

Policy responses to GEC impacts on Food Availability and Affordability in the Caribbean

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Overview

- Study Site: CARICOM
- CARICOM's economies and agricultural systems
- Multiple Stressors to the Food System
 - Recent GEC events and impacts
 - Changing food availability
 - Changes in food affordability
- Groups vulnerable to GEC
- Policy Gaps and Recommendations

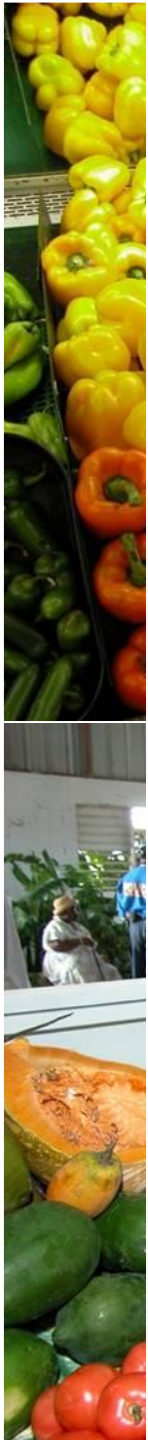


CARICOM: 15 Nations

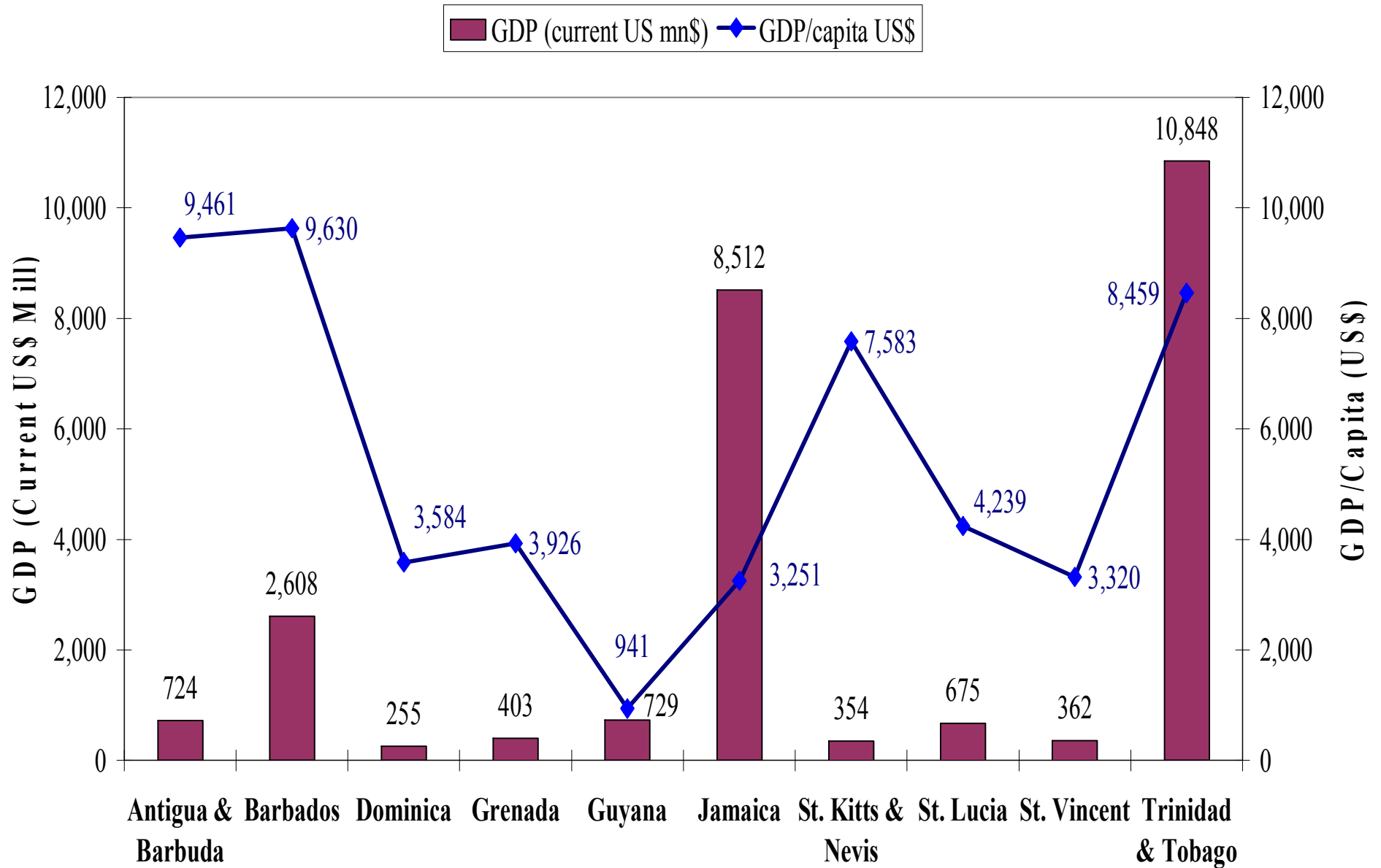


CARICOM's economies and agricultural systems

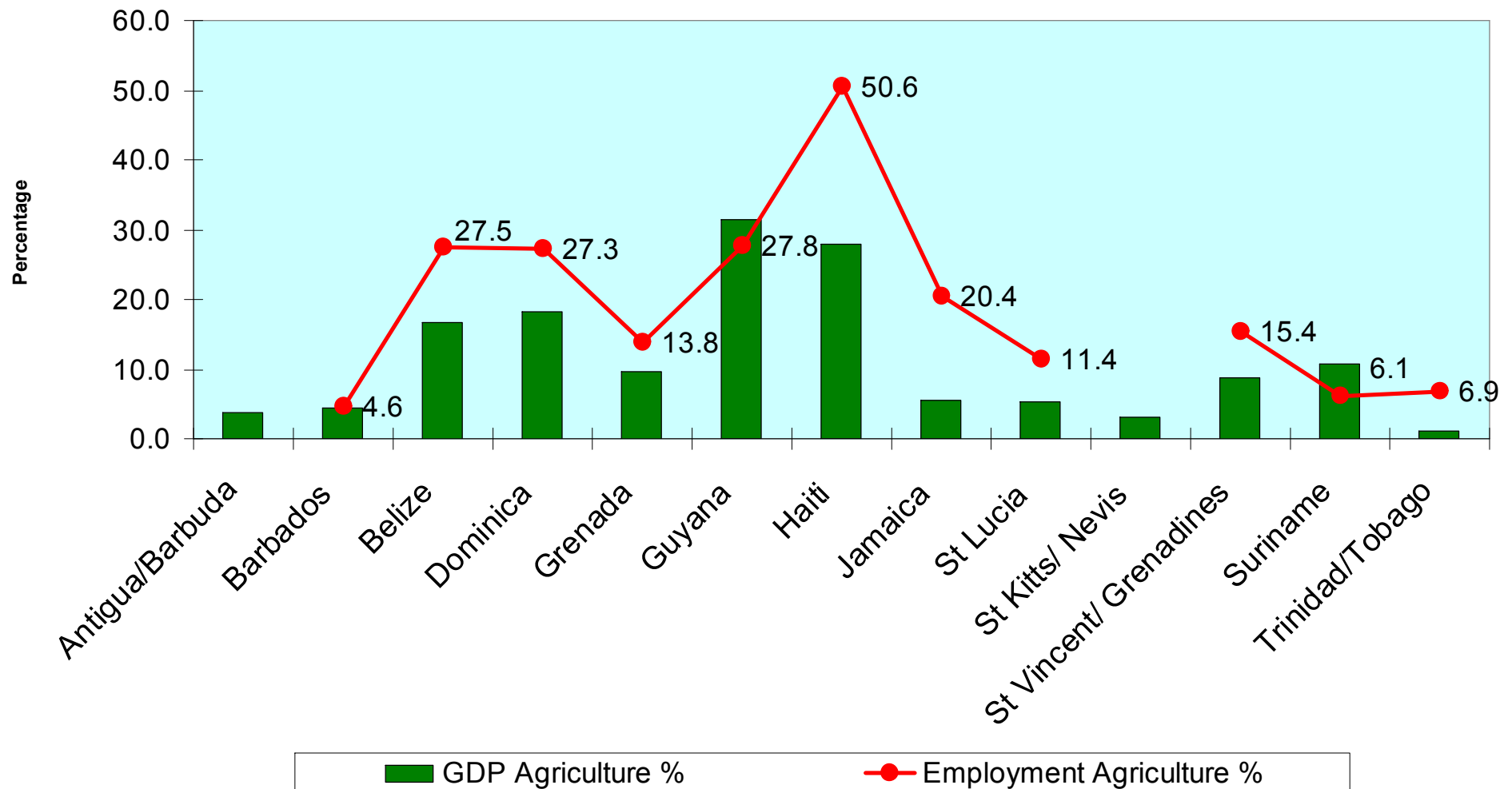
- Economies typically dependent on tourism and agriculture
- Agriculture's contribution to GDP is declining, but still very important for employment
- Agricultural commodities primarily for export
 - Bananas, sugar, rice
- Important linkages with the agribusiness sector e.g. alcoholic beverages, juices, spices



Country GDP and GDP per capita (2002)



Employment and GDP Contribution of Agriculture

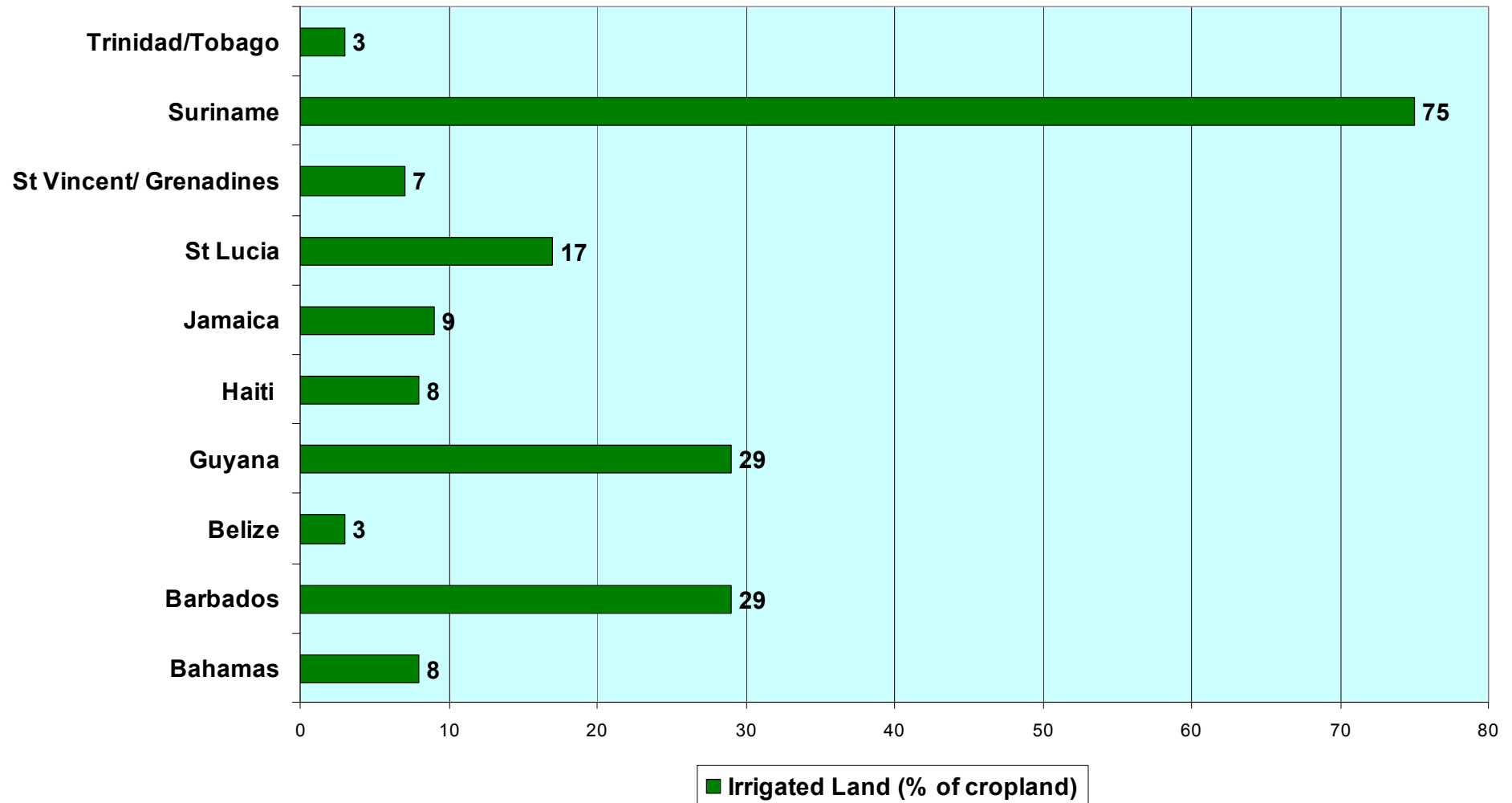


Production Systems

- Dominated by small farms (< 5 acres), using traditional techniques
- Average age of farmers > 60
- Average farmer education: primary
- Most small farms are on marginal lands
- Small farms produce the majority of locally produced food
- Varied levels of irrigation



Irrigated Cropland

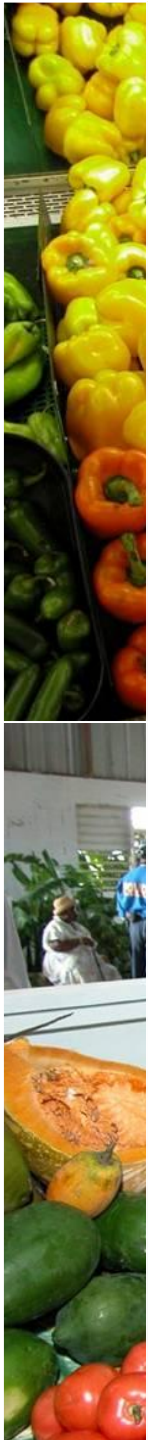


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Production Systems

- Rainfall is characterized by
 - a wet season, from May/June - Dec (70 - 80 % of annual rainfall);
 - and a dry season (Jan – Apr)
- Northern Guyana:
 - there are two wet seasons and two dry seasons
- Annual temperature range variation: 2-5°C
- Countries prone to tropical cyclones between June and November, with at least seven of these being of tropical storm strength each year



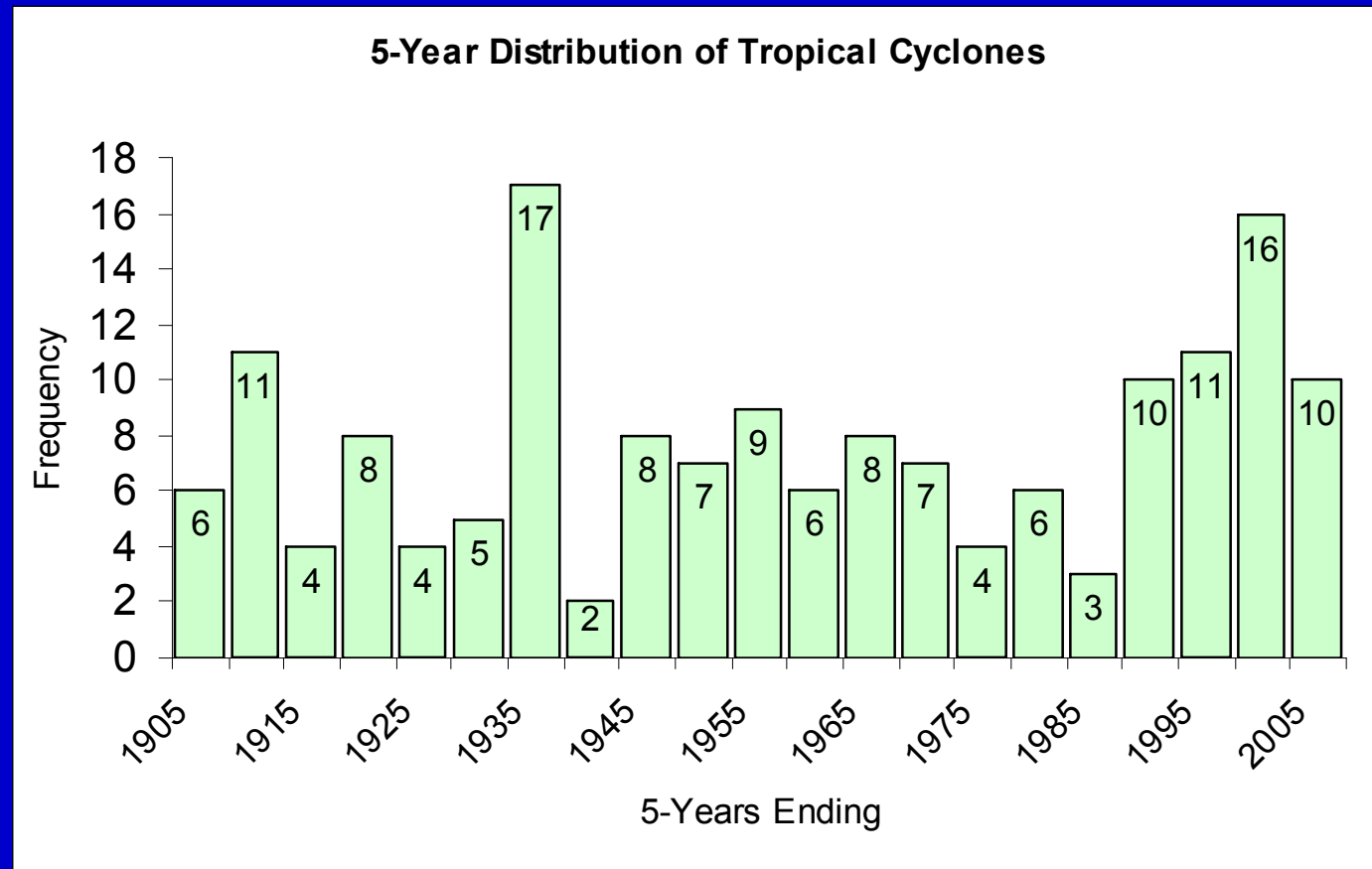
Multiple Stressors to the Food System: Recent GEC events and impacts

- Extreme weather events have been responsible for major losses in the agriculture sector in the region.
 - **Jamaica** - crop losses of approx. US\$6 million due to drought between October 1999 and March 2000
 - In 2001, flooding associated with Hurricane Michelle, damaged almost 2000 ha in crop farmland and resulted in approximately US \$8 million in losses
 - **Guyana** : The 1997-98 El Niño caused drought - 35 % reduction in rice cultivation (affected > 1500 Amerindian families in Southern Guyana)
 - Floods were responsible for US\$ 55 million in damage to Guyana's agricultural sector in 2005. In 2006, an event of smaller scale resulted in total losses of US\$ 22.5 million

Multiple Stressors to the Food System: Recent GEC events and impacts

- ❑ Grenada: almost US \$ 40 million in damage from Hurricane Ivan, and 91 % of forest and watersheds were stripped of vegetation. Damage to the nutmeg sub-sector affected the approximately 30,720 persons it directly and indirectly employed. Sector was set back 10 yrs.
- ❑ Hurricane Iris destroyed 85 % of the banana industry in Belize.
- **If the variability in climate increases with more extreme weather events, there is increased risk to yields, as critical thresholds are likely to be exceeded more often.**

Distribution of tropical cyclones since 1900 in the region 10 to 20 °N, 55 to 65 °W (the Eastern Caribbean).



Multiple Stressors to the Food System: Projected GECs

- IPCC AR4 projects that there is a 90 % chance that temperatures will rise across the Caribbean
- Increase in the annual temperature (2° to 2.5 °C)
- Significant warming trends since the 1950s, with increases in both min and max temperatures and the no. of warm days and nights
- 66 % prob. that sea levels will rise during this century.
- 66 % prob. that rainfall will decrease in the Greater Antilles (June to August)
- Decrease in annual precipitation (5 to 15 %); greatest change - June to August
- Patterns since the 1950s suggest some increase in heavy rains, even though maximum dry spell lengths are decreasing

Multiple Stressors to the Food System: Projected GECs

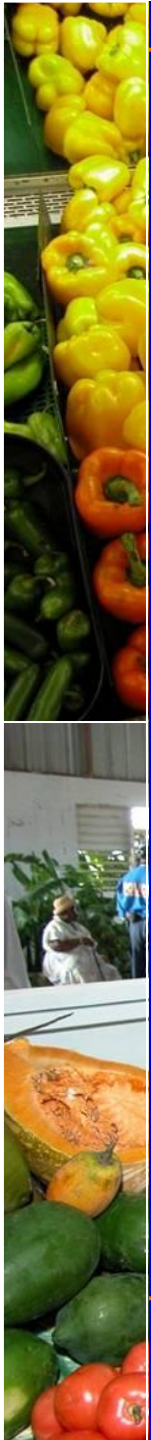
- Reduced rainfall will negatively impact water resources with demand outstripping supply particularly during low rainfall periods.
- With sea level rise, there is expected to be greater inundation of coastlines, more severe storm surges and beach erosion with serious implications for the vital tourism industries in the region.
- Salt water intrusion due to sea level rise and overpumping. In Jamaica, salt water has been discovered in some wells that exist as far as 10 km from the coast (overpumping)

Multiple Stressors to the Food System: Projected GECs

- Traditional soil management practices often lead to land degradation (farming on steep slopes, poor farming and forestry management practices).
- Increased land competition from housing, quarrying and other developmental activity has led to soil erosion and a reduction of capability for water recharge
- Significant hard coral loss (80 percent since the 1970s).
- Fish stock variability

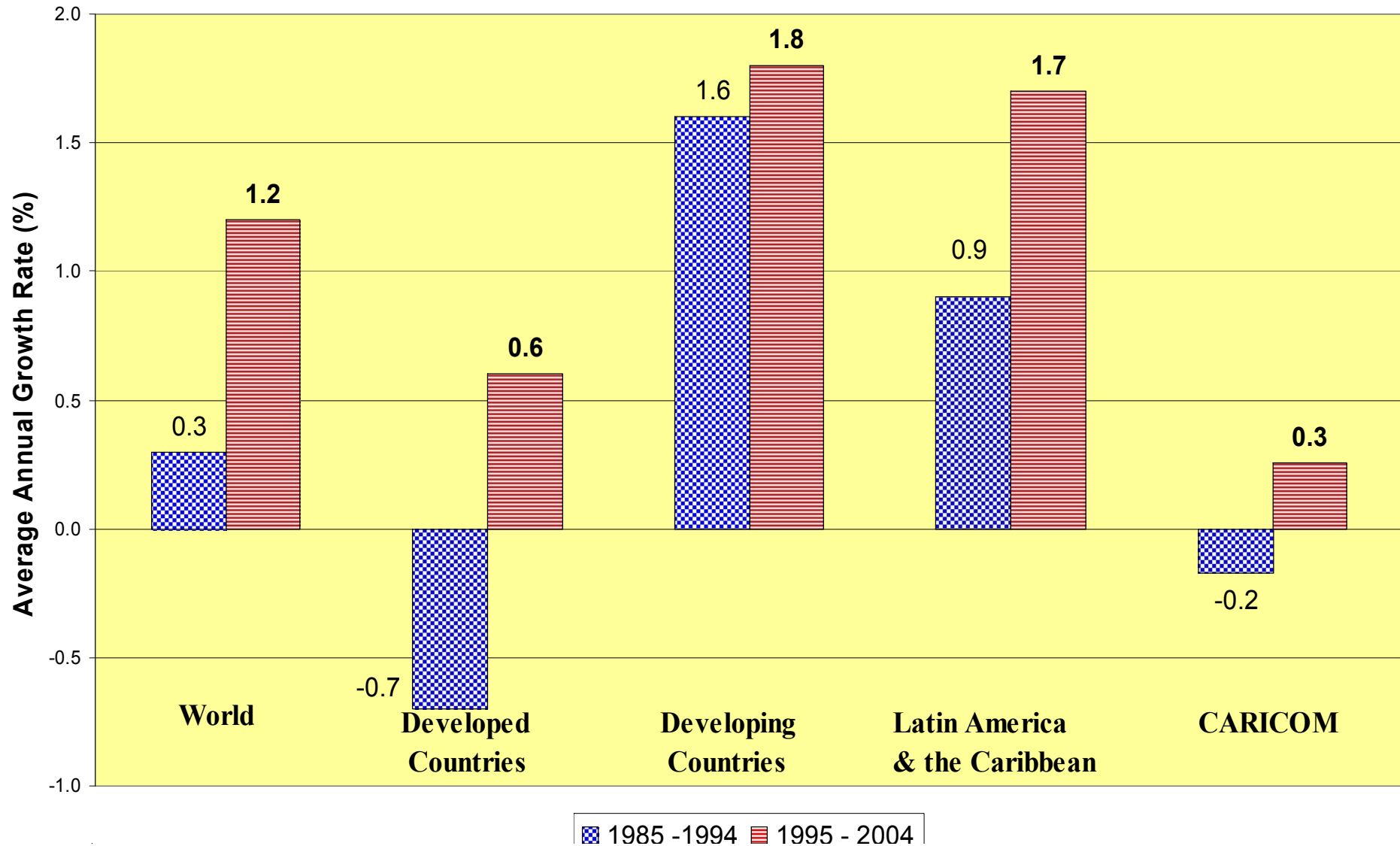
Multiple Stressors to the Food System: Changing Food Availability

- ↓ terms of trade (significant fall in real commodity prices)
- Loss of preferential markets
- No significant increase in food production
- ↑ food imports relative to exports

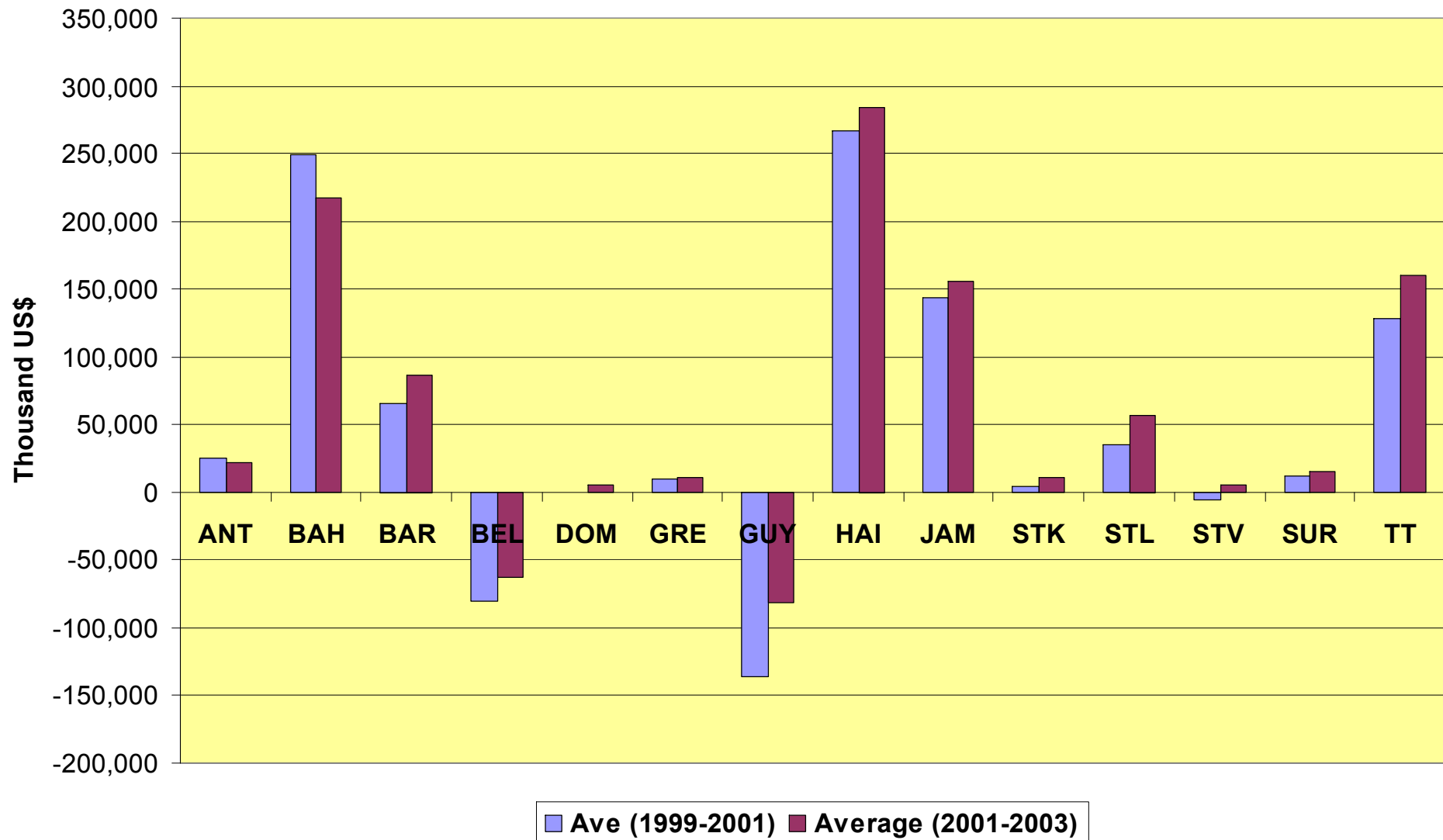




Per Capita Food Production, 1985 – 2004, Source (FAO 2004a; 2005)



Average Net Food Imports of Caribbean Countries, 1999 – 2003, Source (FAO 2004a; 2005)



Multiple Stressors to the Food System: Changes in Food Affordability

- Given this high dependence on imported food supplies, ensuring adequate food availability requires a capacity to purchase foods on the international market to complement domestic supplies.
- Made up of small states, CARICOM countries are expected to experience approximately 25 percent higher levels of income volatility than large states
- The CARICOM region is also currently experiencing significant rises in food prices.

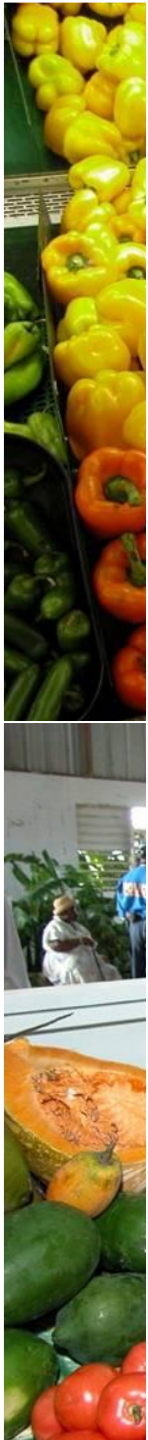
Multiple Stressors to the Food System: Changes in Food Affordability (Trinidad & Tobago)

- While the food basket represented by the RPI less than doubled since 1994, the price of food has increased five-fold
- The rise has been especially great since 2005, and in the year prior to March 2007, food price increase was 19 percent.
- Food price variability has also increased significantly from 2005
- Domestic price of key commodities such as wheat, soybean oil, poultry and whole milk powder are rising at a faster rate than world market prices
- Wage rate increases < the level of inflation, particularly in recent years.

A Closer Look at Groups Vulnerable to GEC

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- Indigenous people
 - The poorest of the poor
 - Often marginalized
 - Poor access to health care, education and employment
 - Traditional farming systems
 - Often reside in rural and isolated areas



Quality Of Life Indicators For Belize, Dominica, Guyana, And Suriname

Country	HDI Ranking			Adult Illiteracy %	Population Below National Poverty Line	Child Malnutrition % underweight	Under 5 Mortality Rate Per 1,000	Average Dietary Energy Supply
	1998	2002	2007					
				1998	1989-94	1993-2000	2000	1997-99
Belize	73	58	80	6.8	35.0	6.2	38	2,893
Dominica	41	61	71		33.0	5	17	2,972
Guyana	100	103	97	1.9	43.0	12	8.7	2,676
Suriname	65	74	85	7.0	47.0	N/A	19	2,686

A Closer Look at Groups Vulnerable to GEC

...

■ Banana farmers

- ❑ Significant loss of income e.g. wind damage
- ❑ Low retraining/ low education
- ❑ Reduced cash flow

■ Urban Poor

- ❑ Fixed income with slow wage adjustments
- ❑ Poor social capital
- ❑ Vulnerable to any stress that affects tourism/ food purchasing power compromised

Policy Gaps and Recommendations

- Reduction in Common External Tariff (CET), an adaptation strategy
- Several regional policies/ strategies:
 - CARICOM Single Market and Economy (CSME)
 - Regional Food Plan (started in 1975),
 - Regional Negotiating Machinery (RNM),
 - CARICOM/FAO Regional Special Programme for Food Security (SPFS),
 - The Jagdeo Initiative
- None of these key policies/strategies include measures to mitigate GEC

Policy Gaps and Recommendations

- GEC will exacerbate existing stress to CARICOM's food system from changes in trade policy and conflicts in land use
- Policy makers need to consider the Caribbean scenarios and how their policy choices will affect food availability and affordability
- Comprehensive improvement in food security will have to study additional food security areas



Thank You!

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