

**THE FOOD AND AGRICULTURE SECTOR IS
CENTRAL TO SUSTAINABLE DEVELOPMENT
OF CARIBBEAN ECONOMIES**

By

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Introduction

1. Coming back to the Caribbean after a long absence, there still seems to be some doubt in the mind of policy makers about the role of the Food and Agricultural sector in national development.

This doubt is vividly expressed by the rather small allocation that is given to Ministries of Agriculture when the national budget is prepared. For example, in Jamaica, only 0.9% of Government expenditure is allocated to Agriculture. When compared to other sectors and to other countries of the developing world this is miniscule (see Table 1 from an address by the Minister of Agriculture of Jamaica to Parliament in 2010).

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Table 1: Proportion of Government Expenditure Allocated to Agriculture (2005)

Region	Percentage
Sub Saharan African	6.3
Africa	5.0
Asia	6.5
Latin America	2.5
Jamaica	0.9

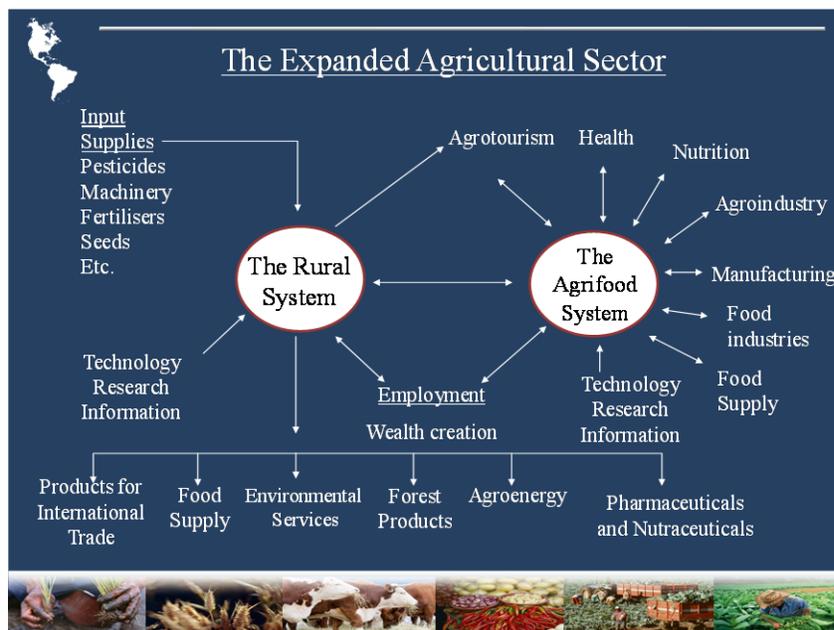
Source: International Food Policy Research Institute and Economic and

*Social Survey of Jamaica****NATIONAL STATISTICS UNDERESTIMATE THE CONTRIBUTION OF THE FOOD AND AGRICULTURE SECTOR TO DEVELOPMENT***

2. This miniscule contribution to agriculture in my view is based on a general misunderstanding of the real contribution of agriculture to economic development, on one hand and a apparent desire to abandon a sector that has been associated with slavery, low wages, economic exploitation by the colonial masters and a sector that is perceived to be backward and inefficient.
3. Those who hold this view are unaware that the Food and Agriculture Sector of an economy comprises two interrelated systems. The primary agriculture production system and the agrifood system. The primary agriculture production system consists of the production of crops, livestock and forest products. The agri-food system consists of the processing, marketing, distribution and consumption of food products. This continuum results in the consideration of commodity chains.
4. Official statistics often measure the contribution of primary agricultural production to gross domestic product and the results derived from these measurements are often single digit percentages.

5. The contribution of the Food and Agriculture Sector (or the expanded agricultural sector) is much greater than what is reflected in national statistics because it includes all backward and forward linkages to other sectors of the economy. For example food processing, food distribution, input supplies, transport, storage, agribusiness, contribution to exports, agro-industry, the food industry, financial services for agriculture, employment in the primary and associated activities are all part of the expanded agricultural sector.

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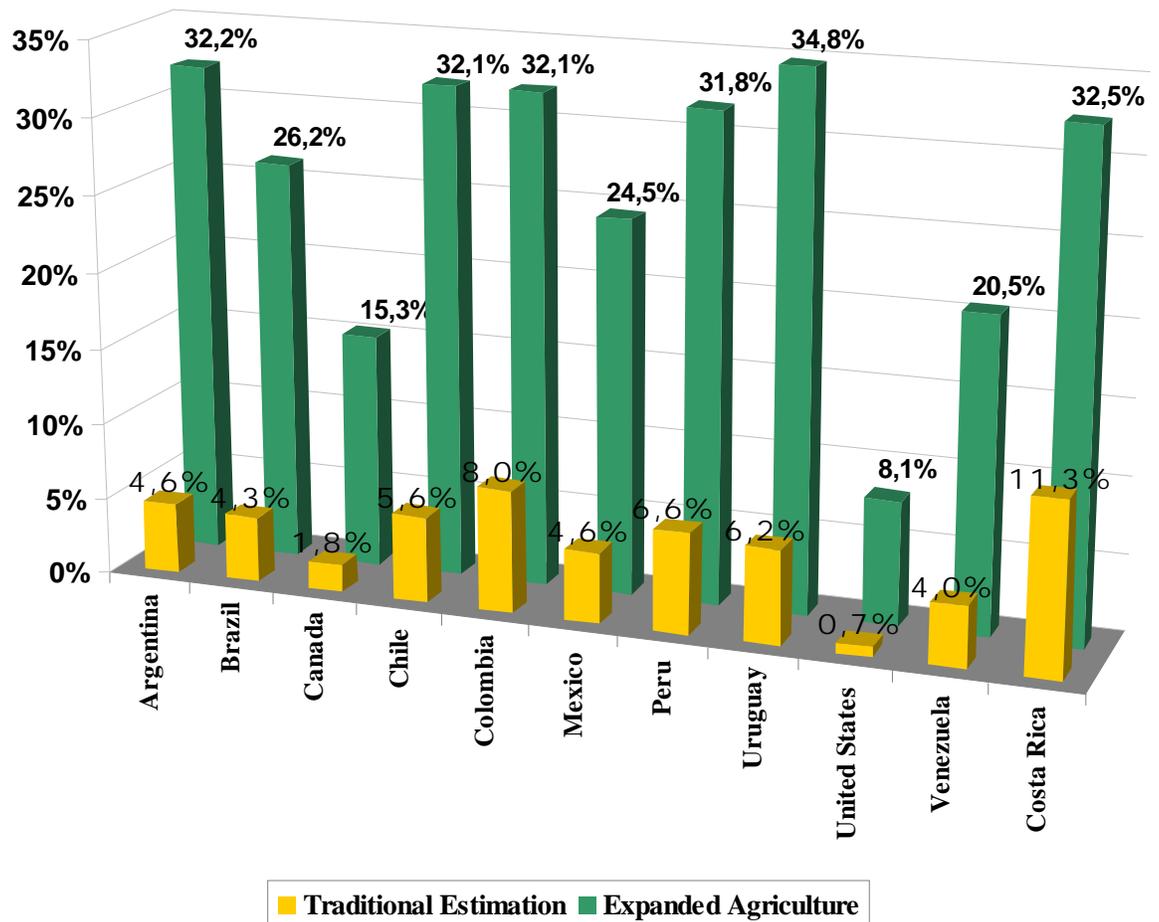


6. When I was Director General of IICA we attempted to measure this expanded contribution of Agriculture to national development using the concept of the social accounting matrix and we found that when all the backward and forward linkages in the commodity chain are considered and measured, the Food and Agriculture Sector's contribution to national development is 3 to 7 times higher than the percentages reported for agriculture in national statistics.
7. For example, our study shows that in Argentina, the official statistics indicate that the agriculture sector contribution to GDP is 4.6%, but when we consider all the backward and forward linkages this figure increases to 32.2%.

Gross Domestic Product and Value Added		
Country	Primary Agriculture (AgGDP/GDP)	Food and Agriculture Sector (GDP Expanded Agriculture/GDP)
Argentina	4.6%	32.2%
Brazil	4.3%	26.2%
Canada	1.8%	15.3%
Chile	5.6%	32.1%
Colombia	8.0%	32.1%

Mexico	4.6%	24.5%
Peru	6.6%	31.8%
Uruguay	6.2%	34.8%
United States	0.7%	8.1%
Venezuela	4.0%	20.5%
Costa Rica	11.3%	32.5%

8. In Brazil, the figure grows from 4.3% to 26.2%, in Chile from 5% to 32.1%, in Mexico from 4.6% to 24.5%, and in Costa Rica from 11.3% to 32.5%. In the Dominican Republic, Belize, Jamaica and Trinidad and Tobago a similar trend has been recorded and the study is being expanded to all countries of the Hemisphere. In a recent study in Jamaica, the figure moved from 6% to 12%.of GDP.

SLIDE 4**Contribution of the expanded agricultural Sector to GDP**

9. The study also shows that some 75% of primary production is used to generate wealth and employment in other activities such as agribusiness, processing and agro-industry.

10. There is also a prevailing misconception in the development literature that agriculture's importance in an economy declines as a country moves from developing to developed status. This misconception is only true if we see agriculture as primary production, however, if we see agriculture as agribusiness with all its linkages to other sectors of the economy, then the sector contribution to development increases.

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A New concept of Agriculture

11. These understandings of the role of Agriculture in development have led to the development of two modern concepts of agriculture the first is the **Agribusiness sector** the second is the **Bioeconomy**.

12. Agribusiness Sector includes all activities and all enterprises that derive their existence based on agriculture and involve food processing, input supplies, output activities or manufacturing based on agricultural inputs . For example all the Kentucky Fried Chicken outlets, The Mc Donalds , Burger Kings and Subways and Starbucks and the suppliers of agricultural machinery, suppliers of pesticides and fertilizers are all agribusiness enterprises, their business success depend on the production or availability of agricultural products.

13. The Bioeconomy

The Bioeconomy is the new concept of a revolutionary paradigm for agriculture which is defined as the “sustainable production of renewable biological resources and their conversion into food, feed, energy and industrial products derived from biological materials”. This new concept strengthens the relationship between agriculture and industry making them an integral part of the same process thus giving agriculture an expanded space among the sophisticated industries of the world. The countries of the developed world continue to be leaders in the use of biotechnology, bioinformatics, nanotechnology, information technology, synthetic biology, genetic modification of living organisms and DNA cloning and sequencing. The new bioeconomy involves not only the production of food, energy, pesticides and fertilizers but also the production of pharmaceuticals, vaccines, antibiotics, functional foods, nutraceuticals, cosmetics and fragrances.

14. Around the world today, there is renewed emphasis on agriculture. The sector is now viewed as a strategic sector for addressing the issues of economic growth, rural poverty and employment, hunger and sustainable development. It is not surprising therefore to see that several countries have increased their investment in their food and agricultural sectors and most bilateral and multilateral agencies have placed agriculture and food security on their development agenda and are allocating resources to increase investment in the sector.

15. In summary, Governments around the world and policy makers have realized that the competitiveness of the Agricultural sector cannot be based solely on the contribution of primary production but also on the linkages to the rest of the economy and the sector must be valued for its contribution to economic growth, social stability, environmental sustainability and food security.

16. **SLIDE 6**

Agriculture in the Caribbean

The lack of an appreciation of these concepts has led many Caribbean countries to adopt a development model that is anti-

agricultural and anti-rural. The recommended approach to economic development is based on industrialization and favoured growth of urban- based sectors e.g. Tourism, financial services, information technology and other glamorous sexy sectors have been promoted but the production of food ,the most basic necessity for life has been ignored.

Here in Barbados for example there are those in our society who believe that

- 1 we should abandon the agricultural sector and invest in a true service economy based on tourism and financial services .
 1. that we should create a tourist resort for the rich and famous.
 2. sell our land to the highest bidders for real estate and golf courses and
 3. we should import all our food from over and away

It is now becoming clear to all that a service economy that produces nothing to sell except sea and sand is not sustainable. We need our agricultural sector and our manufacturing sector working together in agro-industries to help drive our economy and create employment opportunities.

I am aware that agriculture brings back memories of the past when sugar was king and West Indians had to work hard on the plantations for miserly wages that barely kept them alive. I am not here to speak about those days, I am here to say that around the world today a Food and Agriculture Sector that is modern and technology driven can play a critical role in economic development because of its multiple linkages to the rest of the economy and because food is a basic requirement for human existence.

As a result of this model, there has been :

- A large, disproportionate allocation of public investment funds for these glamorous sectors/ urban sectors.
- The concentration of population in urban centres. Their political importance results in greater public investments in services for urban areas.
- Greater inflow of private investment in urban areas as a result of the externalities from public investments.
- The continued inequality between urban and rural areas, despite economic reforms implemented in the mid-1980s and during the 1990s.
- A limited inflow of resources and improvement in infrastructure in the rural areas due to inappropriate public policies on investment, trade and taxes.
- The spill over effects of increased rural poverty into urban areas.
- An increasing proportion of the national budget being allocated for investments to solve the growing problems in the cities.
- A rise in violence and growing social and political insecurity in the rural economy due to the urban-rural imbalances; and
- The continued competitive disadvantage of the rural sector, despite investments in areas with much potential.

- A dependence on imported food to the tune of 3.5 billion US dollars today.
- This imported food has now resulted in a population ravaged by chronic non communicable diseases – diabetes , hypertension and obesity and high health care costs.
- Lack of employment opportunities in the economic activities that are derived from the linkages of agriculture to other sectors of the economy.
- The need to generate scarce foreign exchange to buy basic food items

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The need for a new development model.

17. Sir Arthur Lewis, celebrated economist and the first person from the Caribbean to win the Nobel Prize (the first black Nobel Laureate in Economics) recognized the importance of agricultural development in his celebrated work “The theory of economic growth” published in 1955.
18. Recently Professor Norman Girvan in a lecture delivered on February 20th 2008, to mark the launch of the year of Sir Arthur

Lewis in commemoration of the first Caribbean Nobel Laureate wrote and I quote:

“A second lesson that has continued relevance is the importance of effecting an agricultural revolution. By raising the productivity of domestic food production, the supply price of labour to the commodity sector would increase. This would counter the tendency for declining terms of trade; raise rural incomes, creating a market for the goods produced by the industrial sector and facilitating all-round improvements in living standards.

19. Hence, Lewis regarded the agricultural revolution in developing countries as equally important to the industrial revolution. In his 1950 article on West Indian industrialisation he was at pains to point out that industrial and agricultural development in the region were not alternatives but had to proceed in tandem with one another. Unfortunately, governments in the Caribbean and in many parts of the developing world have often failed to appreciate this simple truth.
20. Everywhere today we are seeing the results of decades of neglect of the domestic agricultural sector, in the form of rural poverty, rural-urban migration and the growth of urban mega-cities with the

attendant social pathologies. Lewis's legacy calls on us to redress the imbalance by raising the return to agricultural activity, by making the conditions of rural life more attractive, by investing in human and physical capital for the agricultural sector and by providing the other kinds of government support needed"

21. I am convinced that in order to become developed countries and reduce our vulnerability to external shocks, we must change our allocation of public finances and allocate more resources to the promotion of agriculture, entrepreneurship and food security.
22. By focussing on food security of the nation, we should produce more of what we consume, create more employment opportunities in the food services sector and contribute to reduction in unemployment and poverty.

The need for Green Revolution in the Caribbean.

"I am convinced that **we need a new green revolution in the Caribbean** that focuses on the development of our agricultural resources for food security.

1. We must change our Ministries of Agriculture to Ministries of Food and Nutrition Security.

2. We must educate our people about the health and nutritional value of our own foods.
3. We should not import any product that can be produced locally.
4. We need to develop an agricultural sector that incorporates an agroindustrial complex based on food processing, agroindustries, marketing, input supplies and output-related services, transport, storage, refrigeration, packaging etc, as a basis for rural prosperity and the provision of rural and urban employment. A new approach that understands that the value added from agricultural output is as much as four times the value of primary production and that a dollar spent in agriculture is recycled at least six times in the economy which is more than any other sector.

THE IMPACT OF THE UNDER ESTIMATION OF THE REAL CONTRIBUTION OF AGRICULTURE TO ECONOMIC DEVELOPMENT

23. Underestimating the importance of food and agriculture industries in economic development has had a series of negative consequences. The true contribution made by agriculture and agricultural professionals to national development is not

recognized; agricultural research, training and education is under-funded; young people have little interest in a career in agribusiness; rural infrastructure and investment in the sector are under-funded; there is a bias toward urban areas in the allocation of national resources; and, high dependence on imported food.

24. In addition, we have failed to develop a viable agro-industrial sector based on local raw materials. In Jamaica, for example, only 39% of primary agricultural production is transformed into intermediate or processed products (Table 2).
25. In recent times several countries of the Caribbean have prepared development plans which project the goal of achieving a developed country status by 2020.

Table 2 Comparison of the Proportion of Primary Agriculture Contributing to Intermediate Demand for Countries in the Americas

Country	% of Primary Agricultural Production Going to Intermediate Demand*
Argentina	69.2
Brazil	72.0
Canada	73.9
Chile	66.8

Columbia	54.1
Costa Rica	56.9
Jamaica	39.0
Mexico	64.9
Peru	54.4
United States	79.8
Uruguay	65.3
Venezuela	60.7
Average**	73.8

Source:

1) *More than Food on the Table, Agriculture's Contribution to the Economy, IICA 2004*

2) *Contribution of Agriculture to Sustainable Development in Jamaica, IICA 2009*

* *Serving as inputs to the rest of the economy, inclusive of Agro-processing, hotel and Restaurants.*

** *Weighted average excluding Jamaica.*

Agriculture and Agrifood vs. Primary Agriculture

Traditional measurements of agriculture's contribution to grow domestic product suggest that it is declining and that, on average, it is less than 10%. Measured in this way, the agricultural gross domestic product (AgGDP) of the countries studied in the Americas was around 7% in 1997 (Costa Rica was the exception, at roughly 11.34%).

If agriculture's contribution is calculated using the extended approach that takes into account its interdependence with the food and agroindustry sector, the figures are usually higher than those of official statistics. Measured in this way, AgGDP ranges from 8.12% in the case of the United States to 34.75% in the case of Uruguay.

This new indicator suggests that agriculture and agrifood's true contribution to GDP is considerably greater, ranging from three times more (in the case of Costa Rica) to a maximum of 11.6 times for the United States. This means that, except in the United States, Canada and Venezuela, where the percentage is lower, in the countries studied agriculture and agrifood contributed around 30% of GDP during 1997. This is much higher than reported by official statistics (7%).

Source: More than Food on the Table, Agriculture's Contribution to the Economy, IICA 2004.

26. There is the general view that we are indeed on our way to reaching this goal. This presentation presents the view that it will be difficult to reach a developed status unless and until the state of food insecurity in the Caribbean improves and food security becomes a priority in national development plans.

Slide 8

Food Security as a national priority

27. A nation is food secure when all its citizen have access to affordable, nutritious food at all times to satisfy their basic daily nutritional requirements for a healthy productive life.

28. The Caribbean is the most food insecure regions of the Hemisphere. Recent increases in commodity prices worldwide will exacerbate the problem unless and until Caribbean countries adopt national policies and strategies to increase the production, distribution and access to affordable food.

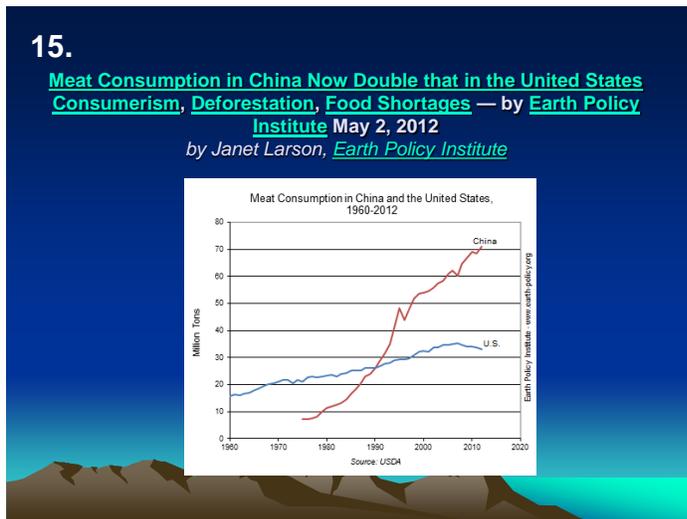
29. Food prices in the world will continue to rise for four basic reasons.
 1. continued high price of oil, now at more than \$100 per barrel, will increase the cost of inputs for food production and the cost of transportation of food.

 - (b) The continued high cost of oil will continue to divert more corn and more land to the production of ethanol and other bio-fuels.

 - (c) As the world demand for food increases due to higher incomes, population growth and urbanization especially in the developing world, world food prices will increase.

- (d) Climate change which results in floods, droughts and hurricanes will continue to reduce available food supplies.

SLIDE 14 - Meat consumption in China



According to a recent report from the **Earth Policy Institute** meat consumption in China is now double that in the U.S.A.

30. More than a quarter of all the meat produced worldwide is now eaten in China, and the country's 1.35 billion people are hungry for more. In 1978, China's meat consumption of 8 million tons was one third the U.S. consumption of 24 million tons. But by 1992, China had overtaken the United States as the world's leading meat consumer—and it has not looked back since. Now China's annual meat consumption of 71 million tons is more than double that in the United States. With U.S. meat consumption falling and China's consumption still rising, the trajectories of these two countries are determining the shape of agriculture around the planet

Food Security and Health

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31. When most people are asked about what is the most important factor for happiness today, good health is at the top of their concerns. The achievement of good health is not determined by medicine alone but also by exercise and the consumption of good nutritious food. The World Health Organization considers food safety, nutrition and the promotion of a sustainable food supply as the three pillars for the development of a nation food policies
 32. A policy on food security and the implementation of appropriate strategies can help us to reduce the high cost of food in the Caribbean, can assist in the consumption of foods that help to reduce the incidence of life style diseases such as diabetes and high blood pressure and can provide the basis for the consumption of more of what we produce.
 33. According to the Caribbean Food and Nutrition Institute:
“Over the past 25 years notable changes have occurred in the Caribbean region with respect to food and nutrition. The countries have experienced substantial improvement in food available for consumption, as evidenced by the food balance sheets produced by the Food and Agriculture Organization of the United Nations (FAO). Meanwhile, dependence on imported food has increased and a diet typical of developed countries has largely supplanted the

traditional diet. At the same time, nutritional problems have undergone an epidemiological transition: under-nutrition, manifested by energy-protein malnutrition, has declined, while over-nutrition, evidenced by obesity – especially in adult women – has become common. In some countries more than half of the adult females and over a quarter of the males are reported to be obese. It is not surprising that these countries also report high mortality due to nutrition-related chronic diseases such as diabetes, high blood pressure, coronary heart disease, stroke, and cancer. Recent reports showed that about 30% of all adults 35 years and over are hypertensive and 12% - 15% suffer from diabetes mellitus. Available evidence indicates that chronic disease problems are growing rapidly in the region”

34. More recent research undertaken by Dr. Hennis, Head of the Chronic Disease Research Centre estimates that of the 190,000 Barbadians aged 20 years and older, 90,000 are overweight, 38,000 suffer from hypertension or high blood pressure, 19,000 are diabetic, and one person suffers a stroke every day.
35. As the world becomes a global village, and as we assume the eating habits and culture of the developed world, we have become

willing participants in and victims of a phenomenon known as epidemiological transition – the major cause of disease and death is no longer infectious diseases, but it is now both infectious and chronic diseases – The so-called double burden of disease.

Food Security and Tourism

36. Recent statistics show tourist arrivals in the wider Caribbean of 20 million tourists per year .
37. If we were to calculate the number of breakfasts, lunches and dinners consumed by 20 million visitors and translate this into the thousands of tons of fresh and processed fruits, vegetables, seafood, meat and dairy products, and bottled water, we would be astounded by the value of foreign exchange being leaked in imports of these food items (I am told that the leakage ranges from a high of 85% in the Bahamas to around 45% in Barbados).
38. The other side of the coin is of course, the tremendous business opportunities for the Caribbean region to supply fresh Caribbean food for its visitors. We must ensure that our tourists sample Barbados black belly lamb, Jamaica ackee and salt fish and

Guyana pepper-pot and Trinidad and Tobago Roti as part of their gastronomic experience. When we also consider the craft and artisanal products derived from animal hides, straw, seeds, roots and grasses for the souvenir market, (the majority of which are now imported from China), we see the potential for the utilization of the by-products of food production to service a high-value niche market.

39. Consumption of local foods also validates our culinary heritage for the growing surge of “foodies” who are visiting the Caribbean seeking the ultimate gastronomic experience.
40. It also means that land remains in agricultural production while promoting rural stability. Farmers can realize increased farm-gate incomes from tourism-related revenue and achieve sustainable livelihoods in the rural areas without creating social problems by migrating to the cities.
41. Forging Agriculture-Tourism linkages offers unprecedented opportunities to stem and reverse the declines in traditional agriculture, stimulate the rapid growth in ‘new’ agriculture and build resilience and sustainability of Caribbean economies. The rejuvenation of the rural sector through the establishment of

tourism sites and attractions which focus on preserving agricultural traditions and cultural identity, will aid in reducing poverty in rural communities, enhancing environmental responsibility, and giving 'at risk' youth viable alternatives for sustainable livelihoods.

Agro-tourism Linkages have benefitted major hotel enterprises in the Region, such as, Sandals, Holiday Inn and Four Seasons, who have shown that they can benefit both from price and quality by purchasing locally within a pre-agreed and organized programme.

42. Again, the expansion of greenhouse production greatly facilitates this mutually beneficial linkage by increasing reliability of supply and the quality of the products. Sandals, St. Lucia has reported savings of over a million dollars per year by sourcing fruits and vegetables locally. I have recommended that the future construction of Hotels in the region include greenhouse facilities for fruit and vegetable production.
43. We need to promote as part of our unique tourism product culinary, health and wellness, and agro-heritage tourism in the Caribbean Region. A spectrum of investment opportunities, ranging from direct investment in production, distribution and

marketing, to joint ventures for local tours and trans-Caribbean plantation routes and Diaspora trails exist. Opportunities in greenhouse, hydroponic and organic production systems to supply hotels, restaurants, and spas with local products also exist. We should also promote fruit orchards and the production of cottage preserves for distribution in the Caribbean. In addition, the franchising of signature Caribbean restaurants also presents investment opportunities.

44. It would be remiss of me if I did not mention the Caribbean Sea. We must invest in new technology, research and training in efforts to exploit the enormous potential of the Caribbean Sea, recognizing that the sea is not only for bathing, cruising and surfing, but as a source of protein from high quality fish and other marine life.

Food Security and National Development

45. Food security also implies the need to ensure food access for the vulnerable groups of the Caribbean society, the elderly, children of school age, pregnant and lactating mothers and those still in poverty. In addition, from the point of view of good health, national and regional strategies in food and nutrition must be fundamental to the building of productive, healthy societies.

46. There is clear evidence of linkages between economic growth and nutrition. Improved nutrition results in economic growth through human capital formation and increased productivity. Poor nutrition results in low labour productivity, poor health and low levels of educational achievement.
47. It is also important that we see the consumption of local food as a strategy for crafting the tastes and preferences of this and future generations in order to preserve our culinary heritage and traditions and reduce foreign cultural penetration.
48. Food security is a political, social, environmental and economic issue and the pursuit of food security policies and strategies cannot be judged exclusively on the basis of economic efficiency criteria. The developed countries are spending about \$1 billion dollars per day to maintain their food security. While it is clear that the Caribbean cannot do the same, appropriate steps must be taken to
49. Agriculture is not only about helping marginal poor farmers; the agricultural sector is a strategic sector of our economy based on science that contributes to food security for the nation, national and

social stability, preservation of the environment and the generation of employment opportunities.

50. A prosperous agricultural sector which promotes economic growth, employment and rural prosperity is a prerequisite for poverty reduction and the promotion of food security.

51. In their recent book on the political economy of Food and Agriculture in the Caribbean – Dr. Belal Ahmed and Dr. Sultana Afroz note and I quote from their section on Dependence on foreign food:

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

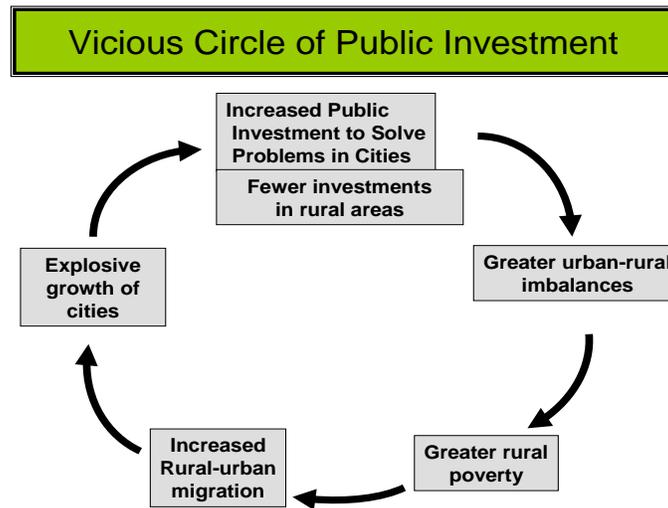
52. “There may be more imported exotics such as caviar, frog legs, lobster tails, clams, mussels, oysters, ham, turkey, liquor, etc on the supermarket shelves, but these are symbols of growth without development, food without security. Dislocation in the international trade and commodity prices and the devaluation of local currencies increase the vulnerability of food security” end of the quote.

A New Development Model

53. Mr. Chairman, distinguished guests ladies and gentlemen, we need a new development model and a green revolution that break with the colonial legacy of imported food, that values our land as a resources for the production of food, water and energy and not only as a resource for recreation and real estate.

SLIDE 13

54. The new model will examine and change the vicious circle of public investment currently oriented to urban activity.



The vicious circle of food insecurity

55. The increasing migration of the rural people from the rural areas results in less agricultural production and consequently, the government then imports more food (normally cheap food) to satisfy urban demands which further undermines the capacity of the rural sector to produce. This results in another vicious circle of food insecurity.

FACTORS LIMITING SUCCESS IN THE IMPLEMENTATION OF FOOD SECURITY PROGRAMMES IN THE CARIBBEAN

I am aware that previous efforts to increase food production in the Caribbean have met with many challenges in the recent past.

According to a recent CARICOM document “domestic food crop production has been a by-product of export agriculture, largely relegated to marginal lands and encouraged primarily as a means of reducing the cost of feeding the plantation workers. At the same time, the marketing and distribution system, port and transport infrastructure and customs procedures were geared to facilitating food imports. This has given rise to a strong and continuing national and regional preference for imported agricultural goods and services that is now being further fuelled by changing lifestyles and tastes.

Indeed, together with the vested interests that have arisen around it and the strong acquired taste and preferences for foods that are not produced in the region, this situation has resulted in declining levels of demand for local food commodities that have constrained the growth of the regional food sector and the emergence of a vibrant food processing and distribution sector based on domestic food production.

As a result, the greater (and increasing) part of the food products consumed in the Region is imported in a raw or intermediate state for further processing e.g. wheat, maize, soybeans, grains, to be transformed *inter alia* into flour, animal feed and beverages. Thus the Region is almost entirely dependent on foreign producers and processors for supplies of the main food.” Another CARICOM document also identifies a number of constraints to food production in the Caribbean. These constraints are classified into six categories.

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- *Profit constraints*, particularly the need to balance high and rising input material costs (e.g. for processed/imported inputs and packaging) with small, fragmented and income-restricted markets;
 - *Policy constraints*, including national tariff policies that add costs throughout the value chain;
 - *Institutional constraints*, including lack of supporting regional/national bodies for research & development, risk management, information management, health/food safety & standards certification (e.g. HAACP, EUREPGAP) and “on the ground” extension services for farmers;
 - *Infrastructural constraints*, including lack of appropriate processing capacity, production structures, standard-certified machinery and production facilities;
 - *Human resource constraints*, particularly high/rising labour costs, weak human resource management, insufficient vocational-technical training and a lack of an entrepreneurial, commercial mindset among some smaller regional producers, particularly in terms of training in key business concepts (e.g. profits fixed, variable and unit costs, operating margins, budgeting and record-keeping); and
 - *Services constraints*, particularly with respect to high costs from airlift and sea freight, local transportation, port inefficiencies, security/insurance and product marketing.

These constraints are very much part of the Caribbean food production scenario and unless removed or reduced will continue to make the achievement of food security difficult.

Financing Agricultural Development

56. Since the 1980's, support for agricultural development and investment in agricultural technology and innovation has been on the decline in many of our countries. Official development assistance has also declined substantially. For example, In 1980, 30% of annual World Bank lending went to agricultural development projects but this declined to 12 percent in 2007.
57. Many development banks have eliminated their agricultural development departments including our own Caribbean Development Bank
58. Now is the time to provide appropriate financial assistance to the sector and to strengthen government budgets for agricultural development.
59. For increased food security in any nation, we need financial institutions that recognize that the Food and agricultural sector can

be good business. I am told that in a certain developing country which I will not name, 62% of all credit is for credit card debt and consumption, 33% to support government debt obligations and 5% to the agricultural sector. Development is difficult if the productive sectors of the economy are underfinanced.

60. For increased food security in any nation, we need farmers. Farmers who are entrepreneurs, farmers who recognize that their farm is a business enterprise and that they as business managers must acquire management skills, knowledge and technology to become competitive and to make business decisions about investments, the market and prices. This calls for a new generation of farmers, who are younger and better educated.

61. National Sovereignty and National independence cannot be totally achieved in the absence of food security. A firm commitment to action is necessary; we will become developed countries when the welfare of our farmers and the food security of our nation are priority issues on our development agenda.

Some Possible Components of a Caribbean Regional Food Plan

62. The Caribbean Food Plan must build on the current Jagdeo Initiative for agriculture and must take advantage of recent efforts to deepen the regional integration process through the establishment of the Caribbean Single Market and Economy (CSME). The Plan must promote joint actions to take advantage of national comparative advantages such as land, water and markets and must be based on a strategic partnership between the governments and the private sector.
63. Regional enterprises in Livestock, Poultry, Cereals, Legumes, Tropical Fruits, Root Crops and Vegetables should be established within the context of a Regional Agricultural Policy linked to the Caribbean Common Market and Economy.
64. Agroprocessing industries based on locally produced crops for Food and Animal Feed should be promoted and these industries should be linked to the local market and the tourist industry.
65. Land reform programs must be implemented to provide land to landless farmers and agricultural lands should not be approved for real estate or recreation.

66. A Regional Agricultural Insurance Program should be developed to insure farmers against losses caused by hurricanes, floods and praedial larceny.
67. A Regional Agricultural Transport System should be developed to move agricultural produce between the countries.
68. The Programmes of Regional Research Institutions should be refocused to provide the technological inputs for the identified regional enterprises.
69. The Ministries of Agriculture should be converted to Ministries of Food and Nutrition Security and they should have the responsibility for Food Imports, Food Production, Food Safety and Food Security.

Regional Food Storage Facilities should be identified and a regional network of National food banks should be established.

- we must change our allocation of public finances and allocate more resources to the promotion of agribusiness, entrepreneurship and food security.
- By focussing on food security of the nation, we would produce more of what we consume, create more employment opportunities in the

food services sector and contribute to reduction in un-employment , crime, obesity, non-communicable diseases and poverty.

- It is imperative that we develop a Food and Nutrition Security agenda that is grounded in the production and consumption of local food.

70. The Caribbean should focus on the production of organic products especially organically produced vegetables.

71. A Regional Food Security Council, within the context of the CARICOM Secretariat, should be established to develop, monitor and guide the strategy on regional food security.

72. A programme of incentives for farmers including access to credit, technology, land, infrastructure and farm machinery should be developed.

73. We should promote strategic linkages between agriculture and tourism so that locally produce food is used in hotels and restaurants in the region.

74. We should develop a Caribbean Agricultural Development Fund or an Agricultural Development Bank to finance the Caribbean Food Plan.

The Food Security Centre in Barbados.

Let me end this presentation by informing you of a recent initiative here in Barbados.

Recently, a wealthy Barbadian Family, The Edghills of Dukes Plantation, St. Thomas have agreed to donate 28.3 acres of land to the University to develop a centre for training and research in Agriculture. The University has agreed to establish a Centre for Food Security and Entrepreneurship on the lands.

The Centre will act as a platform for education that helps to change attitudes and behavior about food and agriculture and their role in development. It will incorporate the latest and the best in agricultural technologies that is consistent with the concept of a green economy. It will also promote commercially viable enterprises using cutting edge agricultural technologies, produce professional farmers and agricultural professionals, focus on generating wealth from enterprises based on food and agriculture .and be self sustaining in the medium term

The Centre will have four components

- i. A facility for the training of Barbadian farmers, entrepreneurs and professionals in the basics of agricultural science and technology, both for crop production, livestock production and fish production at the Diploma level. We believe that students trained here who desire can then go to St. Augustine in Trinidad and Tobago or elsewhere to complete their degrees in two years rather than three years.
- ii. A facility for conducting research on crop and livestock sustainable production systems including the development of organic farming and good agricultural practices.
- iii. A facility for the promotion of entrepreneurship in Agriculture based on the use of locally produced agricultural produce which can be transformed into agribusiness enterprises.
- iv. A facility which incorporates a commercial component that contributes to the long-term financial sustainability of the Centre by promoting viable University

27.0 The Centre will emphasize Sustainable Production systems

Barbados seeks to become a green economy. Such a goal must include sustainable agricultural systems based on good agricultural practices, organic agriculture and sustainable farming practices. These farming practices must include:

- the increased use of naturally and sustainably produced nutrient inputs; crop rotations; and livestock and crop integration;
- reducing soil erosion and improving the efficiency of water use by applying minimum tillage and cover crop cultivation techniques;
- reducing chemical pesticide and herbicide use by implementing integrated biological pest and weed management practices; and,
- reducing food spoilage and loss by expanding the use of post-harvest storage.

Food security must also be based on sustainable production systems where food quality and safety are important considerations. In this regard the use of pesticides, herbicides and inorganic fertilizers in food production systems must be carefully managed and reduced where possible.

We believe that this centre will mark the beginning of a new chapter in Agricultural development and Food Security in Barbados.

SLIDE 14

Conclusion

Let me conclude by saying that agriculture has a critical role to play in the survival and sustainability of the world by generating the food needed for 7 billion people today and 9 billion in 2050 on the same amount of land.

Our Caribbean leaders and our Caribbean people should be aware that there are several leaders today who believe that Food Security will become the defining focus of a new global environmental threat and that food scarcity rather than military aggression will be a threat to world peace and security in the future.

This is so because the drivers of the 2008 food crisis have not been resolved and there is the potential for a clash between the expanding demand for food and the limits of the natural life support systems of our planet to produce sufficient food for a growing global population . In other words, the next global issue will probably be food insecurity.

The Caribbean should therefore seek to produce as much of its own food as possible.

I thank you.

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