Towards a ``Farm to Fork`` Model for Food and Nutrition Security in CARICOM Countries

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Presented at UWI, St. Augustine, Trinidad and Tobago
IDRC – DFATD Site Visit
Feb 13, 2014
CARICOM Food Insecurity has taken the form of **overweight & obesity**

- Obesity is high risk factor in **NCDs**, costing **CARICOM 5-8% of GDP** (Hospedales et al. 2011)

- Obesity, especially women, is rapidly increasing, and on the rise among **children**

- Obesity is linked to **low consumption of fruits & vegetables**, high intakes of fats, oils and sugar- Poor consumer food choices and lifestyles;

- High **food import bill** (US $5 bil/yr) – energy- dense food types

- Institutional and **market constraints** on domestic production of nutritious food

- **Seasonality in crop and livestock productivity**, floods and droughts

- **Limited Institutional Capacity**
TRENDS IN CARICOM AGRICULTURAL TRADE IN CROPS AND LIVESTOCK PRODUCTS 1990-2011

Source: J. R. Deep Ford 2013; FAO
# Food Availability in the Caribbean

Table II.1: CARIFORUM Food Availability (Calories/Grams), Selected Periods.

<table>
<thead>
<tr>
<th>Food Availability</th>
<th>Availability&lt;sup&gt;1&lt;/sup&gt; (Calories/caput/day)</th>
<th>RPG&lt;sup&gt;2&lt;/sup&gt;</th>
<th>2000-02 Surplus (+) or Deficit (-) relative to RPG (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1991-03</td>
<td>2000-02</td>
<td></td>
</tr>
<tr>
<td>Total Food Calories</td>
<td>2,933</td>
<td>3,071</td>
<td>2,250</td>
</tr>
<tr>
<td>Carbohydrates</td>
<td>1,766</td>
<td>1,825</td>
<td>1,238</td>
</tr>
<tr>
<td>Protein</td>
<td>313</td>
<td>336</td>
<td>225</td>
</tr>
<tr>
<td>Fats/Oils</td>
<td>746</td>
<td>802</td>
<td>450</td>
</tr>
<tr>
<td>Fruits/Vegetables</td>
<td>215</td>
<td>238</td>
<td>337</td>
</tr>
<tr>
<td>Sweeteners</td>
<td>393</td>
<td>424</td>
<td>180</td>
</tr>
<tr>
<td>Staples&lt;sup&gt;3&lt;/sup&gt;</td>
<td>967</td>
<td>974</td>
<td>1012</td>
</tr>
</tbody>
</table>

<sup>1</sup>Calories/caput/day; <sup>2</sup>Recommended Population Goal; <sup>3</sup>Staples=Cereals + Starchy Roots

Obesity Trends in CARICOM

Motivation for the Project

Source: CFNI
**Prevalence of Overweight / Obesity in the Caribbean in > 30 years old**

![Bar chart showing prevalence of overweight/obesity by country and gender.](chart.png)

Source: J. R. Deep Ford 2013; FAO
Changes in Childhood (0-5yr) Underweight and Overweight Status During a decade

Source: CFNI

- Under Weight:
  - 2000: 4%
  - 2010: 3%

- Over Weight:
  - 2000: 6%
  - 2010: 13%
Key Regional Documents

- **Nassau Declaration** – *Wealth of the Region is Health of the Region* - 2001
- **Jagdeo initiative** 2005
- **CARCOM Commission on Health and Development**- 2005
- **CARICOM Food and Nutrition Security Policy**- 2005
  - *National Food and Nutrition security Policy*
  - *National Action Plans*
- **Port of Spain Summit Declaration on NCDs** - *Uniting to stop the Epidemic of NCDs* - 2007
- **Raising the Priority of Chronic NCDs in the Caribbean** – Hospedales et al. 2011

Data Collection projects - CWA 2013 Reports to COTED

- **FAO**- School feeding project (Antigua)
- **CIFSRF CARICOM Project** 2011-2014- four country integrated “farm to fork” project (St. Kitts, Trinidad & Tobago, Guyana, St. Lucia)
CIFSRF CARICOM Project: Contributions to Solutions

- Generate scientific and integrated knowledge and findings as a model to inform policy action

- Build regional, national and Canada-CARICOM partnerships for collective action

- Strengthen efforts in capacity building and "research for development"

- Take a multi-sectoral approach to food and nutrition security linking agriculture, health and education

- Engage school feeding programs, small holder farmers and community actors as vehicles to effect change, market development & innovations for food security.
Agriculture Health Policy

Framework for change

CHANGE

Policy instruments

School Feeding

Small Farmer Technology

Effort

Build partnerships

Knowledge generation

Agriculture

Health

NCD’s

Time

Resources
Project Goals

- Improve nutrition & health outcomes of CARICOM populations through availability of foods that would increase intake of vegetables & fruits, decrease caloric intake, and increase micronutrient intake;

- Develop food production systems based on agricultural diversification, water conservation & efficient use of land;

- Understand constraints to, and accelerate the rate of technology adoption by small farmers;

- Adapt international standards of food safety and quality for a healthy, market-oriented food supply chain;

- Build and test a Farm to Fork Model for CARICOM food and nutrition security;

- Expand and build human and institutional capacity to solve problems of food and nutrition insecurity in CARICOM;
From Farm

Socio-Economic Studies
- Consumer and Farmer Household Surveys
- Focus groups on innovation & technology adoption

Market access
- Post-Harvest Loss Management
- Food Safety and Quality

Policy Changes for Sustained Food Security in CARICOM

To Fork

Water and Land Resources
- Drip Irrigation, Water and Soil Conservation
- Protected Agriculture
- Open Field Crop Diversification
- Silage conservation for Small Ruminants

Environmental Management

Gender Consideration

Community Nutrition and Health
- Improving the quality of School Meals
- Nutrition Education
- Consumer food choices

Farm to Fork: Impact pathway

…and beyond
CIFSRF CARICOM
Food Security Project

Project Targets: “Community Change Agents”

Children, Caregivers, Women, School Meals staff, Small holders farmers, Policy makers
Overall Goal: Improving nutrition and health of CARICOM population through sustainable agricultural technologies that increase food availability and diversity of food choices

EXPECTED OUTCOMES

- Increased year-round supply and diversity of fruits and vegetables
- Adoption of good agricultural practices for food safety and quality
- To influence policy makers on food and nutrition security policy
- Development of a sustainable “farm to fork” model for CARICOM food and nutrition security
- Healthy changes in body mass index and diet diversity through increased intake of fruits and vegetables

EXPECTED OUTCOMES

- "Jagdeo Initiative"
- "Caribbean Commission on Health and Development"
• Food matters in prevention of obesity and overweight

• Adequate level of fruit and vegetable consumption play a role in weight control

• Targeting School feeding programmes and children for healthy eating is a useful strategy to improve regional food and nutrition security

• programmes promotes market and community development Linking small holder farmers to school feeding

• CARICOM Governments, private sector and “community actors” will support development of local farming and child nutrition programmes

• Development of a “home-grown school feeding farm to fork model (value chain approach ) has utility and will garner regional support among policy makers
Model Elements

**Socio-economics & Behavior**
- Innovations in farming systems
  - Social capital/Social learning
  - Technology adoption
  - Market development

**Agriculture Technology**
- Productivity/availability
  - Diversity
  - Sustainability

**Community Nutrition & Health**
- Obesity/NCDs
  - Child nutrition & health
  - School feeding
  - Food safety

**Community & Market Development**
- Improved Livelihood

**Policy & Institutions**
- Community Actions

**Towards CARICOM Food & Nutrition Security**
- Small farmers
  - Children
  - Women
CONCEPTUAL FRAME FOR AGRICULTURAL DEVELOPMENT AND FOOD & NUTRITION SECURITY

- Agricultural technology
- Food procurement
- Consumer Food choices
- Policy Incidence
- School Feeding & Market Development
- Community food & nutrition security
- Improved farmer livelihood
- Community health & development
• **School feeding** programs are underutilized vehicles for reversing the obesity trends in CARICOM while providing market opportunity for **small holder farmers**;

• Findings from the Project could serve as a useful **farm to fork model** for regional application in finding solutions to CARICOM food and nutrition insecurity
Acknowledgements

Funding for this project was provided by The Canadian International Food Security Research Fund (CIFSRF) a program of Canada’s International Development Research Centre (IDRC) undertaken with the financial support of the Government of Canada provided through Foreign Affairs, Trade and Development Canada (DFATD).

We acknowledge the Project Partners, researchers, students, research assistants and field staff for their support and contribution to the research conducted under the CIFSRF CARICOM Project. We also express, on behalf of the Project Team, deep appreciation to our IDRC Officers, Drs. Renaud De Plaen and Susan Robertson, for their unwavering support and encouragement during the conduct of the project.

Special appreciation is expressed to Patrick Cortbaoui and Raffaella Carvalho for their assistance and dedication during the preparation of the presentation.
THANK YOU