

The members of this group have low or limited access to physical capital. The mean number of physical assets owned by this livelihood is 0.2, significantly less than the average of 2.7 for the four livelihoods that are being studied. Table 13 shows public physical capital that is available/not available in the inner city livelihoods to which they have/do not have access.

#### Natural Capital

The inner city poor have less access to natural capital compared to the other livelihoods under study.

Only a very small proportion (6%) has access to marine resources which is used as a source of food (35.7%) and as a source of income (50%). This group attaches strong importance to land to grow food, and/or raise livestock for home consumption and/or for sale. Additionally, more than 85% in this group attached importance to marine resources for home use and sale.

#### Mediating Factors

The inner city poor face a multiplicity of mediating factors that influence their livelihoods and ultimately their food security situation. The political climate and the view that they are a violent and unproductive element of the society impact adversely on the livelihood activities of the inner city poor. Their

will improve.

life is even harder than

life in the rural areas

where they could have

depended on subsistence farming. Through embarrassment or shame, they do not return to the rural areas. They also hope that eventually, their lives

Policy makers are not keen to reduce poverty by building the physical and human capital in

remain as pawns to be used in the political "game". They provide the electoral base that the politicians need to gain political power. After elections, they lose their importance and once again suffer from "policy abandonment". With little access to labour and social capital outside the communities, they remain on the periphery of the society.

#### • Livelihood Activities

Generally, the inner city poor are either unemployed or seasonally employed. With little disposable income, the urban poor spend most of their money on food. The Jamaica Survey of Living Conditions has consistently recorded that the poor spend at least 50% of their household expenditure on food. According to the inner city poor, sending their children to school is most problematic

Table 13

Public Physical Capital Available in Inner City
Communities (%)

Public Capital	Yes	No
Electricity	99.6	0.4
Primary and Secondary Roads	97.5	2.5
Health Clinics	95.0	5.0
Secondary School	78.2	21.8
Water piped inside yard	74.4	25.6
Water piped inside house	37.1	62.9
District Hospital	27.9	72.1
Vocational/Technical School	5.0	5.0
Tertiary School	0.0	100.0

lives are trapped in a vicious environment of crime, violence and poverty. With little options open to them, several turn to a life of crime to maintain themselves and their families. Their criminal activities further diminish their chances for acceptability as decent and productive citizens.

#### Forces of Change

In addition to natural disasters, the other major shocks faced by persons in this livelihood are violence (59.6%), and political unrest (15.0%). Many residents in the ghettos had either migrated themselves or are descendants of persons who had migrated from the rural areas in search of employment. The pull factors of the hope for employment and a dream of a better life in the city lured their ancestors. However, they soon discovered that there were no "green pastures" and

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especially in September when the new academic year begins. Providing lunch money every day for their children is not always possible. This is further exacerbated as the children refuse, like their rural counterparts to take home-prepared meals to school.

Eating patterns among the focus group of single mothers in Jones Town were closely tied in to cook shops, school lunches, easy to prepare foods and snacks such as cheese chips. The group also relied on other relatives' cooking. Adults skipping meals and both adults and children eating cheaper less nutritious meals are practiced frequently. Food selection is often unplanned and chosen according to the circumstances at the time. Vegetables are often excluded from daily meals and participants in focus group discussions disclosed that those food types are only for planned and balanced meals, usually prepared on Sundays.

#### Livelihood Outcomes

Food Insecurity Indicator

In Jamaica, the rural areas have consistently recorded the highest proportions of persons in poverty. However, the innercity poor appear to be the most vulnerable among the four livelihoods in this study. While the farmers, fisher folk and sugar workers eat what they produce, the inner city poor have to find food outside of their

households. Many of them are unemployed with little more than secondary education. They have unsustainable livelihoods which place them and their children at risk of intergenerational poverty.

The focus group discussion in Flankers reported that the meals home-cooked, comprising variously of vegetables, rice and peas, steam fish and June-plum juice, stewed chicken neck with banana, yam, calaloo, roast breadfruit and saltfish. They say the meals are balanced because they had vegetables. Food availability and access was better in Flankers as compared to Jones Town Kingston because: "Every yard down here (in Flankers) has a breadfruit tree so we all have breadfruit. When it is breadfruit season we have a lot of breadfruit."

In Jones Town, a group of single mothers reported varying levels of difficulty with respect to food access. However, the consensus was that the issue of food shortage for the household was always present. January linked to Christmas, and September linked to the new school term are reported as the two most difficult times for food access.

In this livelihood, 4.3% never or rarely eat green vegetables and only 7.4% eat this type of food daily. The highest proportion (49.1%) said they eat vegetables 2-3 times per week. With respect to

fruits, 1.8% rarely or never consume the food type, 17.5% daily and 33.6% consume it consume it 2-3 times per day. Among the inner city poor, 62.5% worry about food running out before they had money to purchase food. Among these, 12.7% worry on a daily basis, almost every month, 50.0% some months and 37.3% occasionally. To cope with this, 47.7% of adults cut or skip meals almost every month (14.8%), some months (47.0%), or occasionally (38.3%). Additionally, 14.2% reported that their children cut/skip meals almost every month (14.7%), some months

The HFIA prevalence indicator for the innercity poor, shows that 42.9% are food secure and 57.2% are food insecure, of which 11.7% are severely food insecure (Table 14).

(47.1%) or occasionally (38.2%).

Table 14: Household Food Insecurity Access (HFLA) Prevalence Indicator– Inner City Poor (%)

Food In	security/Hunger Status	%
Food Se	ecure	42.9
Food Insecure	Mildly Food Insecure Moderately Food Insecure Severely Food Insecure	31.3 14.2 11.7

#### Health Risk Indicator

The main diseases reported by persons in the inner city livelihood

include non-communicable and upper respiratory diseases (24% and 14%, respectively). More than half (56%) reported that they do not suffer from any diseases.

#### Constraints and Coping Strategies

The main constraints faced by the innercity poor to expand their livelihood activities include "Lack of Own Capital" (21%), "Lack of Access to Capital" (16%), and a combination of "Lack of Market and Capital, and Risk" (15%). Just over 35% were not interested in expanding their livelihood activities.

#### Health Risk Indicator

The main diseases reported by persons in the inner city livelihood include non-communicable and upper respiratory diseases (24% and 14%, respectively). More than half (56%) reported that they do not suffer from any diseases.

#### Constraints and Coping Strategies

The main constraints faced by the inner city poor to expand their livelihood activities include "Lack of Own Capital" (21%), "Lack of Access to Capital" (16%), and a combination of "Lack of Market and Capital, and Risk" (15%). Just over 35% were not interested in expanding their livelihood activities.

As coping strategies used by persons in this livelihood in times of difficulties, most persons resort to using past savings (61.3%),

followed by borrowing from friends/relatives (60.3%), assistance from relatives abroad (29.8%), reducing the quality of adult meals (20.8%), fewer meals eaten by adults (11.3%), and begging (7.2%). The coping strategies of the inner city poor included among others, crime, "hustling" and deprivation of self. Methods of coping were varied and pegged to both informal and formal networks. As reported previously, self employment was a main coping strategy of single mothers, but overall 'hustling' was the order of the day. This meant doing odd jobs, receiving help from relatives, borrowing, crediting, begging and some indication of prostitution. Women in the inner city always ensure that their children eat even if it meant that they would do without food. Overall the coping strategies used included skipping lunch or making adjustments like varying meals day by day.

#### Options for Improving Food Security and Reducing Vulnerability

Food security is determined within people's livelihoods, which reflect their capabilities, assets, and activities for making a living. Livelihoods are sustainable if they can recover from stress and shocks while still maintaining the integrity of the resource base. The information presented in the previous

sections shows that typically, livelihoods in Jamaica that are most vulnerable to food insecurity are those that: (i) Have limited asset portfolios; (ii) Do not benefit significantly from mediating factors such as policies, laws and regulations; and (iii) Are frequently impacted negatively by forces of change such as natural disasters, job loss, market adjustments that result in high prices, unemployment, etc. These factors, singly or combined, restrict choices and constrain the ability of households within these livelihoods to withstand or adapt to shocks and stresses.

Guided by these findings, this section discusses possible options that would improve food security and reduce risks of vulnerability to insecurity in the livelihoods. The presentation is mindful of actions and discussions that are currently being advanced by other stakeholders in Jamaica to address insecurity food vulnerability. It is expected that the ideas presented here will make a contribution to this process.

#### Recommendations

Food security can be enhanced through food aid and other similar social safety net programmes. But a far more superior and sustainable food security is one that is based on providing people with the conditions and resources to increase production, increase income and

improve their assets. Appropriate conditions for food security can be promulgated within the development strategy of a country, its macro-economic policies and associated social programmes. The development strategy can provide the overall framework for supporting and sustaining agriculture growth, employment creation, institutional development, community-oriented programmes, etc., designed to increase food availability and enhance food security.

Thus, a supportive agricultural policy entails adequate rural infrastructure (rural markets, farm roads, functioning drainage and irrigation systems), adequate extension services, fair prices for produce and agricultural inputs, etc. In subsistence farming systems, support can also take the form of cheap credit and duty-free concessions for: small farming implements; fertilizers and pesticides; and small-scale agro-processing equipment.

Experience with macro-economic adjustment policies in the region demonstrate too well how sudden devaluations, budgetary cuts, wage restraints, large reduction in public social programmes, etc., can increase food insecurity in the short- and long-run, especially for vulnerable livelihoods. While adjustment programmes are necessary for stability and economic growth, there is equally the need for equity

considerations in the form of compensatory programmes to cushion the impacts of these austerity/ adjustment policies.

The profiles in the previous section all demonstrate limited asset portfolios for all four livelihoods under study. Actions are therefore required to increase the human capacity of members of these livelihoods, through education and vocational/technical skills. Extension services to train marginal farm households in advanced farming techniques, as well as marketing of both subsistence and cash crops, would also be important. Adult education and vocational training targeted at urban workers in the informal economy living in slum and squatter communities would enable them to improve their earning power and increase their livelihood options at times when the availability of unskilled jobs is uncertain.

There are several potential income and employment generation activities that can be pursued.

For rural families, the provision of livestock and non-farm work opportunities will allow those in this livelihood to use time previously spent on low productivity work on jobs with higher returns. Non-farm work generates incomes not closely connected to farm income, thus also helping to stabilize household incomes for this group. The subsistence farmers' livelihood provides food, employment and

income for many food insecure persons who live in rural areas and are directly or indirectly linked to agriculture. The subsistence farmers also produce marketable agricultural surplus thus providing a significant proportion of food for the domestic market. However there are several constraints identified in this livelihood which can be addressed through the following actions:

Expanding credit programmes:

- Credit programmes allow poor people access to loans which could be used to acquire assets, increase income-earning capacity by financing production activities and used as emergency funds in times of disasters.
- Credit to women should be encouraged, given the empirical evidence that control of household incomes by women tends to have a favourable impact on child health, education and improvements in family welfare.
- Policies and legislation should aim at improving access to land and livestock ownership. Social security including pensions, maternal benefits to the landless, etc., can also be valuable, although these are more difficult to establish in poor societies.
- Lending to micro-enterprises using non-traditional and unregulated intermediaries has proved effective in reaching the poor; such schemes could now be expanded.

To address the food security issues faced by the inner city poor it should be reiterated that this livelihood is essentially a cash economy. Unlike livelihoods in rural areas, inner city poor must buy most of what they eat. Food prices, incomes and employment are therefore of particular importance to inner city livelihoods, since ample food availability is no guarantee of access to this food by the inner city poor. Low wages, casual or temporary jobs are characteristic features of inner city livelihoods.

Options to address these problems include:

- Focused macroeconomic policies and labour legislation that encourage growth and that do not discriminate against innercity poor people.
- Social safety net programmes for people who cannot earn enough income to pay for their own food, because of job loss, illness or unemployment due to transitory, or frictionary changes in the economy.
- Urban agriculture can also be an option for inner city livelihoods as a source of food and employment for poor households. Studies show that in Africa, Latin America and China, as much as 40-50% of urban populations are involved in urban or peri-urban agriculture. Mayors and city

Improved access to public services. While inner city/urban poor are in closer proximity than rural people to health facilities, schools, safe water, sanitation, and garbage disposal, etc., infrastructure often cannot keep up with population growth. In such cases it is usually the poor who do without these public services.

#### **Summary and Conclusions**

Sustained access to all five types of capital is necessary for sustainable livelihoods. The types of capital examined in this study were human, natural, physical, financial and social. An important finding is that access to natural and physical capital is not enough to ensure food security. Given the island's vulnerability to natural disasters, the farmers and the fishermen are frequently exposed to natural disasters that can immediately destroy their livelihood activities. Financial and social capitals are also of paramount importance. The farmers have access to physical and natural capital but no credit and in some cases, no land title to access the credit. Social capital among relatives, neighbours and friends was stronger than the support received from government, employers and non-state agencies.

Youth unemployment is high in Jamaica and poor families are usually female-headed with an average household size of 5. This highlights the importance of targeting the youth and single mothers so as to break the cycle of poverty that faces their children for generations to come.

The common characteristics livelihoods among the poverty, little support from the State and limited access to state provided social programmes. The urban poor are the most vulnerable with the fisher folk being more vulnerable than their other rural counterparts. Households with children were the most vulnerable. Cultural barriers were evident as children do not want to consume that which is prepared at school. The PATH programme (Jamaica's flagship social protection programmes) is under-utilized as the programme is perceived by the majority of participants as targeting mostly the elderly and destitute.

The findings highlight the need for social protection programmes for the poor. Although, poverty in Jamaica has reduced significantly through the years, analysis at the micro level revealed that there are groups in the society that are chronically deprived. These groups have little or no access to human, Cajanus

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natural, financial or physical capital. Unless, social risk management is adopted, it is unlikely that they will move above the poverty line.

The subsistence farmers, the sugarcane workers and, to a lesser extent, the fisher folk, form an important part of the agricultural base of the Jamaican society. They should be encouraged to produce enough to feed the nation. The findings reveal that development remains skewed towards the urban areas and rural development is not a priority. Specific policy requirements for these groups would include: increased access to credit for the farmers and the fisher folk. The sugar workers need more decent wages and better working conditions. Increased access to health insurance, national insurance scheme and pension benefits are essentials for these workers. The urban poor have several policy including increased necessities the labour market. access to education and health. The consensus among the urban poor was that work and some form of training or schooling would be highly beneficial for improving their earnings.

Only an integrated development plan will secure more inclusiveness in their policy process. Reduction of crime and violence remain important parameters to secure improvement in physical and social infrastructure. Unless these policy adjustments are made, the livelihoods of the members of these vulnerable groups will continue to be unsustainable.

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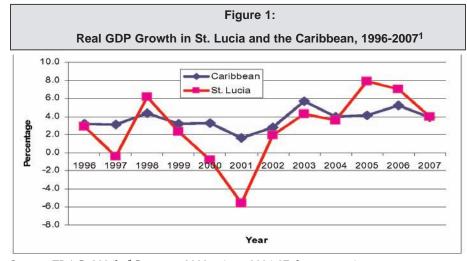
# Food Security Assessments and Vulnerability Profiling – St. Lucia

#### Food Security Issues at the National Level

St. Lucia is the most densely populated of the four Caribbean Windward Islands. In 2005, the estimated population was 164,791, almost equally divided between males (80,595) and females (84,196). The rural population accounts for approximately 55% of the total population (FAOSTAT, 2007).

St. Lucia's economy is dominated by tourism, which accounts for almost three-quarters of the island's export earnings. Tourism was adversely affected by the September 11, 2001 terrorist event, but has been on the rebound since 2003 (ECLAC, 2006a). This was facilitated by a favourable global environment, investment in tourist resorts, and infrastructural investments associated with the planned 2007 Cricket World Cup. The country is vulnerable to natural and other exogenous shocks. Since 1990, the production of banana, a major economic sector, and other export products have been declining. Banana exports have suffered from rising costs and the gradual erosion of preference margins in the European Union market (GOSL, 2004).

Economic activity in St. Lucia slowed considerably in 1980s, but has picked up since 2003 (Fig. 1), driven by tourism and investments in that and other sectors. Indeed, the economy has grown faster than the rest of the Caribbean since 2004.



Source: ELAC, 2006b. <sup>1</sup>Constant 2000 prices; 2006-07 data are estimates.

#### Agricultural Performance

There has been a decline in the agricultural sector, in particular banana output since the middle of the last decade. Thus, agriculture contribution to real GDP was 8.2% in 1998, but declined to 3.4% in 2005 (Table 1). While there have been attempts to diversify the economy away from agriculture, the output of the non-banana agriculture has not compensated for the loss of

these food imbalances in light of the prevalence of overweight, obesity and nutrition related chronic diseases in the country. Fruits and vegetables consumption are known to decrease the risk for some cancers, diabetes and other lifestyle diseases and the excess availability of these food groups relative to RPGs in St. Lucia should be linked to policies that make these foods accessible to all groups in the population.

Table 1:	
Agricultural GDP in Constant (1990) Prices (EC\$M)	

	1998	1999	2000	2001	2002	2003	2004	2005
Total Agriculture	97.20	82.69	85.37	64.50	67.33	56.73	57.73	45.06
Banana	51.22	41.05	43.68	22.37	35.75	22.78	26.81	17.11
Other Crops	25.56	21.14	19.57	20.48	13.50	14.27	13.93	11.57
Livestock	9.12	6.67	7.67	7.20	6.86	6.64	6.77	6.92
Fishing	9.84	12.48	13.21	13.22	10.02	11.88	9.10	8.48
Forestry	1.46	1.35	1.24	1.23	1.20	1.16	1.12	0.98
Sector Contribution to GDP(%)	8.19	6.70	6.94	5.47	5.68	4.64	4.54	3.36

Source: IMF, 2006.

earnings from banana as demonstrated in Table 1.

#### Food Availability

Tables 2 and 3, respectively, presents data from FAOs Food Balance Sheet on the availability of macronutrients and three selected food groups in St. Lucia. Table 3 shows that all macronutrients are above recommended population goals (RPG). The high levels of fat and sweeteners (Table 3) availability should be a cause of concern and policy must therefore seek to rectify

#### Food Accessibility

The most recent study on poverty on St. Lucia (Kairi, 2006 a-d) reports that absolute poverty in the population has increased from 25.1% in 1995 to 28.8% in 2005 (Table 4). Over this same period, however, the indigent population (those who are "food poor"), has decreased from 7.1% to 1.6%. In other words, while poverty might have increased, the percentage of the population that was extremely poor had dropped.

Table 2
St. Lucia Food Availability (Calories), Selected Periods

Food Availability		ability <sup>1</sup> /caput/day)		2000-03 Calories Availability	
(Calories)	1991-03	2000-03	RPG <sup>2</sup>	Relative to RPG (%) (Surplus (+) or deficit (-)	
Total Food Calories Carbohydrates Fat Protein	2,745 1,766 630 349	2,787 1,678 562.50 225.0	2,250 1,462.5 180 1012.5	24(+) 15(+) 29(+) 69(+)	

<sup>&</sup>lt;sup>1</sup>Calories/caput/day; <sup>2</sup>Recommended Population Goal; Source: FAOSTAT. www.fao.org. August 2006.

## Table 3 St. Lucia – Availability of Selected Food Groups (Calories)

Availability of	Availability <sup>1</sup> (Calories/caput/day)		RPG <sup>2</sup>	2000-03 Calories Availability	
Selected Food Groups (Calories)	1991-03	2000-03		Relative to RPG (%) (Surplus (+) or deficit (-)	
Fruits/Vegetables Sweeteners Staples <sup>3</sup>	167 393 967	298 361 999	225 180 1012.5	32(+) 101(+) 1(-)	

<sup>&</sup>lt;sup>1</sup>Calories/caput/day; <sup>2</sup>Recommended Population Goal; <sup>3</sup>Staples=Cereals +Starchy Roots. Source: FAOSTAT: www.fao.org. August, 2006.

Table 4: Inequality, Indigence and Absolute Poverty, 1995 and 2005 (%)

	1995	2005
Poor Households	18.7	21.4
Poor Population	25.1	28.8
Indigent Households	5.3	1.2
Indigent Population	7.1	1.6
Gini Coefficient	0.50	0.42

Source: Kairi, 2006a.

The Gini coefficient, a measure of inequality, was estimated to be 0.42 in 2005, lower than that for 1995. A lower Gini would suggest that as incomes grew in the society, the poor were able to secure a larger percentage of the improved income. However, while the decline in the Gini was considerable, inequality was still high. The poorest 20 per cent of the population enjoyed just 5.7 per cent of the expenditures compared to almost 50 per cent enjoyed by the richest 20 per cent (Kairi, 2006a).

#### Vulnerability

Vulnerability of the St. Lucian economy derives from economic exposure and susceptibility to environmental events and hazards. In terms of economic exposure, St. Lucia's economy historically was built on a three-plank export foundation, viz., banana exports, light manufacture and tourism. Both bananas and manufactures have significantly weakened in recent years, leaving tourism as the main foreign exchange earner for the country. St. Lucia is highly susceptible to environmental events as demonstrated by recent hurricanes Ivan (2004), Katrina (2005) and Dean (2007). Over the 1963-2004 period damage from natural disasters amounted to US\$194.4M (CDERA, 2007).

In summary, economic growth has resumed in St. Lucia after several years of slow and negative growth. However, there are significant vulnerabilities that the country face, including those that are financial/fiscal (high debt, relatively large fiscal deficits), structural (the rapid relative decline of agriculture, and in particular the banana industry), and environmental (high susceptibility to natural disasters). Conversely, the current and predicted growth momentum provides a solid opportunity to adopt structural measures to bolster long-term growth.

Much more difficult is the issue of the decline (both absolute and relative) of the agriculture sector. This sector currently provides direct employment for approximately 7,941 persons (13.0% of the labour force) (Kairi, 2006b). Moreover, the recent study on poverty in St. Lucia concludes that poverty is essentially a rural phenomenon with the highest rates observed in rural districts such as Anse-la-Raye (44.9%), Soufriere (42.4%), and Choiseul (38.4%). Laborie (42.1%) and Micuod (43.6%). In the absence of programmemes designed to enhance livelihoods in these areas, further flight from rural to urban areas should be anticipated.

# Characteristics of Food Insecure and Vulnerable Livelihoods in St. Lucia

This section profiles five vulnerable livelihoods in St. Lucia with a view to inform policy and

programming interventions for addressing the vulnerability situation faced by these groups. The analysis will focus on the livelihoods' food security situation, including access to food, health status and uptake of food.

### Who are Vulnerable to Food Insecurity

Food insecurity among the vulnerable groups in St. Lucia takes expression in:

- Insufficient food availability at the individual and household level;
- Inaccessibility to food; and
- Consumption and utilization of food that reflect poor food choices and inappropriate diets.

Many factors can be implicated for this, including constraints to food production (e.g. low productivity due to poor soils, low incomes, poverty and unequal distribution of income, lack of knowledge of what constitutes appropriate diets, etc). While food insecurity is a concern for many groups in St. Lucia, this study focuses on five livelihoods. Table 5 showed these livelihoods, the estimated number of persons in these livelihoods and their proportion in the population. Together, these livelihoods comprise approximately 30,972 persons or about 18.5% of the St. Lucian population. These livelihoods were

identified as the most vulnerable in the country at a national consultation and through key informant interviews.

### Why Vulnerable Livelihoods are Food Insecure

Each livelihood will be analyzed in turn, using information principally from the household survey, focus group discussions and complemented by information from secondary data sources.

#### Livelihood 1 - Urban Poor

The urban poor communities, and increasingly the peri-urban communities, are located in and around the city of Castries and the towns of Vieux Forte and Soufriere (Kairi, 2006a). These poor communities display "ghetto" features such as poor housing, over-crowding, high levels of unemployment and several social problems including substance abuse, crime, and gang violence. The high proportion of unemployed youths, many of whom are involved either in drug trafficking and/or who use illegal drugs, contributes to violence and crime.

### Assets Available to the Livelihood

Human Capital

Among the urban poor 20% of the households did not achieve primary education. In terms of dependency ratio, 42% of house-

# Table 5 Sample by Livelihood Groups

Livelihood Groups	Male	Female	Population (N)	0/0	Sample # of HH	# of EDs (16 HH per ED)
Urban Poor	n.a	n.a.	12052	38.9	280	18
Hotel Workers	3117	3468	6585	21.3	153	10
Construction Workers	4561	199	4760	15.4	111	7
Banana Farmers	4374	1601	5975	19.3	139	9
Fisher Folk	1400	200	1600	5.2	37	2
TOTAL	13452	5468	30972	100	720	46

holds had a high dependency ratio. Additionally, 16% of households reported that at least one member had a non-communicable disease.

#### Social Capital

Community networks are not very strong (probably due to the transient nature of the population within these livelihoods), and most householders are fending for themselves and concentrating on survival. The data indicate that 39.4% of the urban poor felt that the social fabric of the community was weak or nonexistent while 28.3% felt it was strong and 32.3% felt it was moderate. For those who do have access to social capital the assistance takes the form of provision of food in times of need (usually when natural disasters or emergencies occur), and training and representation of the households' interests (by associations, as Non-Governmental such

Organizations (NGOs). Among urban poor households, 30.5% regularly received remittances from overseas friends and relatives.

#### Financial Capital

Most persons (42.1%) in this livelihood earn less than the EC\$200 weekly minimum wage. Among the urban poor 33.2% had no savings, 43.0% had at least two weeks income as savings, 9.7% between 3-4 weeks income, and 14.1% more than four weeks income as savings. Just over a third in this livelihood was in debt.

#### Physical Capital

Physical capital available to a livelihood includes private and public physical capital. The average number of physical capital owned by the urban poor is 2.9, slightly higher than the 2.8 average for the entire sample of the five vulnerable groups. Table 6 shows

public physical capital that is available in urban poor communities to which they have access. Poor sanitation and water supply were reported in the focus group discussions and these were blamed for gastrointestinal illnesses among children and adults.

# Table 6 Public Physical Capital Available in Urban Poor Communities (%)

Public Capital	Yes	No
Electricity	95.8	4.2
Piped Water	67.7	32.3
Piped Water in House	51.8	48.2
Primary School	49.8	50.2
Health Clinics	40.4	59.6
Secondary School	8.4	91.6
Vocational/Technical	5.3	94.7
Tertiary Education	3.5	96.5

#### Natural Capital

Among the urban poor 44.9% had access to communal/government land suitable for farming, only 2.5% had access to fish and marine resources and 1.1% had access to forestry resources. Land was particularly important to the urban poor to grow food for consumption or sale (96.5%) while only 3.5% needed land for collateral or to build a house.

#### Mediating Factors

Among the urban poor, 17% reported low beneficial effects from the mediating factors that impact

their livelihood. However, the focus group discussions highlighted several other factors that impact negatively on urban livelihoods. These include:

- Stereotyping and discriminating of residents
- Unplanned parenthood usually in teenage years
- Absent fathers
- Limited education and skills
- Forces of Change Affecting Food Security

The forces of change which affect the sustainability of urban poor livelihoods over the past 5 years include natural disasters, violence/unrest, droughts, storms, loss of job or crops, major thefts (including praedial larceny), major sickness or death in the household. and seasonality of employment/ crops. Other major shocks faced by these livelihoods include: high cost of living; rural to urban migration; and high unemployment. The survey data revealed that 36.5% of the urban poor were affected in the past five years by major shocks such as job loss (14.0%), death of a household member (12.3%), major sickness (7.7%), crop loss (3.2%), and natural disasters (19.3%).

#### • Livelihood Activities

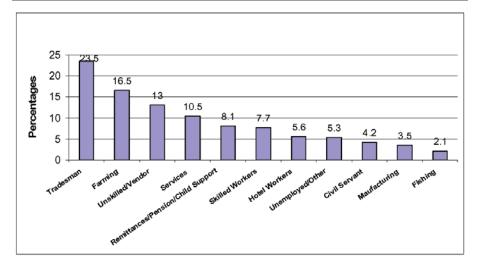
Figure 3 shows the wide range of activities in which the urban poor engage as main household occupations. Those persons who

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Figure 2

Main Occupations of the Urban Poor



are permanently unemployed or depend solely on remittances/pensions/child support constitute 13.4% of the livelihood. The data in Figure 2 should not be construed to mean that 86.6% of the urban poor are always fully employed in a given income earning/generating activity. The activities identified are the main ones that they will seek.

#### Livelihood Outcomes

Food Security Indicator

In this livelihood 30% reported that they always had enough to eat. However, 20.2% reported that they did not have enough to eat sometimes or often. The main reason for this was lack of money (58.3%). Only a very small per-

centage of the urban poor (7.1 %), never or rarely eat green vegetables. With respect to fruit consumption, 24.9% of urban poor eat fruits daily, 25.6% 2-3 times per week, and 5.1% rarely or never.

Among the urban poor, 38.6% worry about food running out before they had money to purchase more food. Among these, 28.2% worry on a daily basis, almost every month, 38.2% some months and 33.6% occasionally. To cope with this, 26.7% of adult cut or skip meals almost every month (15.8%), some months (42.1%), or occasionally (42.1%). Additionally, 11.6% of the urban poor reported that their children cut/skip meals almost every month, on a daily basis (21.2%), some months (42.4%) or occasionally (36.4%).

The HFIA prevalence indicator for the urban poor shows that 62.9% are food secure and 37.7% are food insecure, of which 9.0% are severely food insecure (Table 7).

#### Health Risk Indicator

In this livelihood, public health care services are accessed by most persons (68.9%) followed by private (29.3%) and both (1.8%). Regarding diseases among the urban poor, 66.5% reported that they had no major illnesses over the past 12 months. Among those who did have some disease, the main diseases are noncommunicable diseases, such as hypertension, diabetes, heart diseases, etc., (32.6%) and upper respiratory diseases (54.6%).

#### Constraints and Coping Strategies

The major constraints faced by persons in this livelihood and which prevent them from expanding their livelihood activities include lack of own capital (40%), lack of markets and no access to credit (14%) and a range of other factors (14%). About 22% of persons in this livelihood are not interested in expanding their livelihood activities.

In terms of coping strategies used by persons in this livelihood, Table 8 shows the range of mechanisms used in this livelihood.

The issues of unplanned teenage pregnancy, irresponsible fatherhood and poor work and life skills, under-

Table 7: Household Food Insecurity Access (HFLA) Prevalence Indicator – Urban Poor

Food In	0/0	
Food Secure (%)		62.9
Food Insecure	Mildly Food Insecure Moderately Food Insecure Severely Food Insecure	20.4 7.7 9.0

Table 8: Coping Strategies of the Urban Poor

Coping Strategies	0/0
Use up Savings	55.4
Borrow from Friends/Relatives	43.5
Reduce Quality of Meals	28.8
Fewer Meals for Adults	23.2
Asst. from Relatives/Organ.	21.8
Sell Livestock/Physical Assets	9.8
Fewer Meals for Children	8.8
Other	8.1
Loan from Bank	6.3
Beg	6.3
Sell Jewellery/Valuables	5.6

score the magnitude of the problems faced by the urban poor.

The information from focus group discussions suggests that food consumption patterns were unpredictable almost on a daily basis. Participants reported that they were plagued with financial problems, expectedly as actual earnings were either small or non-existence. The lack of protein, such as cheese, eggs, meats, fish and peas, carbohydrates, fruits and vegetables in diets, was also reported.

#### Livelihood 2-Hotel Workers

It is estimated that the hotel subsector of the tourist industry in St. Lucia employs over 6,000 persons (3.9% of the population). Tourism, as represented in large measure by Hotels and Restaurants, is the lead export oriented sector and the prime mover of the entire St. Lucian economy. Large proportions of hotel workers are in suburban Castries, Gross Islet, Rural Castries, and Soufriere. There are several categories of hotel workers, e.g., room attendants, housemen, cooks, maintenance personnel, gardeners, security officers, bellhops, etc. Hotel workers in the Castries and Gros Islet areas are dominated by women who either head or share the responsibilities of the household. The variation in socioeconomic status between those with a partner and those without may be noticeable as partnerships imply additional source finances, although both types of household are in the lower working class category. Overall, this livelihood is highly dependent on the tourist industry for job security. The sector is vulnerable to hurricanes, increased competition from other tourist destinations and external events such as September 11, 2001.

#### Assets Available to the Livelihood

Human Capital

Hotel workers' educational achievements include secondary education and skill training. Just one percent of the hotel workers surveyed did not complete primary education. Most reported opportunities for training and job opportunities in the tourist industry. In terms of dependency ratio, 5% of the households had a dependency ratio of above 5. Additionally, 6% of households reported that at least one member had a non-communicable disease.

#### Social Capital

Among the hotel workers 56.8% felt that the social fabric of the community was weak or absent, while 20.2% felt it was strong, and 23% felt it was moderate.

#### Financial Capital

Most persons (38.0%) in this livelihood earn between EC\$400-\$699 per week. A very small proportion (1.9%) earns less than the weekly EC\$200 minimum wage. In this livelihood 4.7% had no savings, and 46.8% were in debt.

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#### Physical Capital

The average number of physical capital owned by the hotel workers is 2.1, lower than the 2.8 average for the entire sample of the five vulnerable groups. Table 9 shows public physical capital that is available in the hotel workers' communities to which they have access.

Table 9
Public Physical Capital Available in Hotel Workers Communities (%)

Public Capital	Yes	No
Electricity Piped Water in House Piped Water Primary School Health Clinics Secondary School Vocational/Technical	99.4 89.2 85.4 62.0 22.8 17.1 12.0	0.6 10.8 14.6 38.0 77.2 82.8 88.0
Tertiary Education	1.9	98.1

#### Natural Capital

Among hotel workers, 22.8% had access to public land suitable for farming, 1.9% to public marine and fish resources, and 1.3% to public forestry resources.

#### • Mediating Factors

The negative forces impacting hotel workers were tied with the seasonal nature of tourist arrivals, the uncertainty of full time employment and the reality of being laid off without much prior notice. With limited skills, households then become dependent on other financial sources, such as partner's earnings.

#### Forces of Change

The data indicate that 26.6% of the hotel workers were affected in the past five years by major shocks such as, job loss (6.3%), death of a household member (13.9%), theft (3.2) and major sickness (2.5%). Additionally, 48.3% were affected by unemployment/unavailability of work, 27.6% by health problems, and 6.9% by death in the family.

#### • Livelihood Activities

Most of the hotel worker (75.3%) considered working in the hotels as Other main occupation. their persons in this livelihood who also work in hotels regard their main occupation as tradesman/crafts man/construction worker (8.9%), skilled workers (7.0%), civil servant (4.4%)and service personnel (3.2%).Table 10 highlights the livelihood activities utilized by hotel workers.

#### Livelihood Outcomes

Food Insecurity Indicator

Among hotel workers, 50% reported that they always had enough to eat. However, 7.9% reported that they did not have enough to eat sometimes or often. The main reason for this was lack

Livelihood Activity	Prevalence
Unstable employment patterns	**
Other odd jobs	**
Kitchen gardens	**
Partner's Assistance	**
Assistance from other relatives	**
Utilizing savings	**
Tips from patrons	**
Utilizing less nutritious foods	*
Food preservation	*
Livestock/small stock	*

<sup>\*\*</sup>Prevalent;

\*Not Prevalent

of money (25.4%). Only a very small percentage of the hotel workers (5.1%), never or rarely eat green vegetables. With respect to fruit consumption, 24.9% of hotel workers eat fruits daily.

Among the hotel workers, 13.9% worry about food running out before they had money to purchase more food. Among these, 4.5% worry on a daily basis, almost every month, 13.6% some months and 81.8% occasionally. To cope with this, 9.5% of adults cut or skip meals some months (53.3%), or occasionally (46.7%). Additionally, 3.2% of the hotel workers reported that their children cut/skip meals almost every month, on a daily basis (20.0%), some months (60.0%) or occasionally (20.0%).

The Household Food Insecurity Access (HFIA) prevalence indicator for the hotel workers, shows that 86.7% are food secure and 13.3% are

food insecure, of which 2.5% are severely food insecure (Table 11).

The difference with this livelihood compared to the others is that meals are provided on the job. Hence, the hotel workers do not worry about their own meals but those of other household members. Hotel workers from single headed households who receive basic pay and no tips find it much more difficult to meet the food needs of their families.

Table 11: Household Food Insecurity Access (HFLA) Prevalence Indicator – Hotel Workers

Food Insecurity/Hunger Status		%
Food Secure (%)		86.7
Food Insecure	Mildly Food Insecure % Moderately Food Insecure (%) Severely Food Insecure (%)	8.3 2.5 2.5

#### Health Risk Indicator

In this livelihood, private health care is used by most persons (49.7%) followed by public (38.2%) and both (12.1%). The main diseases affecting this livelihood are upper respiratory/infections (79%) and non-communicable diseases (14%).

#### Constraints and Coping Strategies

The major constraints faced by persons in this livelihood and

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which prevent them from expanding their livelihood activities include "Lack of Own Capital" (34%), "Lack of Credit" and "Too Risky" (11.4%, respectively). Thirty-seven percent reported that they were not interested in expanding livelihood activities.

In terms of coping strategies used by persons in this livelihood, Table 12 shows the range of mechanisms used in this livelihood.

Table 12: Coping Strategies of Hotel Workers

Coping Strategies	Inner City %	
Use up Savings	63.3	
Sell Livestock/Physical Assets	32.2	
Borrow from Friends/Relatives	20.9	
Reduce Quality of Meals	20.3	
Fewer Meals for Adults	7.0	
Assistance from Relatives/Org.	5.7	
Loan from Bank	3.2	
Other	1.9	
Fewer Meals for Children	1.3	
Sell Jewellery/Valuables	0.6	

### Livelihood 3 – Construction Workers

The construction workers are an understudied group in St. Lucia, and contrary to popular belief, this group has been faced with major hurdles and shocks from their occupation. The construction sector is one of the leading sectors in the St. Lucian economy. A major stimulus to the Construction Sector began in 2005 following the

planned Cricket World tournament in 2007. This, along with the related development in public infrastructure created a boom in the construction industry. Construction workers (plumbers, carpenters, painters, masons, general labourers), were selected from four of St. Lucia's 11 districts, Gros Islet, Suburban namely, Castries, Rural Castries, and Laborie.

#### • Livelihood Assets

#### Human Capital

The human capital of construction workers is in their specialized skills derived from vocational skills training and/or work experience in the sector. They utilize all their skills and survive by doing many jobs including manual work, vending, small businesses like food shops and farming. Among these workers, 23% did not complete primary education. In terms of dependency ratio, 3% of the households had a dependency ratio of above 5. Additionally, 12% of households reported that at least one member had a non-communicable disease.

#### Social Capital

Among the construction workers 56.8% felt that the social fabric of the community was weak or absent, while 20.2% felt it was strong, and 23% felt it was moderate.

#### Financial Capital

Most persons (41.4%) in this livelihood earn between EC\$400-\$699 per week. A small percentage (9.0%) earns less than the minimum wage. In this livelihood 36.1% was in debt.

#### Physical Capital

The average number of physical capital owned by the construction worker is 2.8, equal to the average for the entire sample of the five vulnerable groups in this study. Table 13 shows public physical capital that is available in construction workers' communities to which they have access.

# Table 13 Public Physical Capital Available in Construction Workers' Communities (%)

Public Capital	Yes	No
Electricity	94.5	5.5
Health Clinics	79.1	20.9
Piped Water in House	73.6	26.4
Primary School	65.8	34.2
Piped Water	62.7	37.3
Secondary School	40.5	59.5
Vocational/Technical Sch.	3.6	86.4
Tertiary Education	0.9	99.1

#### Natural Capital

Among construction workers 35.1% had access to public resources such as land suitable for agriculture (35.1%), fish and marine resources (5.4%) and forestry (0.9%).

#### Mediating Factors

The unpredictability in the earning potential of construction workers is based on the following: work opportunities are seasonal in nature; small contractors have to mainly depend on the big contractors for a sub-contract; favouritism-contractors with friends in get contracts; "high places" delayed payments for completed jobs; non-payment for completed jobs; poor spending, no saving for period without work; and excessive alcohol and drug use.

#### Forces of Change

Survey data revealed that 36.0% of the construction workers were affected in the past five years by major shocks such as job loss (20.7%), death of a household member (10.8%), theft (4.5%) and major sickness (9.0%).

#### Livelihood Activities

Most of the construction workers (90.1%) considered working in the construction industry as their main occupation.

#### Livelihood Outcomes

Food Insecurity Indicator

In this livelihood 23.4% reported that they always had enough to eat. However, 18.7% reported that they did not have enough to eat sometimes or often. The main reason for this was lack of money (60.8%).

Only a very small percentage of the construction workers (10.8 %), never or rarely eat green vegetables. However, 17.1% eat it daily, and 6.3% eat it 2-3 times per week. With respect to fruit consumption, 29.7% of construction workers eat fruits daily.

Among the construction workers, 27.9% worry about food running out before they had money to purchase more food. Among these, 9.7% worry on a daily basis, almost every month, 58.1% some months and 32.3% occasionally. To cope with this, 9.5% of adults cut or skip meals some months (53.3%), or occasionally (46.7%). Very negligible proportions of adults in this livelihood go without food for the entire day.

The Household Food Insecurity Access (HFIA) prevalence indicator for the construction workers, shows that 73.9% are food secure and 26.1% are food insecure, of which 3.6% are severely food insecure (Table 14).

Table 14: Household Food Insecurity Access (HFLA) Prevalence Indicator – Construction Workers (%)

Food In	%	
Food Secure		73.9
Food Insecure	Mildly Food Insecure Moderately Food Insecure Severely Food Insecure	19.8 2.7 3.6

#### Health Risk Indicator

In this livelihood, public health care services are accessed by most persons (60.6%) followed by private (10.6%) and both (28.8%). Regarding the diseases among the construction workers, 76.4% reported that they had no major illnesses over the past 12 months. For those with some diseases the main ones are noncommunicable diseases (e.g., hypertension, diabetes, heart diseases, etc.) (22.4%)respiratory and upper diseases (67.2%).

The major constraints faced by persons in this livelihood and which prevent them from expanding their livelihood activities include lack of own capital (50%) followed by lack of access to capital (17%), and lack of markets and high risks (13.5%). Just over 17% are not interested in expanding their livelihood activities.

Construction workers use a wide range of coping strategies to manage the impact of shocks. About 69% resort to using past savings, 58.6% will borrow from friends and relatives, 15.3% will reduce the quality of adult meals, while 13.5% will take bank loans.

Traditionally, this occupation has been perceived as attractive in terms of monetary rewards with easy access to household goods and services. The participants in the focus group discussions reveal otherwise and reported that in broad terms this occupation is very unpredictable and can often lead to extreme financial

strain on families. This financial instability leads to unmet needs especially with regards to accessing food for the household.

#### • Livelihood 4 - Banana Farmers

It is estimated that there are approximately 5,975 (3.5% of the population) banana farmers in St. Lucia. However, both the Agricultural Sector and the Banana Industry have been on the decline since the middle of the last decade due mainly to: the devastation of the banana fields by Hurricane Ivan September 2004; difficulties to effectively address the leaf spot disease due largely to insufficient funds to purchase inputs to control the disease; and a general deterioration of the banana fields due to higher input prices and loss in income to farmers because of crop damage.

The effect of this shrouds the agricultural communities (especially banana farmers) in St. Lucia in despire. A 2004 survey of ex-farmers conducted by the Department of Statistics found that of a total of 656 persons, the vast majority had been in bananas, 80 per cent had been in farming for more than 10 years, 39 percent were unemployed compared to the national average of 22 percent, and 90 percent had primary level education or less.

#### Assets Available to the Livelihood

Human Capital

Among the banana farmers surveyed, 17% did not complete

primary education. A few had agricultural training at the tertiary level but the majority were 'simple folks' with limited formal education but good expertise in the field of agriculture from years of experience in farming. Knowledge about the suitability of crops to certain soils and weather pattern was remarkable. In terms of dependency ratio, 4% of the households had a dependency ratio of above 5. Additionally, 4% of households reported that at least one member had a non-communicable disease.

#### Social Capital

Community relations involved some sharing of goods and services but as there has been some level of rivalry and competition among farmers. Most are members of the Farmers Cooperative and hold regular meeting about markets, diversification of crops and combating crop diseases. Within this livelihood, 41.2% felt that the social fabric of the community was weak or nonexistent, 38.3% felt it was strong, and 20.6% felt it was moderate.

#### Financial Capital

Financial assets vary in this livelihood but most, even those with dependent children had some form of savings. About 35% of the banana farmers earn between EC\$400-\$699 per week, 28% earn between EC\$200-\$399 per week and 16% earn between EC\$700-

\$1099 per week. Among banana farmers 18.4% had no savings, while 39.6% were in debt.

#### Physical Capital

The average number of physical capital owned by banana farmers is 3.9, higher than the 2.8 average for the entire sample of the five vulnerable groups. The farmers were either owners of their farm land or had leased, or rented land privately. In addition to the main farming activity, for example bananas, farmers also have other private physical assets in the form of livestock and kitchen gardens, mainly with cash crops like cabbage, tomatoes, cucumber and pumpkins. Public physical capital, such as water, electricity and public health clinics, was available within the communities. Banana farmers receive health care from public health (51.2%), private (48.8%).

#### Natural Capital

Among banana farmers 99.3% had access to public resources such as land suitable for farming but only 0.7% had access to marine resources.

#### Mediating Factors

The termination of the preferential trading arrangements for bananas from St. Lucia and the region has disrupted the flow of export of bananas. Most farmers reported some loss from depleted sales. "We banana farmers use to do okay but now there is no surety that our bananas would be included for export so we are no longer in a secure position, We have to start to find other ways for our bananas or else we might really starve". Cohesion within the group was poor and did not offer much opportunity to present the sectors needs to government.

#### Forces of Change

Survey data revealed that 30.4% of the banana farmers were affected in the past five years by major shocks such as job loss (4.3%); loss of crop (17.4%); death of a household member (7.2%) and major sickness (8.0%); 23.3% were affected by unemployment/ unavailability of work; 20.0% by seasonality problems and adverse weather, respectively; and 6.6% by change in government. There was evidence of stress related illnesses among some group participants, including hypertension as well as diabetes and high cholesterol among the older farmers who said that younger members of the communities were increasingly abandoning farming. Farmers also reported that they are plagued by thieves who target their crops and livestock. The seasonal aspect of farming with respect to weather and crop cycles adverse effects on farmers and their finances, creating gluts and

shortages in turn and affecting earning projections.

#### • Livelihood Activities

Some farmers, in addition to their main banana production, have promoted farm diversification by injecting other physical assets in the form of livestock, cash crops, fruits trees and kitchen gardens to sustain their livelihood. Although most are small farmers, there is variation regarding their educational, social and economic status. Developmental strategies used by both groups include crop diversification including cash crops, farm diversification including livestock and marketing of produce.

#### Livelihood Outcomes

Food Insecurity Indicator

In this livelihood 21.2% reported that they always had enough to eat. Hunger does not appear to be a cause of concern here. However, 15.3% reported that they did not have enough to eat sometimes or often. The main reason for this was lack of money (77.7%). Only a very small percentage of the Banana Farmers (0.7%), never or rarely eat green vegetables. However, only 10.1% eat it daily. With respect to fruit consumption, 31.1% of Banana Farmers eat fruits daily.

Among the banana farmers, 29.7% worry about food running out before they had money to

purchase food. Among these, 2.4% worry on a daily basis, almost every month, 36.6% some months and 61.0% occasionally. To cope with this, 13.8% of adult cut or skip meals on a daily basis, almost every month (5.3%), some months (26.3%), or occasionally (68.4%). Additionally, 5.1% of the banana farmers reported that their children cut/skip meals some months (14.3%) or occasionally (85.7%).

The Household Food Insecurity Access (HFIA) prevalence indicator for the banana farmers, shows that 76.1% are food secure and 23.9% are food insecure, of which 0.7% are severely food insecure (Table 15).

Table 15: Household Food Insecurity Access (HFLA) Prevalence Indicator– Banana Farmers (%)

Food In	%	
Food Secure		76.1
Food Insecure	Mildly Food Insecure Moderately Food Insecure Severely Food Insecure	12.3 10.9 0.7

#### Health Risk Indicator

In this livelihood, public health care is used by most persons (51.2%) followed by private (48.8%). The most prevalent diseases in this livelihood are upper respiratory/infections (74%) followed by non-communicable diseases (14%).

Constraints and Coping Strategies

The major constraint faced by persons in this livelihood and which prevent them from expanding their livelihood activities include lack of own capital (68%), lack of markets (10.3%), and other "reasons" (10%).

In terms of coping strategies used by persons in this livelihood, 67% use past savings as a first resort, followed by borrowing from friends/relatives (33%), selling livestock/assets(10%), taking a bank loan (11%), and eating fewer meals (7%).

#### • Livelihood 5 - Fisher Folk

The fisheries sector of St. Lucia is still considered artisanal in nature. The major fisheries of St. Lucia comprise several species (GOSL, 2001): shallow shelf and reef fishes, deep slope fishes, large pelagics, coastal pelagics, lobsters, conch, flying fish, and turtles. Of all these, the large pelagic species currently make up over 70% of the annual fish landings (GOSL, 2004). It is estimated that there are approximately 1,600 fishermen in Lucia who derive livelihood from the fisheries, using primarily small, open (wooden canoes or fibre glass boats) with trolling lines operated by hand, fish pots and seines. The market system for local comprises: direct sale by fishers to the consumer; direct sale by fishers to larger purchasers such as the St Lucia Fish Marketing Corporation (SLFMC), hotels, restaurants, and supermarkets; purchase and resale by fish vendors; and minimal exports.

Fisher folk livelihoods are located on the shorelines in all 11 districts of St. Lucia (GOSL, 2001), but higher concentrations are in Vieux Fort and in Anse-La-Raye. The fishermen depend on fishing assets for their major livelihood, whereas the fish vendors depend on the fish from fishermen not only for sale, but for cook shops on week days and fishfry events on weekends.

#### Assets Available to the Livelihood

Human Capital

Knowledge multiple about fishing methods, including successful vending of fish, is evident in this livelihood. A few fishermen had training in fishing techniques, but the majority received on the job training by an older family member or friend. Knowledge about wind patterns, rough seas and the various fish routes indicated the scope involvement in this occupation. Among the fisher folk 17% of the households did not achieve primary education. In terms of dependency ratio, 4% of households had a dependency ratio above 5. Additionally, 4% of households reported that at least one member had a noncommunicable disease.

Social Capital

Among the fisher folk 62.1% felt that the social fabric was weak or nonexistent, 24.3% felt it was strong, and 13.5% felt it was moderate. Information from focus discussions suggests that there are expressions of community sharing in this livelihood. In addition they have benefited from the fishing aggregating devices (FADs).1 FADs and fiber glass boats have been the high point interventions, both contributing to the enhancing of the livelihood. Financial assets vary in the livelihood, but most, even those with dependent children had some form of savings with a financial institution. They expressed little faith in established organizations, including political with the exception of the inputs from the Department of Fisheries.

#### Financial Capital

A relatively large proportion (24.3%), in this livelihood earns less than the EC\$200 per week minimum wage compared to 41% who earn between EC\$400-\$699 per week. Among fisher folk 8.1% had no savings, while 10.8% was in debt.

#### Physical Capital

From the survey data, the average number of private physical capital owned by the fisher folk is 1.9, which is below the 2.8 average

for the entire sample of the five vulnerable livelihoods under study in St. Lucia. Private physical capital includes: fiber glass and regular boats; canoes; fish pots; nets and lines; trolling equipment; and lobster traps. Fisher folk also have other physical assets in the form of livestock and small stock.

Focus group discussions indicate that some support services and infrastructure exist within the community. Table 16 shows public physical capital that is available to fisher folk in communities to which they have access.

Fisher folk receive health care from the public (76.5%), the private sector (20.6%) or both (2.9%). Overall, health services for the community were reported to be adequate.

Table 16: Public Physical Capital Available in Fisher Folk Communities (%)

Public Capital	Yes	No
Electricity Piped Water Primary School Piped Water in House Health Clinics	83.8 64.9 59.5 48.6 40.5 27.0	40.5 51.4 59.5
Vocational/Technical Secondary School Tertiary Education	15.6 5.4	73.0 84.4 94.6

#### Natural Capital

Fisher folk depend a great deal on the sea to earn their livelihood

<sup>&</sup>lt;sup>1</sup>FADs are mobile floating contraptions positioned in the sea which attract small fish, which in turn attract the larger fish targeted by the fisherman.

but some have small plots of land for farming ground provision and vegetables. Among the fisher folk only 8.1% had access to land suitable for agriculture and 78.4% to fish and marine resources. The rest who depend on fishing as a livelihood do so through fish-vending, casual labour with boat owners, and operating small "fry-fish" eating places.

#### Mediating Factors

This livelihood revolves around fishing hence any negative force targeting this industry affects not only fishing households but the entire community. Fisher folk are required to adhere to several fishing regulations such as licensing of boats (5.4%), adherence to quality standards (13.5%), and fishing regulations (24.3%). Some fisher folk (13.5%) also pay registration fee for membership to the local fishing cooperative. An additional factor that impacts negatively on the fisher folk livelihood is "competitive prices with imported frozen fish during low season".

#### Forces of Change

Survey data revealed that 29.7% of the fisher folk livelihood was affected in the past five years by major shocks such as, job loss (10.8%), death of a household member (10.8%), major sickness (10.8%) and theft (2.7%). Additionally, 22.2% were affected by seasonality problems and

11.1% by unemployment/unavailability The seasonal aspect of of work. fishing, that is, low and high season, affects fisher folk and their finances. The period December to July is termed the dolphin season when fish is abundant whereas the period August to October/November is problematic, blamed because of the wind, tide and currents. The ecological damages to reefs have resulted in a decline in the fish catch, but have been addressed somewhat with the introduction of the FADs. Intensified piracy (in both high and low season) has affected the overall profit and spending potential in this livelihood.

#### • Livelihood Activities

Although engaged mainly in fishing, fisher folk are also involved in a multiplicity of income earning and other livelihood activities such as rearing small livestock and growing cash crops. Fruits trees and kitchen gardens ensure a good quality of life and living for themselves and their families. They also plan and save for future events.

#### Livelihood Outcomes

Food Insecurity Indicator

In this livelihood, 41.7% reported that they always had enough to eat. However, 13.9% reported that they did not have enough to eat sometimes or often. The main reason for this was lack of money

Among the fisher folk, 27.0% worry about food running out before they had money to purchase food. Among these, 30% worry some months and 70.0% occasionally. To cope with this, 29.7% of adults cut or skip meals some months (27.3%), or occasionally (72.7%). Additionally, 5.4% of the fisher folk reported that their children cut/skip meals some months (50.0%) or occasionally (50.0%). The Household Food Insecurity Access (HFIA) prevalence indicator for the fisher folk, shows that 64.9% are food secure and 35.1% are food insecure, of which 2.7% are severely food insecure (Table 17).

#### Health Risk

In this livelihood, public health care is used by most persons (76.5%) followed by private

Table 17: Household Food Insecurity Access (HFLA) Prevalence Indicator– Fisher Folk (%)

Food Ir	%	
Food Secure		64.9
Food Insecure	Mildly Food Insecure	

(20.6%). Some focus group participants admitted to illnesses such as hypertension, diabetes and high cholesterol, among the older men and fish vendors. The survey data indicated that the two main diseases in this livelihood are noncommunicable diseases (42.9%) and upper respiratory infections (42.9%).

#### Constraints and Coping Strategies

The major constraints faced by persons in this livelihood and which prevent them from expanding their livelihood activities include "lack of own capital" (26.4%), "lack of access to credit", "too risky" (20.6%, respectively), and "not interested" (26.5%). In terms of coping strategies used by persons in this livelihood, Table 18 shows the main mechanisms used in this livelihood.

The access, availability and utilization of food for the household among most of the fishers were devoid of serious disruptions

### Table 18: Coping Strategies of Fisher Folk

<b>Coping Strategies</b>	%
Use up Savings	81.1
Borrow from Friends/Relatives Reduce Quality of Meals	37.8
Seek Assistance	24.3 18.9
Fewer Meals for Adults	16.2
Fewer Meals for Children	2.7
Loan from Bank	2.7
Other	2.7

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and frustrations, which pointed to limited food risks. The consensus was that worrying about accessing food has decreased after many years of struggle. Combining several variables into a single indicator of vulnerability, 14% of fisher folk were highly, and 43% moderately vulnerable to food insecurity.

#### Options for Improving Food Security and Reducing Vulnerability

Livelihoods in St. Lucia that are most vulnerable to food insecurity are those that: (i) have limited assets; (ii) do not benefit from mediating factors such as policies, laws and regulations; and (iii) are frequently impacted negatively by forces of change such as natural disasters, job loss, market adjustments that result in high prices, unemployment, etc. The five vulnerable livelihoods all demonstrated very limited assets, which, combined with the characteristic features of the livelihoods restrict choices and constrain the ability of households to withstand or adapt to shocks and stresses.

Guided by these specific findings, this section seeks to identify possible options that would improve food security and reduce risks of vulnerability to food insecurity in the five livelihoods.

#### Improved Human Capital

All the livelihoods profiled in the previous section demonstrated low levels of human capital. This therefore underlines the need for actions to enhance and build the human capital of persons in all the vulnerable livelihoods through easier access to educational, vocational/technical, basic health care (clinics), and public sanitation.

### Engender Greater Community Cohesion and Social Networks

All of the vulnerable livelihoods studied demonstrated an impressive spirit of community support and cohesion which is at its best during times of disaster and need. Notwithstanding this, however, given the narrow range of assets and supportive mechanisms in these livelihoods, community oriented programmes (such as building community parks, centres, recreation grounds, etc.) that involve members of the community in broad-based consultations and decision-making would engender greater civic pride and enhance community cohesion and networking.

### Improved Access to Physical Capital

The livelihoods profiled all demonstrated very limited access to privately and publicly owned physical capital. Land was a much sought out resource by members of all the livelihoods, largely to grow food for home consumption, for income and employment generation, to build homes and to a lesser

### Improved Access to Financial Capital

Income is a critical factor in the sustainability of livelihoods. Low wages and unemployment/underemployment, especially among persons whose only or major asset is their capacity to engage in wagelabor, can place households along the vulnerability continuum where they are in chronic food insecurity. Low wages and income (below the minimum wage) characterized the urban poor, banana farmers and fisher folk livelihoods, and when the unemployment/underemployment and seasonality factors are taken into account, all the livelihoods are adversely affected by inadequate streams of incomes. Moreover, high risk and lack of credit have been identified as major constraints to expanding livelihood activities to enhance food security. In addition, low savings and relatively high debt are antithetical to attempts in these livelihoods to smooth out food consumption patterns following periods of unemployment, natural disasters and effects of other forces of change. Options to address these issues would include, creative ways to increase employment, credit and savings in these communities. Small productionoriented projects (individually or group-owned) and similar microcredit schemes have great potential to generate income, employment and food for home consumption.

### Ensure Job Security and Employment Expansion

There is therefore a compelling need for an anti-discriminating legislation, more universal provision of skills and vocational training and information on the job market. These are particularly critical for the urban poor, hotel and construction workers' livelihoods. These livelihoods especially adversely affected by seasonal changes in the job market (reduced employment during tourism off-season or when the industry is facing periods of structural downturn). Urban poor workers are also discriminated against and suffer exclusion from the job market mainly because of where they live.

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Moreover, there is critical need for public policies to create conditions and programmes to expand employment opportunities in all the livelihoods. In this context, diversification takes on crucial significance as a mechanism for creating and promoting new income and employment opportunities for all the livelihoods.

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### Food Security Assessments and Vulnerability Analysis – *Belize*

### Food Security Issues at the National Level

#### Agricultural Performance

Belize's agricultural sector has been and continues to be a major driving force for enhancing overall economic growth, especially of rural areas, whilst contributing to food security and poverty alleviation. It is estimated that at least 35 percent of GDP and 41 percent of total employment is directly dependent on agriculture, fisheries and forestry. This estimate is based on the consideration that 90 percent of all manufacturing (which constitutes 17 percent of GDP and 12 percent of employment) is based on inputs from the primary sectors of agriculture, fisheries and forestry (GOB, 2003).

#### **Production Trends**

Agriculture currently contributes about 14 percent to Belize's Gross Domestic Product (GDP), down from about 24 percent in the 1980s (CSO, 2005). While this relative contribution to GDP has been on the decline over the years, the absolute contribution from these four sub-sectors shows an upward trend, averaging BZ\$200.3M and

BZ\$292.4M over the 1995-2000 and 2001-2005 periods, respectively (CSO, 2005). In more recent years (2003-2005) the total value of agriculture increased by 17 percent, significantly higher than the 4 percent and 6 percent, respectively, in the two earlier periods, 1993-1998 and 1999-2002. The Crops and Horticulture sub-sector dominates Belize's agriculture. Over the 1992-2005 period, on average this subsector contributed 57 percent of the total value of agricultural output, followed by fishing (25 percent), livestock (12 percent), and forestry and logging (five percent) (IMF, Country Reports, 2000-2006).

The Crops and Horticulture subsector is dominated by sugar, banana and citrus, with increasing contribution in recent years from other non-traditional products such as papaya and kidney beans. In Belize sugar provides employment for 6200 independent cane farmers and 5400 workers (about 12 percent of the country's labour force). Over the 2000-05 period, sugar contributed three percent of GDP and five percent of exports of goods and services. Banana contributed three percent of Belize's GDP in 2000-05 and five percent of total exports of goods and services. The sub-sector

Sugar output has been fairly constant over the decade 1995-2005, averaging 112 thousand tons annually. The other products, despite periodic declines, show an upward trend over the years. The fisheries sub-sector has recorded significant increases over the years, driven largely by shrimp production especially since 2003 and farm-raised white shrimp has played a major role in the diversification of Belize's export base over the past decade. Production grew from 1.4 million pounds in 1995 to a high of 22.1 million pounds in 2005. The industry contracted in 2002 following late stocking of ponds caused by hurricane and low shrimp survival rates (about 30 percent) due to the Taura shrimp virus (CBB, 2005). However, farmed-shrimp output more than doubled in 2003 with timely-restocking of ponds and the use of a Taura resistant strain that increased survival rates from 30 percent to 60-70 percent. Overall, shrimp production has grown yearly, boasting an average annual output of 9.650 million pounds over the period 1995-2005.

#### Constraints to Agriculture

Belize's agricultural sector faces several constraints. These include (GOB, 2003; 2005):

 Need for organized markets for agricultural products

- Natural disasters and seasonality
- Low productivity in small-scale agricultural enterprises
- Lack of drainage and irrigation
- Limited research/development on agriculture
- Outdated farming practices/equipment
- Inadequate packaging and grading/standards
- Limited Government land available for agriculture
- Inadequate access to credit, especially by small farmers; and
- Land tenure insecurity.

In addition to the above, Belize is expected to lose significant export earnings from sugar and bananas as a result of the new European Union (EU) trade regime. Both of these industries have historically benefited from preferential trade arrangements of the African Caribbean Pacific (ACP) countries with the European Union (EU) under the Lomé Convention and the successor Cotonou Agreement. Preferential access to the EU market has provided ACP exporters with prices that significantly higher than world market prices, which in effect constitutes an implicit income transfer to these countries (IMF, 2006). However, reforms in the EU trade policy will result in declining preferences for ACP countries. Overall, the EU trade regime is expected to result in a 36 percent

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price reduction for Belize's sugar (through a phased reduction up to 2009), and a price reduction in excess of 14 percent for banana exports beginning in 2006.

### Food Availability and Accessibility

Tables 1 and 2, respectively, shows the availability of macronutrients and three selected food groups in Belize. All macronutrients are above Recommended Population Goals (RPG). The small excess of fruits and vegetables availability over RPGs is desirable and should be encouraged. However, the availability of fat and sweeteners in excess of RPG is a cause for concern and policy-makers must therefore seek to rectify these food imbalances in light of the prevalence of overweight, obesity and nutrition related chronic diseases in the country.

### Poverty and Income Distribution in Belize

Both poverty and income inequality are at high levels in Belize. The two most recent poverty studies (1996 and 2002) utilize expenditure

data to estimate poverty and are based on the minimum cost of the food basket.<sup>1</sup> At the national level, (using the headcount statistic) absolute poverty<sup>2</sup> was 33 percent in 1995 and increased marginally to 33.5 percent in 2002. The indigent poor, which was 9.6 percent in 1995, increased to 10.8 percent in 2002. In both periods, poverty is shown to be predominantly rural although it must be noted that just under a quarter of the poor lives in urban areas (Kairi Consultants 1995; NHDAC 2004).

The Toledo district remains the poorest and has shown a substantial increase in the level of poverty from 57.6 percent in 1995 to 79 percent in 2002 (NHDAC, 2004). Moreover, the food poor in this district was also relatively high-40.2 percent in 1995, increased to 56.1 percent in 2002. The districts of Orange Walk and Stann Creek showed some increases in poverty in 2002 compared to 1995. Over the 7 years between studies, nationally, indigent poverty has decreased only marginally, while absolute poverty has increased (from 70,640 in 1995 to 88,842 in 2002).3

<sup>&</sup>lt;sup>1</sup>Various measures exist for establishing a food security threshold. For international comparison minimum daily intake of food and measured as calories/caput/day is often used (Lovendal, 2004). The recent poverty measures have been in keeping with this measure.

<sup>&</sup>lt;sup>2</sup>Absolute poverty is a threshold below which persons cannot meet the expenditure for a minimum basket of food and non-food items. The indigent poor (or 'food poor') cannot meet the expenditure threshold for a minimum basket of food items.

<sup>&</sup>lt;sup>3</sup>The estimated population in 1995 was 214,061 and with 33% poverty, the number of poor was 70,640. With an estimated population of 265,200 in 2002 (CSO, 2002-2003) and 33.5% poverty, the number of poor was 88,842.

Although high levels of poverty exist in all districts and among all ethnic groups, the data indicate that the Maya population is disproportionately poorer than other ethnic groups. The 2002 Poverty Assessment estimates that 77% of the Mayan are poor and 54.8% indigent.

Although there have been several development projects in the predominant Mayan regions – Toledo and Southern Stann Creek – it remains clear that more and perhaps better designed interventions are necessary.

Table 1

Belize Food Availability (Calories) Selected Periods

	Availability <sup>1</sup> (Calories/caput/day)		RPG <sup>2</sup>	2000-03 Calories Availability
Food Availability (Calories)	1991-03	2000-03	(S	Relative to RPG (%) (Surplus (+) or deficit (-)
<b>Total Food Calories</b>	2820	2840	2250	26(+)
Carbohydrates Fat Protein	1761 746 313	1912 625 303	1462.5 562.5 225.0	31(+) 11(+) 35(+)

<sup>&</sup>lt;sup>1</sup>Calories/caput/day; <sup>2</sup>Recommended Population Goal. Source: FAOSTAT: www.fao.org; August, 2006.

Table 2

Belize – Availability of Selected Food Groups (Calories)

Availability of	Availability <sup>1</sup> (Calories/caput/day)		RPG <sup>2</sup>	2000-03 Calories Availability
Selected Food Groups (Calories)	1991-03	2000-03		Relative to RPG (%) (Surplus (+) or deficit (-)
Fruits/Vegetables Sweeteners Staples <sup>3</sup>	256 509 944	290 476 1066	225 180 1012.5	28(+) 164(+) 5(+)

<sup>&</sup>lt;sup>1</sup>Calories/caput/day; <sup>2</sup>Recommended Population Goal; <sup>3</sup>Staples=Cereals +Starchy Roots. Source: FAOSTAT: www.fao.org; August, 2006.

#### Prices, Wages and Employment

Inflation has been fairly low in Belize over the past decade, auguring well for accessibility to food. However, high poverty rates (which could also reflect underemployment and unemployment) coupled with a very unequal distribution of income can reduce an individual's ability to purchase food.

#### Social Safety Net/Assistance Programmemes

Qualitative data from the NHDAC (2004) study revealed that the poor in Belize relied heavily on their own family and community networks and had little dependence on state-provided assistance for food security and over-all well-being. Information on the awareness of community projects show that 49.3% of households were aware of at least one project that was implemented in their community. Cayo District households (67.9%) were most likely to be aware of community projects, while Belize District households (34.5%) were the least likely. There is no difference in the proportion of urban and rural households that were aware of at least one project implemented in the community. It appears that these state-assisted programmes are not promoted effectively among those who really need these programmes. Of all the households that were aware of at least one project implemented in their community, 84% said they had benefited from at least one of the projects. Poor households were more likely to say that they benefited from education/training (41.4%), infrastructure (27.3%) and land (26.1%) projects compared to other projects (NHDAC, 2004).

#### Social Investment Fund (SIF)

The Social Investment Fund was established in 1996 to provide community-based sustainable solutions to the social and economic problems of the poorest in the country. Up until 2002, SIF implemented over 200 projects countrywide amounting to BZ\$23 million. According to data from SIF, the majority of SIF's projects were for education, mainly building and rehabilitation of schools (40.7%) and water and sanitation (28.7%). Only a small proportion of the funding was directed to health (6.3%), housing (5.2%) and social services (4.9%).

The distribution of SIF's funds by district is based on the 1995 poverty ranking of the districts. Toledo District was ranked as the poorest and therefore most deserving of the funds, followed by Cayo, Corozal, Stann Creek, Orange Walk and Belize District. However, the figures indicate that over the first six-year period of the project Toledo and Belize Districts, the poorest and least poor, received almost equal shares of the funds 24.1% and 24.8%, respectively (NHDAC, 2004). Although Toledo received a large share of SIF's funds, this was not sufficient to alleviate the poverty situation in that district and it is still ranked as the poorest with 79% of its population and 67.3% of its households below the poverty line. SIF has plans to use the poverty ranking of the district based on the 2002 LSMS to reassess its targeting at the district level.

#### Consumption/Utilization

Belize, as with many CARICOM countries, faces the dual challenge of undernutrition and overweight and obesity. Measurements were taken of children less than five years old to assess under-weight-for-height, overweight-for-height, under-weight-forage and under-height-for-age (NHDAC 2004; MOE 1996). Weight-for-height measures are used to highlight possible cases of acute malnutrition, while height-for-age is used to highlight cases of chronic malnutrition.4 Nationally, acute malnutrition does not appear to be a problem in Belize as only 1.3% of children under age five are under-weight for their height. Interestingly, urban areas had higher (1.6%) incidences than rural areas (1%) and males had higher incidences (1.5%) than females (1%). The percentage of children overweight for height is more significant and is 11.3% nationwide and particularly high among Creole populations and in the Belize District. In urban areas obesity was 15.4% and in rural areas obesity was noted among 7.5% of children under age five and almost double among female infants.

#### Data From Food Consumption Patterns in South Stann Creek

In 2004, the Belize Enterprise for Sustainable Technology (BEST) conducted a study of the main foods consumed in three villages in south Stann Creek, viz., Hopkins, Sittee River and Maya Centre (BEST, 2004). Although located within a five-mile radius of each other, the three villages differ substantially in terms of ethnic composition of their population. The study collected data on the foods consumed in the three villages. The foods were categorized into the six food groups, viz., Staples, Legumes, Vegetables, Food from Animals, Fruits/Vegetables and Fats. The study reported that only 24.5 percent of household meals included foods from all six food groups on a daily basis. In terms of foods consumed by ethnic groups, the Garifuna, Creole and Mestizo groups were noted for the absence of legumes, the Mayan, Creole and Mestizo for the absence of vegetables, and all groups showed relatively similar pattern in the

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<sup>4</sup>According to some, the weight-for-age indicator (underweight) confuses the two processes described in height-for-age (stunting) and weight-for-height (wasting) and may not be a good indicator for nutritional assessments (Morris, 1999). Therefore, this report will emphasize results of two height-for-age assessments.

absence of fruits, in their diets. One limitation of the study is that it did not analyze intra-household consumption pattern. An additional observation is that the results regarding the consumption of legumes appear suspect, since it is generally believed that beans are more likely to feature in the everyday diet of Belizeans, irrespective of ethnicity or location.5 The major conclusion however, is that the diets consumed by the households in the three villages are predominantly staple-based and exhibited a notable absence of two of the six food groups, namely, fruits, and dark green leafy or yellow vegetables. The study cautioned that households may be consuming in-season fruits that may not be mentioned as part of their structured diets.

# CHARACTERISTICS OF FOOD INSECURITY AND VULNERABILITY IN BELIZE

#### Vulnerability To Food Insecurity

Belize's economy is highly vulnerable to a wide range of different types of shocks arising from a combination of the economy's exposure to natural disasters, the country's economic structure and policy induced vulnerabilities.

#### National Level Vulnerabilities

The following four factors are identified as the principal sources of Belize's vulnerability to food insecurity at the national level: exposure to natural disasters; economic vulnerability; fiscal vulnerabilities; and social vulnerabilities.

#### **Exposure to Natural Disasters**

Belize, like its other Caribbean neighbours, suffers from weatherrelated shocks and this is an important source of vulnerability to the country's ability to meet food security of its population. These shocks include hurricanes and floods that have impacted adversely on infrastructure and domestic and export industries. One of the worst hurricanes occurred (Hurricane Hattie), which destroyed Belize City. More recent hurricanes include Hermine, Gert, Keith, Iris and Chantal, all of which have contributed to significant downturn of economic activity in Belize.

In the case of Belize, these natural disasters caused short-term shortages of domestic commodities such as rice, corn and beans, and contributed to reduced exports of shrimp, lobster, papayas and bananas in the corresponding years. Damage to agriculture and fisheries infrastructure

 $<sup>^5</sup>$ This point was forcefully made by participants at a stakeholder's consultation in Belmopan in March 2007.

#### **Economic Vulnerability**

Belize's economy could be considered as small, open and highly dependent on external trade. Total trade (exports plus imports) as a percentage of GDP was averaged 110 percent and 117 percent over the 1990-97 and 1998-2003 periods, respectively. Moreover, the country's export base is considered relatively undiversified. In 2000-02, the top single agricultural export (orange juice concentrate) accounted for 28.3 percent of total agricultural export earnings. This dependence further exacerbates the country's vulnerability to events in global markets, such as changes in the global trade regime, over which these states have very little influence. The sectorspecific vulnerabilities in this regard include: the Tourism Industry which is vulnerable to (a) competition from within the region; (b) shifting tastes (more toward all-inclusive/resort types); (c) changes in supply (e.g., Cuba as an attractive destination); and (d) demand shocks (e.g. economic recessions in US and Europe, terrorist alerts/heightened international security, etc); and **the banana and sugar industries** which have lost their preferential access to the European Union market where the prices offered are higher than world market prices. It is estimated that the decline in Belize's sugar preferences will depress annual export revenue by about US\$8 million (0.7 percent of 2005 GDP) by 2010, and for bananas the estimated decline in export revenue is about US\$7.5 million.

#### **Fiscal Vulnerabilities**

The Belizean economy's vulnerability to shocks has been exacerbated in recent years by rapid increases in fiscal deficits and public debt. Public debt as a percentage of GDP was 61 percent in 1997 and increased to 122 percent in 2003. This high debt has exposed the country to increases in global interest rates and shifts in investors' sentiment. For example, in recent years, Belize credit rating<sup>6</sup> has been downgraded by the Standard and Poor (S&P) index from B+ in September 2004 to CCC- in July 2005 (IMF, 2005). By August 2006 the country's credit rating improved to CC (two levels above debt default) (Bloomberg, 2006), but the risk premium that is attached to Belize's external debt is considered among the highest in the region (IMF, 2005).

<sup>6</sup>For an explanation of the scale of these ratings see Bloomberg's website, www.bloomberg.com.

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#### Social Vulnerabilities

A major source of vulnerability to food security is the prevailing high levels of poverty in Belize. Poverty, food and health status are interrelated: poverty constrains the quantity or quality of food consumed and leads to hunger and malnutrition. Poor quality diets deprive the body of nutrients and negatively influence the body's immune system, leading to greater severity, a higher incidence, and more prolonged duration of illness. Four main factors have been identified as contributing to the high levels of poverty in Belize (EU, 2006): insecure access to land and natural resources; poorly functioning markets; low quality of education and limited awareness of rights; and inadequate financial services for the poor, especially savings and insurance.

Regarding access to land and resources, there are two issues to note. First, land available for farming is limited in Belize and second, land security is a key constraint to small farmers, most of whom are poor. It is estimated that 44% of all land consists of steep slopes in the Mayan mountains and best suited for forestry. Another 20% of the land suffers from poor drainage, is shallow and subject to drought. Small farmers in Belize engage in shifting cultivation (called "milpa"

producers) and constitute in excess of 50% of all farmers in Belize. These farmers do not have titles to the land they occupy. Most of them are considered poor.

Information from focus group discussions by CFNI and IDEAS (2006) indicate that farmers are faced with marketing problems because of glut or selling to the Marketing Board and not being paid for months. For many farmers cost of production exceeds the returns, making it worthless to continue producing. Belize rural area farmers feel that they have been impoverished by poor government policy decisions to move the rice mill from that area to Toledo and shut down the abattoir in Belize City. These decisions raised the costs of production for rice and cattle and resulted in the demise of many farms. Except for banana and citrus production, the markets for most fruits and vegetables for the domestic market is poorly developed.

Participants did not feel that the current system of education was providing children with the requisite skills they need to survive or become locally and/or globally competitive. Small farmers catering for the domestic or export markets do not have easy access to affordable credit. Commercial banks prefer less risky activities within the agricultural sector where repayment periods are short and supervision is minimal.

The current trends towards the reduction of preferential markets for Belize's main exports (sugar and bananas), the country's geographic location in the path of hurricanes and storms, and the high rates of poverty and income inequality all combine to increase the degree of vulnerability of individuals, households or groups of people in the country. The high poverty rates are an expression of lack of ownership and access to assets. Moreover, the combination of unemployment (currently at about 11%) and working for wages below the poverty line ("working poor") are concrete expressions of individual vulnerability to food insecurity.

#### Level of Economic Vulnerability

The reported economic vulnerability in the 2002 Poverty Assessment was high in Belize as 36.8% of all households stated that they were experiencing financial difficulties at the time of the survey. Poverty and level of economic vulnerability are linked as the poorer districts Orange Walk, Stann Creek and Toledo had a higher proportion of households that reported financial difficulties compared to the other districts. However, although 67.3% of Toledo's households lived below the poverty line, only 40.6% reported that they had financial difficulties.

#### Types of Financial Difficulties

Poor and non-poor households experienced several types of financial difficulties, especially those relating to food, utility bills, health and education expenses (NHDAC, 2004). The majority of all households reported that they had difficulties meeting utility bills (53.1%).

### Financial Difficulty with Food Expenses

Households in Toledo (60.6%) had greater difficulty in meeting food bills compared to households in Belize (36.6%), Orange Walk (37.4%) and Cayo (41.5%). Generally, rural households were more likely to have difficulty with food (44.9%), compared with any other types of financial difficulty. For the poorest district, Toledo, meeting their food expenses was the number one financial difficulty. Social interventions to improve food security need to be a number one priority because three out of every five households in this district had difficulty in meeting food expenses. This high proportion of households in Toledo with a food expense difficulty is a reflection of its high level of indigent households and population.

Finally, the duration of household economic stress is indicative of the household's ability to absorb shocks. Overall, difficulties related to utility and food expenses were less likely to

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last for more than one year. Among the poor households, health, food and utility-related expenses were less likely to last for more than a year, while for non-poor households it was utility and food expenses. In maleheaded households, utility expenses were least likely to last more than one year, while in female-headed it was food-related expenses (NHD AC, 2004).

### How Vulnerable Groups Maintain Food Security

This section presents information on coping strategies that vulnerable households in Belize use to maintain food security.

#### **Main Coping Strategies**

An analysis of the coping strategies of the poor and the nonpoor revealed that Belizeans depend more on their own personal networks than on state intervention. This is supported by their generally low awareness of and access to social investment projects. Poor and nonpoor groups employ a range of coping strategies to maintain food security (NHDAC, 2004). The quantitative data revealed that 63% of households in Belize rely on divine intervention (through prayers) as the main coping strategy. Poor households were also more likely to engage in "hustle" as a coping strategy than those relatively betteroff. Approximately one in three households 'forgo necessities' or "defer bill payments", more than onequarter of all households also "ask relatives for help", while 12.3% said that they asked politicians for help to cope with their financial difficulties. Non-poor households were also more likely than the poor to "dip into savings", borrow and pawn, while the poor were more likely to seek assistance from relatives. The quantitative data showed also that the coping strategies used by the poor usually do not require repayment. Political patronage was prevalent among the poor households who were more likely than the non-poor to seek politicians' help when faced with financial difficulties.

The qualitative data from the focus group discussions revealed more dynamism and creativity among the Belizeans. Focus group participants disclosed that they utilized a range of coping strategies. In addition to those coping strategies mentioned above, additional strategies included: rural-urban migration, migration overseas, dependence on remittances, thrifty spending, working hard, occupational multiplicity, use of a "back garden" with beans and livestock, use of savings and the lottery. Assistance from the politicians was a less popular option. So, too was drug-trafficking.

#### **Ethnicity and Coping Strategies**

The qualitative information indicated that there were several similarities among the ethnic groups in

their use of coping strategies. The role of remittances was important to all races. For health expenses, the use of health services across the borders was more relevant among the Mestizos and the Mayans. Geographic proximity to "across the border" health services proved useful to these ethnic groups. The poorer Mestizos went to Chetumal in Mexico for health care because of the cheaper services. The Mayans used health services in Guatemala as they sometimes found it was easier and quicker to cross the border to access health and education services than to wait/seek public health care in Belize. The Mayans also used the bush doctor and home remedies to reduce health care costs. The bush doctor was used for minor injuries as he proved less expensive and in some instances, his methods were more effective.

### Different Categories of the Poor and Their Coping Strategies

There are several important nuances in the conditions of poverty, which are often not easily nor readily identified in or captured by the quantitative measures. Focus Group participants identified different types of poverty in Belize. The Creoles mentioned the following groups: the economic poor with lack of finance; the social poor with lack of education; and the "psychological poor" who were not "functioning individuals." While the Mestizos spoke of these

categories: the poor but managing quite well (because of remittances); the poor but meeting some needs; the very poor and destitute – the "hopeless poor" (meeting no needs).

For purposes of this discussion, the "psychological poor" and the "hopeless poor" will be considered as members of the same group of poor. The coping strategies used by this latter group were less developmental and less proactive. They sought to meet the day-to-day needs and did not use strategies that entailed long-term planning. Begging, borrowing and crediting were among their main strategies. The other poor groups utilized their back gardens, saved more, did not beg and had more access to remittances. They made a more concerted effort to send their children to school. The "hopeless poor", who, according to the focus group participants were "psychologically enslaved to poverty", had few opportunities to break their cycle of poverty because their limited awareness personal and public mechanisms and support programmes.

#### Rural/Urban Differences

The participants from the focus groups revealed that there were many similarities by residential areas. Trying to live within one's means and migration overseas was common to both urban and rural residents. Rural residents were more dependent on their livestock and

back garden and rural-urban migration. The urban poor benefited more from the State and being more knowledgeable were able to better access State services. There was more foreign migration among the urban population and "hustling" and illegal activities were also more prevalent among this group.

#### **Gender and Coping Strategies**

According to the quantitative data, although male and female-heads of households use prayers as their main coping strategy, a higher proportion of female-heads (65.6%) compared to male-heads (61.4%) prayed (NHDAC, 2004). Female-heads of households were more likely than male-heads to 'not pay bills on time' and pawn items. From the qualitative data, the main difference by gender was the use of drug trafficking among the males.

#### Coping by Reducing Access to Basic Services

The quantitative data showed that the poor withdrew their children from school in times of economic hardships. This has major implications for their human capital investment and the continuation of intergenerational poverty.

#### Education

Even as they struggle to survive, the poor in Belize do not utilize withdrawal from school as an adaptive strategy. The high value of education among all groups was revealed in the focus group discussions. However, where withdrawal occurs among the poorer groups, this does not appear to be on a prolonged basis. Most make an asserted attempt to send their children to school as they saw education as a "liberating tool" from poverty.

#### **Health Services**

The qualitative data showed that access to health care in Belize was not universal and some very poor persons simply could not afford to seek health care anywhere and watched their sick family members suffer. Many of the poor said that they used herb to heal medical ailments. Among the poor Mestizos, the home remedies got priority because of the high cost of medical care. For the Mayans in particular, access to the bush doctor was an important way of coping with the high costs of health care. "It is better if you go to the bush doctor for snakebite, as the hospital is not as good". The herbs used by the bush doctor are good and he is cheaper.

#### Summary

The quantitative data revealed that more than one-third of households reported experiencing financial difficulties. The corresponding rates are higher for the poorer districts, Orange Walk, Toledo and Stann Creek. Toledo was the only district where the proportion of households with financial difficulties was lower than the proportion of poor households.

When households were faced with financial difficulties, most of them turned to prayers as a coping strategy. Non-poor households were more likely than poor households to pray, while female-heads of households were more likely than maleheads to pray.

The qualitative data showed that the "more hopeless" among the poor were the ones who used the less developmental strategies. The hopeless begged more, over-used their access to credit, borrowed and had no remittances.

The development-oriented social risk management strategies used by segments of the poor were "saving", "using of the back garden" and the pursuit of occupational multiplicity. Poverty reduction strategies could seek to further develop and strengthen these kinds of efforts. What also needs to be harnessed is the high value placed by Belizeans on education.

#### OPTIONS FOR IMPROVING FOOD SECURITY AND REDUCING VULNERABILITY IN BELIZE

The data on food availability indicate that macronutrients (carbohydrates, protein, fats/oils and sweeteners) are above recommended

daily allowance (RDA) in Belize. However, there are severe imbalances in the food availability that must be corrected urgently.

major area of vulnerability in Belize is the high levels of poverty which negatively impact on accessibility to food. The latest estimates for Belize are that 33% of the population is below the poverty line and risk being food insecure. Furthermore, almost 11% of the population is indigent, i.e., unable to meet the food requirements for healthy existence according to the 2002 Poverty Assessment. In rural areas the level of indigent persons is 17%. By district, Toledo is the poorest with the 2002 Poverty Assessment indicating that 79% of persons are poor and 56% are indigent. The Belize district was the least poor overall. Agriculturists are one of the poorest groups by occupation, with non-export commodity producers and citrus growers being the most poor. The Mayan population has the highest levels of the poor (77%) and indigent (54.8%) persons, with Mestizo, Creole Garifuna and other groups with levels at or below 30% and levels of indigence below 10%.

#### Policy Issues

The following policy issues are highlighted based on the research and analysis presented in this report.

 Interventions to Reduce Poverty and Income Inequality: Given the high levels of poverty and Cajanus

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income inequality, investments must be directed at supporting livelihoods. These investments must seek to promote human capital through training, education, greater access to basic health care and social safety net programmes.

- Establishment of food and health goals for Belize: The imperative here is to synchronize food availability, accessibility and consumption/utilization. This is particularly important in light of the interrelationship between food, nutrition and health. A head-start in this direction has been achieved with the approval by Cabinet of "Food and Nutrition Security National Plan of Action, 2005-2010, for Belize". This Plan of Action identifies the following six programmemic areas for action: Information, Education and Communication on Food Production, Preparation and Nutrition; Diversified food production, Food Processing, Marketing, Storage and Credit Mobilization; Maternal and child care, School feeding, and Nutrition for the elderly and the indigent; Creation of employment and income generating opportunities at the local level; Food safety; Analysis and reform of national policies for food and nutrition security.
- More Informed Targeting: Programmes must target rural areas

- and in the districts and groups with high concentration of poverty. The information presented in this report clearly points to the District of Toledo, the urban areas in Belize city, the Maya and Garifuna groups, and farmers.
- Address as a matter of urgency the following sources of vulnerability:
  - Exposure to natural disasters, by establishing:
    - i. Early warning systems
    - ii. Food stocks
    - iii. Natural disaster preparedness mechanisms; and
    - iv. Sound environmental planning.
  - Economic vulnerability, e.g. a concerted effort to respond to loss of traditional preferential markets through:
    - i. Diversification into valueadded agriculture, and
    - ii. Promotion of non-agriculture production and agro-processing
  - Fiscal vulnerabilities e.g., reduce external debt through:
    - i. Fiscal discipline
    - ii. Seek more investment financing rather than capital to service debt.
  - Social vulnerabilities, i.e., respond effectively to:
    - Insecure access to land and natural resources through better staffing

- and functioning of the land administration office
- ii. poorly functioning markets through marketing intelligence and infrastructure
- iii. low quality of education through greater and sustained public expenditure in education and re-orienting the curricula to the needs of the Belizean and CARICOM labour market
- iv. inadequate financial services for the poor, especially savings and insurance by catering to the unique characteristics of farmers, craft workers and other small scale producers through reforming administrative stipulations for credit management.

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#### **SUMMARY & CONCLUSIONS**

The factors which affected the ability of the populations under study to maintain food security include social, cultural and economic conditions, as well as vulnerability in the nations to shocks and disasters. The absence of fully integrated and monitored programmes of poverty alleviation and food relief for the most vulnerable in these nations, acted to negate the effects of what few planned programmes existed, and in most cases (e.g. the PATH in Jamaica) Programme programmes were underutilized due to an absence of information on the mistrust programme or misunderstanding of how programmes worked. Ironically, this lack of proper knowledge and/or understanding of these programmes was uniformly found to exist among the groups which most needed access to the programmes (i.e. the food insecure and those in danger of becoming food insecure) than in the general populace.

Certain basic strategies used by the respondents included: reliance on neighbours, friends and family; borrowing; obtaining relief from political patronage; reducing the size and frequency of meals; and skipping meals. In all three countries, the welfare of children was indicated as most important and it was only when food insecurity reached crisis levels that food to children was reduced or children were asked to skip meals. This dedication to the welfare of children also extended generally to their education, with families willing to sacrifice in order to ensure that children attended school. This was partially a development strategy by the poor as a good education was generally regarded as a road out of poverty and an investment by the parents in their own future.

The effects of globalization, especially as it impacted on the agricultural sectors and balance of payments situation in the three countries was a troubling and universal concern, with serious implications for meeting national food security needs. In particular, the removal or reduction of the barriers between the domestic and international markets has made it necessary for countries to become more competitive in order to be able to compete not only in international markets but also in the domestic market which previously might have enjoyed a high degree of protection. At the very time when food production needs are most crucial, domestic agriculture in the nations has come under pressure from cheaper food imports, causing many farmers to abandon production as they are unable to compete with the cheaper imports. This has put a further strain on the economies as more resources are used to pay for food imports to make up the shortfall created by this domestic agricultural downturn. This greater import bill also means less available resources for the implementation of social programmes to protect the food security of the most vulnerable.

The general consensus as to how this problem of globalization can be solved (in regards to its impact on agriculture) is that the CARIFORUM nations must diversify their agricultural production away from tradition crops which the region can no longer produce competitively and redirect this production into targeted crops which can be produced competitively using the land and human resources available. This will entail a paradigm shift in policy and intensive research, retraining and monitoring of farmers and their support personnel, as well as marketing of the new crops. A major obstacle to this refocusing is the size of most CARIFORUM nations and availability of arable land.

With the exception of small pockets of chronically poor and indigent persons in some nations (and a slightly larger incidence in rural Belize, particularly among the populations) indigenous persons who responded to the questionnaires indicated that food insecurity was seasonal, linked to crop harvesting, fish seasons, national shocks (like hurricanes) and the needs of startup times for the school year. However, the quality of foods consumed by this at-risk Cajanus

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groups while generally meeting the RPGs for total caloric, fat an protein intakes, were skewed heavily towards the intake of fats/oils and sweeteners, while often deficient in fruits, vegetables, and staples. This has implications for the increasing prevalence in the region of nutrition-related chronic diseases such as diabetes, high blood pressure, stroke, heart diseases, and some forms of cancers.

The at-risk groups in the countries studied were generally standard and included: the urban poor; the poor (mainly subsistence farmers); and fisher folk. livelihoods generally have less access to national services (health, educainfrastructural, social economic) and often regarded themselves as "invisible" populations, ignored by government and governmental policies. Their ability to improve their vulnerability status is very limited and in general they lived a "hand to mouth" existence. Their main coping strategies included assistance from friends, family and neighbours; casual work in other sectors; borrowing; and remittances from overseas. Food intake and food quality reduction were also widely used coping methods.

The other glaring need is for an integrated approach using the skills and services of social scientists, health sector workers and agricultural, food and nutrition officers to determine how food security may be strengthened by analyzing the specific needs of vul-

nerable communities and using this information to create national policies on food security and safety. These policies must recognize the seasonal nature of food insecurity in most of these communities and look at the effects of shocks (hurricane, conflicts etc.) and annual recurrent periods of special stress (e.g. the beginning of the school year) on these communities. Policies also must seek to reduce the number of dependent persons per household (the Dependency Ratio) through job creation, skills training and family planning programmes. Policymakers must also recognize the particular need to target households headed by unemployed women, the consensus among these women is that skills training programmes are rarely made available to them by government, and that with such programme their dependence on absent baby fathers and patronage from men could significantly reduced.

An integrated development plan, *inter alia*, will secure more inclusiveness in the policy process. Unless these policy adjustments are made, the livelihoods of the members of these vulnerable groups will continue to be unsustainable. Sustainable livelihoods are the prerequisites for food security. For livelihoods that are vulnerable to food insecurity the State must make the necessary policy re-direction to provide the social protection programmes for these groups.