Agricultural trade policy and food security in the Caribbean

Structural issues, multilateral negotiations and competitiveness

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Preface

This document is an output of the work on trade and food security in the Caribbean led by staff of the Trade and Markets Division of FAO in close association with the implementation of the CARICOM/CARIFORUM Regional Special Program for Food Security (RSPFS). The financial contribution of the Italian Directorate for International Cooperation to the FAO Trust Fund for Food Security and Food Safety made many of the regional trade policy activities and the publication of this book possible. The contribution of INEA researchers is recognized as being critical to the completion of several chapters. The editors would like to acknowledge the valuable input of all the participants at several workshops and training courses on trade and food security held in the Caribbean region between 2004 and 2006. They also take this opportunity to thank Andrea Stoutland and Chrissi Redfern for their assistance in preparing the volume for publication.

Foreword

FAO

Agricultural trade has been and continues to be a major factor determining food security outcomes in Caribbean countries. In these small open economies, exports are essential to income-earning opportunities, while imports provide a large component of the food supply. This book discusses the structural features characterizing these countries, and specifically the dynamic relationships between trade and food security. It focuses on multilateral trade negotiations, mainly those of the World Trade Organization; elaborates on the implications for Caribbean agricultural and food sector performance and policies; and introduces analytical tools for trade policy evaluation. It benefits from training activities carried out by professionals of the Trade and Markets Division collaborating with Italian and Caribbean counterparts who work on trade policy issues in the Caribbean region. The activities leading to the production and publication of this book were supported by FAO and the Italian Directorate for International Cooperation.

Alexander Sarris
Director, Trade and Markets Division, FAO

INEA

In response to a request from the CARICOM Secretariat on behalf of its member countries, the Italian Directorate for International Cooperation, through its Trust Fund for Food Security and Food Safety, enabled FAO to implement a project directed at improving food systems in the Caribbean in collaboration with Italian agricultural sector technical institutions. The general objective of the CARIFORUM Food Security Project is to improve the food security situation of the CARIFORUM states by increasing the availability and access to adequate quantities of safe, quality-assured food products to food insecure and poor rural communities throughout the region. National- and regional-level project activities were programmed. At the regional level, activities focused on several themes, including trade polices, community-level food security programming, food processing, food

value and safety. This book is one of many results of the activities that fell within the trade policy component of the project. Italy's National Institute of Agricultural Economics (INEA) was actively involved in capacity-building activities under that project component, particularly in organizing and carrying out training in the areas of trade policy analysis and negotiations and quality and safety requirements in international trade and marketing. These are increasingly important concerns in agrifood trade as globalization proceeds; and it is only through an agrifood system pursuing quality, including recognition of the multifunctional role of agriculture, that it will be possible to meet the expectations of today's citizens and consumers.

Lino Rava
President, INEA, Rome, Italy

CARICOM/CARIFORUM Regional Special Program for Food Security (RSPFS)

The Regional Project Management Unit (RPMU) of the CARICOM/CARIFORUM RSPFS is extremely pleased to be associated with this book, which draws upon a number of capacity-building activities and trade-related studies pursued under the trade facilitation area of Regional Food Security project. The book is timely given that in recent years the multilateral, hemispheric and regional trade and economic environment has experienced profound changes with far-reaching consequences for food security in all its dimensions: availability, accessibility, utilization/consumption and stability. Trade liberalization, other trade reforms and the related negotiations have already had and continue to have a significant impact on Caribbean economies, particularly as a result of the challenges facing commodities such as sugar, bananas and rice in traditional preferential markets. The book examines various dimensions of trade policy and related issues of relevance to the countries in the CARICOM/CARIFORUM region and presents policy instruments to address trade and food security and rural development linkages. It will serve as a useful guide and reference document for agricultural trade policy analysts, trade negotiators, policy-makers and planners in both the public and private sectors. The RPMU welcomed the opportunity to work with a number of agencies and individuals during the preparation of this book, most importantly, staff of the FAO Trade and Markets Division and INEA.

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Acronyms and abbreviations

ACP	African, Caribbean and Pacific Group of States
ADB	Agricultural Development Bank
AFT	Aid for Trade
AMF	Agricultural Modernization Fund
AMS	aggregate measurement of support
AoA	Agreement on Agriculture
AQ	additional quantity
ATPSM	The Agricultural Trade Policy Simulation Model
BADMC	Barbados Agricultural Development and Marketing Corporation
BCI	business competitiveness index
BMB	Belize Marketing Board
BRC	British Retail Consortium
CABEX	Caribbean Agribusiness Export Club
CAHFSA	Caribbean Agricultural Health and Food Safety Agency
CAP	Common Agricultural Policy
CARD	Center for Agricultural and Rural Development
CARDI	Caribbean Agricultural Research and Development Institute
CARIBCAM	Caribbean–Canada Trade Agreement
CARICOM	Caribbean Community and Common Market
CARIFORUM	Caribbean Forum
CARTF	CARIFORUM Agribusiness Research and Training Fund
CBERA	Caribbean Basin Economic Recovery Act
CBI	Caribbean Basin Initiative
CDB	Caribbean Development Bank
CET	common external tariff
CFNI	Caribbean Food and Nutrition Institute
CFRAMP	CARICOM Fisheries Resource Assessment and Management Programme

CIF	cost insurance freight
CMOB	Common Market Organisation for Bananas
CN	combined nomenclature
CRNM	Caribbean Regional Negotiating Machinery
CROSQ	CARICOM Regional Organisation for Standards and Quality
CSME	CARICOM Single Market and Economy
DBMC	Dominica Banana Marketing Corporation
DBPL	Dominica Banana Producers Limited
DG	Directorates General
DRC	domestic resource cost (coefficient)
DSU	Dispute Settlement Understanding
DWP	Doha Work Program (WTO)
EBA	Everything But Arms
EC	European Community
ECJ	European Court of Justice
EPA	Economic Partnership Agreements
EPC	effective protection coefficient
ESIM	European simulation model
EU	European Union
EUREP	Euro-Retailer Produce Working Group
FAO	Food and Agriculture Organization of the United Nations
FAPRI	Food and Agricultural Policy Research Institute
FIC	food import coverage indicator
FLO-I	Fairtrade Labelling Organizations International
FOB	free on board
FTAA	Free Trade of the Americas
GAPs	good agricultural practices
GATS	General Agreement on Trade in Services
GATT	General Agreement on Trade and Tariffs
GCI	Global Competitiveness Index
GDP	gross domestic product
GE	general equilibrium
GI	geographical indications

GMO	genetically modified organism
GMPs	good manufacturing practices
GRDB	Guyana Rice Development Board
GSP	generalized system of preferences
GTAP	Global Trade Analysis Project
HACCP	Hazard Analysis and Critical Control Points
HS	harmonized system
HX	concentration index
ICI	food import capacity indicator
IDB	Interamerican Development Bank
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
IOP	Institute of Packaging
IPCC	Intergovernmental Panel on Climate Change (IPCC)
ISO	International Standards Organization (ISO)
JI	Jagdeo Initiative
LDC	least-developed country
LIFDC	low-income food-deficit country
MALMR	Ministry of Agriculture, Land and Marine Resources
MDG	Millennium Development Goal
mt	metric ton
MFN	most-favoured nation
MRL	maximum residue limit
MTN	multilateral trade negotiations
NAMDECO	National Agricultural Marketing and Development Company
NARI	National Agricultural Research Institute
NB	normalized trade balance
NFIDC	net-food-importing developing countries
NGO	non-governmental organization
NPC	nominal protection coefficient
NTBs	non-tariff barriers
OCT	Association of the Overseas Countries and Territories
OECD	Organisation for Economic Co-operation and Development
OECS	Organisation of Eastern Caribbean States

OIE	World organization for animal health
PAM	policy analysis matrix
PE	partial equilibrium
PSE	producer subsidy equivalent
QA	quality assurance
RCA	revealed comparative advantage
REER	real effective exchange rate
ROI	return on investment
RPA	Rice Producers' Association (Guyana)
RTA	Regional Trade Agreements
RTP	Regional Transformation Programme for Agriculture
SD	standard deviation
SDT	special and differential treatment
SEM	Single European Market
SI	cereal supply indicator
SIDS	small island developing states
SITC	Standard International Trade Classification System
SLBC	St Lucia Banana Corporation
SLBGA	St Lucia Banana Growers Association
SPS	sanitary and phytosanitary measures
SSG	special agricultural safeguard
SSM	special safeguard mechanism
STE	state trading enterprises
SVEs	small, vulnerable economies
TBT	technical barriers to trade
TNC	transnational corporations
TRIPS	trade-related aspects of intellectual property rights
TRQ	tariff rate quota
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UR	Uruguay Round (WTO)
URAA	Uruguay Round Agreement on Agriculture
UWI	University of the West Indies
WFS	World Food Summit

WIBDECO	Windward Islands Banana Development and Exporting Company
WINFA	Windward Islands Farmers' Association
WINBAN	Windward Islands Banana Growers Association
WITS	World Integrated Trade Solution
WMO	World Meteorological Organization (WMO)
WTO	World Trade Organization
XC	coverage ratio

Introduction

J.R. Deep Ford, Crescenzo dell'Aquila and Piero Conforti

Trade and food security in the Caribbean are tied together through a variety of linkages rooted in the importance of exports and imports to these small open economies. On the one hand, export-oriented economic activity is a major source of foreign exchange and employment-based income-earning opportunities (linked to both the supply and accessibility dimensions of food security). On the other, imports are equally critical to nutritional and stability dimensions of food security, as most of these countries are net food importers. Analysing the dynamic relationships between trade and food security is therefore important, especially in the wake of the profound changes occurring in the multilateral, hemispheric and regional economic environment. Agricultural trade liberalization, and trade reform in general, have significant impacts on all dimensions of food security for Caribbean countries – availability, access, utilization and stability.

The book examines the various dimensions of agricultural trade and food security of Caribbean countries. It focuses on multilateral trade negotiations, mainly those of the World Trade Organization, and its implications for Caribbean agricultural and food sector performance and policies. Moreover, it presents policy instruments to analyse and address linkages between trade, and food security and rural development.

Chapters 1 and 2 serve as an introduction to the major linkages between trade policy, trade and food security and presents small and vulnerable economies in the framework of the ongoing WTO negotiations.

Chapter 1 outlines the complex linkages between agricultural trade, trade policy and food security in the Caribbean. Different points of view on trade policy are assessed and the main results of the Caribbean experience in the recent decade of trade liberalization is analysed. While trade as an engine of growth is a generally accepted perspective, the controversy over the impacts of lowering tariffs on domestic food security is developed by considering pros and cons of trade liberalization. If lowering tariffs should result in food becoming more readily available and accessible to consumers, adjustment impacts on small agricultural producers is also a relevant source of concerns

due to the strong link between agrifood systems and income-earning opportunities in the region. The chapter draws the fundamental conclusion that trade liberalization is not a sufficient condition for promoting economic development, and calls for a more comprehensive and integrated Caribbean policy, in which trade policy plays a central role in conjunction with other sectoral, national and regional policies.

Chapter 2 discusses the understanding of small and vulnerable economies (SVEs) in the WTO context, with special reference to Caribbean countries, and defines the main negotiating issues relevant to their food security and trade-related risks. The chapter indicates that the heterogeneity of developing countries, and of the SVEs, can be assessed through a wide set of indicators, and proposes ways of addressing such specificities in the WTO, that would lessen the adverse impacts on food security and rural livelihoods. Two alternative strategies might be employed in the WTO to frame appropriate responses for the Caribbean countries: either assigning them additional special and differential treatment (SDT), similar to those envisaged for LDCs; or strengthening of the current SDT measures available to all developing countries, with additional specific measures. While some WTO members have expressed resistance to the creation of new subgroups there is also wide acceptance of the need to address heterogeneity to facilitate a fuller participation and better integration of SVEs into the global trading arena.

Chapter 3 and 4 focus on two major trade policy issues facing Caribbean countries, proposed tariff cuts and its implications for their tariff profiles and changes in preference regimes and the impact on the value of their exports.

Chapter 3 presents and evaluates the current agricultural tariff profiles for 12 Caribbean countries in the context of the main tariff reduction formulae debated in the WTO Doha Round of negotiations. The tariff profiles represent the current policy treatment meted out to the sector in general, and to some commodities in particular. The chapter emphasizes management of tariff policy as an instrument for promoting the domestic objectives of food security and viable rural livelihoods in the face of increasing globalization, and calls for an appropriate sensitivity in tariff setting. However distortionary, tariffs can enable local communities to produce food with a lower threat of subsidized imports displacing their products in the market, and can create an enabling environment for diversification into value added commodities. Their role in this respect should be analysed comparatively along with that of other policy measures. The chapter applies the main tariff reduction formulae proposed by some WTO Members to the tariff structure of Caribbean countries and demonstrates the likely impact of further tariff reduction on the current policy flexibility. The chapter concludes with recommendations on tariff management strategies in the WTO arena, and in relation to a common external tariff structure for the Caribbean countries.

Chapter 4 addresses trade preferences, another key trade policy issue for the agrifood sector in the Caribbean. While preferential trade agreements clash with the fundamental WTO principle of non-discrimination, they were conceived as a primary tool to integrate developing countries into the world trading system, to promote their growth and development, and above all to benefit smaller and less diversified economies. The chapter reviews the logic, structure and value of trade preferences, with reference to the main features of the current ACP preferential system and the threat of preference erosion. It discusses the role that preferential agreements might play in the future of the Caribbean region and provides framework elements to be taken into account for the definition of specific strategies. The gradual departure from ACP preferences requires private and public investment strategies directed at key products, such as sugar and bananas, aimed at reducing their dependency upon preferences. Investment plans for both traditional and new export products may gather resources from the partially eroded rents generated by preferential trade, from the WTO SDT approach, from the generalized system of preferences (GSP) and also from the European Partnership Agreements (EPAs).

Chapter 5 and 6 present more detailed analysis on two WTO negotiations themes of particular relevance to SVEs and already outlined in Chapter 2, Special Products (SPs) and the Special Safeguard Mechanism (SSM).

The concept and identification of Special Products is dealt with in **Chapter 5,** which also provides more general insights on the reason why developing countries argued extensively on this point in the Doha round. The chapter reinforces the importance of trade policy analysis capacity building as it demonstrates an approach and a methodology for identifying SPs. The indicators presented in this connection represent the criteria outlined in the WTO 2004 Framework: food security, livelihood security and rural development. These are employed to identify a list of possible special products and results from Belize are presented as a Caribbean case study. The chapter considers identification of special products at the regional level, with a view to promoting regional integration and agricultural development.

Vulnerability to import surges is of particular concern to developing countries that are endeavouring to develop their agricultural potential and diversify production in order to enhance their food security and alleviate poverty. A possible WTO Special Safeguard Mechanism (SSM) for dealing with import surges and depressed import prices in developing countries is analysed in **Chapter 6**. The concept of SSM has been accepted in the Doha Round negotiations as an effective trade remedy specific to developing countries and the chapter analyses alternative proposals in the negotiations with a view to identifying a simple and effective SSM. The main findings refer to: a) product eligibility for an SSM b) better and more appropriate options

for price and volume safeguards and their trigger and remedy levels; and c) empirical limitations in the identification of appropriate additional duties.

The following three chapters focus on trade policy related to three commodities, which formed the core of Caribbean trade in the context of the EU-ACP trade protocol : sugar, bananas and rice. These chapters partly follow up on Chapter 4 on preferences, as they also aim at identifying ways out of the situation of a gradual erosion of trade preferences.

Chapter 7 reviews the perspectives of the sugar sector in the Caribbean in relation to two major policy changes: the implementation of the Everything But Arms (EBA) initiative and the reform of the Common Market Organization for sugar in the EU which results in major price declines for ACP exporters of sugar to the EU. After a brief overview of the historical background and present organization of sugar trade between the Caribbean countries and the EU, the chapter discusses the expected outcomes of the ongoing policy changes towards a more market-oriented regime. These changes will deeply affect the position of the current exporters to the European market, and it places pressure on the Caribbean sugar industry to devise strategies to survive in a wider and more competitive environment. The future for the Caribbean sugar industry appears challenging for at least three reasons: a) the probable displacement of Caribbean sugar exports into the EU; b) the stagnant trend in the demand for sugar in developed countries; and c) the relatively limited opportunities for product differentiation (fair trade, organic, bio-fuel). Opportunities for minimizing negative social consequences and for building a long-term strategy for the sugar industry are analysed with reference to the regional market, the EU–ACP relations, the GSP framework and other forms of assistance.

The recent experience and future of the banana sector in the Caribbean is discussed in **Chapter 8.** Particular attention is paid to the steady erosion of the preferential market access, to the current precarious position of Caribbean countries in world markets, and to the employment and food security conditions of the rural population which depends on banana production and trade. The chapter addresses trade policy issues from a regional perspective, and draws mainly on production and trade experience within the Organisation of Eastern Caribbean States (OECS), where the banana industry is one of the main components of the economy. Several interventions and measures that seek to ensure a meaningful interface between changes in the current policy framework and food security are highlighted: the importance of both public and private sector investment at the national level; the need to target niche and specialty markets globally; and negotiating effectively within the WTO on development measures such as SPs and Aid for Trade.

Rice production, trade policy and the impact of market developments on rural development and food security in the Caribbean is the focus of **Chapter 9**. After a brief description of the world rice situation, the chapter turns

to the Caribbean rice market, which is considered from a trade and food security standpoint. For two countries of the region in particular, Guyana and Suriname, rice trade under the EU-ACP preference schemes has been an important source for government revenue that has been channelled into national development initiatives. The chapter reviews the recent changes in the EU rice support policy and how they have affected earnings and the ACP competitive position. It concludes with elements of a strategy for supporting rice industry development in the Caribbean, emphasising: a) the relevance of intraregional opportunities for the sector; b) the need for strengthening guarantees of a level playing field for Caribbean operators, who are often competing on international markets against strongly subsidized competitors; and c) the need to secure opportunities within EU-ACP EPAs.

The following two chapters deal with competitiveness of the Caribbean agrifood sector in the context of trade liberalization from different angles and emphasize some of the basic messages of the book: that trade liberalization would not result in growth and development in rural areas unless domestic producers and traders are able to increase production and marketing efficiencies, and achieve quality levels and standards necessary to access increased trading opportunities.

Chapter 10 provides an introduction to the conceptual framework of competitiveness, considering increased market access as an opportunity. It emphasises investment to develop supply-side capacity, enterprises and entrepreneurship as the major route to achieving competitiveness and sustainability. The chapter seeks to broaden the understanding of the determinants of competitiveness and addresses these in order to facilitate the transition of agricultural sectors from dependence on a few crops to greater levels of diversification and value-added. The competitive position of several Caribbean commodities is assessed with a qualitative approach and through indicators derived from a Policy Analysis Matrix. Recommendations for improving the competitiveness of the agricultural sector in the Caribbean based on product differentiation and on reducing production costs are made. Given the challenges to making the main traditional export products competitive, because they require mostly cost reductions while opportunities for product differentiation are limited, the promotion of non-traditional crops and livestock products is recommended. The chapter concludes emphasising the need for partnerships between the public and the private sectors to ensure that factors influencing competitiveness are adequately addressed, considering both the macroeconomic and microeconomic determinants.

Chapter 11 focuses on quality and safety standards as increasingly critical factors affecting competitiveness in agrifood trade. The chapter presents a description of various frameworks for addressing quality issues, and provides references for understanding features and implications of the most common food quality and safety regulations shielding developed markets. Specifically,

the chapter: a) introduces the link between quality and safety standards and supply management issues; b) discusses current features of the multilateral institutional framework providing technical and legal references for national legislation relevant to quality and safety of agrifood products; c) introduces the major private quality assurance and certification schemes and discusses their relationships with multilateral arrangements; and d) facilitates awareness among institutions and operators of the growing relevance of quality and safety standards, providing essential references for addressing them. The chapter suggests that Caribbean countries and operators are facing a complex set of public and private quality and safety rules, which pose serious organizational and technological challenges for them. It suggests that these challenges can be effectively faced by developing regional cooperation in the relevant areas, using international assistance for institutional building, and participating more effectively in international standard-setting organizations.

The last chapter, **Chapter 12**, aims at providing an introduction to the more common tools that can be used in the quantitative analysis of trade policies. An attempt is made to show how the linkages with food security, agricultural development and rural development can be addressed. Specifically, the chapter aims to: a) show the potentials of quantitative analysis, while highlighting the associated challenges and limitations; b) introduce different approaches and analytical frameworks; and c) facilitate awareness of the availability of databases and computer based tools that can be used as starting points for trade policy analysis. The overview of the major approaches is organized considering the two wide categories of *ex post* and *ex ante* policy analysis. *Ex post* approaches deepen some of the most common descriptive indicators used for food security, trade and trade policy analysis, while *ex ante* approaches introduce the main modelling frameworks available and the related policy representation issues. Partial and general equilibrium approaches are introduced, and reference is made to some of the more readily accessible international data sets.

Chapter 12 is most directly aimed at supporting capacity building in the area of trade policy analysis and food security linkages for the Caribbean. However, it is worth emphasizing that all the chapters of this book share this common goal – to provide agricultural trade policy analysts, trade negotiators, policy-makers and planners, professionals in both the public and private sectors, with current analytical approaches, frameworks and tools for evaluating agricultural trade policy and its potential effects on agricultural and rural development and food security. Attempting to provide effective, up-to-date and analytical insights on agricultural trade policy and food security in the Caribbean is, from our point of view, a valuable effort for supporting regional food security.

1

Trade policy, trade and food security in the Caribbean*

J. R. Deep Ford and Gregg Rawlins

Introduction

Trade, trade policy and its relation to development is arguably the most debated topic – in this era of globalization – among practitioners involved in promoting economic growth, food security and livelihood security, and rural development in developing countries. This is so for at least three reasons. First, there is the global mandate and established commitment to achieving the Millennium Development Goals (MDGs), especially MDG1, *Eradicate extreme poverty and hunger*. Second, trade is widely accepted to be an engine of growth, and trade expansion is promoted as one way to increase development and reduce poverty. But there is wide controversy over what trade policy should be pursued under different conditions to achieve the goals related to increased development. Third, there are continuing efforts to liberalize global trade through fora such as the World Trade Organization (WTO), African, Caribbean and Pacific Economic Partnership Negotiations with the European Union (ACP/EPA/EU) and the myriad of Regional Trade Agreements (RTAs) under negotiation. In relation to all of these contexts the major challenge remains: that of identifying and implementing appropriate trade policy to advance agricultural development and food security, and reduce poverty. This chapter and this document are intended as contributions to understanding and responding to this challenge.

MDG 1 calls for eradicating hunger and poverty and the 2005 MDG report on MDG 1 recognizes that "most of the world's hungry people live in rural

* In this document the Caribbean generally refers to the Caribbean Community (CARICOM), which is comprised of 15 member states: Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago. The Bahamas is not a member of the CARICOM Common Market.

areas and depend on the consumption and sale of natural products for both their income and their food."[1] The World Food Summit (WFS) Declaration recognized trade as a key element in the achievement of global food security[2] and thereby firmly established the link between MDG1 and increasing trade. Another directly-related MDG is MDG8, *Build a global partnership for development,* referred to as a global social compact, where developing countries will do more to ensure their own development, and developed countries will support them through, aid, debt relief and better opportunities for trade.[3] Thus, partnerships are recognized as an important dimension in enabling trade policy to contribute to resolving problems related to food security and rural development.

As stated above, there is considerable controversy over the impacts of trade policy and trade on food security and therefore what is an appropriate trade policy. A dimension that has received a lot of concern in agricultural negotiations is the relationship between lowering tariffs and domestic food security outcomes, as lowering tariffs has been the policy proposal that has dominated trade policy negotiations. The supporters of trade liberalization suggest that lowering tariffs will result in food becoming more readily available and accessible to consumers. The opposing view is more concerned with the adjustment impacts on small producers who might lose their livelihoods without being able to adjust to alternative income-earning opportunities. They see the majority of consumers and the poor living in rural areas and having livelihoods dependent on growing and selling agricultural products. Thus, the debate about what trade policy is most appropriate under specific circumstances is very alive and is central to this document.

Multilateral, regional and bilateral trade negotiations in the post-Uruguay Round period committed to paying more attention to the impacts of trade liberalization on the goals of developing countries. This occurred especially because the results of the Uruguay Round are generally considered to have failed to deliver the expected gains from liberalization to a wide cross-section of developing countries. Further, most of the countries that have not realized expected benefits are poor, small and vulnerable economies. Within the WTO negotiations they are represented by various overlapping groups that participate in the negotiations mainly through the presentation of proposals reflecting group concerns. Most of the Caribbean countries participate in several of these groups, especially the G33 and the G90.[4] The G33 represents

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1 United Nations. 2005. *The Millennium Development Goals Report*. New York p. 8.

2 United Nations (1996).

3 *Ibid*., p. 5.

4 The G33 and G90 are groups of countries that have come together within the context of the WTO negotiations to represent particular needs and positions. The members of the G33 and G90 and other groupings in the WTO negotiations are shown in the list of negotiating groups in **Appendix 1.1**.

countries concerned about food security, livelihood security and rural development, while the G90 represents poor and small countries. The G90 is an umbrella body of the African Group, the least-developed countries (LDCs) and the African, Caribbean and Pacific Group of States (ACP). The G90 is the largest grouping of members in the WTO. The difficulties in concluding trade agreements at all levels is a clear indication of the different views on, among other issues, what is the best trade policy and how economic and rural development would be affected by the choice of policy.

This chapter provides an overview of the interface between trade, trade policy and food security in the Caribbean. The first section outlines the conceptual linkages between trade policy, trade and food security, including various views on trade policy and related outcomes. The second section reviews the trade and food security situation in the Caribbean, emphasizing the importance of trade to the welfare of the region. The third section presents regional agricultural and trade policy in the Caribbean in the context of multilateral negotiations and highlights the challenges to develop a regional agricultural trade policy across diverse states. The final section presents conclusions and critical areas for attention as the Caribbean seeks to establish a regional agricultural trade policy that advances food security and development.

1.1 Linkages and issues related to trade policy, trade and food security

The accepted definition of food security has changed considerably over the last three decades since the concept was first introduced in the 1970s. At that time the emphasis was mainly on volume and stability of food supplies.[5] In the 1980s, two additional dimensions were added: *access*, of all peoples at all times; and *enough* food for an active and healthy lifestyle.[6] A more recent and perhaps most widely used definition is the 2001 refinement by the Food and Agriculture Organization of the United Nations (FAO) of its earlier 1996 World Food Summit definition. The refined definition is:

> *"Food security is a situation that exists when all people, at all times, have physical, social, and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life."*[7]

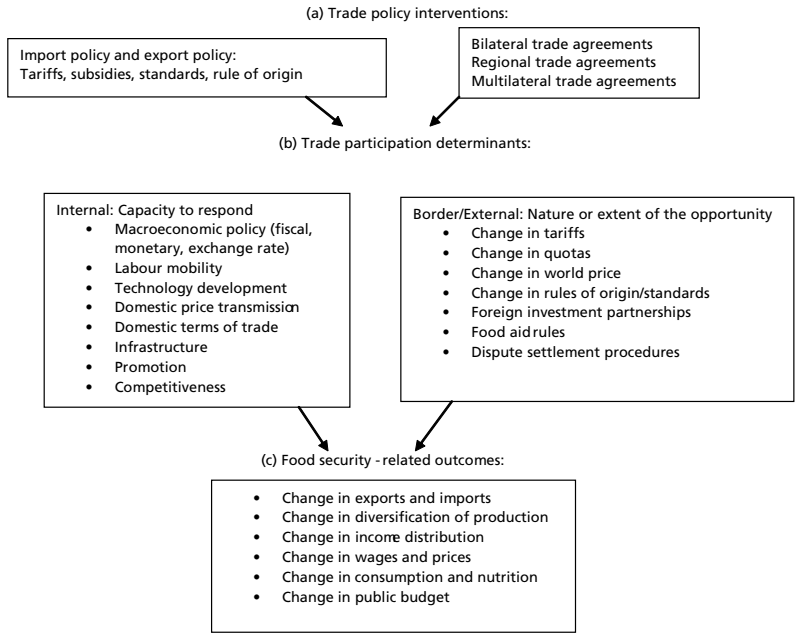
The key variables that characterize food security concepts and approaches have therefore come to be: accessibility, availability, stability and utilization. It is generally accepted that improved trade policy linkages, interfacing

[5] United Nations (1975).

[6] The aspect of "access" is credited to FAO (1983); and "enough food for an active and healthy lifestyle" to the World Bank (1986).

[7] FAO (2002a).

FIGURE 1.1
Trade policy, trade and food security: linkages



effectively with the larger internal and external policy environments, can positively affect these variables. **Figure 1.1** presents these linkages, placing the critical determinants into two categories: those affecting the nature of the *internal* capacity to respond; and those related more to border[8] and external measures that affect the nature and extent of the *external* opportunity.

The internal dynamic linkages relate primarily to the fact that trade liberalization will not result in increased food security unless domestic producers and traders are able to participate in increased trading opportunities. The domestic policy and production environment have to stimulate and be conducive to the required changes. These factors critically affect the ability of firms (including farms) to increase their productivity and/or switch to alternative activities successfully. The result of the linkage between policy

[8] Border measures generally refer to the regulations governing the entry of products moving from one country into another. The most common and accepted border measure is a tariff. Under the Uruguay Round of the World Trade Organization all non-tariff barriers, including quantitative restrictions, were to be replaced by tariffs.

and outcome also depends on the situation before the policy change, both in terms of the objectives and nature of the policy, as well as production and trading capacity.

Given the increased openness of economies globally, cost reductions in one place have almost immediate impacts in other locations. Hence, countries that are not able to participate in cost reduction in the area where they are currently operating (for whatever reason) and have not prepared to be effective in alternative areas, could face increased food insecurity. Increases in productivity globally have been determined largely by technological advances – and most Caribbean countries have lost research and development capacity over the past two decades.

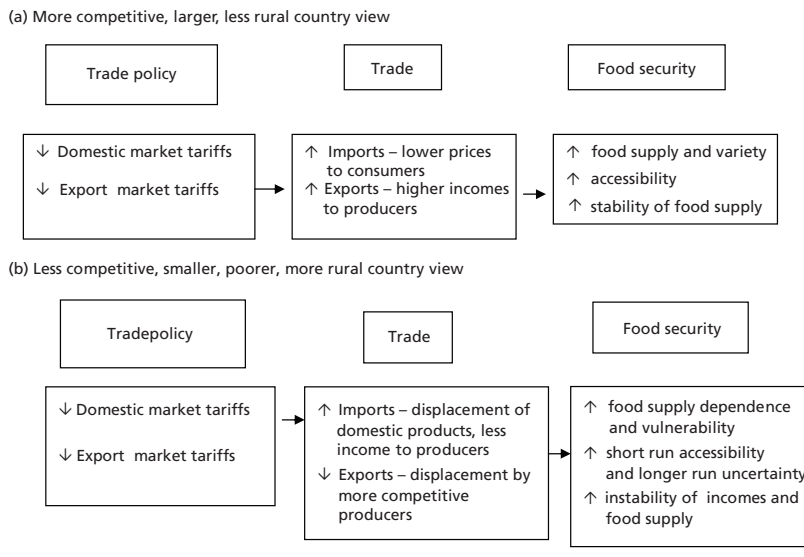
Generally, in the Caribbean, the national research and development agencies and the government's extension systems are a shadow of what they were in the 1970s. The same applies to both regional technology institutes (such as the Caribbean Agricultural Research and Development Institute (CARDI)) and to regional agricultural coordination units (such as within the CARICOM Secretariat). Falling commodity prices (sugar and tropical beverages) and increasing international debt have contributed to these and other crucial areas such as infrastructure and institutions not being adequately funded. As a result, the productive sectors, for both the domestic and export markets, have not sufficiently increased their efficiency and do not currently have the capacity to respond. Thus, the countries could potentially suffer negative consequences as they open their domestic markets to imported commodities.

The border and more external related dynamic linkages are mainly the changing relations globally, and especially between the small and poor countries and their historic trading partners. This process of change needs to be managed carefully, in terms of both policy and product scope, and time must be allowed for adjustment, to ensure that the process does not contribute to increasing food insecurity in these countries. The most critical factors affecting these external linkages are policies within the framework of the WTO, policies designed to create a fairer trading environment, through reducing domestic subsidies and tariff barriers that distort trade, and establishing and enforcing agreed rules that enable trade to expand. As **Figure 1.1** implies, these linkages affect the flow of imports and exports but equally importantly they affect what is produced, how it is produced, by whom it is produced, how benefits and costs are distributed and the resulting impacts on consumption and nutrition.

Within the above generalized policy framework there remain two different emphases based on different views of dependence on trade for food security and how trade works to increase food security.

One approach is the pursuit of food self-reliance. This approach reflects a strategy that allows the sources of food to be determined by international

FIGURE 1.2
Trade policy, trade and food security: two views



These views can also be situated within one country when related to producer size and products, and thereby points to the importance of policies in spreading development.

trade patterns and accepts the benefits and risks associated with it. A second approach is the pursuit of varying degrees of food self-sufficiency, above that implied by free trade. This approach reflects the extent to which food supplies are produced in the country. Generally, in the latter approach the supplies of food sourced domestically are greater than would be expected if more liberalized trade were pursued. This latter approach is pursued by a wide range of countries that are committed to maintaining a significant agricultural sector, if only for domestic consumption.

Countries emphasize one or the other for a variety of reasons and may have different emphases at different stages of development. **Figure 1.2** presents two views, showing how a more liberalized trade policy can affect food security.

Figure 1.2(a) presents the dominant conventional wisdom that trade liberalization policies (reducing tariffs) and increased trade enables specialization, which increases the efficient use of resources and thereby expands economic growth – which in turn leads to enhanced economic welfare and food security. The fundamental linkages between trade policy,

trade and food security here materializes through policy incentives that catalyse increased production and productivity, leading to increased incomes and reduced prices. Therefore, there would be increased food security, represented mainly by an increased and more stable food supply and an increased ability to purchase food.

The proponents of the above view recognize that the evidence to support it is questionable, particularly in terms of employment effects and impacts on the poorer strata of society.[9] Market failures related to production structure, the nature of competition and distribution of potential gains cause this view to remain contentious. More liberalized trade, as represented mainly by lower tariffs, implies major changes in the structure of production, affecting what is produced, with what resources and by whom. The assumptions related to the ease of transfer of resources into different activities, particularly local labour, and especially in terms of skills and location, have led to considerable disagreement about the possibility of realizing the posited outcomes.

For small, poor, developing countries general tariff reduction agreements have not resulted in the trade expansion that they might have anticipated and were promised. Given the low current tariff rates that the poor and vulnerable countries pay in the major developed country markets to which they export their products, further general tariff reductions alone are unlikely to be very beneficial. The experience of most developing countries, taken individually and collectively, makes the case. **Table 1.1** shows how agricultural trade shares and net trade balances have changed between 1988 and 2004.

While both developing and developed countries increased their exports over the period, the rates of increase were the same and global shares did not change. Further, developing country gains were highly concentrated by region, mainly Asian non-LDC countries and South American countries. The performance and participation of LDCs in both Asia and Africa was greatly inferior to other countries in their regions and they saw their share in global trade decline and their net agricultural trade balances turn or become more negative. In the Caribbean, there was a substantial decline in absolute trade as well as shares in global trade. For poorer and smaller countries the linkages between trade policy, trade and food security is better represented by a **Figure 1.2(b)** view.

Understanding the difference between these two views is important and is largely based on different assumptions or perceptions about the determinants of trade outcome – in other words, about the ability or capacity of countries to influence trade outcomes and participate in what might be an increased opportunity to trade. The challenge remains to manage the linkages in **Figure 1.1** effectively in order to narrow/eliminate the gap represented by the two views in **Figure 1.2**.

[9] FAO (2003).

TABLE 1.1
Developing countries: agricultural export shares and net agricultural trade

Regions	Shares in world agricultural exports (%)			Net agricultural trade (billion US$)		
	1988	1994	2004	1988	1994	2004
Developed countries	70.6	71.4	70.5	-34.9	-17.4	-26.8
Developing countries	29.4	28.6	29.5	8.4	1.5	-3.3
Asia (developing)	14.6	16.2	14.6	-7.7	-8.1	-33.6
LDCs	0.2	0.2	0.1	-1.3	-1.5	-3.3
Non LDCs	14.4	16.0	14.5	-6.4	-6.7	-30.3
SSA	3.1	2.3	2.1	3.4	1.8	-1.2
LDCs	1.3	0.9	0.7	0.1	-1.1	-3.5
Non LDCs	1.9	1.5	1.4	3.3	2.9	2.3
All LDCs	1.5	1.1	0.8	-1.3	-2.6	-6.8
Near East & North Africa	0.6	0.6	0.6	-6.1	-7.1	-8.4
Caribbean	**2.0**	**0.6**	**0.3**	**2.9**	**-1.1**	**-2.2**
Oceania (developing)	0.2	0.2	0.1	-0.2	-0.2	-0.4
South America	6.9	7.7	9.6	15.0	18.6	44.5
Central America	2.0	2.0	2.6	1.8	-1.0	-2.1

FAOSTAT, 2005

TABLE 1.2
CARICOM – trade openness of member countries (average 2001–2003)

	Merchandise exports (X)	Merchandise imports (M)	X + M	GDP	X + M / GDP
	(US$ million)				(%)
Antigua and Barbuda	44	397	441	729	0.6
Bahamas	431	1 801	2 232	5 087	0.4
Barbados	225	1 086	1 311	2 606	0.5
Belize	181	531	712	959	0.7
Dominica	42	124	166	257	0.6
Dominican Republic	5 304	7 627	13 718	19 913	0.7
Grenada	39	221	261	412	0.6
Guyana	497	568	1 065	720	1.5
Haiti	300	1 110	1 411	3 338	0.4
Jamaica	1 170	3 512	4 681	8 351	0.6
Saint Kitts and Nevis	35	198	234	356	0.7
Saint Lucia	50	356	406	671	0.6
St Vincent and the Grenadines	39	187	226	364	0.6
Suriname	503	552	1 056	912	1.2
Trinidad and Tobago	4 446	3 701	8147	9 399	0.9

Source: World Bank and FAOSTAT, 2006
For comparative purposes it is useful to note that for Brazil, Peru, Panama and Costa Rica the equivalent numbers (for the last column in Table 2) are .27, .22, .32 and 1.25, respectively.

The next section elaborates more fully the trade policy experience and its linkages to food security outcomes in the context of Caribbean economies.

1.2 Trade and food security in the Caribbean

Trade and food security are tied together in the Caribbean through a variety of linkages rooted in the importance of exports and imports to their economies. On the one hand, export-oriented economic activity is a major source of foreign exchange and employment-based income-earning opportunities (linked to both the supply and accessibility dimensions of food security). On the other hand, imports are equally critical to nutritional and stability dimensions of food security, as most of these countries are net food importers. Further, much of the production for national, regional and international trade is dependent on imported inputs, thereby underlining the dynamic synergies between imports, exports and food security. This section highlights trade and food security linkages in the Caribbean.

The smaller a country is, the more open to trade it must be, in order to enlarge its markets and purchase commodities to expand the variety of resources and food products available to it. **Table 1.2** presents an evaluation of the openness of Caribbean economies using trade to gross domestic product (GDP) ratios. (Two of the most open countries in the world as measured by this ratio are Malta and Singapore.) Obviously countries of a similar size can have different levels of openness depending upon their policies; a less externally engaged country would be expected to have a lower ratio. On the basis of these ratios all Caribbean countries would be considered small, open economies. The Caribbean economies' high ratios indicate potential vulnerability to food insecurity due to high dependence on trade (for national-level economic activity), foreign exchange earnings and food imports.

Table 1.3 shows that agricultural exports form a high proportion of total merchandise trade for most Caribbean countries, reflecting the importance to the economy of that sector. This share has declined over time; in several countries it is also indicative of an absolute decline of agricultural output and exports. Increasingly, earnings from the services sector fill the gap. Agricultural exports have represented a very high share of agricultural GDP, greater than 40 percent for 11 of the 15 countries, reflecting the dependence of the rural sector on external markets for their livelihoods.

The dependence on trade is also demonstrated by the high share of agricultural production that is exported, most often comprising one or two commodities that go mainly to one market. **Table 1.4** shows factors that indicate the vulnerability associated with the existing trade regimes: crop dependence, trade dependence and market dependence.

TABLE 1.3
Share of agricultural exports in total merchandise exports (percentage)

	1990-992	2001-2003
Antigua and Barbuda	2.7	0.2
Bahamas	1.8	1.0
Barbados	27.9	28.8
Belize	69.0	64.1
Dominica	67.4	39.7
Dominican Republic	54.8	63.8
Grenada	65.2	40.5
Guyana	42.9	32.9
Haiti	18.4	6.5
Jamaica	21.2	21.3
Saint Kitts and Nevis	41.5	10.3
Saint Lucia	65.4	68.3
Saint Vincent/Grenadines	77.5	69.4
Suriname	9.7	7.2
Trinidad and Tobago	5.7	5.3

Source: FAOSTAT, 2006

TABLE 1.4
Top agricultural export (1), its percentage in total agricultural exports (2), percentage of production exported (3), percentage shipped (4) to main market (5)

Country	1	2	3	4	5
	Product	2001-03	2001-03	2002	
Antigua and Barbuda	Beverages (dist alcoholic)	31.3	-	76	CARICOM
Bahamas	Beverages (dist alcoholic)	55.4		89	EU
Barbados	Sugar (centrifugal, raw)	31.7	92.5	99	EU
Belize	Orange juice (concentrate)	28.3	75.5	99	CARICOM
Dominica	Bananas and Plantains	63.1	75.9	82	EU
Dominican Republic	Cigars (cheroots)	40.6	-	66	USA
Grenada	Nutmeg, Mace, Cardamons	57.4	89.4	75	EU
Guyana	Sugar (centrifugal, raw)	41.3	94.2	62	EU
Haiti	Mangoes	25.7	3.2	96*	USA
Jamaica	Sugar (centrifugal, raw)	26.6	80.5	100	EU
Saint Kitts and Nevis	Sugar	83.8	39.6	99	EU
Saint Lucia	Bananas	68.2	38.5	97	EU
St Vincent and the Grenadines	Bananas	49.8	71.2	85	EU
Suriname	Rice, Husked	31.2	99.1	76	EU
Trinidad and Tobago	Beverages (non-alcoholic)	30.9	-	81	CARICOM

* Data for 1992

TABLE 1.5
Food import capacity indicator (import/export)

	1995	2000	2004
Antigua and Barbuda	25.23	66.54	20.58
Bahamas	6.78	8.11	4.29
Barbados	1.59	1.66	1.52
Belize	0.32	0.38	0.36
Dominica	0.86	1.05	1.46
Dominican Republic	1.02	0.66	0.83
Grenada	2.48	1.46	1.86
Guyana	0.25	0.36	0.38
Haiti	10.33	10.83	22.10
Jamaica	1.02	1.12	1.45
Saint Kitts and Nevis	1.20	3.49	4.71
Saint Lucia	0.98	2.12	1.19
Saint Vincent/Grenadines	0.62	0.75	1.57
Suriname	1.04	1.27	3.85
Trinidad and Tobago	1.25	1.12	2.97

Table 1.5 reports one more indicator related to food trade, the value ratio of food imports to food exports.[10] The figures underline the effect of the small size of some of the agricultural economies in the region, which implies the need to import considerably more food than the amount exported. For some countries, the indicator confirms the extent to which agricultural exports are a small part of the trade balance. Antigua and Barbuda, and to a lesser extent, Bahamas, are examples of countries where much more food is required than what is produced domestically and exported, reflecting mainly the size and the structure of the economy. In contrast, in countries like Haiti, the high figure indicates the low current capacity of the country to produce domestically and to rely on its exports to purchase the required food. The results for relatively larger-sized agricultural-based economies, such as Belize and Guyana, are as expected.

Given the high percentage of the population that depends on agriculture for its livelihood (**Table 1.6)** and that has limited opportunities to shift to other income-earning sectors, it is critical that trade policy facilitate and ease transitions to sectors that are economically sustainable. On the global level, limited understanding of how these economies function often leads to assuming too readily that labour mobility between sectors is possible. Trade policies that have not been phased carefully and have not been accompanied by policies enabling the transfer of labour between sectors have led, in some cases, to increased poverty and food insecurity.

[10] See Section 2.1, Chapter 12 for a wider discussion of the meaning and limitations of this indicator.

TABLE 1.6
Share of agricultural employment in total employment (2000)

Country	Total employment (000)	Agricultural employment (000)	%
Antigua and Barbuda	32	8	25.0
Bahamas	156	6.0	3.8
Barbados	147	6.0	4.1
Belize	83	25.0	30.1
Dominica	35	8.0	22.9
Dominican Republic	3 612	603.0	16.7
Grenada	37	9.0	24.3
Guyana	319	56.0	17.6
Haiti	3 458	2 156.0	62.3
Jamaica	1 284	264.0	20.6
Saint Kitts and Nevis	19	4.0	21.1
Saint Lucia	64	15.0	23.4
Saint Vincent/Grenadines	50	12.0	24.0
Suriname	159	30.0	18.9
Trinidad and Tobago	573	50.0	8.7

FAOSTAT, 2005

TABLE 1.7
Number of undernourished people (millions)

Countries	1969-1971	1979-1981	1990-1992	1995-1997	2001-2003 provisional	2002-2004 preliminary
The Caribbean	5.1	4.7	7.7	8.9	6.7	6.8
Dominican Republic	1.8	1.4	1.9	2.0	2.3	2.5
Guyana	0.1	0.1	0.2	0.1	0.1	0.1
Haiti	2.5	2.6	4.6	4.5	3.8	3.8
Jamaica	0.2	0.2	0.3	0.3	0.3	0.2
Suriname	0.1	0.1	0.1	0.0	0.0	0.0
Trinidad and Tobago	0.2	0.1	0.2		0.2	0.1

Source: FAOSTAT, 2006

Table 1.7 presents the countries that account for the largest numbers of undernourished people in the region and indicates that this number has increased over the last three decades, although there are clear signs of improvement in recent years. While Haiti has accounted for most of the increase it should be noted that, for example, the undernourished population increased in the Dominican Republic, at a considerable rate in the 1990s.

Income distribution in the Caribbean is also cited as a problem in some countries: these have very high per capita incomes with a disproportionate percent of their population being undernourished. **Table 1.8** shows that while the Bahamas and Saint Kitts and Nevis have high per capita incomes

TABLE 1.8
Prevalence of undernourishment in total population (percentage)

Countries	1969-1971	1979-1981	1990-1992	1995-1997	2001-2003 provisional	2002-2004 preliminary
Bahamas	7	12	9	14	7	8
Barbados	3	<2.5	<2.5	3	<2.5	<2.5
Belize	17	4	7	6	5	4
Dominica	42	27	4	7	8	8
Dominican Republic	40	25	27	26	27	29
Grenada	28	28	9	7	7	7
Guyana	19	13	21	12	9	8
Haiti	54	48	65	59	47	46
Jamaica	12	10	14	11	10	9
Saint Kitts and Nevis	47	26	13	19	11	10
Saint Lucia	34	19	8	7	5	5
Saint Vincent/Grenadines	19	14	22	27	12	10
Suriname	23	18	13	10	10	8
Trinidad and Tobago	16	6	13	15	11	10

Source: FAOSTAT, 2006

(US$17 000 and US$8 000, respectively, in 2003), they have almost twice the rate of undernourishment of Belize and Saint Lucia, with half the per capita income. In the latter two countries, the relatively higher importance of agricultural exports in total merchandise exports, and of agricultural employment in total employment, could be factors contributing to a greater degree of food security – especially if they indicate more vibrant and self-sufficient rural areas, where the poorest segments of the population live and earn their livelihoods.

A rough assessment of the average ability of a population to access food is provided by the size of the total supply of domestic food staples, acquired through either production or imports, in relation to the population. **Table 1.9** shows this indicator in per capita terms for the Caribbean countries.[11] In a number of cases the figure confirms expectations in terms of food security. For instance, in Dominican Republic, the indicator is consistent with the increasing levels of poverty observed recently, while some of the relatively better-off economies of the region show higher per capita supplies (e.g. Trinidad and Tobago and Saint Lucia). However, in a number of countries the relative importance of cereals in the diet (consumption of rice and wheat mainly), together with the uncertain accuracy of the information available, may explain the results (e.g. Antigua and Barbuda and the Bahamas).

The increasing amounts of essential foods per capita that are supplied by imports reflect increasing national dependence on imported sources of

[11] See Section 2.1 in Chapter 12 for a wider discussion of the meaning and limitations of this indicator.

TABLE 1.9
Cereal supply per capita in the Caribbean (kg)

	1995	2000	2003
Antigua and Barbuda	85.4	86.6	83.6
Bahamas	83.0	86.7	83.5
Barbados	98.3	103.5	105.7
Dominica	97.0	78.2	86.9
Dominican Republic	75.2	85.2	78.9
Grenada	100.8	90.2	88.6
Guyana	140.5	136.6	143.5
Haiti	91.0	104.4	116.6
Jamaica	104.4	98.4	103.7
Saint Kitts and Nevis	71.2	80.5	80.1
Saint Lucia	103.9	108.3	107.3
St Vincent and the Grenadines	97.6	113.3	118.9
Suriname	146.3	129.6	128.3
Trinidad and Tobago	116.9	119.8	122.5

Source: FAOSTAT, 2006

food. **Table 1.10** shows the per capita trends during three periods. For cereal products the increasing kilograms imported per capita may not be surprising, given the shift away from local food patterns associated with more root crops. This could be viewed as a trading opportunity for the two countries that are the main cereal product producers in the region. The results for fruits and vegetables and their products points to increased per capita consumption of imported fruits and vegetables in a region that, with the exception of Bahamas, Barbados, Saint Kitts and Nevis and Trinidad and Tobago, have domestic supplies to cover their needs **(Table 1.11).**

The agricultural production and trading situation and food insecurity assessment described in this section has several implications for Caribbean regional agricultural trade policy – especially as the Caribbean states design regional economic strategies that lead to higher levels of agricultural and rural development and food security for the region. The following section addresses some of these policy challenges.

1.3 Trade policy and food security in the Caribbean

Agricultural trade and trade policy have been critical to achieving high levels of food security and human development in many Caribbean states. Few would question the conclusion that it is benefits derived from the sugar trade of Barbados and Saint Kitts and Nevis – including sugar market and trade policies towards these countries by developed countries – that have contributed to their ranking among the top fifty countries on the Human

TABLE 1.10
Food imports – selected food groups (kg/person/yr)

Country name	Cereals &prod. excl beer			Meat (slaughtered) & prod.			Fruits &prod. (excl. wine)			Vegetables & products			Milk & products		
	1969-1971	1990-1992	2001-2003	1969-1971	1990-1992	2001-2003	1969-1971	1990-1992	2001-2003	1969-1971	1990-1992	2001-2003	1969-1971	1990-1992	2001-2003
Antigua and Barbuda	95	101	82	27	76	52	31	29	47	14	38	10	46	77	70
Bahamas	118	107	118	84	97	101	66	119	215	45	60	54	142	129	99
Barbados	137	285	272	51	43	37	49	72	119	13	14	32	115	86	106
Belize	100	99	115	18	16	8	6	9	14	9	11	21	116	147	78
Dominica	78	117	109	20	48	57	7	16	10	5	10	14	46	95	110
Dominican Republic	25	106	164	0	0	0	1	1	4	1	1	2	19	29	9
Grenada	104	211	324	18	48	81	6	27	40	5	8	12	72	148	144
Guyana	72	78	92	4	6	6	5	0	13	5	0	39	50	14	69
Haiti	10	48	79	0	0	4	0	0	1	0	1	2	4	9	8
Jamaica	157	172	222	11	13	16	5	3	18	4	2	9	61	42	41
Saint Kitts and Nevis	110	163	163	21	75	126	4	41	87	7	22	58	87	109	138
Saint Lucia	90	156	182	20	68	86	17	55	71	5	16	25	48	105	144
Saint Vincent/Grenadines	93	342	297	11	53	64	2	10	35	3	2	8	72	70	84
Suriname	85	137	108	12	3	29	3	1	4	9	10	18	25	46	24
Trinidad and Tobago	192	213	201	9	9	12	11	41	32	8	16	22	115	96	103

Source: FAOSTAT, 2006

TABLE 1.11
Imports as a percentage of domestic supply of selected food groups

	Fruits	Milk	Vegetables	Cereals
Antigua and Barbuda	14.7	48.9	15.9	98.7
Bahamas	45.9	95.1	27.1	99.5
Barbados	78.9	78.4	28.5	110.4
Belize	0.3	86.3	25.9	29.2
Cuba	0.0	38.1	0.7	63.2
Dominica	0.1	54.9	9.7	97.7
Dominican Republic	0.9	11.5	1.2	65.0
Grenada	0.4	95.0	18.7	176.2
Guyana	0.5	61.4	14.1	19.5
Haiti	0.0	46.8	3.3	62.0
Jamaica	0.3	80.6	5.9	100.0
Saint Kitts and Nevis	33.8	81.5	68.7	100.0
Saint Lucia	0.6	94.5	76.4	100.0
Saint Vincent/Grenadines	0.4	86.6	13.8	205.9
Suriname	1.4	35.6	13.8	22.5
Trinidad and Tobago	11.6	95.5	50.4	103.9

Source: FAOSTAT, 2006

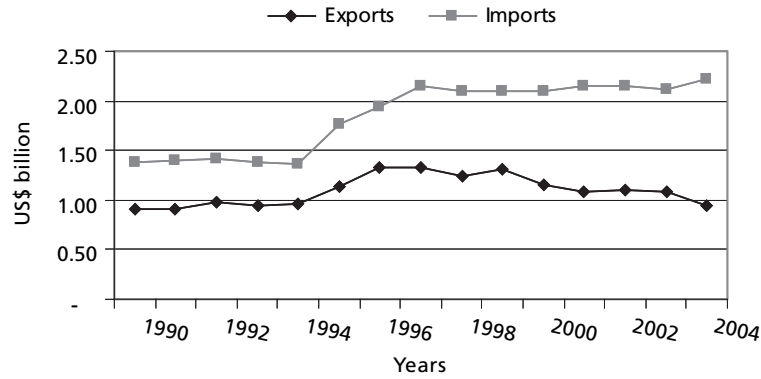
Development Index.[12] Other factors contributing to increasing levels of rural welfare include national trade policies in the 1960s and 1970s, negative lists to promote import substitutes and guaranteed prices for isolated remote areas, and marketing boards to facilitate exports of non-traditional products. Many of these trade policies were implemented to provide market space and time to achieve competitiveness for many segments of the domestic agricultural sector.

These policies are not dissimilar to trade policies in developed countries and larger developing countries that provided subsidies and delayed the opening of their markets. In many of the developed countries, export subsidies and high import tariffs have contributed to enabling their rural areas to achieve the levels of productivity and competitiveness they now enjoy. These developed country policies also contributed cheap food imports that increased food security in some of the poorest developing countries. Thus, trade policy in both developed and developing countries has been, and continues to be, characterized by government interventions to increase food security and rural welfare.

Trade liberalization was promoted to many Caribbean countries in the 1980s as a part of a package of policies that established conditions for receiving structural adjustment programme loans from the World Bank. Further, Caribbean countries participated in the Uruguay Round negotiations

[12] United Nations Development Programme (2006a).

FIGURE 1.3
Caribbean agricultural trade trends



Source: FAOSTAT, 2006

and joined the WTO at its formation in 1994 committing themselves to a multilateral trade policy directed at lowering tariffs, and – especially important from the Caribbean standpoint – agricultural product tariffs.

The outcome in terms of agricultural exports and imports for CARICOM countries, after more than ten years of embracing this trade liberalization policy, is shown in **Figure 1.3**. The decrease in tariffs has opened their markets to more imports and has led to lowering of their preferential margins in developed country markets, resulting in loss of markets for their major export commodities. As a result, the gap between agricultural exports and imports continues to widen in several countries with significant percentages of their populations living in rural areas and dependent on livelihoods related to agricultural activity.

The underlying policy assumption is that through the effective functioning of factor and product markets there will be adjustments into alternative areas of production and trade that are more competitive and economically sustainable. This has not happened to date largely because trade policy does not function in isolation and requires complementary and compensatory policies that would facilitate such a transition. Perhaps most importantly are the aspects related to the timing of the reductions in tariffs, including the time over which the reductions are spread. The timing is dependent on the policy efficiency of Caribbean countries in two general areas. The first area is the policies they can implement behind the border to enable markets to work better, essentially building their supply-side capacity. The second area is what they can negotiate both at and beyond the border to protect their domestic

and regional markets and at the same time increase market opportunities. The two areas are closely intertwined and support each other.

Behind-the-border policies

In light of the increasing liberalization faced by their agricultural sectors, Caribbean states introduced national policies to increase the competitiveness of the agricultural sector. At the regional level in 1996 heads of government agreed to a specific initiative, the Regional Transformation Programme for Agriculture (RTP)[13]. The RTP was developed on the basis of the following subprogrammes:

- policy support;
- human resource development;
- technology generation, validation and transfer;
- agribusiness development;
- marketing development;
- water resource development;
- forestry development;
- fisheries development; and
- institutional arrangements.

Various regional organizations such as the Caribbean Agricultural Research and Development Institute (CARDI), the University of the West Indies (UWI), the CARICOM Secretariat, the CARICOM Fisheries Resource Assessment and Management Programme (CFRAMP) and the Caribbean Development Bank (CDB) were given leadership and supporting responsibilities with respect to different subprogrammes. A Finance Committee was also established to examine means of mobilizing resources to support the implementation of the programme. A Committee of Lead Agencies was subsequently established to assist with coordination and implementation of the programme.[14]

In most countries of the region the agricultural sector has declined relatively and absolutely as the behind-the-border policies have not led to either revived traditional agricultural product sectors or to viable alternative production and trading activities. A number of explanations are offered for this failure, among them being a lack of:

- adequate resources, whether technical or financial, to support the subprogrammes;
- clear and precise priority areas and associated actions required to tackle constraints and access opportunities;
- awareness by producers and traders of potential opportunities;
- a truly integrated approach that effectively links resources and opportunities at the national, regional and international levels; and

[13] Established through Articles 56 (The Community Agricultural Policy) and 57 (Implementation of the Community Agricultural Policy) of the Revised Treaty.

[14] Rawlins (2005).

- certainty in the global trade policy environment, with losses of market access much more visible than gains.

The slow progress experienced in implementing the overall programme dimensions of the RTP led to an emphasis on commodity studies within the framework of the RTP and on another regional agricultural policy initiative, the Jagdeo Initiative.

The Jagdeo Initiative (JI) was established to achieve a resurgence of regional agricultural potential through the identification of critical constraints affecting agriculture in the region and the crafting of programmes and strategies for their alleviation. In one sense it could be interpreted as providing sharper focus on aspects of the RTP. The JI itself indicates that it is fully complementary to and finds its legitimacy in the RTP, which is premised on the harmonized regulations and convergence of policies across CARICOM Member States. **Appendix 1.2** provides a matrix showing the key JI constraints facing the agriculture sector and the interventions suggested to alleviate them.

Policies at, and beyond, the border

The open nature of the Caribbean economies has meant they are greatly affected by changes in the international economic environment. The oil shocks of the 1970s and the 1980s, together with changes in the preferential arrangements accorded these countries, led to adverse movements in their terms of trade and resulted in problems with balance of payments. Efforts to address the problem have relied on increased external financing which has exacerbated the precarious external debt situation in several of the countries. The efforts to develop an at the border policy (through CARICOM Economic Integration) and negotiate beyond the border policies (through multilateral negotiations) continue despite the immense hurdles in both areas.

CARICOM at the border policies are tied to the commitment to establish a CARICOM Single Market and Economy. This commitment is of major significance to national, regional and international policies, especially in terms of trading relations. The essential features of the proposed Single Market and Economy include:

- a common external trade and economic policy;
- free movement of goods;
- free movement of services;
- free movement of persons;
- free movement of capital; and
- right of establishment.

One key dimension of the first feature, the common external trade and economic policy, is the common external tariff (CET) which is at various stages of implementation throughout the region. Member countries of CARICOM started introducing the CET in 1995 with a goal of completing implementation by 1998 through a four-phase schedule of tariff reductions.

TABLE 1.12
Summary of agricultural tariff statistics for Caribbean countries

	Number of matched lines	Simple average		Standard deviation		Minimum rate		Maximum rate	
		Bound	Applied	Bound	Applied	Bound	Applied	Bound	Applied
Antigua and Barbuda	603	106	16	16	14	100	0	220	45
Barbados	533	113	21	28	15	100	0	223	224
Belize	598	101	19	4	17	70	0	110	91
Dominica	608	113	21	22	25	100	0	150	135
Grenada	611	99	18	29	15	0	0	200	40
Guyana	613	100	21	0	21	100	0	100	100
Jamaica	611	97	17	15	17	0	0	100	75
St Kitts and Nevis	597	110	13	29	20	10	0	250	40
St Lucia	614	115	16	26	15	100	0	250	45
St Vincent/Gren.	596	116	17	27	15	100	0	250	40
Suriname	353	20	24	1	18	10	0	20	50
Trinidad and Tobago	612	91	17	27	16	0	0	156	60

Note: Data on tariffs was compiled from the World Integrated Trade Solution (WITS). Corresponding applied and bound tariff lines were matched using the SAS 9.1 software. The Bahamas is not a member of the WTO and Haiti, while a member, is an LDC. Thus, these two countries do not have tariff cutting commitments and are not included in the analysis here.

Under the CET the general commitment was to a maximum CET level of 40 percent on agricultural goods; across the region most applied tariffs for agricultural goods are below this level. Rates are now linked to multilateral trade negotiations and are affected by commitments made in these negotiating arenas. For the Caribbean, currently the two most important arenas are the WTO negotiations under the Doha Round and the European Union–Africa, Caribbean and Pacific Group of States Economic Partnership Agreements (EU–ACP EPAs).

Under the Uruguay Round CARICOM countries generally set similar bound rates and with their CET commitment these tariff rates largely reflect external trade policies for different products or tariff lines.[15] **Table 1.12** shows the gross summary across total tariff lines for Caribbean countries. It indicates that generally the simple average of applied tariffs for the Caribbean countries is 19 percent while that of bound tariffs is almost five times that (90 percent). These rates can be compared with the applied and bound tariffs 21 and 48 percent respectively for developing countries globally.

These average levels disguise specific trade policies associated with particular products. **Table 1.13** presents a summary of CARICOM CET

[15] This of course is not the case for some countries, particularly developed countries, which have much more complex trade regimes, reflected in their capacity to provide domestic and export subsidies, and to implement complex procedures related to standards and safety measures.

TABLE 1.13
Summary of CARICOM CET agriculture product rates by HS Code

HS code	Description of goods	Rate of duty	Indicative comments
1	Live animals	Free; 40%	Free for breeding purposes; 40% for rearing. Other live animals other than horses, cattle, pigs, small ruminants and poultry 40%
2	Meat and edible offal	List A; 5%; 20%	List A - Cattle, pigs, small ruminants and poultry; Edible offal - 5% with exception of poultry - List A; Salted Meats- 20%
3	Fish and crustaceans	List A; 40%; free; 20%	Almost all 40%; for processing; Dried, salted, smoked - 20%.
4	Dairy produce	List A; 5 - 20%; 40%	Concentrated, Powder, Condensed; Other milk products, butter, cheese; Eggs and Products
5	Products of animal origin	0 - 5%	Hair, Skin , Bones.
6	Live trees	15%;40%	Food Plants; Cut Flowers
7	Edible vegetables and; for industry; roots and tubers;	List A; 40%; 0-5%; 40%	For food; for industry; fresh, chilled, frozen or dried.
8	Edible fruits and nuts	40%; 15%	Fresh or dried; Minor fruits preserved and imported
9	Coffee, tea, spices	40%; 5%; 40%; 0-5%	Coffee; Teas; Cinnamon cloves, thyme, pimento, pepper, ginger; other spices
10	Cereals	List A; Free; 25%	Major Cereals Consumed; Rice based;
11	Milling products	0-5%; 40;	Wheat, maize; cassava, banana, plantain, arrow root
12	Oil seeds	List A; 0-5%; 0%	Feed, flour, industry; for sowing.
13	Lac, gums, resins	0-5%	
14	Vegetable plaiting materials	0-5%	Bamboo, rattan and similar materials
15	Animal or vegetable fats	0-5%; 40%	Animals; vegetable
16	Meat preparations	20%	Fish, cattle, swine, poultry
17	Sugars and confectionary	40%; 20%	List A; Cane, beet, maple sugars; chewing gum
18	Cocoa and preparations	0-5%; 20%	Beans, paste; powder and bars.
19	Cereal preparations	20%; 15%	Pastry products; cake mix
20	Vegetable and fruit and nut preparations	0-5%; 20%; 40%	In packages <50 kg; other - jellies and mixtures; fruit juices
21	Liquid extracts	20%	Essences, sauces, soups
22	Beverages, spirits vinegar	20%; List C; 20%	Water and aerated drinks; alcohol- beer, rum, whisky; vinegar;
23	Food industry residue	Free; 15%; 20%	Bran, bagasse, oilcake; livestock feed; pet feed
24	Tobacco and products	List C	Minimum rates agreed but set by member countries

Source: Prepared from CARICOM Secretariat, Revised CET of the Caribbean Community (HS 2007), May, 2006.

tariff rates by HS code and reflects the fact that some commodities such as milling products are rated at between 0 and 5 percent, while others such as fresh and frozen fish or fresh and dried fruit are rated at 40 percent. Table 1.13 includes reference to List C, which applies to products for which minimum tariff rates have been agreed and for which Member States set their rates above the agreed level. The products are mainly luxury products and are associated with raising tax revenues, e.g. race horses, liquor and tobacco.

TABLE 1.14

Summary of List A - items on which suspension of the CET has been granted with rates to be applied by Member States

Tariff heading number	DESCRIPTION	CET rate	Antigua and Barbuda	Barbados	Belize	Dominica
2.01 9 HS - 8 lines	Meat of bovine animals, fresh or chilled.	40%	30%	30%	40%	Free
2.02 9 - HS8 lines	Meat of bovine animals, frozen.	40%	30%	30%	40%	Free
2.03 7 - HS 8 lines	Meat of swine, fresh, chilled or frozen.	40%	30%	Free	40%	30%
2.04 8 - HS8 lines	Meat of sheep or goats, fresh, chilled or frozen.	40%	30%	Free	40%	Free
2.07 18 - HS8 lines	Meat and edible offal, of the poultry of heading 01.05, fresh, chilled or frozen.	40%	30%	15%	40%	Free
3.05 12 - HS8 lines	Fish, dried, salted or in brine; smoked fish, flours, meals and pellets of fish	35%	Free	30%	35%	Free
4.01 3 - HS8 lines	Milk and cream, not concentrated nor containing added sugar or other sweetening matter.	40%	20%	Free	Free	Free
4.02 7 - HS8 lines	Milk and cream, concentrated or containing added sugar or other sweetening matter.	35%	20%	Free	Free	Free
407	Birds' eggs, in shell, fresh, preserved or cooked.					
0407.00.20	Hatching eggs, not for breeder flock	40%	20%	30%	Free	30%
0701.90.00	Potatoes, fresh or chilled. Other, not including seed potatoes	40%	20%	30%	42¢/100 lb	5%
0703.10.10	Onions	40%	20%	30%	42¢/100 lb	Free
0710.10.00	Potatoes	40%	20%	30%	40%	30%
10	Maize (corn)	40%	20%	Free	40%	Free
1005.90.00	Other, not seed corn	40%	20%	Free	40%	Free
1201.00.90	Soybeans, Other, not for sowing	5%	10%	5%	10%	Free
17	Cane or beet sugar and chemically pure sucrose, in solid form.	25%	20%	25%	20%	25%
1701.99.10	Icing sugar	25%	20%	25%	20%	25%
1701.99.90	Other sugar (excluding raw sugar and sugar containing added flavouring or colouring matter)	40%	20%	25%	45%	5%

Source: Summarized from List A, CARICOM Secretariat, Revised CET of the Caribbean Community (HS 2007), May 2006.

Grenada	Guyana	Jamaica	St. Kitts and Nevis	St.Lucia	St. Vincent and Grenadines	Suriname	Trinidad and Tobago
30%	40%	40%	5%	Free	5%	20%	15%
30%	40%	40%	5%	Free	5%	20%	15%
30%	40%	40%	5%	Free	5%	20%	40%
30%	40%	5%	5%	Free	5%	20%	15%
30%	40%	40%	5%	Free	5%	10%	40%
Free	35%	Free	Free	Free	Free	25%	Free
Free	40%	40%	5%	Free	Free	10%	40%
Free	Free	30%	5%	Free	Free	10%	5%
30%	30%	Free	5%	Free	30%	40%	30%
Free	30%	40%	5%	$1.65/100 kg	20%	5%	Free
Free	30%	40%	5%	$1.65/100 kg	40%	5%	Free
30%	30%	40%	5%	$0.88/100 kg	40%	5%	Free
Free	30%	Free	5%	Free	40%	5%	Free
Free	30%	Free	5%	Free	40%	5%	Free
5%	5%	Free	Free	30%	5%	5%	Free
25%	30%	20%	25%	25%	25%	10%	25%
25%	30%	20%	25%	25%	25%	10%	25%
$6.60/100 kg	40%	40%	$6.60/100 kg	$6.60/100 kg	10%	10%	40%

There are also products for which suspension of the CET has been granted for an indefinite period with the rates to be applied by Member States (List A). The CET level and the rates applied for some of these products are shown in **Table 1.14**.

Some sectors are characterized by the highest applied tariffs, for varying reasons. Sugar is associated with high levels of rural area employment, vegetables with vulnerable small farmer incomes and alcohol as a source of tariff revenue. In general, the tariff structure offers higher protection to final agricultural products than to inputs and capital goods, while final goods that compete with domestic or CARICOM production face the highest rates. Some countries apply additional protective charges and provide domestic price support and subsidies on a number of agricultural products.

For example, Trinidad and Tobago applies import surcharges of 60 percent on sugar, 75 percent on icing sugar, 86 percent on some poultry cuts and 15 percent on some fruits and vegetables. It also provides price support for the main traditional exports (sugar and cocoa) and some fruits (citrus and sorrel). These subsidies are a very tiny proportion of agricultural GDP (less than 2 percent) and well within WTO regulations. Trinidad and Tobago is one of the few countries in the region that could afford some of the additional policies and they are generally justified in a food security context, mainly to provide income-earning opportunities.

Trade policy beyond the region is now very much the mandate of the Caribbean Regional Negotiating Machinery (CRNM), acting on behalf of CARICOM. The CRNM was formally established on 1 April 1997 as a creation of CARICOM governments to develop and execute a cohesive negotiating strategy for the various trade-related negotiations in which the region was involved. Trade liberalization and importantly the threat of continued preference erosion was very much the backdrop against which the CRNM received its mandate.

The CRNM spearheads Caribbean-wide positions at the WTO negotiations on critical issues, especially related to developed country policies that might reduce Caribbean country opportunities. This often means supporting the arguments for reduction of subsidies by developed countries for products which as a result might enter Caribbean markets or compete with Caribbean products in third-country markets unfairly. This trade policy concern is obviously linked to Caribbean government efforts to maintain and improve rural livelihoods and food security, and to contribute to poverty alleviation.

The CRNM also focuses on clauses within the WTO negotiations that are directed at developing countries and referred to as special and differential treatment (SDT) clauses.[16] These clauses relate to exceptions for developing

[16] These are clauses such as numbers 41, 42, 43 and 44 in the Decision ("the July package") adopted by the General Council of the WTO on 1 August 2004. See http://www.wto.org/english/tratop_e/dda_e/draft_text_gc_dg_31july04_e.htm.

countries such as lower tariff reductions over longer time periods, special products, a special safeguard mechanism, tropical agricultural products and preferences. Fundamentally, they are measures to be developed to assist the adjustment of countries to increased trade liberalization. They include measures that allow developing countries to maintain some degree of protective policies for specific commodities, which in the case of the Caribbean are mainly agricultural products produced and marketed nationally and regionally. There is considerable disagreement among developed and developing countries on these issues and a lot of work must be done to develop an adequate agricultural trade policy and strategy that assists in achieving the national and regional food security and rural development goals of the Caribbean region. The final section outlines conclusions and critical elements of such a policy and strategy.

1.4 Conclusions and key considerations for a Caribbean agricultural trade policy and strategy

The experience in the Caribbean reinforces the point that trade liberalization alone is not enough for development – and if it is not pursued in an integrated manner it can actually lead to increased food insecurity and poverty. Thus, it is necessary to work on several policy and programme areas, and ensure that the work is based on sound analytical processes. The processes themselves should be responsive to changes in the international and national environments and should pay particular attention to the sequences and complementarities between the various policy and programme interventions.

Agricultural trade policy changed considerably in the 1980s and 1990s as most countries moved to more liberalized economic systems generally and committed to more liberalized trading systems. It is important to understand the situation before the recent changes and to accurately assess the performance of the agricultural sector. There has been a tendency for multilateral agencies to promote certain policies without paying sufficient attention to the peculiar circumstances of individual countries. This has resulted in policy reversals, particularly in several South American countries that formerly embraced more liberal policies.

These policy reversals generally stemmed from policies being introduced too quickly, based on wrong assumptions about the structural conditions in some countries and consequently on their capacity to adjust. This has been due in large part to misperceptions of the *factor markets* because the focus remained on *product markets*. For instance, it was generally assumed that labour would shift out of the rural and agricultural sector as less competitive commodity production systems were closed. Often this did not happen because unemployment was already high and there was no demand for the labour force that was being displaced. Similarly, the rural capital markets were disrupted as the government withdrew services and subsidies associated

with agricultural and rural development banks. The assumption that private sector financial agencies would fill the gaps created was unrealistic and hence unfulfilled given the nature of the demand for agricultural credit and the risks that characterize rural areas in developing countries. The ensuing concentration of agricultural production systems with increasing rural unemployment exacerbated poverty and food insecurity, especially in more isolated rural areas.

Increasing food insecurity and loss of rural livelihoods has been the experience in several countries of the Caribbean as well. Global trade liberalization contributed to this as it resulted in traditional export crops losing access to markets. Further, it led to increased food imports as tariffs were lowered, crowding out domestic food crops and livestock activities. The changing consumption patterns and increasing health problems associated with the new diets are considered related to the recent trends in trade policy.

Thus, it is critical to design trade policies that are responsive to the peculiar circumstances and challenges facing small open economies in the CARICOM/CARIFORUM region. These policies should be coherent and integrated into a larger policy and institutional framework which promotes agricultural development and food security.

In a policy context, a re-orientation of the existing policy formulation processes is needed, with trade policy playing a central and pivotal role in conjunction with macro-economic, agricultural sector, health, social and other related policies. An improved understanding of the roles, capacities and interests of government, the private sector, community stakeholders and the international community is a critical step from an institutional standpoint.

In designing and implementing a policy and strategy for improving agriculture and rural development and promoting food security in the Caribbean, the following considerations are among those that require increased attention:

- **Vision and future for the agricultural sector.** A clear vision and programme for the agriculture sector should be articulated within the context of a broader national development strategy for each country and for the region as a whole. This agricultural sector vision should include an assessment of options for the future of traditional commodities, and the role of non-traditional commodities and non-farm rural activities. This vision should be informed by the goals of the region as a whole, and anticipated changes in the global trade and economic environment, and should include the achievement of food security as an integral component. For the latter purpose an integrated food security policy and strategy should be prepared and implemented with the active participation of the government departments responsible for agriculture, food policy, international trade, domestic trade, health, social transformation, education, economic planning and finance.

- **Agricultural trade policy and programme processes.** Given the significant impact that trade policy measures have on agricultural development and food security, there is a need for an ongoing coordinated and dedicated agricultural trade policy and programme development process. This includes strengthening agricultural negotiations capacity and agricultural policy planning units in each country and at the regional level to facilitate the effective monitoring of all relevant trade related activities, the conducting of trade policy analysis and the sensitization of stakeholders with respect to trade matters. Upgrading statistical and information systems for analytical studies (including assessing competitiveness), and designing, negotiating and managing agricultural trade policy instruments such as special safeguard and special product mechanisms, are important dimensions of this work.
- **National and regional institution and private sector strengthening and interface.** The challenges facing the CARICOM/CARIFORUM region in relation to agricultural development and food security require institutional strengthening at several levels. Deliberate collaborative action by public sector institutions at both the national and regional levels and the private sector (farmers and agribusiness operators) is needed to drive the production and marketing processes to be competitive at the domestic, regional and international levels. Regional institutions such as the Caribbean Agricultural Research and Development Institute (CARDI), the CARICOM Regional Organisation for Standards and Quality (CROSQ), the University of the West Indies (UWI), the Organization of Eastern Caribbean States (OECS) and CARICOM Secretariats and their national counterparts are fundamental to the policy and programme development, technology development, innovation and application needed to enable the private sector to meet the standards and quality required by the different markets. Sanitary, phytosanitary and food safety systems are critical for facilitating trade and protecting animal, plant and human life and health.
- **Increased and more effective participation by a broad cross-section of stakeholders.** Efficient and effective institutional arrangements should be put in place to facilitate the active participation of rural households, especially the farming and agribusiness community, in all aspects of the planning, policy and programme formulation and implementation processes. In this connection, increased support should be provided through community and technical organization outreach mechanisms, such as extension systems, industry and commodity associations. It is the responsibility of the private sector community to ensure this participation and make it count. Thus, the sector needs to be committed to and invest in its own organizational development so that it is adequately prepared to represent its interests.

- **An enabling environment for investment.** A new domestic support regime should be developed based on a package of incentives that stimulates investment and expansion in agricultural and rural activity. It should target specific commodities, especially those related to the food security strategy. The incentive framework should include both product-specific and non-product-specific domestic support instruments. While the private sector is often described as the engine of growth, the State still has a pivotal role to play in creating a suitable economic environment and making strategic interventions that facilitate and support the activities of the farming, rural and agribusiness community. In addition to the macroeconomic environment this includes strengthening sectors that are critical to productivity increases, such as the education and health sectors. While incentives are introduced to promote growth and development it should be recognized that there will be winners and losers. With regard to the latter, particular emphasis will have to be placed on identifying vulnerable groups and monitoring the impact of various policy shifts and unforeseen events on their food security status. Some attention should also be focused on emergency planning and the guaranteeing of food supplies in the aftermath of events such as tropical storms and hurricanes.
- **Technical and financial resources.** Repositioning and transforming the agricultural sector will require significant technical and financial resources. Therefore, governments should play a leadership role in mobilizing resources and facilitating a coordinated approach at the national, regional and international levels. In the trade policy and trade promotion context it is important for the Caribbean to participate in programmes such as the Aid for Trade initiative and the Integrated Framework, as their qualification under many of the more conventional international financial institution options are reduced due to their high debt–to–GDP ratios. It is essential that the technical and financial assistance programme have considerable breadth so that it can include strengthening of national and regional institutions related to trade policy, and especially so that it can provide supply-side capacity development critical to seizing new trading opportunities.

References

CARICOM Secretariat. 2006. *Revised CET of the Caribbean Community.* (HS2007) May. Georgetown, Guyana, CARICOM.

European Union (EU) Parliament. *Resolution on trade and poverty: designing trade policies to maximize trade's contribution to poverty relief*. (2006/2031(INI)). Brussels, EU Parliament.

FAO. 1983. *World food security: a reappraisal of the concepts and approaches. Director General's report*. Rome.

FAO. 2002a. *The State of Food Insecurity in the World 2001*. Rome.

FAO. 2002b. *Trends and challenges in agriculture, fisheries and forestry in the Caribbean.* Santiago, Chile.

FAO. 2003. *Trade reforms and food security: conceptualizing the linkages*. Commodities and Trade Division. Rome.

FAO. 2004a. *Small island developing states: agricultural production and trade, preferences and policy.* FAO Commodities and Trade Technical Paper Number 7. Rome.

FAO. 2004b. *The state of agricultural commodity markets*. Rome.

FAO. 2005a. *Commodity market review, 2005–2006.* Rome.

FAO. 2005b. *The state of food and agriculture, agricultural trade and poverty.* Rome.

FAO. 2006a. *Report from regional workshop on agricultural trade, trade policy and development in the Caribbean.* June. Kingstown, St Vincent and the Grenadines.

FAO. 2006b. *The state of food insecurity in the world.* Rome.

Ford, J.R.D. 2003. *Towards a new food policy strategy for the Caribbean: food security, health and surveillance.* Paper presented at Caribbean Food and Nutrition Institute conference. Kingston, Jamaica. (mimeo)

Jagdeo, B. 2005. *A proposal for interventions to alleviate the key binding constraints to the agricultural sector in CARICOM countries*. 16 February, Paramaribo, Guyana. (mimeo)

Koroma, S. & Ford, J.R.D. 2006. *The agricultural dimension of the ACP–EU economic partnership arrangements*. FAO Commodities and Trade Technical Paper No. 8. Rome, FAO.

Rawlins, G. 2005. *Trade and trade policy measures in the CARICOM/CARIFORUM region: Impact on agricultural development, food security and economic development.* FAO CARICOM/ CARIFORUM Food Security Project. Rome, FAO.

United Nations. 1975. *Report of the World Food Conference*. Rome, 5–16 November 1974. New York.

United Nations. 1996. *World Food Summit. Rome Declaration on World Food Security*. New York.

United Nations. 2005. *The Millennium Development Goals Report*. New York.

United Nations Development Programme (UNDP). 2006a. *Human Development Report 2005*. New York.

UNDP. 2006b. *Asia–Pacific Human Development Report. Trade on human terms: transforming trade for human development in Asia and the Pacific*. New York.

World Bank. 1986. *Poverty and hunger: Issues and options for food security in developing countries*. Washington, DC.

Appendix 1.1

List of Negotiating Groups and their member countries in the context of the WTO negotiations[17]

G10	Bulgaria, Iceland, Israel, Japan, Korea (Republic of), Liechtenstein, Mauritius, Norway, Switzerland, Chinese Taipei.
G20	Argentina, Bolivia, Brazil, Chile, China, Colombia, Costa Rica, Cuba, Ecuador, Egypt, El Salvador, Guatemala, India, Mexico, Nigeria, Pakistan, Paraguay, Peru, Philippines, South Africa, Thailand, Venezuela (Bolivarian Republic of).
G33	Antigua and Barbuda, Barbados, Belize, Benin, Botswana, China, Congo, Côte d'Ivoire, Cuba, Dominican Republic, Grenada, Guyana, Haiti, Honduras, India, Indonesia, Jamaica, Kenya, Korea (Republic of), Mauritius, Madagascar, Mongolia, Mozambique, Nicaragua, Nigeria, Pakistan, Panama, Peru, Philippines, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Senegal, Sri Lanka, Suriname, Trinidad and Tobago, Turkey, Uganda, United Republic of Tanzania, Venezuela (Bolivarian Republic of), Zambia, Zimbabwe.
G90	Angola, Antigua and Barbuda, Bangladesh, Barbados, Belize, Benin, Botswana, Burkina Faso, Burundi, Cambodia. Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Cuba, Democratic Republic of the Congo, Djibouti, Dominica, Dominican Republic, Egypt, Fiji, Gabon, Gambia, Ghana, Grenada, Guinea (Conakry), Guinea-Bissau, Guyana, Haiti, Jamaica, Kenya, Lesotho, Madagascar, Malawi, Maldives, Mali, Mauritania, Mauritius, Morocco, Mozambique, Myanmar, Namibia, Nepal, Niger, Nigeria, Papua New Guinea, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Senegal, Sierra Leone, Solomon Islands, South Africa, Suriname, Swaziland, Togo, Trinidad and Tobago, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.
CAIRNS	Argentina, Australia, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Guatemala, Indonesia, Malaysia, New Zealand, Paraguay, Philippines, South Africa, Thailand, Uruguay.

[17] Source: WTO (http://www.wto.org/English/tratop_e/agric_e/negs_bkgrnd04_groups_e.htm)

EU (25)	Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.
AFRICAN GROUP	Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Swaziland, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.
ACP GROUP	Angola, Antigua and Barbuda, Belize, Cape Verde, Comoros, Bahamas Barbados, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Cook Islands, Cote d'Ivoire, Cuba, Djibouti, Dominica, Dominican Republic, Eritrea, Ethiopia, Fiji, Gabon, Gambia, Ghana, Grenada, Republic of Guinea, Guinea-Bissau, Equatorial Guinea, Guyana, Haiti, Jamaica, Kenya, Kiribati, Lesotho, Liberia, Madagascar, Malawi, Mali, Marshall Islands, Mauritania, Mauritius, Micronesia, Mozambique, Namibia, Nauru, Niger, Nigeria, Niue, Palau, Papua New Guinea, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Solomon Islands, Samoa, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Suriname, Swaziland, Timor Leste, Togo, Tonga, Trinidad and Tobago, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Zambia, Zimbabwe.
SMALL VULNERABLE ECONOMIES[18]	Antigua And Barbuda, Barbados, Bolivia, Cuba, Dominica, Dominican Republic, El Salvador, Fiji, Grenada, Guatemala, Honduras, Jamaica, Mauritius, Mongolia, Nicaragua, Papua New Guinea, Paraguay, Solomon Islands, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago.

[18] Based on communication submitted to WTO to the Committee on Trade and Development entitled "Work Programme on Small Economies: An Assessment of Progress To Date" (WT/COMTD/SE/W/20). Note that this list may be interpreted as an illustration of the small, vulnerable economies group members and it should not prejudice the interests of other WTO member countries that may seek to be part of this group.

Appendix 1.2

Matrix of interventions to alleviate key binding constraints to agriculture

Specific areas/ actions / Key constraints	Increase the level of financing and investment in agriculture A	Expand supply capacity and improve competitiveness B	Address fragmented and unorganized private sector C	Improve efficiency natural resources management D
• Limited Financing and Inadequate New Investments	• Establish Agricultural Modernization Fund (AMF) taking into account the Regional Development Fund; • Conduct study on CARICOM's AgriFood Needs at 2005 to 2015 to identify investment opportunities (incl. tourism);	• Increase investment in farm roads, drainage and factory shells and facilitate machine leasing strategy; • Implement and expand CABEX type projects.	• Mandatory farmer and business registration to facilitate channeling of financing and investment from AMF;	
• Deficient and uncoordinated risk management measures including Praedial Larceny	• Operate disaster fund within AMF. • Provide incentives to general insurance firms to insure farm assets.		• Support mandatory farmer and fresh produce trader registration	• Develop multi-peril insurance scheme with regional insurance companies • Also for Praedial Larceny
• Fragmented and Unorganized Private Sector	• Facilitate joint ventures at all levels of industry, especially in restaurant sector	• Implement mechanisms that facilitate increased application of technologies, including machine leasing strategy		
• Inadequate Research and Development	• Adopt CARTF model to increase financing for R&D; • Provide adequate funding for CARDI and NARIs	• Establish, upgrade, consolidate R&D facilities & infrastructure, esp. modernized laboratories;	• Increase industry collaboration and investment in research and infrastructure;	• **Govt:** *prioritize and facilitate* skills training;
• Outdated and inefficient Agriculture Health and Food Safety Systems	• Provided funds from AMF to operationalize CAHFSA	• Strengthen the legislative and regulatory trade framework through establishment of CAHFSA	• Collective financing of GAP and HAACP protocols to improve industry competitiveness	

Specific areas/ actions Key constraints	Increase the level of financing and investment in agriculture A	Expand supply capacity and improve competitiveness B	Address fragmented and unorganized private sector C	Improve efficiency natural resources management D
• Inefficient land and water distribution and management systems	• Improved land tax policy and administration to facilitate investment.	• Develop wells, ponds, other water-sources, including drainage and irrigation services; • Incentives for well and water management (inc. lower rates for farm water, duty free equipment etc);		• Incentives for improved water management, (incl. farmer training in water management; • Institute land bank and zoning systems; • Legislation for Land Tenure_
• Inadequate Transportation System, particularly for Perishables	• Conduct study on total CARICOM freight needs to identify areas for investment	• Establish and upgrade freight and port infrastructure and consolidate services	• Provide (invest in) freight service (physical transport and freight database) based on study findings	
• Weak and non-integrated Information and Intelligence Systems and Services		• Consolidate and link national marketing intelligence and information systems; • Evaluate the role of overseas services (eg. Embassies, Joint Intelligence Units)	• Strengthen and link industry information systems	•
• Marketing- weak linkages and participation in growth market segments;	• Facilitate access to EXIM-type financing.	• Establish Central Packing Houses; • Strengthen opportunities for joint promotion and marketing;	• Support national distribution channels.	
• Lack of skilled (quantum/ quality) human resources		• Expedite arrangements to facilitate labour mobility within region; • Realign Ministries of Agriculture and related departments; • Continued restructuring of agricultural curricula (secondary, vocational tertiary institutions)	• Support and engage in business management and industrial relations training; _	

2

Caribbean countries as small and vulnerable economies in the WTO

J.R. Deep Ford and Hansdeep Khaira

Introduction

The World Trade Organization (WTO) groups countries into three categories: developed, developing and least developed. The developing countries are self-identified and generally display certain characteristics common to them all (e.g. less industrial, more rural). A subgroup among them is characterized by especially small and vulnerable economies (SVEs), although the WTO does not afford the group any special recognition or treatment. The SVEs' characteristics are related both to structure (physical area and population) and susceptibility (to climate and economic shocks). The characteristics pose several challenges to the countries and impede their fuller participation in world trade, particularly in relation to the agricultural sector. It is more difficult for them to benefit from some of the critical gains of increased trade, especially trade's important role as an engine of growth and development.

This chapter focuses on one subset of the SVEs: countries that are situated in the Caribbean region (henceforth addressed as Caribbean countries).[19] It highlights some of the unique trade-related issues of the Caribbean countries, particularly as they might hamper economic development. As the global trading environment becomes more integrated, the inability to partake of the benefits of trade increases differences between levels of development in the Caribbean and other developing countries, especially the levels

[19] Although the focus of this chapter is on the Caribbean countries, it is not intended to prejudice the interests of other small and vulnerable economies. Rather, the intention is to showcase specific information on Caribbean countries that exemplifies the need for special treatment in the WTO. Similar arguments could be made for other SVEs.

of development achieved through trade expansion. This chapter aims to contribute to the on-going debate on the need for special treatment for the group of SVEs in the WTO using the case of the Caribbean countries as an example. Data included in the paper demonstrates that in addition to facing trade-related problems typical to SVEs, the Caribbean countries display characteristics that differentiate them from both least-developed countries (LDCs) and other developing countries.

Although the general notion of development has long been acknowledged within the General Agreement on Tariffs and Trade (GATT) system, reflected in the Special and Differential Treatment (SDT) provisions for all developing countries, these provisions have failed to acknowledge the differences in development objectives between SVEs (for instance) and other developing countries. Instead, the provisions are applicable to all developing countries in equal measure (although LDCs are accorded "deeper" SDT measures than developing countries). The WTO Doha Development Round aimed to provide developing countries with increased opportunities through trade liberalization, seeking to take the development agenda to a more evolved level. One aspect of the Round that stands out is its willingness to address problems defined by *situations* faced by subsets of countries, thereby indirectly acknowledging the significant heterogeneity of developing countries.

Some examples of such *situations* were referred to in the WTO Doha Work Program (DWP) of 1 August 2004 as follows:

- concerns of "recently acceded Members" (paragraph 47, Annex A);
- "economies where cotton has vital importance" (1b);
- "developing countries that allocate almost all *de minimis* support for subsistence and resource-poor farmers" (paragraph 11, Annex A); and
- trade-related issues identified for the fuller integration of small, vulnerable economies into the multilateral trading system (1d).

The last point is particularly important for Caribbean countries as they seek recognition and concessions for their peculiar characteristics. In fact, it was a result of increased efforts by small economies, reflected in their several negotiating proposals, that Ministers at the start of the Doha Round agreed to establish a work programme on small economies. Paragraph 35 of the Doha Ministerial Declaration states:

> *"We agree to a work programme, under the auspices of the General Council, to examine issues relating to the trade of small economies. The objective of this work is to frame responses to the trade-related issues identified for the fuller integration of small, vulnerable economies into the multilateral trading system, and not to create a sub-category of WTO members. The General Council shall review the work programme and make recommendations for action to the Fifth Session of the Ministerial Conference."*

It should be noted that the Declaration agreed only to examine issues related to trade of small economies. The Caribbean countries, along with

other SVEs, need to pursue differential and/or additional flexibilities in the WTO provisions for this purpose. To achieve this they must identify clearly the type and severity of the vulnerabilities that give rise to their trade-related problems; only then can tangible and well-targeted measures be developed and negotiated.

This chapter seeks to address this challenge and calls for: i) recognition of the constraints to trade linked to characteristics that typify SVEs; and, ii) recognition of the need to strengthen current SDT measures and develop additional specific measures aimed at resolving these trade issues.

Section 2.1 presents information on the characteristics of the Caribbean countries that typify them as small and vulnerable and make them susceptible to trade-related risks. It postulates the links between these characteristics and their impact on trade and food security. Section 2.2 expands the scope of the chapter beyond the Caribbean region to all SVEs, reflecting the structure of the WTO discussion on SVE issues. Section 2.3 frames some appropriate responses to Caribbean countries' trade-related problems, including additional and enhanced SDT measures. Section 2.4 provides a summary and conclusion of the chapter's discussion.

2.1 Caribbean countries and their trade-related issues

This section outlines some of the trade-related issues that arise from characteristics of smallness and vulnerability in the Caribbean countries. It begins in Section 2.1.1 by defining some characteristics that classify them as small and vulnerable and goes on, in Section 2.1.2, to look at the effects of these characteristics in a trade impact context. This will facilitate in identifying potential beneficiaries of extended special treatment in the WTO. Some characteristics and related problems are not shared by all the countries in the group because, like all developing countries, the Caribbean group includes countries with different levels of economic development and competitiveness in agricultural markets (FAO, 1999). However, while characteristics may vary, it is the combination and intensity of several characteristics across countries that give rise to vulnerability in the region (WTO, 2005).[20]

2.1.1 Characteristics that classify Caribbean economies as small and vulnerable

a) Physical vulnerability

Some of the peculiarities of the Caribbean countries include fragile ecologies and the frequency of natural disasters such as hurricanes and floods.

[20] The Commonwealth Secretariat, as part of its programme on SVEs, has developed a Composite Vulnerability Index (CVI) to measure vulnerability in countries. For more details on the CVI, including a list of all countries with a high vulnerability index, see **Appendix 2.1**.

Hurricanes in particular are worrying not only because they cause severe damage, but also because they strike the Caribbean region with such regularity. Between 1995 and 1999, regions of the eastern Caribbean, western Caribbean and Bahamas/Turks and Caicos were struck by 8, 10 and 11 hurricanes respectively.[21] In 2004 alone, hurricane Ivan (which struck large parts of the Caribbean region) caused damage of US$1.85 billion in the Cayman Islands, US$815 million in Grenada (destroying or damaging 90 percent of all buildings), US$360 million in Jamaica, US$40 million in Saint Vincent and the Grenadines, and US$2.6 million in Saint Lucia; while Hurricane Jeanne swept across the northern coast of Haiti, leaving more than 2000 dead and the area's economy in disarray. Due to the small size of the countries, the damage per unit of area and cost per capita is high. Further, the effects of winds and waves is higher than in other countries because of their larger exposure to coasts in relation to land mass.

b) Small population

Small land mass, coupled with low population density, results in limited opportunities to benefit from economies of scale and diversification. In most countries, the population is largely rural and dependent on agriculture.

Table 2.1 presents indicators that highlight the relative smallness of the Caribbean countries when compared with LDCs[22] and other developing countries in the world. It shows that the population of the larger grouping of 15 Caribbean countries is less than 50 percent of the average in other developing countries. Total population is less than 24 million. The average population per country is just over 1.6 million; when Haiti and Dominican Republic are excluded, it falls to just 0.5 million, compared to an average of 14 million for LDCs. Caribbean countries are small when compared to either developing countries as a whole or to LDCs.

The problem of small populations in these countries is compounded by the narrow resource base, especially arable land. Per capita availability of arable land in the Caribbean countries is about half that of the LDCs and developing countries. Most land is ecologically fragile, located on steep slopes that are susceptible to soil erosion. Limited land often restricts agriculture to small plots that yield little. Small population and limited arable land constrains domestic demand and the capacity of agricultural producers to supply beyond the border.

The rural population in Caribbean countries (B) constitutes almost half of the total population. (This is less than for LDCs and other developing countries, but still a high proportion.) Low levels of demand and supply and

[21] According to the Internet-based service Caribbean Hurricane Network (http://stormcarib.com).

[22] Throughout this chapter, data on LDCs exclude all Caribbean countries except Haiti, while data on other developing countries exclude both LDCs and all Caribbean countries.

TABLE 2.1
Demography and land availability data for country groups (average 2001–2003)

	Caribbean (A)	Caribbean (B)	LDCs	Other developing countries
Total population for group (million)	6.5	23.6	710.6	4230
Average for group	0.5	1.6	14.5	48.7
Smallest in group	0.04	0.04	0.01	0.002
Largest in group	2.7	8.7	146.7	1282
Per capita availability of arable land (hectare)	0.1	0.1	0.2	0.2
Rural population (as % of total pop)	42.3	48.8	73.5	55.6

Source: FAOSTAT, 2005.
Notes: i) Average of population is calculated as total population of the group divided by the number of countries in the group. Caribbean (A) includes 13 countries (Antigua & Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Kitts & Nevis, Saint Lucia, Saint Vincent & the Grenadines, Suriname and Trinidad & Tobago), while Caribbean (B) includes Dominican Republic and Haiti in addition to the above 13 countries.

the high proportion of rural population put strains on the rural economies, especially in countries where a large proportion of the population depends on agriculture for its food security and livelihood.

c) Openness of economy

Caribbean countries have high levels of economic integration; they rely heavily on external trade because of their narrow range of resources and the small scale of their internal markets, which makes them unable to support certain types of production. Because of these conditions, most of the Caribbean countries have generally open economies (see Chapter 1, Table 1.2). **Figure 2.1** shows that they are even more open in an agricultural context: it compares the value of their agricultural trade (sum of exports and imports) to their agricultural gross domestic product (GDP).

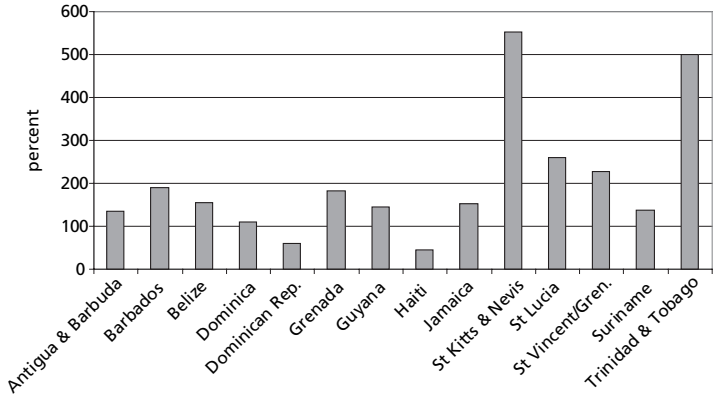
For 12 out of the 14 countries presented in the figure, the value of agricultural trade is more than 100 percent of their agricultural (value-added) GDP. In the cases of Saint Kitts and Nevis and Trinidad and Tobago, it is more than 500 percent.

d) High dependence on food imports, particularly cereals

Imports constitute a major portion of the agricultural trade of the Caribbean countries (see **Table 2.2**). The lack of production diversity means that countries rely on imports both as inputs to their own production processes and as direct imports to increase the choice of goods available domestically.

A ratio of imports to total trade close to 1 indicates a high dependence on imports. Except for in Belize and Guyana, agricultural imports constitute more than 60 percent of agricultural exports (i.e. a ratio of 0.60). The imports

FIGURE 2.1
Openness to trade: share of agricultural trade (exports + imports) in agricultural GDP (average 2001–2003)



Source: FAOSTAT, 2005; World Development Indicators, World Bank, 2005

TABLE 2.2
Significance of agricultural imports in total agricultural trade (average for 2001–2003)

	Imports (million US $)	Exports (million US $)	Ratio of imports to total trade
Antigua and Barbuda	30	1	0.97
Bahamas	249	45	0.85
Barbados	169	71	0.71
Belize	70	118	0.37
Dominica	29	15	0.66
Grenada	35	18	0.66
Guyana	90	177	0.34
Jamaica	455	289	0.61
Saint Kitts and Nevis	41	7	0.86
Saint Lucia	69	32	0.68
Saint Vincent/Grenadines	40	27	0.6
Suriname	93	28	0.77
Trinidad and Tobago	372	193	0.66
Caribbean (A)	**1 742**	**1 020**	0.63
Dominican Republic	798	604	0.57
Haiti	419	20	0.96
Caribbean (B)	**2 959**	**1 644**	0.64
LDCs	**10 208**	**4 734**	0.68
Developing countries	**157 895**	**154 707**	0.51

Source: FAOSTAT, 2005

TABLE 2.3
Cereal dependency (average 2002–2004)

	Production ('000 tonnes)	Consumption ('000 tonnes)	Production/ Consumption (%)	Cereals (as a % of total agricultural imports)	Cereals including preparations (as a % of total agricultural imports)
Antigua and Barbuda	0	7	0.8	8.7	17.6
Bahamas	0	38	0.8	5	14.5
Barbados	0	61	0.4	8.9	22.8
Belize	53	79	66.2	13.8	26.1
Dominica	0	9	1.9	13.3	23.8
Grenada	0	19	1.6	11.8	23
Guyana	323	185	174.6	13.3	26
Jamaica	2	497	0.3	25.6	37.3
Saint Kitts and Nevis	0	6	0	7.8	18.5
Saint Lucia	0	26	0	11	24
Saint Vincent/ Grenadines	1	21	2.8	24	34.6
Suriname	121	124	97.2	15.9	23.8
Trinidad and Tobago	5	238	2.1	16.4	25.5
Caribbean (A)	**504**	**1 309**	**38.5**	**15.7**	**26.6**
Dominican Republic	502.3	1 813.2	27.7	36.2	45
Haiti	344	1 037	33.1	39.5	44.9
Caribbean (B)	**1 350**	**4 159**	**32.5**	**23.7**	**33.3**
LDCs	**102 576**	**115 596**	**88.7**	**35.8**	**42.4**
Other developing countries	**922 991**	**1 016 689**	**90.8**	**25**	**30.1**

Source: FAOSTAT, 2005.

dependence for Caribbean countries is much higher than for developing countries.

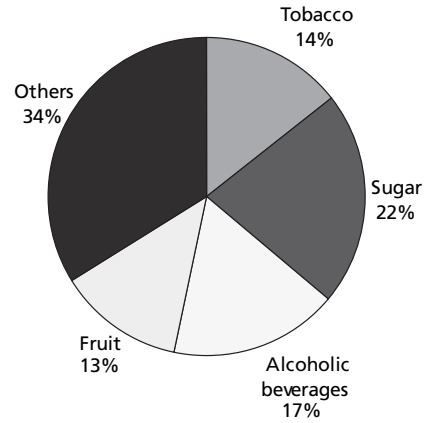
As an aggregate of all Caribbean countries, almost one-fourth of food imports entering the region are cereals. This figure is higher (33 percent) if imports of cereal preparations are also included (see **Table 2.3**).

The level of cereal production is zero or miniscule in all but three Caribbean countries. In a volatile global agricultural market, the issue of dependency on cereal imports can assume serious proportions given that cereal demand is high and relatively inelastic.

e) Limited export commodity range

There is a limited range of economic activity in the agricultural sector of the Caribbean countries. Most countries' economies are concentrated in one to three exports, with a relatively high reliance on primary commodities (see **Figure 2.2**). Almost two-thirds of all agricultural exports that leave Caribbean shores are concentrated in four commodity categories: sugar, alcohol, tobacco and fruit (primarily bananas).

FIGURE 2.2
Main exported commodities of the Caribbean countries (average 2000–2002)



Source: Data from FAOSTAT, 2005.

Table 2.4 shows the region's top agricultural exports disaggregated by country and the share of the top exported product in the respective country's total agricultural and merchandise exports. The importance of these products in total agricultural exports is clear; several of these products also contribute highly to the total merchandise exports of some countries. These products also have high relative importance in the entire economy of selected Caribbean countries: sugar exports from Guyana account for more than 14 percent of its total GDP, while orange (juice) exports from Belize account for almost 6 percent of its total GDP.

f) Export market concentration

The few commodities that are exported go to a limited number of markets (see **Table 2.5**). The European Union (EU) and United States markets alone account for more than two-thirds of all markets to which Caribbean countries export agricultural commodities. About 20 percent of exports are intraregional (between Caribbean countries themselves, as shown in the column for the Caribbean Community and Common Market (CARICOM)); only 12.7 percent of exports go to "other" destinations.

g) Small, fragmented and highly imperfect markets

From a global perspective, agricultural exports from Caribbean countries constitute a minor share of imports into world markets. **Table 2.6** illustrates

TABLE 2.4
Commodity dependence of Caribbean countries: top exported commodity (average 2001–2003)

Country	Share of top single agricultural commodity exports in:		Export earnings of top agricul. commodity as % of GDP	Top single agricultural export commodity
	Total agricultural exports (%)	Total merchandise exports (%)		
Antigua and Barbuda	31.3	0.4	0.7	Beverages (dist. alc.)
Bahamas	55.4	3.5	2.4	Beverages (dist. alc.)
Barbados	31.7	8.6	0.8	Sugar (centrifugal, raw)
Belize	28.3	24	5.6	Orange juice (concentrate)
Dominica	63.1	26.1	4.7	Bananas and plantains
Dominican Republic	40.6	26.3	1.1	Cigars (cheroots)
Grenada	57.4	21.4	3.4	Spices
Guyana	41.3	20.1	14.1	Sugar (centrifugal, raw)
Haiti	25.7	2.3	0.2	Mangoes
Jamaica	26.6	4.8	0.9	Sugar (centrifugal, raw)
Saint Kitts and& Nevis	83.8	14.2	2.2	Sugar
Saint Lucia	68.2	65.5	4.3	Bananas
St Vincent and the Grenadines	49.8	38.6	4.6	Bananas
Suriname	31.2	3.7	2.2	Rice, husked
Trinidad and Tobago	30.9	1.8	0.8	Beverages (non-alc.)

Source: FAOSTAT, 2005; World Development Indicators, World Bank, 2005

the share of imports into EU, United States and developing country markets from developed, developing and Caribbean countries. Two implications that may be derived from this information are that given the low share and the potential to compete the opportunity exists to expand trade with developing countries, and that the Caribbean has a low potential to distort world trade. Most trade takes place between developed and developing countries, with the EU sourcing almost two-thirds of all its agricultural imports from non/Caribbean developing countries.

Even the total share in the world market of the four main exported products ranges between 0.86 percent (fruits) and a mere 2.47 percent (sugar) (see **Table 2.7**). What is critical to underscore is that while the products are insignificant on the global trade scale, the opportunity to trade in them is of vital importance to the economies and livelihood systems of the Caribbean countries. Thus, efforts to increase both intraregional trade and extra-regional trade are essential.

Domestic markets are not only small, but affected by the dispersal of populations across the countries and weak communication and transport

TABLE 2.5
Percentage of agricultural exports going to major export markets (average 2001–2003)

	CARICOM	EU	USA	Other
Antigua and Barbuda	74.5	4.2	13.8	7.5
Bahamas	0	69.7	27.9	2.4
Barbados	41.8	35.3	12.9	10.1
Belize	13.9	48.5	32.6	5
Dominica	24.7	66.8	2.4	6.1
Dominican Rep.	1	19	60	20
Grenada	26.6	55.8	9.5	8.1
Guyana	25.9	63.3	3.4	7.5
Saint Kitts and Nevis	6	87.7	1.2	5.1
Saint Lucia	28.2	69.1	1.6	1.1
St Vincent and the Grenadines	48	47.3	1.6	3.2
Trinidad and Tobago	67.6	13.4	8.6	10.4
Total Caribbean	**19.6**	**39.4**	**28.4**	**12.7**

Source: WITS, World Bank, 2005

TABLE 2.6
Share of the Caribbean group in global agricultural trade, by importing countries or groups

		Exporters		
		Developing	Developed	Caribbean
Importers	EU	67.0	31.6	1.4
	USA	44.3	54.3	1.4
	Developing	49.9	50.0	0.1

Source: WITS, World Bank
Note: Developing countries exclude Caribbean countries; EU imports exclude intra-EU trade.

systems. It is mainly small and micro-enterprises that are involved in production, with very few suppliers of inputs and few market agents. Market imperfections abound. Most para-statals have been dismantled, in part due to the structural adjustment programmes of international financial institutions; in the past they assisted smallholders by performing a number of crucial activities, including achieving scale economies to get better returns. Gaps created with regard to both backward and forward linkages of small rural enterprises remain, undermining possibilities for change or increased competitiveness.

b) Importance of revenue from tariffs

Tariffs on imports are an important source of revenue, not only for the agricultural sector, but for the entire economy in some Caribbean

TABLE 2.7
Share of the Caribbean group in global exports, by commodity (average 2002/03)

HS No.	Product description	Share in world exports (%)
1	Live animals	0.06
2	Meat and edible meat offal	0
4	Dairy prod; birds' eggs; natural ho	0.04
5	Products of animal origin, nes or	0.07
6	Live tree & other plant; bulb, root	0.06
7	Edible vegetables and certain roots	0.26
8	Edible fruit and nuts; peel of citr	0.86
9	Coffee, tea, matn and spices	0.67
10	Cereals	0.22
11	Prod.mill.indust; malt; starches	0.23
12	Oil seed, oleagi fruits; miscell gr	0.03
13	Lac; gums, resins & other vegetable	0.37
14	Vegetable plaiting materials; veget	0.02
15	Animal/veg fats & oils & their clea	0.07
16	Prep of meat, fish or crustaceans	0.08
17	Sugars and sugar confectionery	2.47
18	Cocoa and cocoa preparations	0.62
19	Prep.of cereal, flour, starch/milk	0.29
20	Prep of vegetable, fruit, nuts or o	0.37
21	Miscellaneous edible preparations	0.39
22	Beverages, spirits and vinegar	1.14
23	Residues & waste from the food industry	0.08
24	Tobacco and manufactured tobacco	1.3

Source: WITS, World Bank, 2005

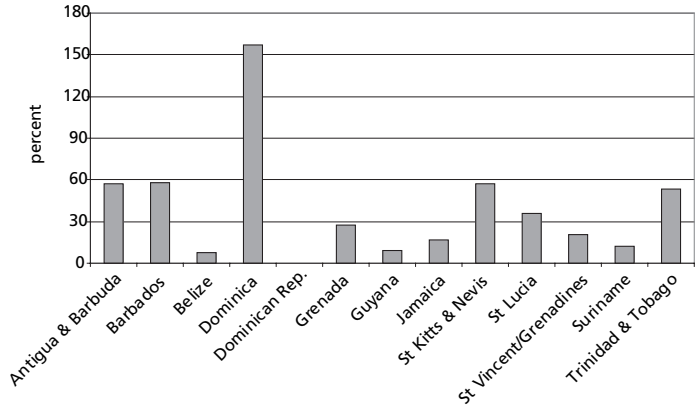
countries. **Figure 2.3** presents the approximate share of revenue derived by Caribbean countries from import tariffs on agricultural commodities[23], within agricultural GDP. The information presented demonstrates the importance of tariffs from an economic perspective: for 5 of the 13 countries shown in the figure, tariffs from agricultural imports equal more than 50 percent of total agricultural GDP.

i) High transport and transit costs

Small developing economies in general spend more than large countries do on transportation and freight costs as a percentage of exports. Some studies

[23] The revenue is computed using the applied tariff rates (most-favoured nation) and the import values for each commodity and then adding together the resulting values of all commodities to give total agricultural tariff revenue. The revenue is calculated by averaging value of imports and tariffs at the 6-digit HS level (excluding any preferential tariff rates that may be imposed on imports from some countries). The results are therefore estimates.

FIGURE 2.3
Share of import tariff revenue from agriculture in total agriculture GDP



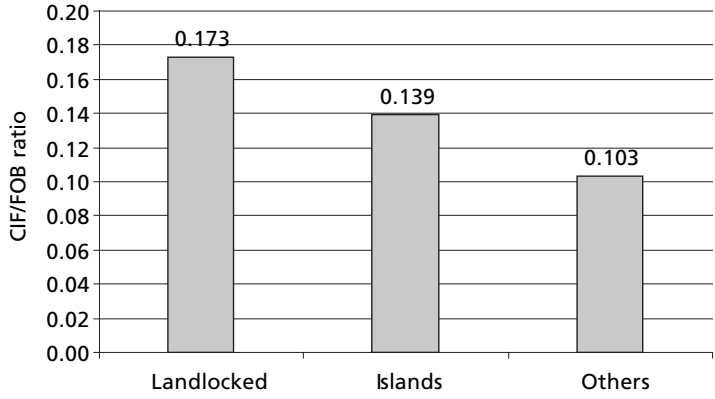
Source: Authors' calculations; World Bank, 2005

indicate that small economies (including Caribbean countries) pay an average of 10 percent of the value of merchandise exports as freight costs, compared to 4.3 percent for the OECD countries and 7.5 percent for countries in Latin America (Bernal, 2001). Three main factors lead to high transportation costs in the Caribbean countries: the relatively small size of volume due to lack of production capacity; small and limited dock and cargo-handling facilities; and physical isolation from the main importing markets. Concerning the third factor, some studies estimate that a 10 percent increase in sea distance is associated with a 1.3 percent increase in shipping costs (Radelet and Sachs, 1998) while others relate a 100 percent increase in distance to a 20 percent increase in transport costs (Clark, Dollar and Micco, 2002).

Figure 2.4 presents the ratio of cost insurance freight (CIF) and free on board (FOB) for some groups of countries. The CIF price measures the cost of the imported item at the point of entry into the importing country, including the costs of transport, insurance, handling and shipment, but excluding customs charges. The FOB price measures the cost of an imported item at the point of shipment by the exporter as it is loaded on to a carrier for transport. The higher the CIF/FOB ratio, the higher the share of transport cost in the value of traded goods.[24] Caribbean countries (as part of "islands")

[24] Two points should be borne in mind when interpreting the results presented in Figure 2.4. The group "islands" includes countries other than Caribbean countries; and transport costs include costs for all merchandise goods, not only agricultural goods.

FIGURE 2.4
Transport costs (1990): average CIF/FOB ratios



Source: Jansen, 2004 (data from the IFS Yearbook, 1995, International Monetary Fund (IMF))
Note: These figures are not a perfectly accurate measure of actual CIF/FOB ratios, since in many cases they are estimated based on incomplete information. For most countries, they show little variance over time, indicating that once the source has established a CIF/FOB conversion factor for a country, it revises it only infrequently. For many countries the ratios have not been updated since 1990 and the IMF has stopped publishing this ratio.

incur higher transport costs in traded goods as compared to many other countries.

j) Lack of competitiveness

The low factor endowments (small size of land and population) and high transport costs lead to severe constraints on material and labour inputs, creating diseconomies of scale and resulting in high costs of production. The high costs of production and delivery (of final product) compels countries to source markets that are either in geographic proximity (regional or United States market) or those which bestow preferences through quotas or fixed prices (EU market). This helps explain the high export-market concentration situation of the Caribbean countries. Limited resources, low volumes and the lack of economies of scale also affect activities related to research and development (for example on differentiation and promotion), which could otherwise increase the competitiveness of Caribbean products.

k) Inflexibility for adjustment

A limited resource base coupled with lack of competitiveness in an undiversified economy, combined with other factors, make it very difficult for countries to adjust to sudden, unexpected changes in the trading and

physical environment. Lack of product diversity is further compounded when changes in trade policy lead to shrinkage of the countries' main export sectors. Starting new export activities is more costly and involves more risks than expanding existing ones (WTO, 2002f). Small economies lack state budgetary reserves (which can establish information systems, fill missing input markets, provide extension services, etc.), including the domestic instruments and technical expertise to manage shocks. Further, there is a general lack of "shock-absorbing" mechanisms (institutionalized market-based insurance and hedging schemes) and compensatory mechanisms (social welfare programmes) that could facilitate adjustment.

2.1.2 Trade-related problems of small, vulnerable economies

The combination and intensity of the characteristics discussed above lead to particular problems for the Caribbean countries and have serious implications for their international trading engagements and food security. Some of the main trade-related problems associated with smallness and vulnerability are outlined here.

a) The damage caused by natural disasters including hurricanes and flooding has widespread effects on rural communities and agricultural production systems that result in a decline in productivity and competitiveness. If the natural disaster affects the main export crops, (of which there are a limited number), there will be economic vulnerability at the national level. Imports will probably also increase, potentially leading to a crisis in balance of payments.

b) A drop in world prices of export-dependent commodities can have a serious impact on earnings, leading to balance of payment problems and debt escalation. This directly impacts the ability to purchase inputs; when supplier/market relationships are disrupted, it is costly to re-establish them. Overall, instability of world prices tends to be higher for agricultural raw materials and tropical beverages (FAO, 2004a), which are key commodities for export earnings in SVEs. Declining and volatile world prices can trigger unemployment and jeopardize livelihood security in rural areas, escalating poverty.

c) The concentration of export markets leads to an exposure to policies that govern both the international and the domestic trading environment of the importing country. A major part of exports of most Caribbean countries is dependent on trade preferences received mainly from the EU and the US. Therefore continued liberalization under the WTO will most certainly result in a further erosion of preference margins for these economies. Under increasing international pressure, EU domestic agricultural policies underwent substantial modifications through the Common Agriculture Policy (CAP) reform. These will change the terms and conditions under which preferences are granted. Under the Sugar

Protocol granted to African, Caribbean and Pacific Group of States (ACP) countries, many small economies are offered attractive prices, calculated as roughly 80 percent of the guaranteed prices received by EU sugar farmers, more than twice the price on world market. Under CAP reform, the price received by Caribbean producers is expected to fall by almost 40 percent, with ensuing adjustment pains. One Caribbean state (Saint Kitts) has already decided to stop exporting sugar.

d) The Caribbean economies' high degree of openness makes the domestic prices of agricultural goods susceptible to changes in world prices. The real prices of most agricultural commodities have shown a declining trend since the 1980s. While this may lead to cheaper imports for consumers, it has adverse effects on producers when the world prices of primary tropical commodities decline, as they have been doing since 1980.[25] In addition, given that large sections of the population consume imported cereals, global fluctuations in supply and price of cereals have grave food security implications. Econometric analyses undertaken in a number of studies have shown that openness to trade and export concentration lead to extreme trade volatility for a country (see Jansen, 2004).

e) As barriers to world trade are dismantled, the most competitive producers increase their market share. Caribbean economies have low levels of competitiveness due to higher unit costs of production (caused by scarce resources, high transport costs, low economies of scale, small size of firms, etc.) and thus their market share will decrease under the new conditions. Thus trade liberalization in the absence of complementary measures could have serious effects on food security in the Caribbean.

f) The small size of the market and the prevalence of small firms make it difficult for SVEs to attract private foreign investment and joint venture partnership even when domestic policies are conducive for it. Weather-related risks also play a role in discouraging foreign investment.

g) The small size of firms and prevalence of monopolies in the region lead to rigidities in the structure and operation of markets that complicate the process of resource re-allocation necessitated by policy changes in the international trading arena. This rigidity also results in low levels of private sector participation being reflected in the market structure, putting additional strain on the scarce government resources. Furthermore, small farmers in Caribbean countries cannot easily switch production to alternate crops, whether when crowded out in the face of inflow of cheaper imports or to take advantage of new trading opportunities.

[25] Between 1980 and 2002, real prices of cocoa fell from 143 US cents per pound to 32.8 US cents per pound while coffee prices fell from 196 US cents per pound to 40.4 US cents per pound during the same period (FAO, 2004a).

h) Given the importance of tariffs to government revenue, reduction of average import tariffs as part of overall external trade liberalization leads to a dramatic reduction in tax revenues. This reduction is not easily offset by raising other taxes, and creates problems of rising debt (Commonwealth, 2000). In cases where a substantive portion of tariff revenue is devoted to the development of the agricultural sector, reductions in import tariff levels can have a serious impact on rural poverty and food security.

i) High transport costs involved in exporting reduces the capacity of Caribbean countries to compete. From an export diversification viewpoint, this also limits the choice of products that can be exported. Value-added diversification into agroprocessed products is limited because these products usually require high levels of imported inputs which are also affected by high transport costs. Small lot sizes of exported products contribute to higher transport costs and raise per-unit costs further. High transport prices also increase the price of imported products consumed by the populace.

The trade-related problems discussed in this section bear heavily on the structural features of Caribbean states, their insignificant share in international trade and their limited capacity to participate in the WTO negotiations. The following section discusses the challenges faced by small and vulnerable economies in the context of the WTO framework.

2.2 Small and vulnerable economies in the WTO

This section broadens the discussion to include small and vulnerable economies overall, rather than the Caribbean countries alone. The recognition of trade-related issues of small economies based on their small and vulnerable characteristics have been examined at the international level by various organizations including the United Nations Development Programme, the World Bank, UNCTAD, FAO and the Free Trade Area of the Americas since the early 1960s. There is a general consensus in these studies that small economies are particularly vulnerable (WTO, 2002e). In particular, work done by the Commonwealth Secretariat in this regard has been extensive. It has been providing assistance to Commonwealth small states as part of its ongoing mandate to integrate these countries more fully into the multilateral trading system.

Through its various agencies and programmes the United Nations has been working on the issues that concern several groups of developing countries, including small island developing economies. The United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and the Small Island Developing States (UN-OHRLLS) was established by the United Nations General Assembly

in 2001 in part to undertake appropriate advocacy work in favour of this group of countries, in partnership with the relevant United Nations bodies as well as with the civil society, media, academia and foundations.

In the WTO, a concrete reference to the trade-related problems of small economies was not made until 1999, at the Second WTO Ministerial Conference in Geneva. Ministers stated that they "remain deeply concerned over the marginalization of Least-Developed Countries and certain small economies and recognize the urgent need to address this issue which has been compounded by the chronic foreign debt problem facing many of them…". The failure of the Ministerial Conference at Seattle in 1999 however meant that progress on the issue stalled.

Between the Seattle Round and the Doha Round, small and vulnerable economies tabled several proposals in the WTO. As a result of these efforts, three important Declarations/Decisions were taken regarding small economies.[26] They are:

The November 2001 Declaration of the 4th Ministerial Conference in Doha, Qatar, which includes a mandate to establish a work programme relating to the trade of small economies:

> *"We agree to a work programme, under the auspices of the General Council, to examine issues relating to the trade of small economies. The objective of this work is to frame responses to the trade-related issues identified for the fuller integration of small, vulnerable economies into the multilateral trading system, and not to create a sub-category of WTO Members."* (Paragraph 35)

The General Council Decision of 1 August 2004, which reaffirmed the mandate given at Doha by stating:

> *"The trade-related issues identified for the fuller integration of small, vulnerable economies into the multilateral trading system, should also be addressed, without creating a sub-category of Members, as part of a work programme, as mandated in paragraph 35 of the Doha Ministerial Declaration."*

The December 2005 Declaration of the 6th Ministerial Conference in Hong Kong, China, which establishes:

> *"We reaffirm our commitment to the Work Programme on Small Economies and urge Members to adopt specific measures that would facilitate the fuller integration of small, vulnerable economies into the multilateral trading system, without creating a sub-category of WTO Members.*[…] *We instruct the Committee on*

[26] Between 2001 and 2005, a number of submissions were made to the WTO Committee on Trade and Development by Members of SVEs, several of which included Caribbean country Members (cf. WT/COMTD/SE/W/1, WT/COMTD/SE/W/1/Rev1, WT/COMTD/SE/W/3, WT/COMTD/SE/W/8, WT/COMTD/SE/W/11, WT/COMTD/SE/W/12, WT/COMTD/SE/W/13, WT/COMTD/SE/W/13/Rev1, WT/COMTD/SE/W/14).

Trade and Development, under the overall responsibility of the General Council, to continue the work in the Dedicated Session and to monitor progress of the small economies' proposals in the negotiating and other bodies, with the aim of providing responses to the trade-related issues of small economies as soon as possible but no later than 31 December 2006[...]" (Paragraph 41)

Two conclusions can be drawn based on an interpretation of the above: the WTO now recognizes the particular situation of SVEs (although not as a distinct category of countries); and it recognizes that the unique trade-related issues of these economies need to be addressed in order to facilitate their better integration into the world trading arena.

From the WTO perspective, SVEs are part of a heterogeneous group within the developing country group that face specific difficulties in integrating into the global economy. Their smallness, and persistent structural disadvantages and vulnerabilities, are some of the critical factors that have led to their marginalization in world trade. Their structural conditions and their role as "price-takers" in the world agricultural commodity market (they exert little market power) leave them particularly vulnerable to the vagaries of global agricultural trade.

There is concern that further liberalization under the WTO framework will lead to reduced market shares for the SVEs in the main exporting markets, with increasing food prices leading to higher food import bills. Studies that compare the period prior to the Uruguay Round with more recent years show a decline in the value of preferences received by the group of Caribbean countries. The decline in the value of banana and sugar preferences is hastened by questions over the legality of preferential regimes under which small and vulnerable countries export agricultural products to the EU. In the case of bananas,[27] the EU has been forced to modify its regime and the uncertainty has affected Caribbean production and exports. In the case of sugar, in November 2005 the EU announced that it would slash by 39 percent over four years the price it pays for sugar from ACP regions, causing alarm in the sugar sector of SIDS (FAO, 2004b).

Regional trade agreements such as the Economic Partnership Agreements (EPA) between the EU and the ACP countries (which includes many SVEs) add to the anxiety. EPAs that bring the EU trade preference regime further into conformity with its WTO obligations will serve to erode trade preferences even more dramatically as it could mean that small states will be forced to reciprocate to other large trading partners. This will mean that

[27] The value of banana preferences to SIDS declined considerably during the 1990s, from an average of US$37 million in 1990–1994 to US$21 million in 2000–2002. This reflects a decline in volume of exports from Saint Lucia, Saint Vincent and the Grenadines and Dominica from 223 000 tonnes in 1990–1994 to 74 000 tonnes in 2000–2002 (FAO, 2004c).

small states have little choice but to confront a more competitive trading environment (Commonwealth Secretariat, 1998).

The SVEs therefore need to participate actively in current rounds of negotiations. Recognition of their specific trade-related problems and concrete measures aimed at addressing them may prevent the marginalization of these economies and help them realize the potential benefits from trade liberalization and globalization.

However, certain challenges in the context of this round of negotiations may impede addressing trade-related issues of these economies. While it was the unique characteristics of SVEs that mandated the need for the Work Programme for Small Economies, there has been no operational definition in the WTO of what constitutes smallness and vulnerability. In the absence of clearly defined characteristics, it is difficult to find appropriate remedies for trade-related issues because particular characteristics give rise to their own needs and problems. In addition, there is a clear reluctance expressed by other developing-country Members to further divide the categories of developing countries and LDCs because they fear that would threaten the objective of having common and transparent rules and achieving a more unified trading system. The language of the WTO declarations mandates WTO Members to frame responses to trade concerns of SVEs, but prohibits the creation of a subcategory of states, which is a dilemma. Finally, the Doha Work Program (DWP) addresses some of the most important trade issues for SVEs (e.g. issues related to erosion of preferences and tariff escalation) in a manner too vague to be useful.

However, there are two dimensions within the framework of WTO that SVEs can explore to address their distinctive trade-related issues in the current round of negotiations. These dimensions are based on the principle of flexibility within the framework of SDT. The first is to negotiate for greater flexibility by extending the treatment currently enjoyed by LDCs to all SVEs. This treatment includes having no reduction commitments in the current round of WTO negotiations, and waiver for non-reciprocal preferential treatment in bilateral and regional trading arrangements. The argument is that LDCs have distinct trade-related problems and therefore have access to special measures; by the same token, SVEs have distinct trade-related problems and should also be granted special measures. The second dimension seeks specific provisions within the existing SDT provisions available to all developing countries.

The first dimension appears fairly straightforward in that it would simply require extending the favourable treatment currently extended to LDCs. If this dimension is rejected by Members, SVEs should seek greater flexibility in the current SDT measures. The next section addresses the second dimension and possible ways it could be attained.

2.3 Current challenges and options for increased flexibility for small, vulnerable economies

The fundamental premise that guided the formulation of the SDT concept in the WTO was based on the recognition of the differences in the capacities of developing countries to adjust to multilateral rules. SVEs should therefore pursue the case for flexibility within the framework of SDT using a two-pronged approach. One, SVEs should strive for strengthening/increasing the scope of current SDT provisions available to all developing countries. This would not only mobilize support of other developing countries but would also assist in improving the effectiveness of some of the current SDT measures that are ensconced in non-obligatory or "best endeavour" language. Two, SVEs should pursue the design of new measures for the particular situations they face. What follows therefore is an articulation of *strengthened* SDT measures currently available and formulation of *additional* specific provisions for SVEs.

2.3.1 Strengthening current SDT provisions

The Doha Work Program (DWP) takes into consideration some SDT recommendations based on submissions by WTO developing country Member States, special sessions of the Committee on Trade and Development and reports from agencies monitoring the progress on SDT negotiations. This subsection of the chapter examines the SDT provisions explicit in the DWP under the rubric of agriculture. Because these have limitations in terms of effectiveness for the developing countries, it proposes strengthening some of the proposals (both within the purview of the Agreement on Agriculture and outside of it) that directly impact agriculture and strongly reflect the concerns of all developing countries, including SVEs.

SDT under market access pillar

Market access is perhaps the most difficult of the three pillars[28] from an SDT perspective given that it is the area where changes for developing versus developed countries are most comparable. It is the main pillar through which developing countries (including SVEs) hope to gain market access to developed country markets and at the same time limit access to their own markets while they develop their own capacity. The critical points related to market access provisions and their SDT implications are addressed below.

[28] The categories in which WTO discussions on agriculture were debated and formalized under the Uruguay Round using the three "pillars" or categories (domestic support, market access and export subsidies); this format was carried over into the Doha discussions.

Tariff formulae, tariff peaks and tariff escalation
The DWP maintains the SDT provision of flexibility of commitments provided under the URAA. It states that proportionality will be achieved by requiring lesser commitments on tariff reduction or tariff quota expansion from developing-country Members. However, the issue of tariff escalation in developed country markets, which is vital for commodity-dependent economies in their attempts to diversify, is left too vague to pave the way for progress (Paragraph 36 of DWP).

Gap between bound and applied tariffs
Paragraph 29 of the DWP states that substantial overall tariff reductions will be achieved as a final result of negotiations. Substantial reductions could lead to situations where the gap between bound and applied tariffs is reduced to a very low level or completely eliminated; this would limit flexibility for raising applied tariffs in the future[29] This situation is more serious given the relative vulnerability of agriculture and small farmers in Caribbean countries and the countries' limited institutional and financial capability to rely on general WTO safeguards and to apply domestic policy instruments to offset the effects of external shocks. Thus, SDT for developing countries that rely on border measures for protection to promote food security and rural development requires that cuts are made in such a manner as to maintain some gap between bound and applied tariffs. The *level* of an appropriate gap needs to be negotiated among WTO Members.

Special products
One of the most notable SDT provisions in the DWP is the flexibility for developing countries to designate an appropriate number of 'special products' (SP), based on criteria of food security, livelihood security and rural development needs. These products will be eligible for more flexible treatment. In the WTO Hong Kong Ministerial of December 2005 it was agreed that these products could be self-designated based on indicators that reflect the agreed criteria.[30] The number of SPs to be allowed and how substitutes will be handled is a particular challenge in the negotiations. The SDT treatment of SPs also needs to be agreed on by Members. For instance, will these products face tariff reduction commitments, will they have access to the special safeguard mechanism and will they have flexibility related to tariff-rate quotas?

[29] See Chapter 3.

[30] Chapter 5 of this volume presents an approach to identification and treatment of SPs in a Caribbean context.

Special Safeguard Mechanism (SSM)

Paragraph 42 of DWP proposes a 'special safeguard mechanism' (SSM) for developing countries, most likely on similar lines as the 'special safeguard' (SSG) currently available to select countries. However the DWP does not mention the operational aspects for it. Developing countries entitled to invoke SSG in agriculture have complained about the complex and time-consuming nature of its implementation.[31] In order to curb these problems, the SSM measures could be established for a specified time limit and without requirements for proof of injury or compensation. Further, consideration should be given to the use of the mechanism beyond import surges, as flexibility may still be needed to address different kinds of impacts and policy choices, even after export subsidies and other distortions are removed.

In November 2005, SVEs made a submission to the WTO Committee on Agriculture (WTO, 2005b) indicating provisions for market access in agriculture that they considered acceptable to them.

These provisions were:

- Small, vulnerable economies (SVEs) will undertake linear cuts not exceeding 15 percent from the bound rate, with a minimum of 10 percent per tariff line. No further commitments will be expected from the SVEs with respect to other elements under the market access pillar.
- No tariff capping shall apply to the SVEs.
- Modalities shall provide for substantial improvement in market access for products of export interest to SVEs.
- SVEs will designate SPs based on their food security, livelihood security and rural development needs.
- SPs of SVEs will be exempted from tariff reductions and tariff rate quota commitments.
- All agricultural tariff lines will be eligible for the SSM. SPs of SVEs will have automatic access to the SSM.
- The SVEs insist that the SSM shall contemplate price- and volume-based triggers. Remedy measures should be effective and flexible to respond to the needs of the SVEs.

SDT under domestic support pillar

Almost 90 percent of all trade-distorting support classified as aggregate measurement of support (AMS) in the WTO is provided by developed countries; only 17 developing countries have AMS reduction commitments, with Korea accounting for a bulk of the share. Therefore, SDT provisions in the form of "longer implementation periods and lower reduction coefficients for all types of trade-distorting support" are not directly applicable to the

[31] Chapter 6 presents a discussion of an SSM in a Caribbean context.

majority of developing countries (except as the actions of the developed countries helped to reduce distortions in the world market).

Two other areas do warrant attention because any domestic support provided by developing countries falls mainly under them. They are:

De minimis *support*

The DWP indicates that "reductions in *de minimis* will be negotiated taking into account the principle of SDT". Developing countries would like to ensure that *de minimis* for developing countries not fall below the limit of 10 percent now admissible. At the Hong Kong Ministerial it was agreed that developing country members with no AMS commitments will be exempt from reduction in *de minimis*. The DWP also indicates that "developing countries that allocate almost all *de minimise* support for subsistence and resource-poor farmers" are to be exempt. It is not clear what constitutes "subsistence and resource-poor farmers" and "almost all *de minimis* support". The usefulness of this provision cannot be gauged until these two aspects are clarified by the WTO membership.

Green Box support

The DWP mentions review and classification of the Green Box criteria, which should lead to concrete action to discipline abuse of this box by developed countries. Developing countries argue that some Green Box provisions are difficult to apply in a developing country context or that there is no suitable explicit provision for them. WTO membership is discussing the introduction of new provisions or language that takes into account the types of programmes more suited to the realities of developing country agriculture.

SDT under export competition pillar

Although most developing countries do not provide export subsidies and it was agreed at the Hong Kong Ministerial to eliminate all forms of export subsidies by the end of 2013, SDT under three other areas of this pillar are significant to them. These three are: export subsidies related to marketing and transport (provisions under Article 9.4), state trading enterprises (STEs) and food aid. Following is a brief examination of each of these.

Article 9.4 of the Agreement on Agriculture

Article 9.4 allows developing country Members to maintain export subsidies related to marketing and transport activities. The Hong Kong Ministerial agreed to allow continuation of this benefit for five years after the end-date for elimination of all forms of export subsidies. These provisions need to be maintained and perhaps extended to provide some offsetting of the continued use by developed countries of distorting domestic support.

State trading enterprises (STEs)
Paragraph 25 of the DWP states that "STEs in developing country Members which enjoy special privileges to preserve domestic consumer price stability and to ensure food security will receive special consideration for maintaining monopoly status". The dual commercial and development roles of STEs should be recognized, especially in relation to developing countries. The privileges STEs enjoy in developed countries should not allow them to compete unfairly on the export market and sufficient SDT should be provided for developing country STEs that contribute to agricultural sector transformation and increased food security. The challenge is to differentiate between situations and to establish benchmarks. In some developing countries, private enterprises have considerable capacity to respond to increased market opportunities, accessing their own credit and establishing their own warehouses for bulking supplies. In SVEs, an STE is still often needed to provide these services.

Food aid
A number of developing countries, including LDCs and net-food-importing developing countries (NFIDCs), are active recipients of food aid. As envisaged in the DWP, "the provision of food aid that is not in conformity with operationally effective disciplines (is) to be agreed". Although the objective of such disciplines is to prevent commercial displacement, WTO rules should not compromise efforts to help the most vulnerable people in developing countries. In the Hong Kong Ministerial, it was agreed that a 'safe box' for bona fide food aid would be provided to ensure there is no unintended impediment to dealing with emergency situations. This aspect is critical for SVEs from two standpoints: i) they are most vulnerable to natural disasters and hence dependent on food aid; and, ii) they are highly dependent on cereal imports for domestic consumption.

SDT implementation issues
One of the main issues for developing countries, amply reflected in their negotiating proposals, has been the ineffectiveness of SDT provisions due to their non-mandatory character. In various agreements of the Uruguay Round, provisions were added that "developed countries had to take special account of the needs of developing countries in the application of the particular agreement". However many such provisions took the form of "best endeavours", rather than firm legal commitments. For example, Article 12.6 Agreement on the Application of Sanitary and Phytosanitary Measures is not legally binding and is at most a "best endeavour" clause. There is therefore a need to make SDT provisions more binding.

In addition to ensuring effective implementation procedures, it is important to ensure periodic evaluation of the SDT provisions. Enhanced monitoring

mechanisms will facilitate an evaluation in terms of the effectiveness of the provisions. This step would also receive active support from the developed countries, which have been particularly concerned about the indiscriminate provision of SDT measures for all developing countries as a group. In order to facilitate this review process there need to be more timely and comprehensive notifications. Another consideration for improving implementation would be to institutionalize the review of SDT measures through the establishment of a monitoring mechanism (as proposed by the African Group (TN/CTD/W/23)), that would evaluate the utilisation and effectiveness of the provisions. Further, a notification procedure could be developed whereby Members inform the group about their fulfilment of the SDT rules.

Additional specific SDT measures for small, vulnerable economies

As discussed, any debate on the actual or potential contribution of SDT to economic integration efforts of developing countries and hence economic development must necessarily reflect the range of diverse situations among developing countries. If the principle is established that certain situations display unique characteristics and have unique trade-related problems that impede their fuller integration into the world trading system, the next step is to address these issues though provision of additional SDT measures that are specifically targeted.

The analysis in the preceding subsection of the chapter identified the need for some enhanced SDT measures that apply to developing countries and thereby to SVEs. In the following subsection, some additional SDT measures are developed that address the particular situation of smallness and vulnerability.

a) Lower level of obligations

The situation of smallness and vulnerability gives some countries limited flexibility to adjust and adapt to changing environments, including their trading environment. Such economies require longer time periods to adjust than larger developing economies. Hence, they should be allowed lower reductions and longer implementation periods in the three pillars of AoA as compared to other developing countries. This aspect is most important in the market access pillar since SVEs provide little domestic support and almost no trade-distorting support. Programmes that support product diversification for those SVEs dependent on one or two export crops should also be exempted from reductions. At present, in Article 6.2 exemption is limited to support for diversification from "growing illicit narcotic crops". Programmes that support diversification of production and export structures in order to reduce small developing countries' vulnerability to external shocks do not enjoy an exemption from the AMS (FAO, 2002b).

The WTO Agreement on Subsidies and Countervailing Measures[32] contains provisions that treat unfairly the minor cost incentives granted by the SVEs (which are essential for the development of export-oriented industries) as prohibited subsidies.

b) Preferences

This policy issue, normally addressed under the SDT section of market access for all developing countries, is treated separately here because of its importance to SVEs. Because of their dependence on a few agricultural export products and markets, the bulk of trade by SVEs takes place under preferences. The reduction of bound tariffs will likely put increasing pressure on the preference margins of preference-dependent countries. Under the WTO rules, Member countries have to discard all measures inconsistent with WTO rules, including preferential quotas and guaranteed prices. Since almost all the exports of small economies to the EU take place under one or the other of these measures, discarding these will have adverse impact on preferential trade. In order to mitigate some of the harmful effects of preference erosion on small economies, the WTO should explore options related to both flexibility in current rules and adjustment.

One option would be to amend the current WTO definition of LDCs to include small, vulnerable developing countries in the category of least-developed countries. Another option is to move from preferential tariffs set in absolute terms (whether specific or *ad valorem*) to ones defined in terms of preference margins. The preferences would thus be defined relative to most-favoured nation (MFN) tariffs, that is, a given number of monetary units below MFN tariffs (where the latter are specific) or a given percentages thereof (where MFN tariffs are *ad valorem*). Determining tariff preferences in this way would guard against preference erosion resulting from any further reductions of MFN tariffs. Ideally these preference margins would then be bound in WTO. For products where tariff preferences are limited by tariff rate quotas (TRQs), quotas could be enlarged (FAO, 2002a).

Another broad area that can be pursued is adjustment assistance for losses due to preference erosion. One option is a direct cash transfer in lump-sum form, paid annually, for an agreed number of years. Another option is additional financial and technical assistance for development projects, over and above the current financial flows.[33] Similarly, policy coherence at the international level could be made more meaningful and mechanisms available from other international institutions could be weaved into the WTO framework. For

[32] Paragraph 1(a) of Article 3.

[33] For instance, the European Commission has pledged an aid package worth €40 million for 2006, and its draft Action Plan of June 2005 indicated that an annual €100 million may be available to support restructuring and diversification in ACP countries up until 2013.

instance, refinement of the Trade Integration Mechanism (IMF, 2004) on preference erosion and expansion of financial arrangements in the context of the proposed Special Fund for Diversification linked to preference erosion (Commonwealth Secretariat, 2004) would be helpful in this regard. Progress on compensation in the context of preference erosion should be approached in addition to, not in place of, the design of a preferential regime referred to immediately above.

c) Aid for Trade

Paragraph 57 of the Hong Kong Ministerial Declaration provided the basis for the Aid for Trade (AFT) mandate. It states:

> *"Aid for Trade should aim to help developing countries, particularly LDCs, to build the supply-side capacity and trade-related infrastructure that they need to assist them to implement and benefit from WTO Agreements and more broadly to expand their trade."*

SVEs should ensure that the AFT initiative should also include them as major beneficiaries since it is clear that they need assistance to reap the benefits of trade liberalization. They should also strive for early implementation of these initiatives, i.e. now, rather than only after WTO completes the Doha Round successfully. AFT should not be tied to liberalization commitments nor used to force commitments from developing countries. Funding should be provided in favourable forms including grants or long-term concessional loans.

In terms of the scope of AFT, SVEs should ensure that it is not too narrow or restrictive in its scope and definition. For instance, aid for infrastructural development should not deal narrowly with trade-related infrastructure alone but should include an element of permeability between trade-related and general infrastructural development insofar as a beneficiary country can make its case by demonstrating the greater relevance of investing in a particular type of infrastructure for its trade development projects. Supply-side capacity-building initiatives should promote competitiveness in the agricultural sector, value-added production, enterprise development and appropriate incentive structures and regulatory frameworks for private sector participation in SVEs.

2.4 Conclusions

The Doha Work Program has established a platform for more focused negotiations that aim to interweave development with trade liberalization. Although it is a step in the right direction, it falls short if it does not give adequate consideration to the heterogeneity of developing countries. Any agenda aimed at development will succeed only if it designs measures that take cognizance of the variety of characteristics and situations of developing countries.

SVEs are one heterogeneous subgroup of developing countries faced with daunting challenges to their economic integration into the global trading system. This chapter used the case of the Caribbean countries, as part of the group of SVEs, to illustrate challenges related to both the physical and economic vulnerabilities that typify these countries, and to argue the case for special treatment in the WTO that would lessen the adverse impacts on their food security and rural livelihoods. The data presented and analysed underscored the increasing dependence of these countries on a few markets and commodities both for economic sustainability and development. Therefore, global trade policy changes that affect those markets and those commodities could greatly undermine the SVEs' current development and future prospects.

The principle of SDT in the WTO was conceived and implemented as a means to address the heterogeneity in the levels of development between developed and developing countries through flexible treatment. SVEs need to continue to point out the heterogeneity *among* developing countries and therefore the need for additional flexibility, given that the vulnerabilities the SVEs face distinguish them from other developing countries. The data reported here demonstrated that indicators for natural endowments, import dependency (including cereal dependency), concentration of markets and exports, share in world agricultural export markets, etc., make the group of Caribbean countries distinct from LDCs and other developing countries. Analysis of data for all SVEs yields comparable results (FAO, 2004b).

Therefore, SVEs should either strive for obtaining SDT measures similar to the measures for LDCs; or seek increased flexibility through strengthening of current SDT measures available to all developing countries and additional SDT measures aimed specifically at addressing their trade-related issues. The emergence of discrete coalitions of developing countries in the Doha Round is not only an indicator of the different issues faced by different developing countries but also makes clear the differences in their priorities. Effective SDT should recognize this and ensure flexibility in rule-making that provides different options for the various situations. Increased flexibility should also involve setting timelines consistent with the stages of development of countries and with their capacity to accommodate changes in the global trading environment. Some WTO Member States may need to introduce changes more slowly than others, depending on their goals or capacities. Although developing countries have expressed resistance to the creation of new subgroups, it can be argued that the existence of developing country subgroups such as LDCs and NFIDCs is an indicator of the heterogeneity of situations faced by some subgroups.

It is important to clarify that the additional SDT measures proposed in this chapter to address the disadvantage of smallness and vulnerability do

not intend to minimize the flow of SDT to other developing countries, but rather to build on them. Neither are these proposals intended to undermine the special treatment being extended to LDCs. They are intended to facilitate a fuller participation and better integration of SVEs into the global trading arena. After all, one of the important doctrines of multilateral trade under WTO is ensuring a fair trading environment. This can be achieved only if equal opportunities are given to all its Members, big and small.

References

Bernal, R. 2001. *Small developing economies in the World Trade Organization.* Paper presented at World Bank Conference "Leveraging trade, global market integration and the new WTO negotiations for development". Washington, DC (23–24 July). (Later published in M.D. Ingco, ed. 2003. *Agriculture, trade, and the WTO creating a trading environment for development*. Washington, DC, World Bank, pp. 108–122.)

Commonwealth Secretariat. 1998. *The trade policy implications for small vulnerable states of the global trade regime shift.*

Commonwealth Secretariat. 2000. *The Commonwealth Secretariat/World Bank Task Force study on small and vulnerable economies.*

CEC. 2003. *Agricultural commodity trade, dependence and poverty. An analysis of challenges facing developing countries.* Commission Staff Working Paper SEC(2003) 908. Brussels, Commission of the European Communities (CEC).

Clark A., Dollar, D. & Micco, A. 2002. *Maritime transport costs and port efficiency.* World Bank Working Paper 2781. Washington, DC, World Bank.

FAO. 1999. *Trade issues facing small island developing states.* Special Ministerial Conference on Agriculture in Small Island Developing States. 12 March. Rome

FAO. 2002a. *The future of preferential trade arrangements for developing countries and the current round of WTO negotiations on agriculture.* Rome.

FAO. 2002b. *FAO papers on selected issues relating to the WTO negotiations on agriculture*. Rome.

FAO. 2004a. *The state of agriculture commodity markets 2004.* Rome.

FAO. 2004b. *Small island developing states agricultural production and trade, preferences and policy.* FAO Commodity and Trade Technical Paper no. 7. Rome.

Jansen, M. 2004. *Income volatility in small and developing economies: export concentration matters*. Geneva, WTO.

OECS. 2003. *A perspective on external trade relations: the issue of special and differential treatment.* Organization of Eastern Caribbean States (OECS) Secretariat. July.

Radelet, S. & Sachs, J. 1998. *Shipping costs, manufactured exports and economic growth.* Harvard Institute for International Development. (mimeo)

United Nations. 2005. *Draft Mauritius strategy for the further implementation of the programme of action for the sustainable development of small island developing states.* (A/CONF.207/CRP.7) International meeting to review the implementation of the programme of action for the sustainable development of small island developing states. 10–14 January. Port Louis, Mauritius. United Nations (also available at http://www.un.org/smallislands2005/pdf/sids_strategy.pdf**).**

World Bank. 2004. *World Development Indicators.* Washington, DC.

World Trade Organization (WTO). 2000. *Concerns regarding special and differential treatment provisions in WTO agreements and decisions.* Note by Secretariat WT/COMTD/W/66. 16 February. Geneva.

WTO. 2001. *Doha Ministerial Declaration*. WT/MIN(01)/DEC/1. November. Geneva.

WTO. 2002a. *Monitoring mechanism for special and differential treatment provisions*. TN/CTD/W/23. 11 December. Geneva.

WTO. 2002b. *WTO negotiations on agriculture. Proposal on special and differential treatment by Members of the Organization of the Eastern Caribbean States (OECS).* Special Session of the Committee on Agriculture, informal meeting 18–22 November. Geneva.

WTO. 2002c. *Work programme on small economies, framework and procedures*. WT/L/447 5 March. Geneva.

WTO. 2002d. *The WTO work programme on special and differential treatment.* Communication from the European Communities, Committee on Trade and Development. TN/CTD/W/26 11 December. Geneva.

WTO. 2002e. *Work programme on small economies. Issues relating to the trade of small economies*. WT/COMTD/SE/W/1. 18 April. Geneva.

WTO. 2002f. *Trade and economic performance: the role of economic size.* Note by Secretariat, Committee on Trade and Development, dedicated session. WT/COMTD/SE/W/5. 23 October. Geneva.

WTO. 2003. *Special and differential treatment provisions.* Joint communication from the African Group in the WTO. TN/CTD/W/28. 14 February. Geneva.

WTO. 2004. *Doha Work Program.* Decision adopted by the General Council on 1 August. WT/L/579. 2 August. Geneva.

WTO. 2005a. *Work programme on small economies. An approach to framing responses to the trade-related problems of small economies.* Communication from Antigua and Barbuda, Barbados, Bolivia, Cuba, Dominica, Dominican Republic, El Salvador, Fiji, Grenada, Guatemala, Honduras, Jamaica, Mauritius, Mongolia, Nicaragua, Papua New Guinea, Paraguay, Solomon Islands, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines and Trinidad and Tobago. WT/COMTD/SE/W/13/Rev.1 27 May. Geneva.

WTO. 2005b. *Proposal by small, vulnerable economies on market access in agriculture.* Communication from Barbados, Bolivia, Cuba, Dominican Republic, El Salvador, Fiji, Guatemala, Honduras, Mauritius, Mongolia, Nicaragua, Papua New Guinea, Paraguay and Trinidad and Tobago. TN/AG/**GEN/11. 11 November. Geneva.**

WTO. 2005c. *Doha Work Program Ministerial Declaration.* Ministerial Conference Sixth Session. Hong Kong, 13–18 December. WT/MIN(05)/DEC. 22 December. Geneva.

WTO. 2006. *Recommendations of the Task Force on Aid For Trade.* WT/AFT/1. 27 July. Geneva.

Appendix 2.1
The Commonwealth Secretariats' Composite Vulnerability Index (CVI) [34] related to smallness and vulnerability

Population: <2 million	Population ('000)	CVI	CVI rank
Saint Kitts	42	6	29
Antigua and Barbuda	65	11	2
Dominica	71	8	12
Seychelles	72	6	28
Kiribati	78	5	59
Grenada	92	8	15
Tonga	93	10	3
Saint Vincent	120	7	24
Sao Tome	127	8	17
Saint Lucia	139	7	19
Vanuatu	161	13	1
Samoa	167	7	20
Belize	204	7	23
Maldives	236	9	9
Barbados	260	6	38
Bahamas	268	10	4
Solomon Islands	354	8	11
Malta	361	7	22
Cape Verde	370	5	73
Equatorial Guinea	379	7	21

[34] The CVI is derived from the following three variables using weighted least squares techniques: i) A country's openness, as measured by export dependence (the average exports of goods and non-factor services as a percentage of GDP); ii) a country's lack of diversification, as measured by the UNCTAD diversification index; and iii) for small states, a country's susceptibility to natural disasters, as measured by the proportion of the population affected by such events, as estimated over a relatively long period of time. **Appendix 2.1** above contains countries with a population of less than two million and a CVI of more than 5 (the higher the index, the higher the vulnerability).

Appendix 2.1 Continued

Population: <2 million	**Population ('000)**	**CVI**	**CVI rank**
Suriname	414	5	78
Bahrain	535	8	16
Djibouti	557	8	14
Comoros	607	5	43
Cyprus	726	5	42
Fiji	758	9	8
Swaziland	809	10	6
Guyana	816	8	13
Gambia	1,042	9	7
Mauritius	1,091	7	27
Gabon	1,248	6	32
Trinidad and Tobago	1,278	5	49
Botswana	1,401	10	5
Namibia	1,461	7	26
Bhutan	1,596	5	45
Lesotho	1,943	6	34
Oman	1,992	6	40

3

Agricultural tariff policies of Caribbean countries and WTO negotiations

Hansdeep Khaira and J.R. Deep Ford

Introduction

As the global trading arena is increasingly integrated, the influence of policies of the industrialized countries on the smaller economies becomes even more important. Often, external policies adversely impact the national objectives of smaller countries because these countries are not able to "freely" apply those policies best suited to the pursuit of their objectives. This chapter focuses on a group of small countries – countries in the Caribbean region – and emphasizes management of tariff policy as an instrument for promoting the domestic objectives of food security and viable rural livelihoods in the face of increasing globalization.

Tariff policy management concerns the flexibility that countries have and the degree to which they modify (raise or lower) tariffs to pursue, for example, their food security objectives. Tariff policy is an integral part of a government's national economic policy framework and governments utilize it as one of several measures to pursue national development objectives that range from attaining self-reliance in food production to creating an enabling environment for nascent industries to develop and flourish. Furthermore, revenue from tariffs is an important component of the fiscal policies in many countries.

With the conclusion of the Uruguay Round of trade negotiations in the WTO the vast majority of the countries in the world committed themselves to disciplining their tariff policy. The discipline was in the form of legally binding tariffs (setting the maximum limit beyond which tariffs could not be increased). In principle, these bound tariffs would then be gradually reduced

in every subsequent round of negotiations, including the Uruguay Round, with the objective of achieving higher degrees of global trade liberalization.

While developing countries committed themselves to the process of opening their domestic markets through a gradual disciplining of their agricultural tariffs, there have been several challenges in implementing the tariff reductions. The opening by developing countries of their domestic agricultural markets has led to an inflow of production and export-subsidized commodities from OECD countries that have displaced domestic production in several countries. The reduction in tariffs also exposes fledgling domestic industries, including agroprocessing companies, to increased and sometimes unfair competition. The impact has often been to restrict the countries' diversification into and growth rate of high-income and value-added products. A reduction in tariffs also leads to a general decline in the government revenue that can be crucial for development in many small and vulnerable developing countries.

This chapter's point of departure is an investigation into tariff structure and policy management of tariff structures for use by developing countries to pursue food security objectives. It also examines how tariff structures and national policy objectives may be affected by further tariff reductions.

Section 3.1 underscores the importance of tariffs for the Caribbean countries, including the concept and significance of trade policy flexibility. Section 3.2 analyses the current agricultural tariff profiles of 12 Caribbean countries with a view to demonstrating the current policy treatment meted out to the sector in general, and to some commodities in particular. Section 3.3 applies the main tariff reduction formulae laid out in proposals tabled by some WTO Members to the tariff structure of Caribbean countries, with a view to evaluating the likely impact of further tariff reduction on the current policy flexibility. The final section draws conclusions on tariff management, policy flexibility and food security based on the analysis carried out in the chapter.

3.1 Importance of tariffs for agriculture in the Caribbean countries

Tariffs are critical as a policy tool for the Caribbean countries, both from a food security and developmental objective standpoint and as a source of government revenue.

When policy measures affecting agricultural trade were bought into the framework of the General Agreement on Tariffs and Trade (GATT) in 1986, the general consensus among Members was that some of these policies led to inefficient allocation of agricultural resources and distorted global trade. It was agreed that tariff policies should be gradually revised. Consequently, the Uruguay Round concluded in 1994 with commitments to reduce tariffs and

all forms of trade-distorting support and the Doha Round was launched to continue this process.

The length of the Uruguay Round and the subsequent missed deadlines for concluding aspects of the Doha Round indicate the complexity of the agricultural negotiations, especially those directed at reducing tariffs. The importance of tariffs stems from several viewpoints most of which involve developing countries.

In a majority of developing countries where agriculture and food production is the mainstay of rural livelihoods and food security, tariffs are seen as critical to stability and further development. Most of these developing countries do not have adequate resources to provide domestic support and other forms of protection to their farmers, making it difficult for them to compete with subsidized imports. Applying safeguards to protect their local agricultural producers from abnormal spurts in imports is administratively complex and expensive. Few developing countries have the resources and the institutional and legal capacity to apply such measures which, in addition, require proof of injury and involve a lengthy and costly legal process (FAO, 2002).

Thus, tariffs remain an important (and in most cases, the only) instrument for promoting agricultural development and food security. Even with the mitigating effect of a tariff, it is often difficult for the farmers in these countries to compete with products from developed countries that would have benefited from assistance at several stages of the production and marketing chain. Further, many OECD countries continue to provide export subsidies to their products often resulting in products being sold on the world market at prices below the cost of production. Provision of export subsidies by the United States, for example, meant that in 2003 wheat was exported at 28 percent below its cost of production, while cotton was dumped at 47 percent, rice was dumped at 26 percent, and soybeans and corn were sold at 10 percent below the cost of production (IATP, 2005).

The Caribbean countries share concerns with other developing countries about market access as these relate to food security and rural livelihood security of their smallholders and to maintaining a base for domestic supply of some food and agriculture commodities. While Caribbean countries have made good progress in overcoming poverty and undernutrition and have relatively higher levels of per capita income than some other developing countries, food insecurity still exists in the region, especially in countries where agriculture is an important income-generating sector for the rural poor. This is especially true in two large countries of the Caribbean Forum (CARIFORUM): 47 percent of the people in Haiti and 25 percent in the Dominican Republic are undernourished (FAO, 2005).

Caribbean countries have become increasingly more dependent on food imports while they have faced a gradual erosion of their trade preferences in the main exporting markets. The combined effect has a potential to reduce

TABLE 3.1
Approximate value of tariff revenue from agricultural imports and its share in total agricultural imports (2003)

	Tariff revenue (in million US$)	Share in total imports (%)
Antigua and Barbuda	13	18.9
Barbados	73	37.9
Belize	9	14
Dominica	63	10.2
Grenada	8	17.9
Guyana	17	19.5
Jamaica	83	17
Saint Kitts and Nevis	5	15
Saint Lucia	14	16.6
Saint Vincent and the Grenadines	6	14
Suriname	11	16.9
Trinidad and Tobago	60	16.3

Source: WITS, 2005; IMF, 2006, International Financial Statistics CD-ROM (March)

food security in these countries as both exports and imports become highly susceptible to changes in supply and prices in the world markets. In light of this, diverting some productive resources from export crops to produce foodstuffs efficiently will not only be a profitable activity but could also lead to increasing the degree of self-sufficiency and enhanced food security.[35] An appropriate level of import tariffs, especially on commodities produced by the country and by smallholders in the country, could assist in this process. It is a well-documented fact that countries rely on a range of policy interventions to improve rural area productivity and tariffs and tariff revenue are an important part of the policy package for the Caribbean region.

The importance of tariffs as a contribution to national budgets is shown in **Table 3.1**, which presents the approximate tariff revenue derived by Caribbean countries from imports of agricultural commodities. The revenue is computed using the applied tariff rates (most-favoured nation) and the import values for all agricultural commodities (HS 01–24) excluding fish.[36] Thus, for example, if the tariff for a particular commodity is 10 percent and value of imports of that commodity is US$100 000, the tariff revenue is US$10 000. For some countries this revenue is a high percentage of total government revenue. For example, it approaches ten percent for Barbados and six percent for Saint Vincent and the Grenadines.

[35] Although given the limited factor endowments (chiefly land and labour) in the Caribbean countries, there will be a limit to the extent to which these objectives can be successfully pursued.

[36] The revenue is calculated by averaging tariff percentages and value of imports at the 6-digit HS level. Furthermore, it does not take into account preferential tariff rates that may be imposed on imports from some countries. The results are therefore only indicative.

TABLE 3.2
Policy objectives and tariffs on commodities: the case of Barbados

Policy objective	Commodity	HS no.	Tariff (%)
Food security	Live poultry	0105	186
	Tomatoes	0702	224
	Pork	0203	206
	Poultry meat	0207	116
Rural development	Jams, jellies, marmalades, etc.	2007	145
	Other food preparations	2106	178
	Sausages and food prep. of meat	1601	183
Government revenue	Alcoholic beverages[1] (ethyl)	2207	211
	Beer from malt	2203	141
	Tobacco	2403	119

Source: Applied tariff data from WITS
[1] For Caribbean countries, high tariffs on alcoholic beverages are also to protect their domestic production.

For Barbados, more than one-third of the amount spent on imports of agricultural products goes to the government as revenue. Table 3.1 shows that countries like Jamaica, Dominica and Trinidad and Tobago also derive large amounts of revenue from imposing tariffs on agricultural imports. Although it is difficult to demonstrate that tariff revenue necessarily goes to the agricultural sector, nonetheless, in many countries where agriculture is the mainstay of economy, or where rural development is the top national priority, this is very likely the case. **Table 3.2** provides an example from Barbados' current tariffs on some commodities, linking them to the objectives the commodity tariffs could possibly assist in achieving.

3.2 Agricultural tariff profiles of Caribbean countries

An analysis of the current tariff profile of a country is useful for assisting policy-makers in framing appropriate national policies aimed at rural area development. The following analysis examines the existing tariff profiles of twelve countries in the CARICOM group. It takes into consideration the current trade policy treatment being accorded to the agricultural sector – and more specifically, to certain commodities – and looks at the likely impact of further tariff reductions.[37]

Table 3.3 presents the summary statistics of tariffs for the 12 countries. The first column shows the number of matched tariff lines (where both bound and applied tariffs existed) for each country.

[37] Three countries that are part of the CARICOM group are not included here: the Bahamas and Montserrat are not included because they are not WTO Members and thus have no legally binding tariffs, while tariff data on Haiti was not available for analysis.

TABLE 3.3
Summary of tariff statistics – Caribbean countries

	No. of matched lines	Simple average		Standard deviation		Minimum rate		Maximum rate	
		Bound	Applied	Bound	Applied	Bound	Applied	Bound	Applied
Antigua/Barbuda	603	106	16	16	14	100	0	220	45
Barbados	533	113	21	28	15	100	0	223	224
Belize	598	101	19	4	17	70	0	110	91
Dominica	608	113	21	22	25	100	0	150	135
Grenada	611	99	18	29	15	0	0	200	40
Guyana	613	100	21	0	21	100	0	100	100
Jamaica	611	97	17	15	17	0	0	100	75
St Kitts and Nevis	597	110	13	29	20	10	0	250	40
St Lucia	614	115	16	26	15	100	0	250	45
St Vincent/Gren.	596	116	17	27	15	100	0	250	40
Suriname	353	20	24	1	18	10	0	20	50
Trinidad/Tobago	612	91	17	27	16	0	0	156	60

Note: Data on tariffs was compiled from the World Integrated Trade Solution (WITS). Corresponding applied and bound tariff lines were matched using the SAS 9.1 software._

The analysis is based on tariffs lines corresponding to agricultural products at Harmonized System (HS) 6-digit level (aggregated using simple averages). The products selected corresponded to HS numbers 01–24 (excluding 03), 4201, 4202, 4203 and 5201. Since an important component of the analysis is a comparison between the bound and applied tariffs, the only tariff lines considered were those for which information on both types of tariffs was available. As a percentage of total tariff lines at the 6-digit level, depending on data availability for a country, this generally represents a range of 76 percent to 87 percent (the exception is Suriname, with its matched lines being 50 percent of its total lines). Thus, where the actual number of agricultural tariff lines for a country are more than the number of matched lines in the first column, the omission is due exclusively to lack of information.

The second column shows the simple averages of bound and applied tariffs for the matched tariff lines. The average for applied tariffs ranges from 11 percent to 36 percent. The range for bound tariffs is very wide, from a low of just 20 percent for Suriname[38] to a high of 116 percent in the case of Saint Vincent and the Grenadines. The simple average of applied tariffs for the Caribbean countries is 19 percent while the bound tariff average is close to five times that of the applied tariff average, at 90 percent. The agricultural-weighted average bound tariffs for developing countries globally are approximately 21 percent and for applied tariffs 48 percent (Anderson and

[38] Since complete information on a large number of tariffs for Suriname was not readily available, any analysis based on the results for this country should be considered with caution.

Martin, 2005). Thus, though the average bound tariffs of Caribbean countries are almost twice the average of developing countries, the applied tariffs lie closer to the developing-country average.

In the context of applied tariffs, the Caribbean countries considered in this chapter are all signatories to the CARICOM common external tariff (CET). The CET was designed to harmonize the external tariff for Member States, while giving preference to goods produced within the region. In principle, the maximum tariff levied on agricultural imports from extra-CARICOM sources under the CET is 40 percent. However, rules agreed under the CET permit suspension (waiver) of this maximum tariff rate for certain products.[39] In other words, Member States are free to apply rates lower than 40 percent on agreed products. The fact that average applied tariffs in the table are shown to be far below 40 percent for all countries points to the use of this rule of suspension by all Members on a large number of products.

The significance and continuing need for this policy flexibility for the Caribbean countries is brought out by the fact that while most Caribbean countries are signatories to the CET of the CARICOM and should apply a common tariff policy, there are commodities on which applied tariffs imposed by different countries are higher than the commonly-agreed tariff rates in the CET.

The standard deviation (SD) is used here to gauge the degree of spread or dispersion in the tariffs of the Caribbean countries. The standard deviation is a statistic that indicates how closely the various data points (tariffs, in our context) are clustered around the average (mean) in a set of data. In the case of a completely uniform tariff profile, the SD is zero. A high SD implies that there are a number of commodities whose relative importance to the country is being reflected through different tariff levels in the profile.

The results in **Table 3.3** show that the SD in bound tariffs ranges from 0 or very low in some countries, indicating the existence of a uniform tariff profile, to 26 and above for others, pointing to a relatively more skewed profile.[40] In the case of the latter, high SD coupled with high average tariffs indicates a large number of tariff lines with high tariff rates. The SD is a good indicator for evaluating the likely impact on a tariff profile of a tariff-cutting formula, as demonstrated in the next section of the chapter. **Box 3.1** shows the concentration of bound rates at 100 percent.

The last two columns of **Table 3.3** show the minimum and maximum rates for both bound and applied tariffs. Minimum applied rates for all countries are zero while minimum bound rates vary from 0 to 100 percent in some cases.

[39] The list of such items is contained in Annex A of the CET.

[40] For example, in Guyana, with a SD of 0, all tariff lines are set at 100 percent and in Belize, almost all bound tariff lines are close to 100 percent; whereas Saint Kitts and Nevis and Saint Lucia, for example, have SD of over 25, with more skewed profiles.

BOX 3.1
Concentration of bound tariff rates

The data below show that for most countries in the Caribbean, there is a high concentration of tariffs at the 100 percent rate. On average, more than 80 percent of all tariff lines are bound at over 100 percent. In the case of Guyana, all the agricultural tariff lines are uniformly bound at 100 percent.

The level of concentration in tariff rates is an important factor in a multilateral system approach to tariff-cutting based on tiers: a high level of concentration indicates in which tier most tariffs would fall, and thus to what level of cut most would be subject. In the context of the Caribbean countries, a tariff reduction formula that proposes higher levels of cuts in higher tariffs would lead to higher *level* of overall cuts (since most tariffs are bound at a high level of 100 percent), and would also affect a larger *number* of tariff lines (since there is a large concentration of high tariffs).

Bound rate tariff lines

	Bound rate equal to	% of tariff lines bound at that rate
Antigua and Barbuda	100%	84
Barbados	100%	80
Belize	100%	84
Dominica	100%	74
Grenada	100%	88
Guyana	100%	100
Jamaica	100%	98
Saint Kitts and Nevis	100%	76
Saint Lucia	100%	60
Saint Vincent and the Grenadines	100%	61
Suriname	20%	100
Trinidad and Tobago	100%	86

Source : data from WITS, 2005

With the exception of Suriname, all countries here have maximum bound rates 100 percent and over, while an equal number have maximum applied rates below 100 percent. Although the maximum tariff agreed to be levied on agricultural products under the CET is 40 percent several countries apply higher rates on some products. They are able to do so because the CET makes a provision for allowing exceptions to the rates under certain conditions.

Since the tariff profiles analysed above are based on average tariffs of all agricultural commodities, an examination of the trade policy treatment at

TABLE 3.4
Commodity groups and trade policy treatment in the Caribbean countries

	Commodities	Average tariff rate (%)
Commodities with high bound rates	Vegetable oils	110
	Edible vegetables, roots and tubers	102
	Tobacco products	100
Commodities with high applied rates	Cigars and cigarettes	45
	Vegetable oils	40
	Alcoholic beverages	40
	Citrus fruits	40
	Commodities	**Average tariff wedge (%)**
Commodities with high tariff flexibility (highest difference between applied and bound)	Products of animal origin	92
	Residues and waste from food industry	90
	Meats	84
	Cereals	81
Commodities with low tariff flexibility (lowest difference between applied and bound)	Sugar and sugar confectionary	66
	Cigars and cigarettes	66
	Alcoholic beverages	52

Source: data from WITS

the commodity level will assist in deepening this analysis. In addition to understanding the reasons for the type of policy treatment to a particular commodity/commodity group, such analysis also helps national policy-makers and negotiators in assessing the likely impact of tariff reduction formulae on individual commodities.

Table 3.4 presents commodities or commodity groups that attract high bound and applied tariffs in the Caribbean countries. [Note that since the tariff rates shown for each commodity group are averages for the 12 countries in the region, results may vary for individual countries.] The table shows that Caribbean countries declare high bound tariffs, and levy high applied tariffs, on vegetable oils and tobacco products. High tariffs on the latter are levied mainly as a source of government revenue. In the WTO agricultural negotiations, when Members agree on a tariff reduction formula that targets higher tariffs, it is the commodities shown here with high bound tariffs that are most affected.

The table also shows commodities with higher and lower flexibility[41] than others in the region. Further tariff reductions will affect those categories with lower flexibility (e.g. sugar, tobacco products and alcoholic beverages) more

[41] Flexibility here refers to the difference or wedge between the bound and applied tariffs in absolute terms.

than those with higher flexibility (e.g. animal products and cereals). Although tariff flexibility is a useful factor when assessing the likely impact of tariff reduction on a product, the bound rate of that product is also important: two products with the same low flexibility will be affected differently based on their bound rates. The product with higher bound rate will undergo a higher reduction under the tiered tariff reduction system than the product with a lower rate; how the flexibility of one or the other is affected depends on their respective applied rates.

3.3 Application of some key tariff-cutting proposals

The purpose of this section is to look at the main tariff-cutting proposals tabled during 2005 by WTO Members in the Doha Round and investigate the impact they are likely to have on some countries in the Caribbean region.[42] The formulae suggested in the proposals are applied on the tariff profiles of 12 Caribbean countries; the results are analysed in terms of their impact on the current bound tariffs of these countries.[43]

In an important sense, the proposals submitted can be seen to represent different agricultural trade situations of the proposing countries. **Table 3.5** clusters the proposing countries (or country groups) with their net trade position and tariff policies. Countries in more advanced stages of agricultural development, like the United States and the EU, have more open domestic markets when viewed from the standpoint of low tariffs; they seek markets in other countries. Agriculture in the G20 countries is characterized by a fairly advanced stage of development: most of these countries are self-reliant, have a positive net agricultural trade position and display competitive levels of domestic production. They provide a fair level of domestic protection in the form of tariffs, especially on products and their import substitutes. The ACP is a group of countries with a large agricultural sector with fairly low to modest levels of development, typically exporting tropical cash crops (dependent on preferential markets) and importing food (net importers as aggregate). They aim towards increased self-sufficiency and hence need to increase the rate of agricultural growth and diversification; consequently tariffs are bound at relatively high levels. The characteristics of most Caribbean countries would match the ACP group.

Net exporting countries with more open markets propose higher cuts in tariffs to take advantage of market access in currently protected markets. Net importing countries propose lower cuts in bound tariffs in order to protect

[42] This section draws heavily on a technical note prepared on the potential implications of some tariff-cutting formulae prepared by the Commodities and Trade Division (ESC) of the FAO.

[43] The proposals build on the common framework set out in the G20 proposal of July 2005, which had proposed values for some key elements of the tiered approach, as envisaged in the July 2004 WTO framework agreement. They can be viewed at http://www.ictsd.org/ministerial/hongkong.

TABLE 3.5
Agricultural trade situation and tariff policy

Country/ group	Stage of agricultural development	Net trade position	Average tariff structure
US	High levels of agricultural productivity, well established credit markets and institutions, high levels of government support, relatively open domestic markets, high private sector participation, etc.	Net exporting	Low tariffs
G20	Reasonably high levels of productivity, functioning credit markets and institutions, moderate levels of government support, relatively open domestic markets, enhanced private sector participation, etc.	Net exporting	Medium to high tariffs
EU	High levels of agricultural productivity, well established credit markets and institutions, high levels of government support, relatively open domestic markets, high private sector participation, etc.	Neutral	Low tariffs
ACP	Low levels of productivity, lack of established credit markets and institutions, low or negligible levels of government support, relatively closed domestic markets, poor private sector participation, dependence on few commodity exports and preferential markets, etc.	Net importing	High tariffs

Source: Authors

products for which they seek to be self-reliant (while products for which the country depends heavily on imports can be levied lower applied tariffs). Preference-dependent countries are worried about preference erosion in developed-country markets and would prefer lower cuts in tariffs in those markets.

Analysis of tariff-cutting proposals when viewed from the perspective discussed above provide a useful understanding of the linkages between differences in a country's national goals, stages of agricultural development and trade policies.

3.3.1 Summary of proposals

In this section proposals are analysed in terms of the threshold levels of tiers (range of bound tariffs falling in different tiers) and proposed reduction formulae coefficients in each tier. [The proposals are presented in more detail in **Appendix 3.1**.] The tiers set out the ranges for specific cuts on tariffs: for example, if there were only two tiers then all tariffs above a set level would have a certain cut and all tariffs below that level have a lesser cut. Below is a summary of the four proposals and a description of the small, vulnerable economies (SVE) proposal:

1) **United States:** Proposes the same four tiers for both developed and developing countries; the tariff cap and reduction coefficients are specified for developed, but not for developing, countries. An important feature

of this proposal is the availability of a range of linear cuts to Members in Tiers 1, 2 and 3. Members can choose reduction rates from within a given range as long as the specified average for the tier is attained, thereby giving them flexibility to subject different tariff lines to different tariff cuts.

2) **EU:** Proposes four different tiers for developed and developing countries; the tiers and cuts for developing countries are the same as proposed by the G20. The cuts for developed countries are less than for the G20 countries. Flexibility is provided in Tier 1. As in the United States proposal, this proposal provides flexibility in the form of a range of tariff cuts – albeit in Tier 1 (the lowest tier) alone.
3) **G20:** Proposes four different tiers for developed and developing countries; lower reduction coefficients and higher caps for developing countries are specified.
4) **ACP:** Proposes same number of tiers but different threshold levels for developed and developing countries; same linear reduction coefficients for both groups of countries. No tariff cap is proposed.

SVEs: Proposed market access modalities that include tariff-cutting but not in the tiered format of the four major proposals. Proposed that they undertake linear cuts not to exceed 15 percent, with a minimum of 10 percent per tariff line. It was also recommended that no tariff capping be applied to SVEs. The SVE proposal suggests a cut be applied to its countries that would be ten percentage points less than the ACP proposal (15 as opposed to 25).

3.3.2 Methodology of application

In order to see how implementation would affect the tiered approach to tariff cuts, the following steps were taken. First, the values of the current bound agricultural tariffs in each country were sorted in ascending order. Second, based on the threshold levels (or tariff range) set in each proposal, tariffs were assigned to different tiers, with the lowest tariff range in Tier 1 and the highest in Tier 5. Third, the tariffs were "cut" according to the proposed reduction coefficient for the tier in which they were placed.

In examining what the tariff reductions would be, some important assumptions were made. In the case of the United States proposal, since there is no indication of the extent of tariff cuts to be made in developing countries, it was assumed that developing countries will reduce their tariff by two-thirds of the reduction made by developed countries and that tariff caps for developing countries will be set at 100 percent. The United States proposal provides flexibility of tariff reduction coefficients in each tier by proposing a range for the tariff cut within the tier. For example, it proposes that in the case of developed countries, tariffs in Tier 1 can be cut within a range of 55 to 65 percent. In the case of developing countries this range could then be between 37 and 43 (two-thirds of 55 and 65 respectively). For the purposes of this scenario, it is assumed that where such flexibility is available, the higher

tariffs in every tier will be subjected to the lowest possible cut. Because this might not reflect countries' actual use of flexibility, the results are merely indicative of direction and relative magnitude.

No account is taken in any of the five proposals of the flexibility available to developing countries through designation of sensitive or special products, in large part because no clearly defined flexibility has been agreed to date.[44]

The average cut in bound tariffs is taken as the average of the reductions made to each tariff line. This is not the same concept as the cut in the average bound tariff, which is the percentage reduction in the average bound tariff (from what the average was before and after the cuts are applied to all tariffs).

3.3.3 Analysis of results

The results of the tariff-cutting exercise are analysed from two standpoints: 1) To what extent are the broad objectives of multilateral trade reforms met? 2) What is the impact on the difference between a country's bound and applied tariffs (referred to as the "overhang")?

Meeting the objectives of multilateral trade reforms

The Doha Round established these four broad objectives of multilateral trade reforms:

i. *Ambition:* Substantial reductions should be achieved in average tariff levels of countries.
ii. *Harmonization:* Steeper cuts should be achieved on higher tariffs, bringing a country's final tariffs closer together.
iii. *Proportionality:* The average cut in developing country tariffs should be significantly lower than that in developed country tariffs.
iv. *Flexibility:* Country-specific concerns, particularly relating to sensitive products and special products, should be accommodated.

Ambition is assessed in this chapter in terms of the level of *average cut* in the bound tariffs of the proposing country. It is assumed that if the average cut achieved exceeds the one agreed to in the Uruguay Round (24 percent cut for developing countries), then the proposed formula is ambitious; if it falls below this value it may be unambitious.

Harmonization can be measured in terms of the extent of reductions in higher tariffs as compared to lower tariffs. When higher tariffs are reduced more than lower tariffs, a formula is said to be achieving harmonization. The measure used here for assessing harmonization in a formula is the Standard Deviation (SD). The SD of the average bound tariffs resulting after the cuts is compared with the SD in the current average bound tariffs. The less the SD in the new bound tariffs (as compared to the current one), the more a formula will be considered to be comparatively more harmonizing.

[44] The aspect of flexibility is further addressed in Chapter 5.

TABLE 3.6
Summary statistics: tariffs before and after implementation of cuts

	Current	US proposal		EU proposal		G20 proposal		ACP proposal	
		New	% reduction	New	% reduction	New	% reduction	New	% reduction
Antigua/Barbuda									
Average	106	42	60	68	35	68	35	83	21
Maximum	220	88		132		132		154	
Minimum	100	40		65		65		80	
Barbados									
Average	113	46	60	72	36	72	36	88	22
Maximum	230	89		134		134		156	
Minimum	100	40		65		65		77	
Belize									
Average	101	41	60	66	35	66	35	80	21
Maximum	110	44		72		72		83	
Minimum	70	28		49		49		56	
Dominica									
Average	113	45	60	71	36	71	36	88	21
Maximum	150	60		90		90		113	
Minimum	100	40		65		65		80	
Grenada									
Average	99	40	60	64	35	64	35	79	20
Maximum	200	80		120		120		140	
Minimum	0	0		0		0		0	
Guyana									
Average	100	40	60	65	35	65	35	80	20
Maximum	100	40		65		65		80	
Minimum	100	40		65		65		80	
Jamaica									
Average	97	39	60	63	35	63	35	78	20
Maximum	100	40		65		65		80	
Minimum	0	0		0		0		0	
St Kitts & Nevis									
Average	110	44	60	71	35	71	35	85	21
Maximum	250	100		150		150		175	
Minimum	10	6		8		8		9	
St Lucia									
Average	115	46	60	75	35	75	35	89	22
Maximum	250	100		150		150		175	
Minimum	100	40		65		65		77	
St Vincent/Gren.									
Average	116	46	60	75	35	75	35	89	22
Maximum	250	100		150		150		175	
Minimum	100	40		65		65		77	
Suriname									
Average	20	11	46	15	25	14	29	17	15
Maximum	20	12		15		15		17	
Minimum	10	6		8		6		9	
Trinidad/Tobago									
Average	91	37	59	59	33	59	33	73	20
Maximum	156	62		94		94		109	
Minimum	0	0		0		0		0	

Proportionality is not dealt with in this chapter because it compares cuts across developed and developing countries and is not relevant to Caribbean countries alone.

Flexibility mainly concerns the recourse to sensitive or special products, and involves excluding certain number of lines declared as sensitive or special. It is thus not analysed below because guessing how countries will use their flexibility is highly speculative. However, clearly whatever is agreed on concerning sensitive and special products will affect all the objectives because it could be that the highest tariffs are removed via such flexibility.

Impact on the "overhang" in a country's bound and applied tariffs

The impact of tariff reduction formulae on a country's tariff profile is gauged here in terms of tariff "overhang", which is the difference between the bound and applied tariffs, also known as policy flexibility. Flexibility may be needed for many reasons including for raising tariff levels in response to changes in domestic demand–supply conditions or dynamics of international trade. Where a formula reduces this difference, there is a resulting loss in tariff flexibility.

How tariffs are cut and the resulting outcomes will be decided through complex negotiations that resolve many conflicting interests. For instance, the larger developing countries that are also net exporters will want an approach that reduces tariff peaks and tariff escalation in developed countries. The preference-dependent developing countries will want to prevent the erosion of the preferential tariffs in developed countries. On the other hand, the developed countries will want to accept a tariff-cutting approach that opens up market access opportunities for them in especially the larger developing countries. Many Members instead demand a comprehensive approach in which the extent of tariff cuts is based on the extent of cuts in export subsidies and domestic support.

In addition, any agreement on the extent of flexibility available to Members through the use of sensitive and special products (e.g. the number of tariff lines that can be so designated) will also have an important bearing on the final outcome. Given that tariff structures differ so widely among Members, it will be difficult to satisfy all the main objectives with one formula or set of parameters.

Because this exercise includes just 12 countries, the aim is not to draw *general* conclusions on the effectiveness of the different proposals, but rather to demonstrate their effects on a set of countries that exhibit similar characteristics and whose trade policies are largely shaped by the regional trading agreement of which they are a part. It aims to showcase the range of impacts on tariff profiles of the different levels of cuts being discussed in the negotiations.

Table 3.6 presents what would result from the application of the different proposals to each of the 12 Caribbean countries. The SVE proposal is not

included here because its outcome is relatively predictable. It proposes a maximum linear cut of 15 percent across all tariff lines; because Caribbean countries display similar features of uniform bound tariffs and high concentration around the same rate (100 percent), most new bound tariff rates under the SVE proposal would be around the 85 percent level.

Analysis of results in terms of the main objectives in cutting tariffs

Based on the results shown in **Table 3.6**, below we discuss the impact of the proposals on the tariff profiles of the Caribbean countries in the context of the two parameters of ambition and harmonization.

i) Ambition. The United States proposal would reduce the average tariffs of each country the most (on average by 59 percent) and the ACP proposal would reduce them the least (on average by 20 percent). In fact, there is an almost three-fold difference between the average reductions when the two formulae are applied and the new bound rates are compared. (Again, the SVE proposal would result in the least ambitious reduction, a 15 percent cut.)

Similarly, when compared with the Uruguay Round average reduction for developing countries (24 percent), the United States, the EU and the G20 would satisfy greater ambition while the ACP (and the SVE) proposals would be less ambitious: the high threshold of the lowest cut of the United States and the G20 guarantee this outcome, because they are effectively higher than the highest cuts proposed by the ACP proposal. In the context of the Caribbean countries as a developing country group, these results correspond with results of the informal note prepared by FAO (Sharma, 2006) which included the following eight developing countries: Brazil, Egypt, India, Indonesia, Pakistan, Philippines, Sri Lanka and Turkey.

ii) Harmonization. In terms of harmonization, or the principle of reducing higher tariffs more than the lower tariffs, the four proposals (United States, EU G20, ACP) would achieve this principle. For instance, in the G20 proposal, an average tariff of 100 percent in the case of Guyana is reduced by 35 percent while Suriname's relatively low average tariff of 20 percent is reduced by 25 percent. The United States proposal is more harmonizing than the other three proposals when differences in new tariff levels for different countries are compared. Using the same example, the United States proposal reduces Guyana's tariff by 60 percent and Suriname's by 46 percent (a difference of 14 percentage points), while the ACP proposal reduces the average tariffs of Guyana by 20 percent and Suriname's by 15 percent (a difference of 5 percentage points). (The SVE proposal would not promote harmonization of Caribbean tariff structures.)

Another aspect of harmonization is the reduction in maximum tariffs or tariff peaks as compared to low or minimum tariffs (within a country). This

TABLE 3.7
Standard deviation of bound tariffs, current and new (after implementation of four proposals)

	Current bound	New Bound			
		US proposal	EU proposal	G20 proposal	ACP proposal
Antigua and Barbuda	16	6	9	9	10
Barbados	28	11	15	15	16
Belize	4	1	2	2	1
Dominica	22	9	11	11	14
Grenada	29	11	17	17	20
Guyana	0	0	0	0	0
Jamaica	15	6	10	10	12
St Kitts and Nevis	29	11	16	16	18
St Lucia	26	11	15	15	16
St Vincent and the Gren.	27	11	15	15	16
Suriname	1	0	1	1	1
Trinidad and Tobago	27	10	17	17	21

Source: Authors' calculations

factor is addressed by the four proposals, although the degree of proposed reduction differs. For example, in the case of Barbados, the United States proposal reduces the maximum tariff of 220 percent to 88 percent and reduces Suriname's maximum tariff from 20 to 12 percent (in absolute terms, a reduction of 132 and 18 percentage points, respectively).

Finally, harmonization is also assessed by the extent of tariff dispersion, or standard deviation (SD) of tariffs from their mean, as discussed earlier. Lower tariff dispersion or SD in the new bound tariffs (as compared to the current ones) means a formula is harmonizing. **Table 3.7** presents the current and new SD after application of the four proposals. The table shows that the SD in new tariffs is lower in the case of the United States proposal, implying that the United States proposal is most harmonizing.

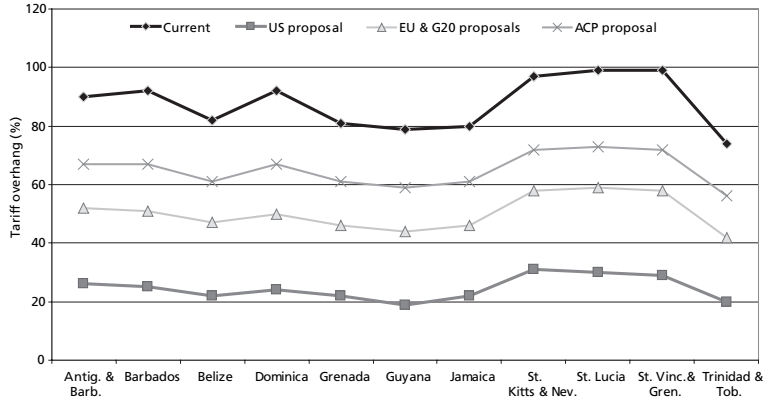
iii) *Proportionality.* While proportionality is not assessed in this chapter, if can be assumed that with developing countries reducing their tariffs by no more than two-thirds of the average tariff reduction in the developed countries (as was done in the Uruguay Round), the G20 formula comes closer to meeting this objective than the EU and United States proposals do.[45]

Analysis of results in terms of the overhang in tariffs

The impact of a tariff reduction formula on a country can also be gauged by the extent to which the difference between its bound and applied tariffs are

[45] This conclusion is based on an informal note prepared by FAO (Sharma, 2006), which applied the EU, United States and G20 proposals to a set of eight developing and three developed countries.

FIGURE 3.1
Tariff overhang (percentage) currently and after applying proposed tariff cuts



Note: The above figure excludes results for Suriname, since its tariff profile shows a negative overhang, i.e. applied tariffs are more than bound tariffs (most likely due to a difference in the reporting years of these two types of tariffs).

affected. **Figure 3.1** depicts the current level of average overhang in the tariff profiles of the Caribbean countries and the new overhang after application of the proposals (the values on the X axis reflect the absolute difference between bound and applied tariffs for each country).

The application of the United States proposal results in substantial reductions in the overhang levels of the Caribbean countries while the ACP and SVE proposals affect the overhang the least. The impact of the EU and G20 proposals falls in between the ACP and the United States.

Since the above figure only shows the reduction in the *average* overhang levels of each country, it does not reveal the fact that the tariff overhang levels for some tariff lines are reduced further than others. Identifying the tariff lines that are reduced the most would provide useful insights into the type of commodities that are more affected by a particular formula. This exercise was conducted to identify commodities in every country that are most severely affected by each of the four proposals. The results are presented in two ways: as a graphical representation of the tariff profiles at the HS Chapter level for each country, including both current and new bound rates (**Appendix 3.2**); and as a tabular representation at the detailed commodity level (**Appendix 3.3**). The commodities in **Appendix 3.3** are taken to be the ones whose overhang levels are reduced to zero or less by the proposals i.e. where new

bound tariffs are equal to, or lesser than, the current applied tariffs, implying absolute loss of policy flexibility.

The results of the exercise show that for every country the United States proposal results in the highest percentage of tariff lines/commodities most severely affected, which mirrors the ambitious nature of the United States tariff-cutting proposal. The number of lines most severely affected range from 4 percent (in Saint Kitts and Nevis) to almost 31 percent (in Guyana). The average for the Caribbean countries is nearly 20 percent. As expected, the other formulae affect relatively fewer tariff lines severely.

Although the types of commodities severely affected by these proposals differ by country, there are some commodities that are commonly affected across the Caribbean region. These include fruit and vegetables, meats (lamb and pig), spices, vegetable oils, fruit juices, coffee, sugar (excluding refined sugar), alcoholic beverages, tobacco products, nuts and cut flowers. One reason is that many of these commodities (e.g. fruit and vegetables) are bound at 100 percent and the applied tariffs are 40 percent. As a result, the 60 percent reduction suggested in the United States proposal lowers their bound tariffs to the levels of their current applied tariffs. Similarly, some commodities (e.g. alcoholic beverages and tobacco products) that have high bound tariffs also have high applied tariffs (as exceptions to the CET). Such low overhang levels invariably are affected even by a more modest tariff cut.

3.4 Summary and conclusions of results of tariff-cutting formulae

The analysis of tariff profiles and proposals in this chapter shows the importance of tariff policy and how the 12 countries in the group can be affected differently by the proposals. Among the proposals, the United States proposal resulted in "deepest" cuts for the Caribbean countries, while the ACP (and the SVE) proposal would be the most "lenient".

The tariff policy proposals of the different groups and countries clearly reflect their level of development and national goals. For instance, the United States is a net agricultural exporter with low tariffs. It seeks market access in other countries and therefore its proposal advances this objective; at the same time, a low tariff structure in its own country ensures that the degree of cuts will be much lower than in some other countries (potential markets) with higher tariffs. At the other end, the ACP group (of which the Caribbean countries are a part) suggests moderate tariff cuts in order to ensure trade policy space that may be needed in future to initiate or strengthen the process of sectoral growth. The EU and the G20 group of countries share a common ground in that they propose less ambitious tariff reductions as compared to the United States. Particularly for the G20 countries, this reflects intent to maintain appropriate levels of protection in the form of tariffs. The focus

of the G20 group is more on a drastic reduction in the two other pillars of the Agreement on Agriculture, domestic support and export subsidies, since they view these as the principal impediments for getting their exports into developed countries.

Tariff policy management is thus an important component of national policies aimed at achieving their food security objectives. Tariffs enable the local producers of agricultural commodities to produce food with a lower threat of subsidized imports displacing their products in the market and create an enabling environment for diversification into value added commodities. In addition, revenue generated through tariffs is a much needed source of funds for national development.

A very crucial aspect of tariffs in the context of the Caribbean region is the development of a common external tariff structure that promotes regional trade among Caribbean countries. This is an important policy given the structural and economic disadvantages inherent in their economies. However, since they are also members of multilateral trading entities like the WTO, they are faced with many rules and obligations that influence the framework of national and regional policy-making. This is so particularly with respect to tariff policy which is the main measure in the context of the WTO that is used by the Caribbean countries. As seen in the WTO negotiations under the Doha Round a gradual reduction (disciplining) of tariffs is promoted and this will lead to a reduction in the policy flexibility that the Caribbean countries currently have to pursue their food security objectives.

Caribbean countries face the task of negotiating in the WTO framework a tariff policy that does not undermine their food security. From the analysis of the major proposals in this chapter it appears the gap between the United States on one hand and the ACP (and SVE) on the other is too wide for an agreement that would meet the purposes of both groups. Thus, one approach is for Caribbean countries to negotiate their interests through SDT measures. This is underway through features such as special products (SPs) and the special safeguard mechanism (SSM). Through SPs, negotiators could negotiate for being able to declare *all* their important (food security, rural development, tariff revenue) commodities affected by tariff cutting as special and sensitive products. This would ensure minimum reduction in tariffs on commodities critical to their national development goals. Further, they could use the option to implement the Special Safeguard Mechanism on these commodities (depending on what is agreed in the final round of negotiations). These measures would enable further tariff reductions as pursued by the entire multilateral trade framework without necessarily undermining food security and national development goals of small and vulnerable economies.

References

Anderson, K. & Martin, W. 2005. *Agricultural market access: the key to Doha success.* Trade Note number 23 (27 June). Washington, DC, World Bank.

FAO. 2002. *A Special Agricultural Safeguard (SAS): buttressing the market access reforms of developing countries,* FAO Papers on selected issues relating to the WTO negotiations on agriculture. Rome.

FAO. 2005. *The state of food insecurity in the world 2005.* Rome.

IATP. 2005. *Sailing close to the wind: navigating the WTO Hong Kong Ministerial*. November. Minneapolis, Minnesota, Institute for Agriculture and Trade Policy.

I**MF.** *Government Finance Statistics Yearbook* and data files. Washington, DC, International Monetary Fund (also available at http://www.imf.org/external/pubs/cat/longres.cfm?sk=16701.0).

Appendix 3.1
The proposed reduction formulae

United States proposal

Although the United States proposal of 10 October 2005 is much more explicit than the other proposals, there are still a few unknowns, notably the percentage reduction and level of tariff caps for developing countries. In this chapter it is assumed that developing countries will reduce their tariff by two-thirds of the reduction made by developed countries. Furthermore it is assumed that tariff caps for developing countries will be set at 100 percent. In the (last) highest tiers, the United States proposes to reduce the tariffs in the range of 75 percent to 90 percent, but in this chapter and to be consistent across countries, each tariff line will be subject to a 90 percent reduction in this tier. Table A1 provides a summary the United States proposal for tariff reduction, with the assumptions added here for developing countries.

APPENDIX TABLE A1
United States proposal

DEVELOPED COUNTRIES				DEVELOPING COUNTRIES			
Threshold	**Cuts at**		**Average cut of %**	**Threshold**	**Cuts at**		**Average cut of %**
	Lowest end	**Highest end**			**Lowest end**	**Highest end**	
< 20	55	65	60	< 20	*36.67*	*43.33*	*40*
20 ≤…< 40	65	75	70	20 ≤…< 40	*43.33*	*50*	*46.67*
40 ≤…< 60	75	85	80	40 ≤…< 60	*50*	*56.67*	*53.3*
….> 60	90		*90*	…> 60			*60*
Tariff CAP: 75 percent				Tariff CAP: 100 percent			

Note: Assumed parameters are in italics.

EU proposal

The cuts for developing countries are the same as in the G20 proposal, with the exception of additional flexibility in the first tier where an average tariff cut of 35 percent is sought, but flexibility to impose cuts of between 20 and 45 percent is allowed.

The simulated cuts to individual tariffs falling in the first tier is determined in such a way as to achieve an average cut of 35 percent with the objective of maximizing flexibility by subjecting the higher tariffs to lower cuts.

The total number of lines is first categorized into two groups: the lowest N*0.7 lines are to be subject to the highest cuts and the remaining N*0.3 lines are to be subject to the lower cuts. The N*0.7 lines are further divided by 14

to give the number of lines to be cut by 45 percent, 44 percent .....32 percent respectively. The N*0.3 lines are further subdivided by 12 to give the number of lines to be cut by 31 percent, 30 percent.....20 percent respectively.

For example, if a country has 1200 non zero bound tariff lines:

For the lowest value tariffs N*0.7 = 840. Then 840/14 = 60. The lowest 60 lines are cut by 45 percent, the next lowest 60 lines by 44 percent and so on until the 781st -840th lines have been cut by 32 percent.

For the higher value tariffs N*0.3 = 360. Then 360/12 = 30. The 841st to 870th lowest lines are cut by 31 percent, the next 30 by 30 percent and so on until the 1171st to 1200th lines have been cut by 20 percent.

The effect of this approach is to achieve the average 35 percent reduction, but with a larger proportion of lower level lines being cut the most, thus reducing the effect on the average tariff level.

APPENDIX TABLE A2

EU proposal

DEVELOPED COUNTRIES		DEVELOPING COUNTRIES	
Thresholds	**Linear cuts %**	**Thresholds**	**Linear cuts %**
…≤30	35 (20 – 45)	….≤30	25 (10 – 40)
30 <….≤60	45	30<…≤80	30
60<….≤90	50	80<….≤130	35
….>90	60	…>130	40
Tariffs Cap: 100 percent		Tariffs Cap: 150 percent	

G 20 proposal

The G20 proposal has four thresholds for both developed and developing countries. Both the threshold range and reduction percentages differ. For developed countries the size of the tiers is smaller than those for developing countries. In developed countries the lowest threshold (0…≤20) will be subject to 45 percent cut whereas the lowest threshold in the case of developing countries (0…≤30) will be subject to 25 percent cut. For developed countries bound tariffs will be capped at 100 percent and for developing countries tariff will be capped at 150 percent. Table A3 summaries the G20 proposal.

ACP proposal

The ACP proposal suggests four tiers for both developed and developing countries and the tariff reduction will be based on linear cuts. No percentages for linear cuts are indicated for developed countries, although the text mentions that proportionality will be achieved by guaranteeing that the overall outcome of tariff reduction commitments by developing countries is lower than that required from developed countries. The proposal also states that the overall average reduction of tariffs by developing countries shall not

APPENDIX TABLE A3
G20 proposal

DEVELOPED COUNTRIES		DEVELOPING COUNTRIES	
Thresholds	**Linear cuts %**	**Thresholds**	**Linear cuts %**
…≤20	45	….≤30	25
20 <….≤50	55	30<…≤80	30
50<….≤75	65	80<….≤130	35
….>75	75	…>130	40
Tariffs Cap: 100 percent		Tariffs Cap: 150 percent	

APPENDIX TABLE A4
ACP proposal

DEVELOPED COUNTRIES	DEVELOPING COUNTRIES	
Thresholds	**Thresholds**	**Linear cuts (%)**
> 80	> 150	30
> 50 ≤ 80	> 100 ≤ 150	25
> 20 ≤ 50	> 50 ≤ 100	20
0 ≤ 20	0 ≤ 50	15

exceed 24 percent (perhaps the choice of linear cut percentages is intended to reflect this point). No tariff capping is proposed.

The proposal recommends specific modalities for countries with tariff ceilings and homogeneous low bindings. It states that these Members will be subject to the overall average reduction only, will distribute their tariff lines across the lower tiers of the formula on the basis of their own assessment of sensitivities and will not be expected to undertake the level of cuts required in the highest tiers.

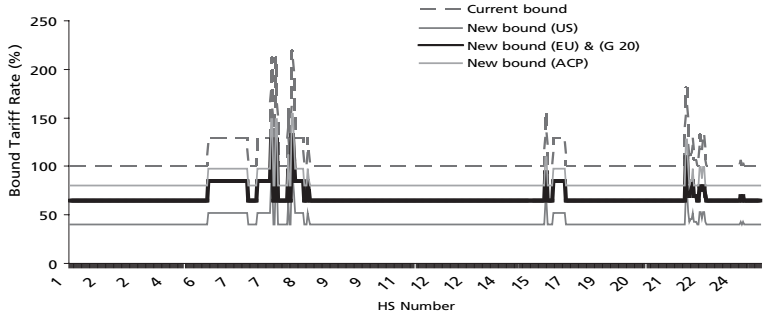
Small, vulnerable economies' proposal

The small vulnerable economies presented a proposal on market access modalities that included a tariff cutting proposal but not in the tiered format of the four major proposals. Eventually, SVEs proposed that they undertake linear cuts not exceeding 15 percent with a minimum of 10 percent per tariff line. Further, it was recommended that no tariff capping be applied to SVEs. The SVE proposal is to cut about ten percent points less than the ACP proposal (15 as opposed to 25 percent).

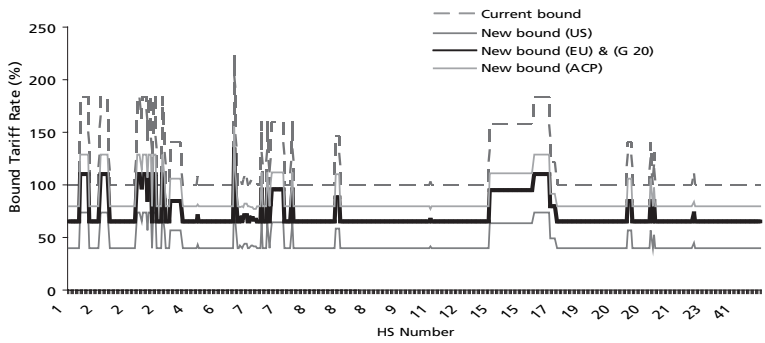
Appendix 3.2

Results of tariff reduction formulae for Caribbean countries – graphical representation

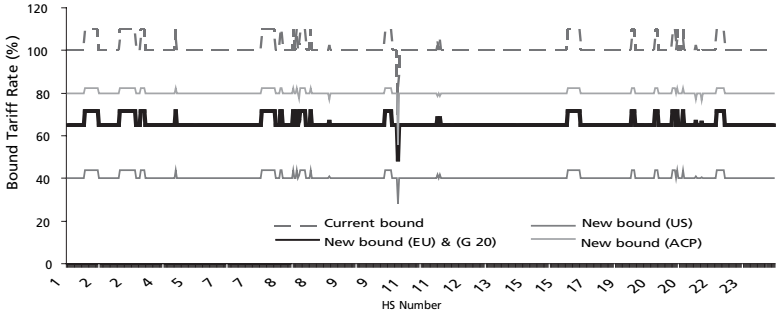
Antigua and Barbuda



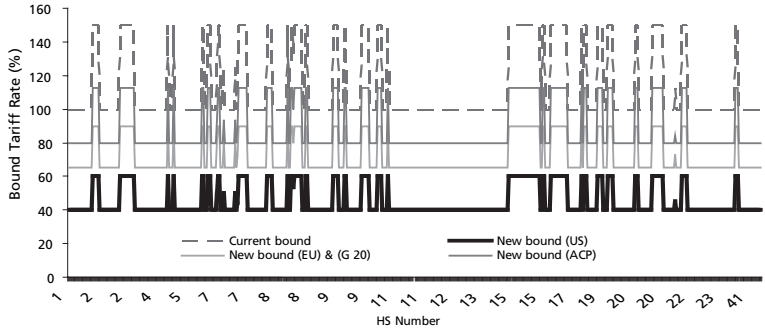
Barbados



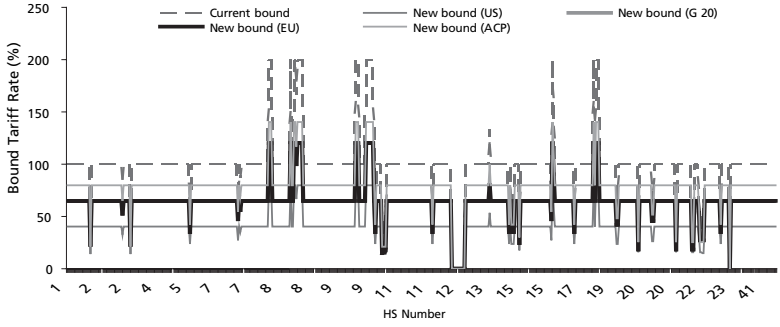
Belize



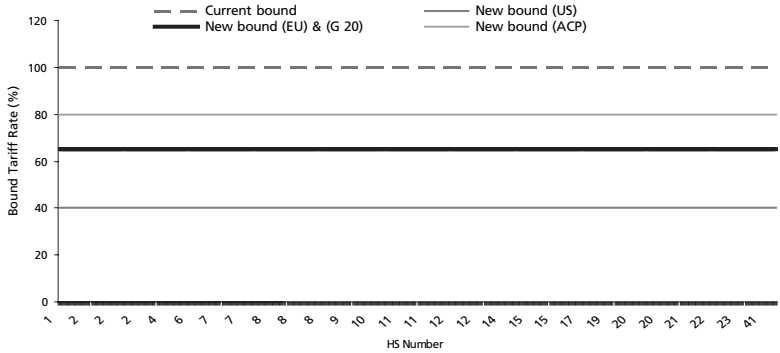
Dominica



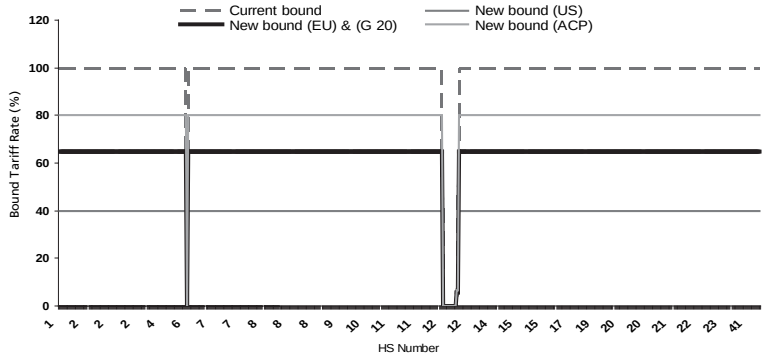
Grenada



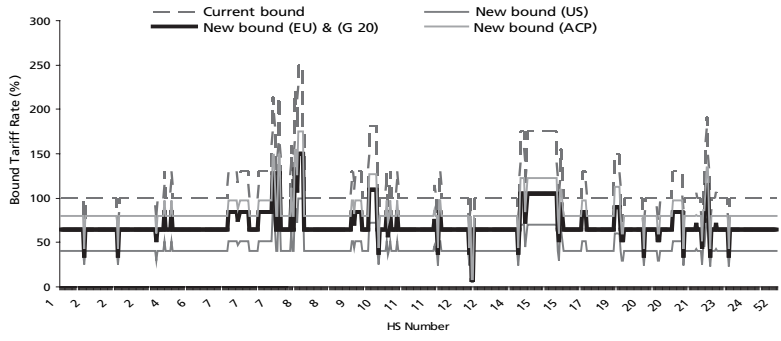
Guyana



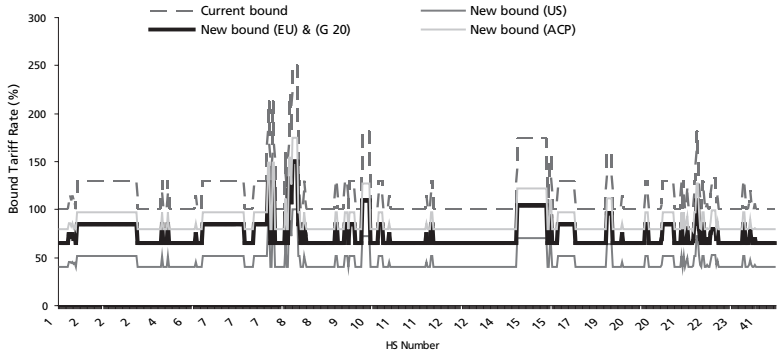
Jamaica



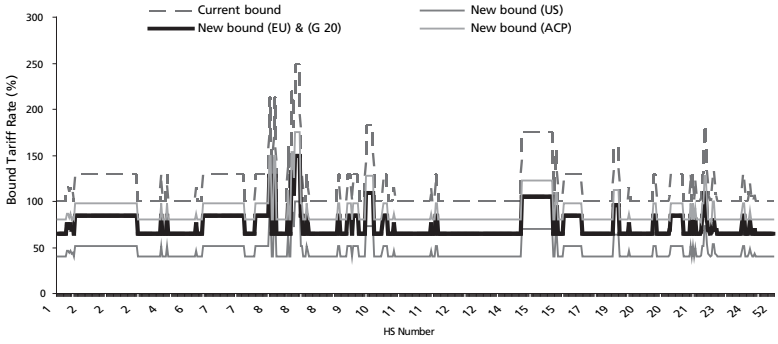
Saint Kitts and Nevis



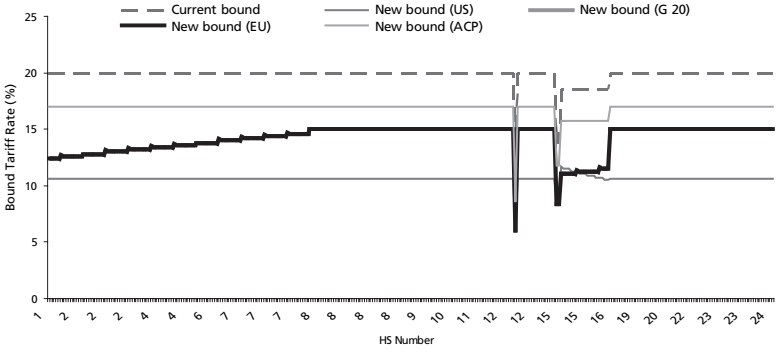
Saint Lucia



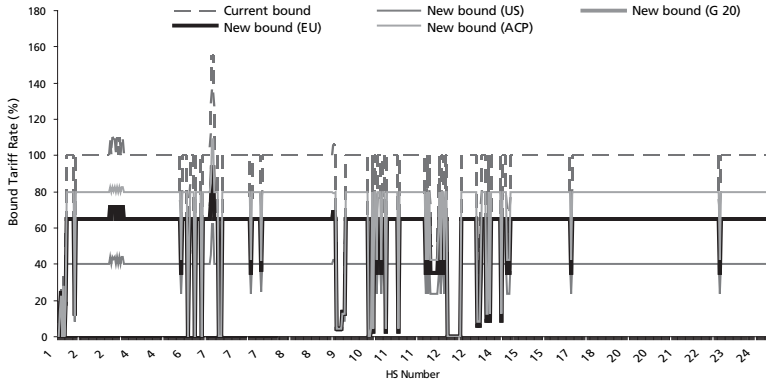
Saint Vincent and the Grenadines



Suriname



Trinidad and Tobago



Appendix 3.3

Percentage of HS tariff lines and corresponding commodities severely affected (resulting bound rate = or < than current applied rate) by the four tariff cutting proposals

US proposal		
	% of lines	**Commodities**
Antigua/Barbuda	10	Fruits, honey, raw sugar, vegetable oils, spices, groundnuts, bird eggs, cut flowers
Barbados	20	Bird eggs, honey, cut flowers, vegetables, beans, nuts (all types), fruits (all types), coffee, spices
Belize	17	Alcoholic beverages*, sausages*, lamb & goat meat, bird eggs, cut flowers, nuts (all types), fruits, spices, groundnuts, vegetable oils, raw sugar
Dominica	22	Coffee*, fruit juices*, citrus fruits*, alcoholic beverages*, tobacco prds*, birds eggs, vegetables, nuts, fruits, vegetable oils
Grenada	22	Soyabean oil*, alcoholic beverages*, rice (milled/broken)*, seeds for sowing, bird eggs, cut flowers, soyacake, vegetables, nuts, fruits, coffee, spices, vegetable oils (excl. soyabean), sugar & sugar prds. (excl. refined)
Guyana	31	Alcholic beverages*, tobacco prds*, meat(pig, bovine, lamb, poultry), bird eggs, vegetables, nuts, fruits, coffee, spices,vegetable oils, groundnuts, sugar & sugar prods (excl. refined)
Jamaica	29	Fresh milk*, meat (bovine, pig & poultry), bird eggs, honey,cut flowers, vegetables, nuts, fruits, coffee, spices,seeds for sowing, vegetable oils, sugar *& sugar prods (excl. refined)
St Kitts and Nevis	4	Cinnamon*, veg. fats*, wine (small containers)*, animal fats, maple sugar
St Lucia	6	Liquers*, cigarettes*, bird eggs, cut flowers, fruits, soyabean oil, vegetable & animal fats
St Vincent/Gren.	7	Bird eggs, cut flowers,nuts, fruits, soyabean oil, animal & veg. fats
Suriname*		Meat* (pig, swine, poultry, lamb), fruits*, sorghum*, vegetable and food prep., citrus juice*, rice*, sorghum
Trinidad/Tobago	25	Alcoholic beverages*, tea*, groundnuts*, meat (pig, lamb), fresh milk, bird eggs, honey, cut flowers, vegetables, nuts, fruits, spices, wheat, seeds for sowing, vegetable oils, sugar & sugar prods (excl. refined)

* Since most applied tariff rates in Suriname's tariff structure are above bound, results were used only for those tariff lines in which opposite was the case. Also, since this approach would not yield.

	EU proposal	
	% of lines	**Commodities**
Antigua/Barbuda	-	
Barbados	-	
Belize	1	Alcoholic beverages*
Dominica	3	Coffee*, fruit juices*, citrus fruits, coconuts
Grenada	4	Soyabean oil*, alcoholic beverages*, rice (milled/broken)*, mixture of juices*,food prep. (n.e.s.)*, seeds for sowing, soyacake.
Guyana	4	Alcholic beverages*, tobacco prds*
Jamaica	3	Fresh milk*, seeds for sowing
St Kitts and Nevis	0	Cinnamon*
St Lucia		
St Vincent/Gren.		
Suriname*		Meat* (pig, swine, poultry, lamb), sorghum*, fruits, vegetable and food prep.
Trinidad/Tobago	3	Wheat, seeds for sowing

	G20 proposal		ACP proposal	
	% of lines	**Commodities**	**% of lines**	**Commodities**
Antigua/ Barbuda	-		-	
Barbados	-		-	
Belize			1	Alcoholic beverages*
Dominica			1	Coffee*, citrus juice*,aerated water*
Grenada	4	Soyabean oil*, alcoholic beverages*, rice (milled/ broken)*, seeds for sowing, soyacake.	4	Soyabean oil*, alcoholic beverages*, rice (milled/ broken)*, seeds for sowing, soyacake.
Guyana	4	Alcholic beverages*, tobacco prds*	4	Alcholic beverages*, tobacco prds*
Jamaica	3	Fresh milk*, seeds for sowing	3	Fresh milk*, seeds for sowing
St Kitts/Nevis	0	Cinnamon*	0.2	Cinnamon*
St Lucia	-		-	
St Vincent/Gren.	-		-	
Suriname*		Meat* (pig, swine, poultry, lamb), sorghum*, fruits, vegetable & food prep.,		Meat*, sorghum*
Trinidad/Tob.	5	Tea*, wheat, seeds for sowing	5	Tea*, wheat, seeds for sowing

4

Addressing trade preferences and their erosion in the Caribbean

Piero Conforti and J.R. Deep Ford

Introduction

Preferential trade agreements are discriminatory policies, entailing partial or total trade liberalization for a subset of trading partners. The reality of the world trading system is characterized by a wide variety of such agreements, whose discriminatory nature tends to clash with the principle of non-discrimination, which is one of the cornerstones of the multilateral trading system. At the same time, preferential trade has been conceived as a primary tool to integrate developing countries into the world trading system, thereby promoting their economic growth and development. Preferential trade constitutes, therefore, a significant share of the world markets, particularly for some agricultural products.

The multilateral trade liberalization processes, such as the General Agreement on Tariffs and Trade (GATT) negotiations and the subsequent World Trade Organization (WTO) rounds, have sought to ensure compatibility with the existing preferential trade regimes through a set of exemptions and waivers to the most-favoured nation (MFN) rule. In particular, the so-called Enabling Clause[46] created a permanent legal basis for trade preferences, both generally for developing countries, under generalized system of preferences (GSP) regimes, and also for more specific preferential treatment of the least-developed countries (LDCs). Individual developed countries sometimes grant specific preferences for limited groups of developing countries which include non-LDCs, such as those that the European Union (EU) grants to the African, Caribbean and Pacific Group of States (ACP). These latter

[46] Decision on Differential and More Favourable Treatment, Reciprocity, and Fuller Participation of Developing Countries. GATT Document L/4903, 28 November 1979, BISD 26S/203.

preferences, which have been the object of a waiver, are among the more controversial in the current debate on preferences.

Preferences have certainly existed for a long time and taken different forms, but their long-term effect has been questioned, especially with respect to their ability to promote development and the economic integration of the recipient countries. Hoekman and Özden (2005) provide a review of the theoretical frameworks and available empirical evidence concerning developing countries, focusing on the 79 Members of the ACP group.

For ACP countries, and especially for the smaller and less diversified economies within this group, preferences are a key element of the economy. They have provided considerable incentives to develop local industries, which have become essential for the livelihood of local communities. In some countries, production promoted by the European preferences is among the few economic activities undertaken. In fact, a matter of concern is the extent to which preferences have provided incentives that prevented diversification, in those countries where existing resources could have allowed different activities.

During the latest WTO rounds, preferences were framed as part of the special and differential treatment (SDT) for developing countries. Due to the single undertaking practice introduced with the Uruguay Round – by which WTO Members subscribe to all the elements of the agreements – SDT has become the means through which countries seek recognition of the differences in their capacities to implement the undertakings. The application of the SDT is relatively simple in the area of tariff reduction, as commitments can be smaller and more diluted through time for certain countries. Preferences still can and do openly contradict the basic non-discriminatory principles of the WTO – even if for very good reasons. Moreover, their effectiveness is proportional to the size of trade barriers faced by other countries, and is therefore reduced by the multilateral liberalization process, a phenomenon commonly called preference erosion. In fact, within the Doha Round negotiation, preferences were mentioned mostly with reference to their likely erosion, and to the need of addressing the associated negative consequences.

The empirical evidence of the effect of trade preferences is not fully conclusive. It makes clear that although the global effect might have been marginal in terms of trade and welfare, the effect is significant on a number of specific countries, which are now likely to be deeply affected by the erosion phenomenon (Low *et al.*, 2006). Several ACP countries have certainly been severely affected.

This chapter reviews the logic, structure and value of trade preferences as they stand today, with special reference to the ACP regime (the one most important to the Caribbean countries), with the aim of providing insights into the role that preferential agreements may or may not play in the future.

Particularly, the chapter aims at responding to the following questions: What is the logic and functioning of preferences in place in the Caribbean? Can such a system constitute a viable perspective for the future of the region? And, if not, along which lines should the present preferential regime evolve in order to effectively support the sustainable economic development of these countries? Section 4.1 looks at the main features of the current preferential system and its value, while Section 4.2 considers its importance and the threat of erosion. Section 4.3 builds on the previous two to discuss elements and present conclusions that may inform the strategy of countries in which preferences are more important today, and for which erosion may have serious consequences.

4.1 The logic and value of ACP preferences

In the Caribbean region, the ACP–EU preferential regime is the most important. The formation of the European Communities, which started in the late 1950s, largely coincided with de-colonization. Many trade and economic relations set up in the colonial period survived during that difficult process, allowing the newly-formed states to maintain their role as suppliers of primary agricultural goods in the European market. At that time, these trade relations constituted the backbone of many such economies, and hence of de-colonization itself.

When the founder Members of the EU started to move towards the creation of a single market in agriculture and other primary products, the maintenance of such consolidated economic relations became an obvious requirement, both from the European perspective, given the need to secure the supply of primary goods, and for the fragile economies of the newly independent countries. This led to the Yaundé Conventions in the 1960s, and later to the Lomé conventions from the mid-1970s. The system of relations was inherently asymmetric. In the 1960s, this was an extension of the ending colonial status; in the 1970s, the asymmetry was reinforced by, among other considerations, the European fears about the instability of the commodity markets, which had been following from the oil crises and scarcity in the world cereal market (both of which occurred a few years before the signature of the Lomé Convention). It was not by chance, therefore that that Convention also included stabilization schemes for the exports of mineral and manufactured goods.

For agricultural goods, the logic that shaped the preferential trade relations between the EU and the ACP was similar to that which had been inspiring the newborn Common Agricultural Policy (CAP). The idea was that, by controlling output and (major) input prices in agriculture and the related basic processing industries, the level and stability of rural incomes would

increase, while prices to consumers would remain stable. Trade preferences for the ACP were to some extent part of the system; the stability of their role as supplementary suppliers was indirectly promoted within the CAP for sugar, and for bananas, whose imports were secured by preferential imports. For sugar, a guaranteed price level was linked to the guaranteed producer price operated in the domestic market.

Despite their far more limited scope, ACP trade preferences provided for some kind of broad and non-selective support that shielded producers from competition in the open market. By the same token, preferences were possibly distorting the economies and slowing down the adjustment that competition might have brought about. Exactly as the CAP was partly insulating European producers from the world market – as far as imports were not required – ACP preferences took the form of quasi-guaranteed trade flows. These would be marginally affected by changing world market conditions, and not be affected by competition over production costs, because the setting of prohibitive out-of-quota tariffs discouraged non-ACP competitor from interfering with the system. This was the case for important Caribbean products like sugar and bananas.

Thus preferences generated a rent, and to the extent to which such rent effectively accrued to ACP countries, the regime resulted in an injection of resources, equivalent to a financial transfer. Possible uses of such transfers included anything from the generation of private wealth, which could provide disincentives to invest and innovate, to the promotion of investment where structural, institutional and natural conditions allowed doing so. The relative importance of either of these two phenomena is an empirical matter, which has contributed to shaping the structure of the economies and the degree of development of the countries in the region.

4.1.1 The value of preferences

What has been and what is today the absolute value of the benefit associated to the preferential regime? The answer to this question is not straightforward. Ideally one should compare the actual situation in which preferences exist with a counterfactual scenario in which preferences do not exist. This requires a credible simulation, capable of indicating what trade would have looked like should the existing preference not been in place, and what resource allocation would have looked like in the involved countries under such a scenario – including, for instance, the effects on the labour market, on investment, or on the balance of payments.

The comparison of the economies with and without preferences should also be based on a credible *numeraire*. Economic welfare may play this role, but other measures of well-being may be taken into account, including those related to income level and its distribution. In any case, the choice

TABLE 4.1
Value of preferences under the EU/ACP trade regime

	Values in 000 US$							
	1990/91	1992/93	1994/95	1996/97	1998/99	2000	2001	2002
Antigua and Barbuda	90	40	1 789	175	874	128	95	115
Bahamas	538	745	3 716	4 759	4 491	8 043	5 653	10 934
Barbados	18 487	21 403	15 248	23 212	21 313	16 296	14 708	14 109
Belize	16 767	24 850	30 110	33 170	38 318	28 532	30 598	22 790
Dominica	5 134	5 520	3 684	3 560	2 478	2 116	1 351	1 443
Dominican Republic	8 230	16 477	16 291	17 320	16 491	11 648	15 416	19 121
Grenada	1 277	891	765	518	495	137	168	184
Guyana	50 351	82 104	64 855	89 991	99 514	76 195	67 368	72 917
Haiti	993	795	920	1 007	513	185	135	159
Jamaica	54 720	66 003	63 836	68 651	72 308	51 934	48 665	53 692
Saint Kitts and Nevis	5 899	8 684	6 740	7 489	6 687	5 165	6 294	7 320
Saint Lucia	10 895	11 049	9 232	8 253	5 687	5 067	2 404	3 549
Saint Vincent and the Grenadines	7 347	6 380	3 963	4 348	3 646	3 160	2 198	2 360
Suriname	3 633	4 100	5 231	8 761	10 152	8 239	7 613	8 625
Trinidad and Tobago	17 043	22 096	20 622	22 741	20 682	18 546	14 547	19 132
Total Caribbean	201 404	271 137	247 002	293 955	303 649	235 391	217 213	236 450

Source: EUROSTAT

of the indicator would not be neutral with respect to the outcome. Finally, the simulation should be accurate enough to show which economic agents are receiving the rent associated with the existence of the preferences. Depending on the actual organization of trade across importers and exporters, and depending on their relative market power, the rents generated by a preferential regime can be captured by either side of the market and translate into different pricing. Given these requirements, good candidates for this type of evaluation are general equilibrium models, which notoriously entail huge costs in terms of data and assumptions and yield complex results. Many such evaluations are in fact available in the literature (Hoekman and Ozden, 2005); they indicate that benefits are small in global terms, while significant for certain countries, among which the small ACPs feature prominently.

For the purpose of this chapter, however, it is sufficient to compute the simple nominal value of the preferential margin, as reported in **Table 4.1**. Many studies have computed similar values, including Yamazaki (1996), Tangermann (2000) and FAO (2003). It is useful to recall briefly the many limitations of this measure: it uses actual trade patterns as a benchmark to assess the advantage generated by the preferences; it does not tell who is capturing the benefit, whatever its value; and it does not indicate what are

TABLE 4.2
Importance of preferences in selected countries

	Value of preferences as a % of agricultural exports	Value of preferences as a % of GDP
Antigua and Barbuda	7.5	0.0
Bahamas	3.9	0.2
Barbados	21.3	-
Belize	16.3	4.5
Dominica	8.3	0.6
Dominican Republic	2.7	0.1
Grenada	0.7	0.0
Guyana	29.8	14.1
Haiti	0.6	-
Jamaica	19.9	1.1
Saint Kitts and Nevis	71.1	2.7
Saint Lucia	8.6	0.5
Saint Vincent and the Grenadines	7.8	0.8
Suriname	12.9	1.0
Trinidad and Tobago	7.3	0.3
Average	11.6	1.7

Source: FAO, 2004

the broader costs and/or benefits spread throughout the economy and how they are distributed.[47]

The margins show the importance of Guyana and Jamaica in absolute terms among the top beneficiary countries, followed by Belize, Trinidad and Tobago and the Dominican Republic (DR). The total value has declined over the last few years, even in nominal terms.

A more size-independent measure is considered in **Table 4.2**, where the values are divided by the value of agricultural exports and gross domestic product (GDP). This shows the potential importance of the trade regime not only for all the agricultural exports from the region, but also for the entire economies of a number of small countries, such as Saint Kitts and Nevis, and of a number of relatively larger ones, such as Belize, Guyana, Suriname and Jamaica. This is a broader indication of importance, since part or all of

[47] In more detail, for *ad valorem* tariff lines, the computation is the multiplication of the preference margin by the value of exports for the preference-receiving commodity. If the tariff line consists of both a specific tariff and an *ad valorem* tariff, the above method is used for the *ad valorem* component while the preference margin for the specific tariff is computed and multiplied by the volume of exports. The summation of the two then gives the value of the tariff preference. When the preferred tariff is a seasonal *ad valorem* or specific tariff, it is assumed that the exports occurred during the specified season because no trade would occur post- or pre-season as the tariffs would be exorbitantly high. Table 4.1 reports the value/rent of trade preferences for the period 1990 to 2002 for the Caribbean countries under the EU/ACP trade protocol.

this advantage may not accrue to the country, but, for instance, to some EU importers of products from the ACP.

4.1.2. The products involved

In order to better understand the effective advantages of preferential trade schemes in individual countries, it is necessary to look at how preference margins are organized and distributed in fact, considering in particular: the policy tools upon which they are based; the products which are involved in such schemes; the transaction costs involved in the use of the preferences; and the distribution of the tariff preference among the different points on the commodity chain.

In terms of policy tools, the ACP preferences are organized mostly on the basis of duty-free access granted to individual countries, coupled with the price guarantees that were granted to domestic production under the CAP. For some products – notably sugar and bananas – the system would not imply quantitative limitations until the 1970s, while after that period the preferences took the form of an export quota allotted to individual countries based more or less on their production and export capacity. Price guarantees would continue to apply within that quota.

In terms of products, the concentration of preferences and the key role played by sugar and bananas is immediately evident. **Tables 4. 3 and 4.4** show how the specific margins for these products account for a very significant share of the overall nominal value of the preferences granted by the EU.

A recent study looked in detail at the particular organization of preferential trade for a number of ACP countries with reference to the specific case of the sugar industry (Garside *et al.,* 2005). Qualitative indicators show that the ownership of the supply chains is mostly on the export side, and mostly domestic in this case, implying that the benefits arising from the existence of the preferences should have remained mostly with the ACP. At the same time,

TABLE 4.3

Direct economic importance of sugar exported to the EU for selected countries

	Value of exports to EU				Value of preferences			
	000 US$		% of GDP		000 US$		% of GDP	
	1997/99	2000/02	1997/99	2000/02	1997/99	2000/02	1997/99	2000/02
Barbados	26 406	22 057	1.1	0.9	21 686	14 801	0.6	0.6
Belize	26 167	25 325	4.1	3.1	21 000	14 562	2.7	2.1
Guyana	98 985	96 649	13.7	13.5	79 137	62 317	9.3	9.3
Jamaica	76 207	76 412	1.0	1.0	61 330	46 492	0.7	0.7
Saint Kitts and Nevis	9 180	10 406	3.2	3.0	7 325	6 243	2.5	2.1
Trinidad	24 339	27 224	0.4	0.3	19 404	17 054	0.3	0.2

Source: FAO

TABLE 4.4
Direct economic importance of bananas exported to the EU for selected countries

	Value of exports to EU				Value of preferences			
	000 US$		% of GDP		000 US$		% of GDP	
	1997/99	2000/02	1997/99	2000/02	1997/99	2000/02	1997/99	2000/02
Dominican Rep.	28 135	46 107	0.3	0.4	3 410	6 640	0.0	0.1
Jamaica	54 936	29 662	1.3	1.2	4 406	2 803	0.1	0.1
Saint Lucia	54 345	33 977	14.3	9.1	4 779	2 647	1.3	0.7
Saint Vincent and the Gren.	28 370	22 938	14.3	11.3	2 466	1 909	1.2	0.9

Source: FAO

the fact that trade is concentrated on very few products, that it accounts for a small share of global trade in such products, and that exports from the ACP are destined to a limited number of foreign markets – mainly the EU – clearly contributes to the weakness of the trading system created by the preferences, particularly in terms of the dependency of some of the ACP countries upon that system.

The importance of these two products was recognized by the WTO in a recent paper (Low *et al.*, 2006), which makes clear that the erosion of non-reciprocal preferences in agriculture is concentrated in few products. Of the likely losses – defined in terms of percentage of agricultural exports in the most-affected WTO Member countries – 85 percent arise in the sugar and fruits and vegetables sectors (with this latter group dominated by bananas). The same study also qualifies the problem in terms of the more-affected countries, by looking at those in which the estimated losses from preference erosion exceeds 4 percent of total agricultural exports to the Quad countries (EU, United States, Canada and Japan); six out of twelve countries in which this is the case are Caribbean countries (Saint Lucia, Saint Vincent and the Grenadines, Belize, Dominica, Saint Kitts and Nevis and Guyana). The list of countries – which includes Botswana, Namibia, Mauritius, Cameroon, Swaziland, and Fiji together with the Caribbean countries cited above – does not overlap with the poorest or more vulnerable countries.

4.2 Preference erosion

How has the policy environment been evolving through time? The lowering of MFN agricultural tariffs (started by the Uruguay Round of the GATT), the (perspective) extension of EU preference beyond the ACP countries (brought about by the Everything But Arms (EBA) initiative) and the CAP reform in the EU in key sectors like sugar and bananas, are all factors that will bring about an erosion of ACP preferences. In the background, the negotiations held within the Doha Round until its collapse in 2006 have also

contributed to creating expectations of further erosion, and fuelled useful discussions about the future of such measures.

In the Doha Round, the discussion largely reflected the inherent contradiction between the commitments to multilateral liberalization process and to addressing the problem of preference erosion. In August 2004, the General Council approved a statement in which it "fully recognized" the need to take into account long-standing preferences and to address preference erosion. However, the provision did not indicate how this was meant to be achieved. Reference was made to a part of the so-called Harbinson text – prepared in 2003 but never approved – which indicated both the possibility of delaying the application of MFN tariff reduction (in those cases in which a significant share of a Member State's exports would be affected by the erosion of preference), and the possibility of addressing the issue through technical assistance to the affected Member. The first provision, given the trigger conditions hypothesized,[48] would have applied very little to the poorer and more vulnerable Members. The second dimension was more prevalent in the subsequent debate, although without direct linkage to preference erosion.

A direct comparison of the values of preferences computed for the period 1994/95 – before the implementation of the 1994 WTO Uruguay Agreement – and the latest information available shows that the value has decreased in at least 7 of the 15 countries over the last years (**Table 4.1**), while no country shows a consistent increase over the same period. Individual cases can be explained by particular events; for instance, in the case of Jamaica the decline at the end of the 1990s can be explained by the devaluation of the dollar against the euro, which reduced the value of trade, combined with the decline of world sugar prices. In Saint Lucia, the reduction in the volume and unit value of bananas can explain part of the observed decline.

There are a number of studies in the literature that have looked at preference erosion in specific industries, and particularly in the sugar market (Stevens and Kennan, 2001; UNCTAD, 2005; van Berkum, Roza and van Tongeren (2005); Garside *et al*., 2005). More specifically, van Berkum, Roza and van Tongeren (2005) utilize a general equilibrium model to investigate the impact of the EU sugar policy reform on the world prices and conduct case studies on the impact of the reform on the Sugar Protocol signatories (Mauritius), the LDCs (Ethiopia) and the developing countries (Brazil). Garside *et al.* (2005) collected detailed country-specific value chain information through surveys and personal interviews, and show that there are a number of countries that are likely to compete in the open market despite the erosion of preferences. For instance, in two Caribbean countries – Belize and Guyana – there appears to be room for reducing production costs and increasing the scale

[48] It was stated that "products concerned shall account for at least [20] percent of the total merchandise exports of any beneficiary concerned on a three-year average out of the most recent five-year period".

TABLE 4.5
Evolution of preferences as a share of GDP for selected countries (percentages)

	1961/62	1971/72	1990/92	2000/02
Barbados	16.8	3.0	1.2	6.0
Saint Lucia		0.8	2.3	0.5
Jamaica	3.5	0.9	1.8	0.7
Belize		6.5	3.7	0.3
Grenada		0.9	0.4	0.0
Haiti	0.4	0.1	0.1	0.0
Saint Kitts and Nevis		7.3	3.8	1.8
Suriname		1.7	0.7	1.0
Trinidad and Tobago	1.1	0.3	0.4	1.2

Source: calculations on FAOSTAT and IMF data

of production, thereby allowing them to compete in the market beyond the preference regime.

Other studies have analysed the erosion of preferences from the perspective of the EU reform under the EBA initiative. Conforti and Rapsomanikis (2006) looked at the erosion in the value of preferences to sugar-producing countries arising from trade and domestic policy reform of the EU sugar sector, considering trade costs as constraints in the growth of the exports from the LDCs to the EU under the EBA initiative. Results indicate that the expected policy developments are likely to significantly affect a number of Caribbean countries, both due to the reduction in the EU price and the increased competition from LDCs under the EBA initiative.

For bananas, which are the other most important and contentious product after sugar, data show that non-ACP exporters have been expanding their export share in the EU market. Actually, the share supplied by ACP countries has been declining. So, ACP exports have hardly been a hindrance to the growth in exports of other countries to the EU market in these products. In fact the growth rate of imports from non-ACP suppliers has far exceeded the growth rate of ACP suppliers. The data further shows that the growth rates of imports by the EU from Latin America and Asia for both bananas and sugar have been increasing over the past three years. The increased growth rate in exports of ACP bananas is accounted for largely by the expansion in exports from the African ACP exporters and the increased exports from the Dominican Republic. The small exporters from the eastern Caribbean have experienced a major decline in their banana exports since the early 1990s. One of the key issues of concern for the Caribbean countries in this sector is the mechanism through which country quotas are allocated, as this becomes a major determinant of market access.

TABLE 4.6
Value of preferences in 2000/02 (000 US$ per year)

	Actual	Projected as a share of GDP	
		in 1961/62	in 1971/72
Barbados	15 038	418 641	77 342
Saint Lucia	3 673		5 603
Jamaica	51 430	267 402	73 339
Belize	27 307		58 636
Grenada	163		3 680
Haiti	160	8 765	3 000
Saint Kitts and Nevis	6 260		25 361
Suriname	8 159		13 310
Trinidad and Tobago	17 408	97 689	24 824

Source: calculations on FAOSTAT and IMF data

In general terms, the extent to which trade preferences have been diminishing in importance becomes evident if we project their value on the basis of past data. If we consider the value of preferences as a share of trade – as computed in **Table 4.2** – with reference to the ACP countries preferences in the EU, and we project the shares back on the trade data of the early 1960s and early 1970s, we observe that in the past the economic importance of preferences, however crudely assessed, was far higher than today. ACP preferences in that period were probably generating a larger rent compared to what is happening today.

For example, in the early 1960s the value of preferences would account for almost 17 percent of GDP for Barbados, and for 1 percent of GDP in Trinidad and Tobago; in the early 1970s, preferences would account for up to 7 percent in Saint Kitts and Nevis, and for 6 percent in Belize (**Table 4.5**).

If we apply these percentage shares of GDP computed in **Table 4.5** for the early 1960s and 1970s to today's GDP values, we can observe that the order of magnitude is quite different from the estimates provided for the later years.

If preferences for Barbados accounted today for the share of GDP that they accounted for in the early 1970s, their absolute value would be around US$77 million per year, as opposed to the approximately US$15 million estimated for 2000/02 (**Table 4.6**). For Jamaica, the early 1960s share of GDP would result today in a value of about US$267 million, rather than US$51 million; for Belize, applying the 1970s GDP share would result today in a value of the preferences which is about twice as much the actual estimates for 2000/02.

The change in relative importance, however, depends also on the extent to which GDP has grown thanks to the growth of economic activities that are independent from the existence of preferences. In fact, the more diversified economies, such as Trinidad and Tobago and Barbados, show the widest differences. But in some of the less diversified economies, where the sectors

to which preferences are important are major activities in the economy (such as in Saint Kitts and Saint Lucia), the difference is significant.

4.3 Conclusions

Trade preferences for the Caribbean countries have constituted an important injection of fungible resources through trade and an opportunity to market products under particular conditions, especially for those agricultural products covered by the ACP regime in the EU. In Europe, preferences have implied and still imply to some extent the establishment of fairly predictable and organized trade flows, whose management has been consistent with the organization of the domestic market for some agricultural products.

From the 1980s onward, the growth of agricultural trade flows and the increasing economic integration in agricultural commodity markets has translated into mounting pressure on countries to switch toward more open trade regimes, characterized by a multilateral coordination of policies within the WTO and progressive trade liberalization. In the Doha Round, where non-discrimination was an objective, this process has clashed with the discriminatory nature of trade preferences.

The role of ACP preferences, as they were conceived by the EU in the 1960s, seems to be losing ground, as shown both by the figures and by the likely effects of the envisaged policy changes. Against this background, and given the importance of preferences in the economy of the Caribbean countries, an important question to be addressed is how to devise a viable economic strategy by building upon the existing trade relations. The specific actions to be undertaken need to be defined at the national level, on the basis of more detailed information. However, it can be useful to highlight here a number of framework elements that may be taken into account for the definition of the specific strategies.

Particularly, two groups of actions may be undertaken. On the one hand, private and public institutions in the countries may plan medium- to long-term investments with the aim of competing in an environment in which preferences play a smaller role. In practical terms this implies assessing, in terms of cost and quality characteristics, the potentials of the key production processes (such as sugar and bananas in the case of agricultural products), and deciding whether it is possible and worthwhile to improve such activities to the point that they can be economically viable without depending upon preferences.

On the other hand, once investment plans identify alternatives independent from preferences, countries may consider the opportunities for financing such plans through the means available within the national and international policy framework, including the current (maybe partially eroded) rents generated by preferential trade. In practical terms, this implies considering the

opportunities given within the WTO, the generalized system of preferences (GSP) system and the Economic Partnership Agreements (EPAs).

The extent to which preference erosion can be addressed through special and differential treatment appears questionable, at least if one considers the interpretation of this principle in the Uruguay Round Agreement. Preference erosion does not depend upon the tariffs of the country that suffers from it, but rather upon the tariffs of the country granting the preferences. Nor does it seem straightforward to address preference erosion within the special or sensitive product definition, for the same reason; the only case where it might apply would be sugar in the United States (Low *et al.*, 2006).

One way out of this problem was indicated in the proposal of devising a specific Aid for Trade mechanism (Stiglitz and Charlton, 2006), which builds simultaneously on the ideas of: (i) compensating countries that suffer a loss so that they achieve the collective advantage associated with trade liberalization; (ii) increasing the equitability of the WTO process; and (iii) providing developing countries with additional opportunities to remove those obstacles that prevent them from benefiting from a more liberalized trade policy environment. In the case of the Caribbean, given the importance of preferences in the economy, this type of support may be conceived as support for an overall growth strategy, and not just as aid aimed at supporting trade. In other words, at least some of the countries more affected by preference erosion may be willing to reconsider their overall economic medium- to long-run strategy, rather than just improving the trade infrastructure.

Moreover, any coordinated effort toward agricultural trade liberalization in the WTO has so far produced only relatively moderate reductions in the tariffs. This leaves the Caribbean countries with some preferential margins, which may even persist over the medium run, given the recent collapse of multilateral negotiations. These could also be employed to finance plans aimed at reducing the degree of dependency upon preferences.

The GSP scheme offers opportunities, although in a more selective fashion, given the graduation mechanism that it involves by which benefits are reduced when the exporter reaches a given size in the market. In the GSP framework, moreover, recent initiatives have adopted formulas that cover a wide range (virtually all) of products, as in the case of the EBA. This approach reduces the degree of distortion in the beneficiary countries, whose production patterns would be thus less affected by the preference.

As for the Economic Partnership Agreements, it should be recalled that from an economic point of view ACP producers find themselves in exactly the same position as some European farmers, whose levels of market and price guarantees have been reduced. However, the important difference between the EU and ACP farmers is their position in terms of political economy, since the former have a far stronger voice than the latter in demanding compensation for the reduction of the market guarantees. This

has translated into much higher levels of compensation: European farmers are provided a compensation accounting for about 60 percent of their likely loss; the amount or resources indicated so far for restructuring aid to the ACP countries in the EPAs would have to more than triple in order to reach the same level of compensation (Chaplin and Matthews, 2006).

It appears that Caribbean countries still have some time to adjust. However, they have been at the threshold of losing preferences for a long time. Therefore it is important that all mechanisms available for promoting the competitiveness of traditional local products are used where this seems possible; and in all cases resources should be used to rapidly reduce the degree of dependency on preferences, and to increase product and market diversification.

Preferences have been important for achieving relatively high levels of human development in most of the Caribbean countries benefiting from them, mainly in sugar- and banana-producing countries. The promotion of agricultural trade liberalization – which started with the structural adjustment programmes promoted by the World Bank and the International Monetary Fund and was continued with the Uruguay Round and the formation of the WTO – has led to an increasing number of questions about the continuing usefulness of preferences and as tariff reductions have been negotiated, the value of preferences has eroded.

In this new and worsening situation it is crucial that Caribbean countries work together with development partners to identify and implement new strategies for their continued development. These opportunities appear to fall into four general areas:

- strengthening regional ties and maximizing the development of regional markets: this would limit production decline and create additional opportunities;
- mainstreaming the strong historical, political and economic ties with Europe and the strategies to establish a sustainable extension of the Lome and Cotonou agreements through the EPAs;
- pursuing greater linkages with the multilateral system as a whole and using the Aid for Trade proposal in connection with specific investments; and
- using market opportunities to establish strategic alliances aimed at extending the resource capacity of the Caribbean countries.

Benefits from surviving preferences should be employed together with regional market opportunities to promote overall development plans that use available resources more effectively. (One option to consider is to tie the Aid for Trade provision to the Agricultural Modernization Fund being pursued by the Caribbean.) There are Caribbean countries that efficiently utilized the extensive resources available in the 1960s and 1970s to diversify

their economies, which allowed them to become far less dependent upon preferences. Any available resources should be put to similar use.

References

Chaplin, H. & Matthews, A. 2006. Coping with the fallout for preference-receiving countries from EU sugar reform. *The Estey Centre Jour. of Int. Law and Trade Policy*, 7(1): 15–31.

Conforti, P. & Rapsomanikis, G. 2006. Preferences erosion and trade costs in the sugar market: the impact of the Everything But Arms initiative and reform of the EU policy. Forthcoming in *Journal of International Agricultural Trade and Development.*

FAO. 2003. *Improving the value and effective utilization of agricultural trade preferences.* Rome.

FAO. 2004. *Small island developing states agricultural production and trade, preferences and policy.* FAO Commodity and Trade Technical Paper No. 7. Rome.

Garside, B., Hills, T., Marques, J.C., Seeger, C. & Thiel, V. 2005. *Who gains from sugar quota?* ODI-LSE Destin DV406 Research project (available at http://www.odi.org.uk/iedg/projects/ EU_banana_sugar_markets/ODI_LSE_SugarProject_2005.pdf).

Hoekman, B. & Özden, Ç. 2005. *Trade preferences and differential treatment of developing countries: a selective survey*. World Bank Policy Research Working Paper 3566. April. Washington, DC, World Bank.

Low, P., Piermartini, R. & Richtering, J. 2006. *Nonreciprocal preference erosion arising from MFN liberalization in agriculture: What are the risks?* WTO staff working paper ERSD-2006-02. March. Geneva, WTO.

Stevens, C. & Kennan, J. 2001. *The impact of the EU's "Everything But Arms" proposal: a report to Oxfam*. London, Institute of Development Studies.

Stiglitz, J.E. & Charlton, A. 2006. *Aid for Trade. A report for the Commonwealth Secretariat.* March. (available at http://www2.gsb.columbia.edu/faculty/jstiglitz/download/2006_Aid_For_Trade.pdf)

Tangermann, S. 2000. *The Cotonou Agreement and the value of preferences in agricultural markets for the African ACP*. Paper prepared for UNCTAD. Göttingen, Institute of Agricultural Economics.

United Nations Conference on Trade and Development (UNCTAD). 2005. *Effects of the Everything But Arms Initiative on the sugar industries of the least-developed countries*. UNCTAD/DITC/COM/2004/6. Geneva, UNCTAD.

Van Berkum, S., Roza, P. & van Tongeren, F. 2005. *Impacts of the EU sugar policy reforms on developing countries.* Report 6.05.09. The Hague, Agricultural Economics Research Institute (LEI).

Yamazaki, F. 1996. Potential erosion of trade preferences in agricultural products. *Food Policy*, 21(4–5): 409–417.

5

Special products: developing country flexibility in the WTO Doha round

J. R. Deep Ford and Hansdeep Khaira

Introduction

The World Trade Organization (WTO) Ministerial Declaration launching the Doha Development Agenda in 2001 made several commitments to foster development among poorer developing countries. Paragraph 3 committed to "addressing the marginalization of least-developed countries in international trade". Paragraph 13 stated that special and differential treatment (SDT) measures "shall be an integral part of all elements in the negotiations on agriculture" and these measures should be "operationally effective and enable developing countries to take account of their development needs, including food security and rural development".[49] The WTO thereby committed its trade rules to achieve development results. The 2004 'July package' reiterated the commitment "to fulfilling the development dimension of the Doha Development Agenda, which places the interests of developing and least-developed countries at the heart of the Doha Work Programme".[50]

This chapter focuses on the identification and treatment of "special products" based on the modality agreed by WTO Members in the 'July package' document (paragraph 41) and extended in the 2005 Hong Kong Ministerial Declaration (paragraph 7) as follows:

> *"Developing country Members will have the flexibility to* **designate** *an appropriate number of products as special products,* **based on criteria** *of food security, livelihood security and rural development* **needs***. These products will be eligible for more flexible treatment. The criteria and treatment of these products will be*

[49] WTO. 2001, Doha Ministerial Declaration, 20 November. (WT/MIN(01)/Dec/1)

[50] WTO. 2004. Doha Work Programme, Decision adopted by the General Council on 1 August. (WT/L/579)

further specified during the negotiation phase and will recognize the fundamental importance of special products to developing countries."

'July package' (2004), paragraph 41 *(emphasis added)*

"Developing country Members will have the flexibility to **self-designate** *an appropriate number of* **tariff lines** *as special products* **guided by indicators based on** *criteria of food security, livelihood security and rural development.*

Hong Kong Ministerial declaration (2005), paragraph 7 *(emphasis added)*

The main differences between the July 2004 package and the December 2005 Hong Kong Ministerial declaration document is that the latter provides greater flexibility (self designation), specificity (number of tariff lines) and makes reference to indicators.

This chapter has three main goals. One, to advance the understanding of special products by demonstrating an approach and methodology for identifying special products. Two, to identify a list of possible special products in the context of a Caribbean case study using the methodology demonstrated. Three, to extend the concept of special products to a regional setting in order to promote regional integration and agriculture sector development. The authors hope that the chapter will assist countries in the Caribbean region in conducting the analysis necessary for identifying special products, thus strengthening their national capacities in trade policy analysis related specifically to negotiations and more generally to sector development. The analysis can also serve to identify products that can be developed on a regional basis as channels for attaining common economic objectives, including agriculture-related self-sufficiency and self-reliance goals[51]. Many of the indicators cited for identifying a country's special products are also important from the viewpoint of regional food security and rural development.

The rest of the chapter is structured as follows. Section 5.1 provides reasons why developing countries argue for special products in the negotiations. Section 5.2 offers a conceptual approach for identifying special products and describes the indicator analysis used to evaluate the criteria set out for identifying special products. Section 5.3 presents results from the analysis of one country in the Caribbean region, Belize[52]. Section 5.4 argues the case for

[51] CARICOM (a customs union with 15 Caribbean countries as Members) is in the process of integrating and establishing a Caribbean Single Market Economy (CSME) based on harmonization of the economic, monetary and fiscal policies of its Members.

[52] Belize is one of four Caribbean region country case studies completed by the authors under an FAO project on special products; a summary of the results are presented here to demonstrate an application of the methodology and provide an example of typical results. Some of the conclusions in this chapter draw on the experience from all four case studies. Additional FAO special product case studies are published in a FAO Commodity and Trade Division technical note on special products, available at http://www.fao.org/es/esc.

regional special products, identifies these products and proposes options for developing them in a regional context. The final section draws general lessons from the analysis with regard to the identification of special products.

5.1 The case for special products

Special products remain a controversial area, despite the clear commitment made by WTO Members in the 'July package' to according greater flexibility to countries in their pursuit of development. The controversy is especially evident regarding the purposes that special products are meant to achieve. This is because some developing and developed countries that would want greater market access in the negotiations see the purpose of special products as mainly a means of providing more flexibility on some limited number of products to achieve greater ambition through higher tariff reductions on most products.

But the usefulness of special products goes beyond just achieving flexibility in WTO negotiations; they foster achievement of goals and objectives within a country and within a region. Following the effects of the Uruguay Round developing countries are skeptical about gains from liberalization and their own capacities to benefit from it, and effective liberalization may not be achieved given the national interests of WTO member countries. Most developing countries need time to introduce policies and provide the opportunity to previously poor and marginalized rural areas to transform and produce competitively.

WTO Uruguay Round experience

Differences of goals, endowments and capacities led some countries to win and others to lose as a result of Uruguay Round liberalization. Many countries saw their export market opportunities decrease (through WTO dispute panel rulings, unilateral reform and bilateral agreements) and their food imports increase (through the removal of restrictions and lower levels of applied tariffs). Their agricultural trade surpluses shrank and their imports of cereals and livestock products rose rapidly. While liberalization produced some aggregate gains in welfare these were clearly skewed towards developed countries and towards those developing countries with the greatest domestic supply response capacity. Countries sought accommodation through special products to mitigate some of the negative impacts of liberalization on their economies, especially related to import surges that undermined some livelihood systems.

Low levels of liberalization on key products

The levels of liberalization are still limited. Critical products for both export and domestic consumption in developing countries – rice, sugar, milk and

maize – are subject to the greatest distortions in the international trading environment. High levels of subsidies and tariff protection are provided to these and other products, especially in developed countries, and they are not expected to decline considerably. Almost all countries have national goals that require the maintenance of some level of agricultural production for food security and rural area activity, for what is referred to as "non-trade concerns". They will not agree to full liberalization where that would undermine these national goals. The ability to identify and designate special products is thus an important accommodation.

Rural area development strategies

Domestic markets in developing countries are critical initial outlets for products produced by poor small farmers. These producers do not operate in an environment that enables them to compete on export markets or against imported products given that the public investment in communication, education, rural roads and technology development that has generally been afforded the competing products has not yet been available to them. It is by and large recognized that rural area public investment with liberalization has the potential to increase returns more than without liberalization; but this can be better achieved with a phased rural development strategy that allows time to increase agricultural sector production capacity and competitiveness. A special products modality provides necessary investment and policy flexibility.

National policy-makers can formulate programmes and strategies that focus on development of specific crop and livestock subsectors, identified through the special products approach. They would involve building supply-side capacities and raising competitiveness levels in identified products in order to achieve national food security and rural development objectives.

5.2 Identification of special products through conceptual approach and analytical framework

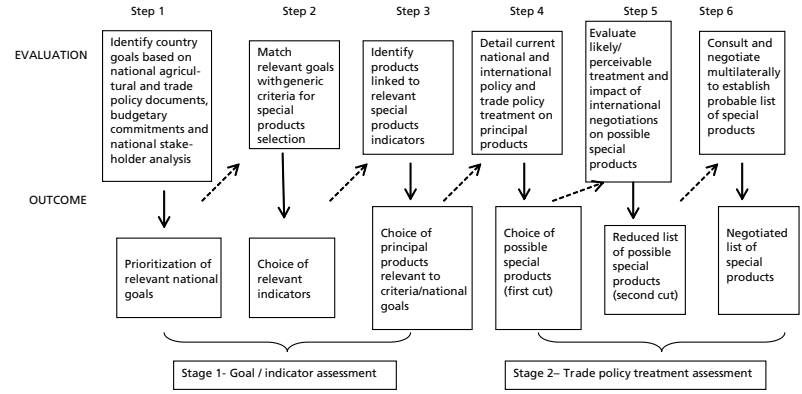
Conceptual approach

This section presents a process for designating special products with three criteria that represent a fundamental link between trade negotiation outcomes and development goals. A critical point of departure for the analysis is to understand the role of the country's goals and strategies in designating special products.

The following questions represent steps in a process (presented schematically in **Figure 5.1**) designed to identify special products:

1. What are the **country's goals and strategies**, including relative priorities and weights, for achieving food security, livelihood security and rural development?

FIGURE 5.1
Conceptual approach to identification of special products



2. What **definition and indicators** of food security, livelihood security and rural development best match national goals and policy commitments related to the criteria for choosing special products?
3. What **products are the main contributors** to the achievement of these goals and strategies? How are these products ranked in terms of the criteria indicators and goals?
4. What national and international **policies exist or are needed** to promote achievement of the goals related to the three criteria? Do they **conform to or violate** WTO regulations on market access?
5. Which of the **products need flexibility most** and why? (At this point the list of principal products is reduced to those needing flexibility.)
6. What are the policy/product combinations that do not conform to WTO regulations and **what policy flexibility** is needed (for both the product itself and substitutes). (At this point **possible treatment** of special products is addressed.)
7. What are the current levels of disciplines in WTO and **ambition** in the Doha Negotiations and how can the needed flexibility for possible special products be **accommodated** in the modalities to be negotiated? (At this point probable special products and needed flexibility are identified.)
8. What **adjustments** can be made in the **probable list** of special products in order to negotiate a multilateral agreement that is beneficial to all the participating countries? (At this point, the probable special products and associated flexibility for negotiation are established.)

The above approach is actually an iterative and dynamic process: countries change goals and policies as national and international conditions change and

are better understood. The criteria set as the basis for identifying the special products will underpin the framework for analysing them. The application of this is approach is presented below.

Analytical framework: indicators linked to development criteria

Some WTO Members view the special products initiative as motivated by simple protectionism or opposition to liberalization. The opposing view stresses the need for policy flexibility to address the crucial non-trade concerns of food security, livelihood security and rural development. It recognizes the need to cope with unstable agricultural markets and to counteract the negative effects of trade liberalization, which can be especially damaging to poor and vulnerable developing economies. This section provides indicators that help to analyse the three non-trade concerns used as criteria for selecting special products. **Box 5.1** provides working definitions of the criteria applied.

Food security indicators[53]

Four dimensions are widely considered critical to a comprehensive analysis of food security:

- availability (production and supply side issues related to physical access and sufficient food);
- accessibility (market demand, income, and trade issues related to economic access);
- stability (including vulnerability of both groups and situations); and
- use (food safety, nutrition and food choice issues).

Some of the indicators considered most relevant for linking products to food security dimensions are:

a) **Contribution of product to nutrition.** This indicator measures the product's share of calories per capita. The suggested ratio is:
   – *calories per capita per day derived from the product / calories per capita per day derived from all products.*

b) **Self-sufficiency or import dependency of the product**[54]. These indicators measure the share of domestic consumption in domestic production, or the proportion of consumption of the product that is imported. The suggested ratios are:
   – *total of product consumed / total of product produced; and*
   – *total of product imported / total of product consumed.*

c) **Stability in access of the product.** This indicator reflects the production and/or price variability of the main products consumed. The production

[53] Data for most of the indictors described here are available from FAOSTAT and the WTO.

[54] These indicators can be used interchangeably, since a low share of production in consumption would imply a high share of imports in consumption.

BOX 5.1
Working definitions of special product criteria

Food security. According to FAO, "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."

Livelihood security. The adequate and sustainable access to income and other resources to enable households to meet basic needs. This includes adequate access to food, potable water, health facilities, educational opportunities, housing, and time for community participation and social integration.

Rural development. A process that affects the well-being of rural populations, including the provision of basic needs and services, i.e. access to food, health services, water supply, basic infrastructure (roads, etc.) and the development of human capital through education. It also refers to activities that reduce the vulnerability of the agricultural sector to adverse natural and socio-economic factors and other risks and strengthen self-reliance.

variability is focused mainly on products produced within the country. The price variability measure covers all important food products, whether supplied domestically or imported. The suggested measures are:
- *standard deviation/coefficient of variation of production and price of product;*
- *degree of price transmission (international vs domestic) of product;*
- *variability in (export) revenue generated by product activity.*

d) Product consumption expenditure. This indicator reflects the share of expenditure incurred on the purchase of product 'x' in the total expenditure on all food products. The ratio used can be:
- *expenditure on the individual food basket item / total expenditure on food basket.*

Livelihood security indicators

Livelihood security is a broader concept than food security and encompasses many of its dimensions. The indicators used here stress aspects of employment and household income derived from the product.

a) Level of employment in product/sector. This indicator reflects the product's share of employment in total employment in a specific area

and/or industry, including vulnerable sectors of the labour force linked to the project. Some measures are:
- *share of employment of the product in total agricultural labour force or in total rural employment;*
- *share of labour force employed in product industry in total labour force; and*
- *gender/age distribution of labour force employed by the product.*

b) Household income from product. This indicator reflects the product share of income in household income and can be measured as:
- *income from product industry/total household income.*

c) Product share of agricultural land/rural assets. This indicator reflects the product share of the agricultural land, holdings and assets under cultivation in the country or in rural areas. This can be measured as:
- *land acreage planted with product/total land under cultivation; and*
- *farm holdings growing the products/total number of land holdings.*

d) Incidence of surge/displacement by imports. This indicator is a more defensive and dynamic indicator, measuring the extent to which some livelihood systems may be under threat by imports coming into the country. It can be measured as:
- *correlation between imports and domestic production of product; and*
- *growth rate of import substitutes/growth rate of competing domestic product.*

Rural development indicators

The linkages between rural area development and increased levels of overall economic development are well documented. Special products related to rural development criteria are to be selected based on their potential as growth and development poles:

a) **Importance of product in rural agricultural economy.** This indicator measures the share of the product in total rural agricultural production, thus:
- *product economic activity share in total rural agricultural output.*

b) **Product and rural area growth.** This indicator seeks to capture the importance of a particular product to growth taking place in a given rural area, using:
- *product growth rates relative to rural area growth rates.*

c) **Domestic value-added potential of product.** This indicator captures the value linkages of the product as a catalyst and contributor to rural development and is measured as:
- *degree to which the product can be transformed into other products/ uses.*

d) **Tariff revenue from product import/export.** This indicator recognizes the role of some products as critical suppliers of revenue for rural

development investment in areas such as infrastructure, utility services and social services and is measured as:
– *tariff revenue generated by the product.*

Issues related to implementation of the indicator analysis
The indicators above facilitate the identification of special products based on the criteria of food security, livelihood security and rural development. One of the main considerations in presenting them is to have quantifiable measures on which to base consideration of special products. This facilitates comparison across commodities and countries, but most importantly in the context of the on-going WTO negotiations, it ensures objectivity. However, the process may have shortcomings, including:

- The indicators may not capture all the products, especially those from small and remote areas.
- Some important dimensions of the three criteria are difficult to quantify.
- Data for some indicators may be difficult to obtain from both national and international sources.
- There is a strong level of interdependency among indicators, both within the same criteria and between different criteria.
- It may prove difficult in some circumstances to accurately identify substitute products and the degree of value addition for them.

Nonetheless, the indicators provide a sound basis for identifying special products and are applied in the next section of this chapter.

Application of the special products identification methodology
This section discusses application of the methodology for identification of special products (described in the preceding section). There are two stages to identifying special products (see **Figure 5.1**). Stage 1 involves a review of national goals and use of criteria indicators to identify an initial set of products as possible special products. Stage 2 involves consideration of the country's trade policy treatment related to these products. The policy dimension is critical since in many countries ongoing development programmes have had goals similar to those that justify special products and have supported certain agricultural products. The analysis also addresses the current treatment of these products, which is necessary for achieving national goals.

STAGE 1
The analysis in Stage 1 covers:

National goals. Country goals and policies that relate to food security, livelihood security and rural development objectives are identified based on national, agricultural and trade policy documents and budgetary

TABLE 5.1
Summary of indicators used in identification **of special products**

Criteria	Indicator Name	Measure
Food security	Product share in calorie consumption	Daily per capita calorie intake from product/Daily per capita calorie intake from all products
	Product import as a share of domestic consumption	Volume of product imported/Volume of product consumption (%)
	Ratio of domestic consumption of product in domestic production of product	Volume of product consumed/Volume of product produced (%)
	Coefficient of variation of domestic production	Coefficient of variation of domestic production of product[1]
Livelihood security	Import growth rate	Exponential growth rate of product import volume[1]
	Share in area harvested	Land area utilized for cultivation of crop/Total land area under cultivation for all crops (%)
	Coeffient of correlation (prodn & import)	Coeffient of correlation between product production and product import volumes[1]
Rural development	Share in production (vol)	Volume of product produced/Total volume of all products produced (%)
	Production (vol) growth rate	Exponential growth rate of product production volume[1] (%)

[1] For the period 1985–2002

commitments. Although it can be difficult to establish clear links between national policies or goals and specific products, selected rural areas are often characterized by certain productsv implying how important these products might be to achieving goals of the particular geographical area.

Criteria indicators. **Table 5.1** provides a summary of indicators related to the three criteria under discussion. These indicators are described in the section above. Where available, additional indicators appropriate to the specific context of a country can be included in the identification process.

Local level analysis. In order to capture information at a more disaggregated level, household surveys and stakeholder meetings may be conducted. These may, for example, identify the main products in a particular district that are linked to the criteria. This method can help provide geographical specificity to national-level data (which might otherwise be masked within national averages). Stakeholder surveys can also be used to indicate which of the three criteria they consider to be a priority for the country; results can be used to justify the special products chosen for the country.

Stage 1 yields a list of suggested products that could serve as special products, based on national goals and objectives, indicators and survey results.

STAGE 2

Stage 2 evaluates products mainly in the context of trade and trade policy treatment (levels of tariff flexibility and the impact of further tariff reduction on products). The list compiled from Stage 1 is compared with already-established national lists of "protected" products i.e. sensitive products as declared in trading agreements, products for which agreed levels of duties could not be waived due to the context of regional trading arrangements, etc. The national lists of "sensitive products" are assumed to generally reflect trade policy treatment (associated with products) aimed at promoting achievement of the goals related to the three criteria. Thus, these products will have been included in the analysis towards identifying a list of possible special products.[55]

Shortlisting of special products. Trade agreements are a process of deliberation whereby the final agreement does not usually accommodate all demands of the negotiating parties. If the number of special products in the lists devised at Stages 1 and 2 are to be negotiated to a smaller number of products, it is useful for a country to have prioritized its products by creating its own shortlist[56]. This process of prioritization for shortlisted products can be done by assigning certain threshold levels to each indicator; products qualifying under those thresholds are then analysed further. A product's trade policy flexibility[57] may also be taken into account: analysis may be done of those products with low levels of current tariff flexibility, which may be affected by further tariff reductions being discussed in the negotiations.

It is important to note that the above is a general template of the methodology followed for identifying possible special products for a country. Specific aspects of the methodology will differ between countries.

5.3 Case study: Belize

This section presents the results of the special products identification process for Belize. It analyses the country's peculiar needs for special products, summarizes its process for special products identification and presents the results. It outlines possible flexibility for choice in the special products identification process and considers treatment of special products in relation

[55] The indicator data is usually collected at a product level (as described in FAOSTAT), while trade policy information (mainly tariffs) is expressed at the HS tariff line level. Therefore the indicator data are converted into associated tariff lines (using the description contained in the HS nomenclature), before their trade policy treatment is assessed.

[56] The prioritization here is limited by the dimensions of the analysis. Products that are not short-listed at this stage may still be considered as special products if additional variables are used or some of the information is interpreted differently.

[57] Used here to mean mainly the difference between bound and applied tariff rates in absolute terms.

to issues from the WTO Doha Round negotiations and national development objectives.

5.3.1 Role of special products

The special products dimension of the WTO Doha Round is important for the agricultural sector in Belize for several reasons, including:

i) The production and trade of agricultural products is the most important socio-economic activity in Belize; almost one-third of the total labour force is employed in the agricultural sector while over 70 per cent of the country's total foreign exchange earnings accrue from this sector.
ii) Importantly, the sector has the capacity to become a large regional supplier of basic foodstuffs like rice, beans and high-quality beef and pork. It also has the capacity to supply the region with high-quality processed agricultural products such as fruit juices and pepper sauces.
iii) The policies of the government are very supportive of the sector and value-added agricultural products are recognized as one of the pillars of national export and development strategy. The aim is to achieve broad-based economic growth through the sector's key role in poverty reduction and rural development.
iv) Agriculture is the main source of income for the poorest sections of the society; crop and livestock production is the main economic activity of small, resource-poor producers; in the poorest districts of the country (e.g. Toledo), agriculture-related activities are the only source of livelihood and food security for the poor in most villages.
v) Although Belize currently produces enough food and in sufficient variety to ensure nutritious diets for all its citizens, more than 35 percent of the Belizean population is estimated to be at risk of food insecurity.[58]

Given that agriculture plays an important role in serving the food security and livelihood security objectives of the country and has a huge growth potential, some form of policy protection is needed for products that contribute significantly towards this end. It is important that special products identified by Belize be those that will assist in achievement of its national objectives.

5.3.2 Special product analysis[59]

The approach adopted for analysis made use of the two stages detailed earlier. As a part of Stage 1, national policy documents including the Medium-Term Economic Strategy 2002–2005, the National Food and Agricultural Policy 2002–2020 and Trade Policy Reviews were evaluated for food security,

[58] As cited in the Food and Nutrition Security Policy, February 2001, Belize.

[59] This section is based on a report prepared by the national consultant, Mr Jose Castellanos, as a part of the special products national study for Belize.

livelihood security and rural development objectives. Links were made to rural areas, communities and products. Information was gathered nationally and from global databases, much of it to match the nine indicators in **Table 5.1**. Additional indicators included: i) contribution to tariff revenue (associated with rural development); ii) price difference between imports and domestic products after incorporating the applied import duty (associated with livelihood security); and iii) level of domestic support received by products[60] (associated with livelihood security). A stakeholder survey for ranking criteria and indicators, and a household survey (covering 99 households across 23 villages/towns in 6 districts), were also conducted.

As part of Stage 2, information regarding trade policy was assessed using the country's agricultural tariff profile, list of sensitive products, bilateral trade agreements and Trade Policy Review. Products with low tariff flexibility which could be affected through further tariff cuts were also evaluated.

Based on indicator and survey results assessing 250 products[61] on the three special products criteria, a total of 122 products qualified for evaluation as possible special products. In order to assure a more robust analysis, and given that there was a degree of correlation between some indicators, further analysis was conducted to verify the list. Products that scored significantly on two or more indicators, or scored significantly on one indicator, were retained on the list, which narrowed it to 67 possible special products (122 tariff lines at the International Harmonized Commodity Coding and Classification System (HS) level).

Table 5.2 presents a synopsis of the results for the main product categories, the number of corresponding HS tariff lines, the key criteria and the indicators under which each qualified as possible special products.

The product groups evaluated reflect a balanced mix of the three qualifying criteria. The table reflects the main criteria under which *most* products in a group have qualified. Some products (or tariff lines) may have qualified (also) under a different criterion. The table shows that fruits, vegetables, rice and poultry have the highest number of tariff lines qualifying as possible special products.

Fruits, vegetables, sugar and cereals are important from the standpoint of all three criteria. More than 98 percent of the total area harvested in Belize is devoted to the production of these products. Maize, rice and red kidney beans are particularly important to the food security and livelihoods of the rural poor. Dairy products, eggs, maize, rice and sugar together contribute 43 percent to the daily calorie intake of Belizeans. The anticipated increase in production of bovine and pig meat is intended to boost rural development

[60] Exceeding the 5 percent *de minimis* provision in Belize's major competing markets.

[61] These products were produced/consumed in some form (food/feed) by Belize in the year 2003 as per information contained in the FAOSTAT database.

TABLE 5.2
Possible special product groups for Belize

Product group	No. of tariff lines	Main qualifying criterion(a)	Main qualifying indicator(s)
Bovine meat	6	RD	Production growth rate
Pig meat	6	RD	Correlation between imports and production
Poultry meat	12	FS	Contribution to nutrition
Dairy products	8	FS	Contribution to nutrition
Eggs	2	FS	Domestic consumption; production self-sufficiency
Vegetables	17	LS	Production self-sufficiency; share in total area harvested
Fruits	19	LS	Production self-sufficiency; share in total area harvested
Coffee	8	LS	Contribution to income; share in production
Maize	1	FS, LS	Production self-sufficiency ; share in total area harvested
Rice	11	FS, LS	Contribution to nutrition; production self-sufficiency ; share in total area harvested
Sugar	2	FS, LS	Contribution to nutrition; production self-sufficiency; share in total area harvested
Soybeans	3	RD	Production growth rate
Cereal preparations	3	RD	Contribution to income; production growth rate
Food preparations	5	RD	Contribution to income; production growth rate
Beverages (alcoholic and non-alcoholic)	7	RD	Contribution to tariff revenue

through an increase in rural incomes. Value-added agricultural products like cereal- based preparations, jams, jellies and soups are also high-income products with a potential for rural area growth.

In terms of the national trade policy treatment for agricultural products, Belize has 238 tariff lines in its list of sensitive products, 108 of which were also part of the special products list; clearly the sensitive and special products are linked to similar criteria. Most bound agricultural products in Belize have a ceiling rate of 100 percent, although some are set at 110 or 70 percent.

Most of Belize's applied tariffs are levied at a maximum of 40 percent rate, including for most special products. The exceptions are rice, black eye peas, small red beans and black beans which have 5 to 25 percent lower tariffs for reasons related mainly to food security. Although Belize grants duty-free access to most imports from other CARICOM Members, some special products from CARICOM Members are subject to most-favoured nation (MFN) tariff rates. These include wheat flour, biscuits, alcoholic beverages (beer, stout, ale, gin, rum, whisky, vodka) and preserved fruits and fruit preparations (except frozen citrus concentrates and citrus segments).

After applying the most ambitious proposed tariff cuts[62] on special products, almost all these products would have their bound rates equal to or

[62] The most ambitious tariff-cutting formula considered here was the United States proposal.

above the applied rates. Nine tariff lines (mainly from HS chapter 22) are an exception in that their new bound rates (under any proposal) would be lower than their current applied rates. In consideration of the likely loss of tariff flexibility for these, they were also added to the possible special products list for Belize

There were 131 possible special products (tariff lines) for Belize. **Appendix 5.1** presents the full list of possible special products with the main product categories, main criteria and their current trade policy treatment (in terms of tariffs and the country's list of sensitive products). The percentage of special products in the total number of tariff lines is calculated at 18.5 percent[63]. This is below the *at least 20 percent level* for special products specified in the G33 group proposal during the Doha Round.

5.3.3 Options for possible special products

There can be variation in the number of tariff lines designated as special products depending on the threshold level used for evaluating them. If the threshold level were changed to include products qualifying under one rather than three indicators), the number of *products* selected would jump from 22 to 148. If the threshold level for tariff revenue was decreased from US$100 000 to US$50 000, the number of tariff lines selected under that indicator would increase from 19 to 39.

Variation in terms of *percentage* of tariff lines designated as special products depends on the level of aggregation at which these are declared. In this case study, the HS level of special products tariff lines is assumed to be 6 digits. The total number of lines at that level in Belize's tariff structure is measured to be 705, resulting in 18.5 percent. However, the WTO negotiations could agree on a lower percentage of special products and a different HS level. If the agreement is at the HS 6-digit level, there is adequate room for designating special products as the majority of its special products tariff lines are declared at the 8-digit level and converting these to 6 digits would lead to a lower number and smaller percentage.

In the 2004 WTO "July package" it was agreed that flexibility in terms of special products treatment may be exercised only within the market access framework, in terms of ambition in tariff cuts on special products and number of special products permitted for each country. In the case of Belize, even after applying the highest possible cuts on possible special products, very few tariff lines are affected. This is because its current tariff structure allows for sufficient space between bound and applied tariffs. Therefore,

[63] The 131 tariff lines correspond to HS digit levels as follows: 78 tariff lines at 8-digit level, 51 tariff lines at 6-digit level and 2 tariff lines at 4-digit level. Assuming all 131 tariff lines at the 6-digit level, with 705 as the total number of 6-digit lines; thus the percentage of special products in the total number of tariff lines is calculated at 18.5 percent.

the kind of flexibility that Belize might argue for is deeper cuts on non-special products in return for higher number of products permitted as special products (possibly with lower cuts).

Some crop and livestock sectors in Belize have huge potential to increase their supply capacity and thus promote rural area growth. From a development perspective, then, there is a need for Belize to adopt a more flexible and comprehensive approach to special products. The country should strive to increase the scope of treatment of special products beyond the market-access framework to include the domestic support and export competition pillars of the Agreement on Agriculture, the Sanitary and Phytosanitary Measures (SPS) agreement, etc. In order for them to be produced more competitively products such as rice and red kidney beans, which can be produced in large quantities, may be treated even more flexibly through such areas as *de minimis* support or subsidy support under Article 6.2[64]. Enhancing trade in bovine meat (which currently suffers from trade-related quality-control issues) may require financial and technical assistance from donors and international agencies specializing in the area of SPS standards.

5.3.4 Conclusions of Belize case study

The process used in the Belize case study identified several products (including rice, maize, meats, fruits, vegetables and sugar) as possible special products. That most of these products were also on Belize's list of sensitive products helped confirm the validity of the analytical process and their importance for Belize's development goals. The analysis used data-based indicators to demonstrate the products' links to the criteria of food security, livelihood security and rural development.

From the perspective of WTO negotiations, if the choice is between greater ambition in tariff cuts on non-special products and higher number of special products – as opposed to lower cuts on non-special products and lower number of special products – Belize may prefer to choose the former, given that it has sufficient levels of tariff flexibility. However, should the agreement settle on the latter, Belize would have to prioritize its choice of products. It might focus on products which, in the absence of a protective tariff, could be dumped in the country; examples include poultry, dairy and eggs.

If loss of complete tariff flexibility (after application of tariff reduction proposals) is taken as a criterion for selecting products for special products consideration, then under the United States proposal 9 tariff lines would have their new bound levels *lower* than their current applied level and 40 tariff lines would have their new bound levels *equal to* their current applied tariff

[64] Article 6.2 of the Agreement on Agriculture under the domestic support pillar states that "investment subsidies which are generally available to agriculture in developing country Members and agricultural input subsidies generally available to low-income or resource-poor producers are exempted from the calculation of aggregate measures of support".

levels. The latter products include most vegetables, some fruits, coffee and some food preparations. Thus, a total of 49 tariff lines would face a complete loss of tariff flexibility under the United States proposal. This analysis is useful in terms of prioritizing selection of special products based on the criterion of likely impact of tariff reduction.

Although the case study made use of both national-level and district-level data to identify special products, each country can decide what level of data disaggregation to use. If the goal is to develop agriculture in a particular region then the region or product may be given greater emphasis in the analysis; for example, red kidney beans and maize produced in the Toledo district. If the goal is national then it would probably be necessary to give equal weight to all the districts.

Some products that are on Belize's list of sensitive products but did not feature on the list of possible special products include live animals, mutton and lamb, dried and smoked meat, soybean oil, some food preparations (pasta), fruit juices and tobacco products. On the other hand, 12 products on the special products list but not on the sensitive list are milk powder, sweet corn, cassava, soursop, mineral water, biscuits, packaged vegetables, soups, prepared food, tea, swine meat (salted or in brine) and sugar confectionery. This suggests some weaknesses in the indicators in capturing substitutes and luxury products.

Treatment for some of the possible special products needs more than just trade policy support. Budget support, infrastructure, technology, credit and market development assistance could make several of the special products important rural area growth poles for Belize. special products policy should be linked to supply-side capacity- building measures at the national level and as part of international institutions' development programmes, especially in terms of investment and human development.

5.4. The case for regional special products

The previous section presented a list of special products for Belize. In the other case studies in the Caribbean region most special products were also on each country's list of sensitive product. This suggests a common logic between the analysis used for national-level sensitive products lists and that used here for special products, which reinforces the soundness and objectivity of the results. This is important from the standpoint of WTO negotiations. While individual countries will choose to identify special products on the basis of their national policies and socio-economic goals, their choice will also be influenced by the policies of their trading partners and competitors. This aspect is particularly significant for countries that are part of regional trade agreements (RTA), where the objectives and the architecture of the regional arrangement shape (or dictate) the choice of a Member's national policies,

especially those concerning trade. The importance of RTAs in the trade arena is underscored by the rapid growth in their number since the late 1980s. As many new RTAs have been formed since the WTO was established in 1995 as during the preceding 37 years (SOCO, 2004).

Two other reasons point to the need to consider the regional context in the choice of special products. First, for many countries, especially smaller and less developed economies, preferential trade arrangements account for most of their exports. Continuing trade liberalization puts pressure on existing preferential regimes and it becomes increasingly difficult to maintain current levels of preferential margins. Further, WTO Members have challenged preferential trade in specific commodities. Brazil, Thailand and Australia challenged the EU's sugar regime, which was in part responsible for the EU slashing guaranteed prices paid to its internal producers and the ACP group of countries by 36 percent over four years (beginning in 2006). The challenge by some Latin American banana-producing countries to the EU's banana trade regime favouring ACP countries compelled the EU to propose replacing its current banana import rules, moving from a system of tariffs and quotas on MFN suppliers to a tariff-only system as of 1 January 2006. Countries will have to look more and more to regional arrangements, both for expanding trade and as sources of supply.

Second, an important feature of a customs union is a common external tariff structure: all goods entering the customs territory of any member country are assessed the same rate of applied tariff. Because applied tariffs of all Members move together (unless there is a waiver on the common tariff for a particular product), if a member country cuts its bound tariffs and the new rates are lower than the applied tariff rates, to maintain other Members will have to bring down their rates to the new level. WTO multilateral negotiations may affect a country directly or through the policy framework of the RTA of which that country is a Member.

The CARICOM could choose to devise a regional special products list whereby all Members would designate those agreed special products in their individual submissions to the WTO. The reasons for this choice might include:

- The Caribbean region is moving towards a single market and economy under the aegis of the CARICOM Single Market and Economy (CSME). This represents a harmonization of policies at the regional level that, for example, promotes free movement of labour. This may help the agricultural sector, which in many countries in the region faces severe labour shortages. In addition, harmonization of customs procedures will introduce simplicity and transparency in movement of goods. A larger market with harmonized policies will enhance price competitiveness in selected important agricultural products by creating enabling conditions for greater capital investment (in areas of product research and development, technology adoption and dissemination, etc.),

lower administrative costs and economies of scale, among other factors.

- A process of identifying regional special products can help policy-makers focus on options for developing those products to promote regional integration and contribute to the region's common economic objectives, including increased self-reliance in agriculture. Many of the indicators used in this chapter for special products analysis are relevant in this regard because they are linked to products that are important from the perspective of regional food security and rural development.
- The region has long recognized the importance of regional integration efforts through the adoption of common policies and programmes. In the 1970s a Regional Food Plan was developed and the Caribbean Food Corporation was established to implement it. That initial plan was based largely on public sector productive investment and became difficult to implement as the global policy framework changed, but the foundations exist for continued regional cooperation.
- A number of initiatives and programmes in the Caribbean region have been conceptualized recently that aim to facilitate a smoother transition of the Caribbean economies in general and the agricultural sector in particular towards regional and global integration. It would help for the programmes to be coherent among themselves in a number of areas, and regional special products could act as facilitators of integration. For example, regional special products could help advance the Jagdeo Initiative, which visualizes a Caribbean region agricultural sector capable of achieving higher levels of food security, of transforming its processes and products and of stimulating the innovative entrepreneurial capacity of agricultural and rural communities. The Regional Special Programme for Food Security and any expansion of it should be linked to regional special products.
- Regional special products could assist in promoting and advancing current and potential levels of intraregional trade, thereby increasing revenue to countries within the region. An average of 20 percent of total agricultural imports of CARICOM Members is sourced from within the group (see **Table 5.3**). Notably, the share of intraregional imports is highest for processed product groups, which generate higher income, rather than for primary commodities (except rice and raw sugar). There is a potential trading opportunity for member countries to supply an increased proportion of regional agricultural imports.

5.4.1 Proposing a regional special products list

We prepared a shortlist of products that could serve as possible regional special products for the Caribbean region, based on the three considerations described here:

1) ***Products important for food security, livelihood security and rural development objectives.*** Products under this category were identified on

TABLE 5.3
CARICOM agricultural intraregional imports under main HS chapters and products, and their share in total imports from world (2001)

HS chapter	Product name	Inntraregional import value (US$ million)	Intraregional imports' share in total imports from world (%)
2	Meat and edible meat offal	0	0
	Bovine meat – boneless	0	
4	Dairy prod; birds' eggs; natural honey	8	4
	Powdered milk	4	
7	Edible vegetables and certain roots	4	5
	Beans	3	
8	Edible fruit and nuts	4	9
	Bananas	2	
10	Cereals	34	21
	Rice	33	
11	Products of milling industry; malts/starches	12	22
	Wheat flour	12	
15	Animal/veg fats & oils	13	21
	Margarine and soybean oil	10	
17	Sugars and sugar confectionery.	22	22
	Raw sugar and confectionary	18	
18	Cocoa and cocoa preparations.	4	18
	Chocolate products	3	
19	Preparations of cereal, flour, starch/milk	38	29
20	Preparations of vegetable, fruit, nuts	23	20
	Juice of orange and apple, preparations of potatoes and nuts	18	
21	Food preparations	23	16
	Other sauces, including of tomatoes	18	
22	Beverages, spirits and vinegar.	64	34
	Mineral water, beer and rum	54	
24	Tobacco and manufactured tobacco products	8	34
	Cigarettes	7	

Source: WITS, 2006
Note: The rows in Table 5.3 are aggregated over several tariff lines and so it is not clear where CARICOM supplies 50 percent and more of a particular product.

the basis of the results of the Caribbean case studies and analysis of other Caribbean countries. Products that are important contributors to the nourishment of large sections of the region's population, provide livelihood security and are potential growth poles for rural area development deserve consideration as potential regional special products. These were identified through the special products case studies and information from national and regional agricultural policy documents.

TABLE 5.4
Daily calorie consumption (per capita) and imports of selected products for Haiti and Dominican Republic (average 2001–2003)

	Haiti		Dominican Republic	
	Calories/day/capita (share in total)	Imports (million US$)	Calories/day/capita (share in total)	Imports (million US$)
Rice	22	98	18	13
Wheat	15	63	7	58
Sugar	15	37	19	4
Maize	11	0.2	4	112
Soybeans	6	0	11	0.1
Beans, dry	4	15	2	12
Milk	2	31	5	25

Source: FAOSTAT, 2006

Products most consumed and/or imported by the Dominican Republic and Haiti were also considered for analysis. These two countries together account for more than 70 percent of the total population of the Caribbean Forum (CARIFORUM)[65] and therefore products consumed on a large scale by these two countries are especially relevant for the overall food security of the region. **Table 5.4** shows the main products that contribute to per capita daily calorie consumption of these two countries. There is a lack of data on main trading partner shares in these imports. However, rice, sugar and dry beans (which are imported in large volumes) are produced and exported by other Caribbean countries, indicating potential intraregional trade in these products.

2) ***Products that Caribbean countries produce or could produce competitively and supply to the region.*** Agricultural trade is an important component of regional food security and development; its potential role in regional integration efforts cannot be overstated. For a number of individual products in the Caribbean region almost all trade is intraregional while for several others it is a considerable part (more than 50 percent). **Table5.5** shows the main product categories with more than 50 percent share in CARICOM intraregional trade. With the formation of the CSME, which aims at harmonization of regional policies and administrative procedures, the existing regional trade levels are expected to increase. The regional special products list also includes products that represent a share of 50 percent and above in the imports from within the region.

[65] Includes 15 member countries of the CARICOM and Dominican Republic.

TABLE 5.5
Main product categories with more than 50 percent share in CARICOM intraregional trade

Vegetables, roots and tubers	Cereal preparations
Fruits and nuts	Preparations of vegetables, fruits and nuts
Rice	Food preparations
Oilseeds and flour/meal of oilseeds	Beverages, alcoholic and non-alcoholic
Vegetable oils and vegetable and animal fats	Food wastes and residues, including feed
Sugar and sugar confectionary	Tobacco products

Source: COMTRADE (2006). The United Nations COMTRADE database is available publicly through the World Bank's WITS software.

3) ***Products that can be produced in reasonable quantities within the region but need protective tariffs to prevent dumping from extra-regional sources.*** This category considers products that are part of the "ineligible for duty exemption" list agreed by CARICOM Members[66]. CARICOM has sufficient production capacity to meet 60 percent or more of the common market needs of the products on the list and their direct substitutes; thus the products are extremely sensitive products for the region.

Regional trading agreements are conducted by member countries within the framework of a common set of policies. These policies encompass several dimensions of trade including tariffs, product quality and standards, customs procedures, rules of origin, etc. The policy dimension of the region's common external tariff may include different treatment for different products depending on regional/national objectives and needs. For example, products not produced in sufficient volumes, desired quality, etc. by the regional producers but are important from food security and rural development viewpoints may be exempted from the common tariff rates to allow for extra-regional imports. On the other hand, products that can be sourced from within the region and whose production is important for food security and rural development needs may be ineligible for exemption.

A total of 186 tariff lines at the 6-digit level of the HS were identified as possible regional special products. **Table 5.6** categorizes the tariff lines into main product groups and also shows the numbers of tariff lines corresponding to each group evaluated. The importance of fruit and vegetables in both primary and processed forms for the Caribbean region is underscored by the high number of associated tariff lines evaluated as possible special products. Meats and cereals are the other two product groups that appear in a high number of tariff lines in both primary and processed forms.

[66] Under the revised Treaty of Chaguaramas, a CARICOM member state may suspend import duty on an agricultural product coming from outside the Common Market, unless it is on the *List of commodities ineligible for conditional duty exemption.*

TABLE 5.6
Possible regional special products categories and number of tariff lines

Product categories	Number of tariff lines
Meat and parts thereof (bovine, pig, lamb and mutton, poultry)	25
Dairy products (milk fresh and powdered and yoghurt)	7
Vegetables and roots and tubers	25
Fruits and nuts	15
Spices	9
Rice	4
Oilseeds and flour/meal of oilseeds	8
Vegetable oils and vegetable and animal fats	10
Sausages and other similar meat products	7
Sugar and sugar confectionary	6
Cereal preparations	10
Preparations of vegetables, fruits and nuts	32
Food preparations	5
Beverages (alcoholic and non-alcoholic)	9
Food residues, including for feed	6

The tariff lines are associated with the three categories as follows: 1) food security, livelihood security and rural development objectives: 109 lines; 2) intraregional trade of more than US$1 million by value or more than 50 percent by share in total trade from all sources: 49 lines; and 3) ineligible for duty exemption list: 101 lines. Eleven tariff lines are common to all three categories: roots and tubers, bananas, husked rice, semi-milled/milled rice, copra, raw sugar, biscuits and other bakery products, orange juice (frozen) and mineral water. There were 45 tariff lines identified using the three special products criteria that are also on CARICOM's "ineligible for duty exemption" list (into the regional market), suggesting that for those products there is potential for regional self-sufficiency.

These 186 lines form almost 27 percent of the total 6-digit HS nomenclature lines for the Caribbean countries[67], and there could be additional lines that individual countries may wish to evaluate as special products. The negotiating proposals on special products tabled by different Members during the WTO Doha Round vary in their assessment of the flexibility allowed in the percentage of lines designated as special products. The United States proposal suggests five tariff lines while the G33[68] proposal (whose Members include

[67] Assuming that total to be 705.

[68] The G33 countries include Antigua and Barbuda, Barbados, Belize, Benin, Botswana, China, Congo, Côte d'Ivoire, Cuba, Dominican Republic, Grenada, Guyana, Haiti, Honduras, India, Indonesia, Jamaica, Kenya, Korea, Mauritius, Madagascar, Mongolia, Mozambique, Nicaragua, Nigeria, Pakistan, Panama, Peru, Philippines, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Senegal, Sri Lanka, Suriname, Trinidad and Tobago, Turkey, Uganda, United Republic of Tanzania, Venezuela (Bolivarian Republic of), Zambia and Zimbabwe.

13 CARICOM countries), recommends *at least 20 percent* of the total lines. In the event that the flexibility agreed in the negotiations is lower than the 27 percent arrived at in this analysis, it would be necessary for the Caribbean region to reduce the number of special products they declare.

Thailand and Malaysia also introduced proposals in the context of the agricultural negotiations to influence the selection of special products. The proposals differ in their threshold levels. The Malaysia proposal is that *a product of which more than **75 percent** of world trade is represented by developing countries' exports should not be designated as a special product*. The Thailand proposal is that *product exported by developing countries that cumulatively constitutes more than **50 percent** of world export of that product shall not be designated as special products.* Our analysis showed that the Thailand proposal's lower threshold level (which would eliminate a greater number of special products) would eliminate 42 of the 186 possible special products tariff lines from special products consideration, or almost 23 percent. These include a number of important products in the categories of fruit and vegetables, spices, rice, sugar, oilseeds and flour/meal of oilseeds, vegetable oils and vegetable and animal fats.

5.4.2 Issues and policy options for regional special products

This section explores some special products options for the region from policy and strategy standpoints, including aspects of agricultural trade negotiations and regional trade. The regional options envision developing these products as engines for attaining the region's common economic objectives, including self-sufficiency in agriculture and self-reliance through increased production and trade.

1. The Caribbean countries may choose to negotiate for an appropriate number of tariff lines to be designated as special products. The methodology used in this chapter resulted in 27 percent of tariff lines at the 6-digit level as possible special products for the countries in the region. In case an agreement is reached that allows only a lower number of special products, Caribbean countries could consider excluding from the special products list regularly traded products for which third-country substitutes are not easily obtained, including tropical perishable products such as a range of fruits (pineapples, mangoes, oranges, avocadoes, plantains, golden apples, watermelon), vegetables (bora, eschallot, thyme) and root crops (yams, tannia, dasheen, eddo) that are unlikely to be imported from other countries (or if they were to be imported would be expensive). Processed products should be prioritized when evaluating special products, whether at the country or regional level. Our case studies and analysis, including of intra-regional trading patterns, made clear the greater potential of these products.

2. Given their tariff structures, these countries could argue for a higher number of special products (possibly with lower tariff cuts), as a trade-off for more ambitious tariff cuts on non-special products. Since the tariff structures of most other CARICOM Members are similar to the three countries studied [see Chapter 3], the region as a whole could argue for this treatment. The final lists of special products proposed for the case study countries and others represented less than 20 percent of the total number of products in their tariff profiles. This result means they could be congruent with the G33 group proposal of "at least 20 percent of lines as special products".
3. Given the opportunity of designating both sensitive (all Members) and special (only developing- country Members) products and although the basis of and the number of products that can be selected as sensitive products is also not yet agreed, there is mention made that these products will receive more favourable treatment under the market access framework. Thus, developing countries are given two categories of products receiving favourable treatment. Depending on agreements made for the type of treatment and number of permissible tariff lines under each category, Caribbean countries could choose to allocate their possible special products in both of these categories.
4. Special products could also be included within the region's other negotiating arenas, including the Free Trade of the Americas (FTAA) and the EU Economic Partnership Agreement (EPA). Trading arrangements with extra-regional partners can have a negative impact on the regional production of some commodities. For example, it is argued that when the price of EU milk powder imports undercut the local price of fresh milk in Dominican Republic by 25 percent, partly due to the EU export subsidies, around 10 000 farmers were forced out of business despite considerable investment in the dairy sector by the government and the industry (Third World Network, 2006). The heavily subsidized European exports made it difficult for local milk producers to compete. Extending the concept of special products (more favourable treatment for some products) to other negotiating platforms will help serve coherency of trade policy related to these products.
5. At the regional level, strategies for developing regional special products should focus on providing policy, technical and financial support to these products. One way is to segment products based on their production and trade patterns and then target forms of support to them. The regularly traded products for which there are third-country substitutes (which can be potentially competitive) and the regularly traded products for which third-country substitutes are not easily obtained (differentiated Caribbean products) are products that CARICOM governments may need to

support in order to get them to an acceptable level of competitiveness and productivity. In the case of new products (products not currently traded but for which technology for expanding trade exists in the region, products that are possible substitutes for current imports, value-added and niche market products), development funds may be required to help achieve the transition. Technical and investment needs ought to be resourced from both private and public sectors.

6. Suspension of CET has been granted by the CARICOM for an indefinite period on imports of several products identified in this chapter as regional special products; these are products that are regularly not available from within the region. Access to lower rates may serve as a disincentive for intraregional trade: for example, while both Belize and Guyana have well-developed beef industries, bovine items are currently on the list of CET exempted products. It is important to emphasize that the basis of suspension of duties on some potential special products may need to be revisited if they are to serve the objective of enhanced regional trade. Reasons for tariff rate suspension have often involved poor quality and sanitation. Thus, regional quality standard-setting bodies need to review the current regulations that may serve as impediments to regional trade. Recognizing the competitive nature of the current trade environment, countries with production and export potential should devise specific plans of action to first segmenting the target market and then moving to supply specific components of that market within a given time frame.
7. For products with competitive potential, efforts should focus on support to both production and marketing. On the supply side, regional coordination efforts could deal with the technological innovation and dissemination aspects of agricultural systems. Marketing efforts for regional special products should provide better extension and market information and services. Efforts to encourage regional production of meats should focus on providing technical and financial assistance related to SPS standards. A Regional Agricultural Development Fund for special products could be established with funds from donors and key trading partners; it would require clear guidelines for utilization of the funds.
8. Regional special products may be used as channels to attract investment vital for the agricultural sector's growth and development. Governments in countries with supply potential may need to devise policies and domestic conditions that attract foreign entrepreneurs in certain product sectors. Countries can take advantage of several windows of opportunity currently being proposed by donors and international institutions, including adjustment assistance under CAP reform and the Aid for Trade endeavour mandated in paragraph 57 of the WTO Hong Kong Ministerial Declaration.

5.5. Conclusions

Analysis in this chapter was based on a methodological approach that made use of several indicators for evaluating the special products, which were linked to the three criteria outlined in the WTO July Package: food security, livelihood security and rural development. From a negotiations viewpoint, the purpose of the indicators was to make the special products identification process both objective and transparent. From a national/regional standpoint, the purpose was to have the process reflect national policies, developmental goals and objectives.

Countries in the Caribbean region were evaluated in a trade and development context to draw lessons related to designation of special products in the WTO agricultural negotiations. The process of special product evaluation in the case study countries presented a wide range of results related to number of special products and percentage of special products (as a share of the total tariff lines in a country's schedule) ranging from 122 tariff lines (or 17 percent of the total) in the case of Belize to 55 tariff lines (or 8 percent of the total) for Suriname.

The chapter proposed options countries can explore in relation to the number or percentage of tariff lines that could be evaluated as special products. One way is to change the number of indicators used for special products qualification. Another way is to use a different digit level of the HS nomenclature. For example, Suriname had a high number of lines at the 8-digit HS level. If the final negotiated agreement of the Doha Round for designating special products is at the 6-digit level, Suriname could declare a greater number of special products than would be the case if most of the declared lines were at the 6-digit level.

The chapter also explored the concept of identifying and developing regional special products, using the Caribbean region as a case study. The aim was not to introduce an additional concept into the WTO context, but rather to argue for advancing the concept in all regional negotiating arenas and to assist regional integration efforts that foster increased trade. This is very much in keeping with the EU/ACP development cooperation framework, which establishes Economic Partnership Agreements. Three categories of products were considered for the Caribbean regional special products list: products important from food security, livelihood security and rural development objectives; products which some countries in the region are producing or can produce competitively and supply to the region; and products that can be produced in reasonable quantities within the region but need protective tariffs to prevent subsidized imports from extra-regional sources.

The results showed that almost 27 percent of the total tariff lines at the 6-digit HS level could be considered as potential regional special products

based on the above considerations. Most tariff lines showed up as possible special products for more than one of the case study countries, especially those related to rice, meat, fruits and vegetables, sugar, prepared food and food preparations and beverages. This highlights the fact that products serving national objectives can also be used to advance regional goals.

References

Belize. 2002. *Belize medium-term economic strategy 2002–2005.* Ministry of National Development.

Belize. 2003. *The national food and agricultural policy 2002–2020.* Ministry of Agriculture and Fisheries.

CARICOM Secretariat. 2005. *Strengthening agriculture for sustainable growth and development. A proposal for interventions to alleviate the key binding constraints to the agriculture sector in CARICOM Countries*. Georgetown, Guyana, CARICOM.

CARICOM Secretariat. 2006. http://www.caricomonline.org/cet2007/;

Castellanos, J. 2004. *WTO impact on Belize's agricultural sector.* (Consultant report)

FAOSTAT. 2006. Database, http://www.faostat.org. Rome, FAO.

Ford, J.R.D., Koroma, S., Yanoma, Y. & Khaira, H. 2005. *Identifying "Special Products". Developing country flexibility in the Doha Round.* Commodity Market Review 2005–2006. Rome, FAO.

Ford, J.R.D., Koroma, S., Yanoma, Y. & Khaira, H. 2006. *Special products: a comprehensive approach to identification and treatment for development.* Paper presented at the FAO Workshop on WTO Rules for agriculture compatible with development. 2–3 February. Rome, FAO.

Mullen, J., StCyr, J. & Paccoud, T. 1999. *ECs-sponsored study on poverty in Trinidad and Tobago 1999.*

St Kitts and Nevis. 2000. *Agriculture and Fisheries Census 2000*. Department of Agriculture.

St Kitts and Nevis. 2004. *Economical food basket for well-balanced meals.* Ministry of Health.

St Kitts and Nevis. 2005a. *St Christopher and Nevis Budget Address. 2005.*

St Kitts and Nevis. 2005b. *The Department of Agriculture Annual Review, 2005*. Department of Agriculture.

St Kitts and Nevis. 2005c. *Agriculture Strategic Plan 2005–2009.* Statistical Division, Department of Agriculture.

Third World Network. 2006. *Globalization, liberalization, protectionism: impacts on poor rural producers in developing countries.* Available at http://www.ruralpovertyportal.org/english/ topics/ trade/documents/global_agri.pdf.

Trinidad and Tobago. 1982. *Agricultural census report.* Central Statistical Office, Ministry of Agriculture.

Trinidad and Tobago. 2001. *Labour Force Report No.82.* Central Statistical Office.

Trinidad and Tobago. 2004a. *The 2020 vision for agriculture in Trinidad and Tobago .Creating a sustainable long-term capacity for national food security: 2020 & beyond.* Trinidad and Tobago Agriculture Sub-Committee. October.

Trinidad and Tobago. 2004b. *Agricultural census preliminary report.* Central Statistical Office, Ministry of Agriculture.

United Nations Development Programme (UNDP). 2006. *Human Development Report 2005.* New York.

World Bank. 2006. http://wits.worldbank.org/

WTO. 2002. *Trade and economic performance: the role of economic size?* Note by the Secretariat, Committee on Trade and Development (Dedicated Session). WT/COMTD/SE/W/5. 23 October. Geneva.

WTO Secretariat. 2004. *Framework agreement* (WT/L/579). Geneva.

WTO Secretariat. 2005. *Doha Work Programme: Ministerial Declaration.* WT/MIN(05)/DEC. Hong Kong, WTO.

WTO. 2006. *Chairman's reference paper: special products.* Committee on Agriculture, Special Session, Market Access. 4 May. Geneva.

Appendix 5.1
List of possible special products for Belize

Sr No	Tariff line	Product group	Products	Main qualifying indicator	Sensitive list	Applied rate	Bound rate
1	202.1	Beef	Carcass & half-carcass	RD	x	40	110
2	202.201		Brisket	RD	x	40	110
3	202.209		Other	RD	x	40	110
4	202.301		Tenderloin	RD	x	40	110
5	202.302		Sirloin	RD	x	40	110
6	202.303		Minced (ground)	RD	x	40	110
7	202.309		Other	RD	x	40	110
8	203.11	Pig meat	Carcass & half-carcass	RD	x	40	110
9	203.12		Hams, shoulders & cuts thereof, with bone in	RD	x	40	110
10	203.19		Other	RD	x	40	110
11	203.21		Carcass & half-carcass	RD	x	40	110
12	203.22		Hams, shoulders and cuts thereof, with bone in	RD	x	40	110
13	203.29		Other	FS	x	40	110
14	207.11	Poultry	Not cut in pieces, fresh or chilled	FS	x	40	110
15	207.12		Not cut in pieces, frozen	FS	x	40	110
16	207.13		Cuts and offal, fresh or chilled	FS	x	40	110
17	207.141		Backs and necks	FS	x	40	110
18	207.142		Wings	FS	x	40	110
19	207.143		Livers	FS	x	40	110
20	207.149		Other (assuming that it includes seasoned poultry)	FS	x	40	110
21	207.24		Not cut in pieces, fresh or chilled	FS	x	40	110
22	207.25		Not cut in pieces, frozen	FS	x	40	110
23	207.26		Cuts and offal, fresh or chilled	FS	x	40	110
24	207.271		Backs & necks	FS	x	40	110
25	207.279		Other	FS	x	40	110

Sr No	Tariff line	Product group	Products	Main qualifying indicator	Sensitive list	Applied rate	Bound rate
26	401.1	Dairy	Of a fat content, by weight, not exceeding 1%	FS	x	0	100
27	401.2		Of a fat content, by weight, exceeding 1% but not exceeding 6%	FS	x	0	100
28	401.3		Of a fat content, by weight, exceeding 6%	FS	x	0	100
29	402.1		Milk powder	FS		0	100
30	402.21		Milk powder	FS		0	100
31	402.29		Milk powder	FS		0	100
32	4063000		Processed cheese, not grated or powdered	RD	x	0	100
33	4069000		Other cheese	RD	x	0	100
34	407.002	Eggs	Hatching eggs, not for breeder flock	FS	x	0	100
35	407.003		Other fresh eggs (not for hatching or breeder stock)	FS	x	40	100
36	409		Honey	LS	x	40	110
37	701.9	Vegetables, roots and tubers	Irish potato	FS	x	$0.42/ 100 lbs	100
38	702		Tomatoes	FS	x	40	100
39	703.101		Onions	LS	x	40	100
40	704.901		Cabbage	LS	x	40	100
41	706.101		Carrots	LS	x	40	100
42	707.001		Cucumber	LS	x	40	100
43	709.902		Okra	FS	x	40	100
44	709.903		Pumpkin	LS	x	40	100
45	709.904		Sweet pepper	LS	x	40	100
46	710.8		Sweet corn	FS		40	100
47	713.103		Black-eyed peas	FS	x	15	100
48	713.32		Small red beans	FS	x	5	100
49	713.331		RK beans	FS	x	40	100
50	713.339		Black beans (other beans)	FS	x	5	100
51	714.1		Cassava	FS		40	100
52	714.2		Sweet potato	FS	x	40	100
53	714.903		Coco-yam	FS	x	40	100

Sr No	Tariff line	Product group	Products	Main qualifying indicator	Sensitive list	Applied rate	Bound rate
54	801.11	Fruits and nuts	Coconut, desiccated	LS	x	40	100
55	801.191		In shell	LS	x	40	100
56	801.199		Other	LS	x	40	100
57	801.31		Cashew nut: In shells	LS	x	40	110
58	801.32		Shelled	LS	x	40	110
59	803.001		Bananas, fresh	FS, LS	x	40	110
60	803.002		Plantains, fresh	FS	x	40	110
61	803.003		Bananas & plantains, dried	LS	x	40	110
62	804.3		Pineapple	LS	x	40	110
63	804.4		Avocado	LS	x	40	100
64	804.502		Mangoes	LS	x	40	110
65	805.1		Oranges	LS	x	40	110
66	805.302		Lime	LS	x	40	110
67	805.303		Grapefruit+C38	LS	x	40	110
68	807.191		Cantaloupe	LS	x	40	110
69	807.11		Watermelon	LS	x	40	110
70	807.2		Papayas	LS	x	40	110
71	810.904		Soursop	FS		40	100
72	810.909		Craboo	FS		40	100
73	901.111	Coffee	Beans for blending (unroasted & not decaffeinated)	LS		5	100
74	901.1199		Other (unroasted & not decaffeinated)	LS		40	100
75	901.121		Beans for blending (decaffeinated)	LS		5	100
76	901.129		Other (decaffeinated)	LS		40	100
77	901.21		Roasted coffee not decaffeinated	LS		40	100
78	901.22		Roasted decaffeinated	LS		40	100
79	904.11	Spices	Neither crushed nor ground	LS	x	40	100
80	904.12		Crushed or ground	LS	x	40	100
81	910.1		Ginger	LS	x	40	100
82	1005.9		Corn (Maize)	FS, LS	x	40	110

Sr No	Tariff line	Product group	Products	Main qualifying indicator	Sensitive list	Applied rate	Bound rate
83	1006.109	Rice	Other (not for sowing)	FS, LS	x	25	110
84	1006.201		White rice, in packages for retail sale	FS, LS	x	25	110
85	1006.202		Other white rice	FS, LS	x	25	110
86	1006.301		Semi-milled white rice in packages of not more than 10 kg	FS, LS	x	25	110
87	1006.302		Other semi-milled white rice	FS, LS	x	25	110
88	1006.303		Semi-milled parboiled rice, in packages of not more than 10 kg	FS, LS	x	25	110
89	1006.304		Other semi-milled parboiled rice	FS, LS	x	25	110
90	1006.305		Wholly white rice, in packages of not more than 10 kg	FS, LS	x	25	110
91	1006.306		Other wholly milled white rice	FS, LS	x	25	110
92	1006.401		In packages for retail	FS, LS	x	25	110
93	1006.409		Other broken rice	FS, LS	x	25	110
94	1007.009		Sorghum	FS	x	40	100
95	1101.009		Wheat flour	FS	x	25	70
96	1201.009		Soybeans	LS	x	10	110
97	1202.1		In shell	LS	x	40	110
98	1202.209		Other	LS	x	40	110
99	1212.92		Sugar cane	LS	x	10	100
100	1404.103		Annatto	LS	x	5	100
101	1601.002	Meat preparations	Other chicken sausages (not canned)	RD	x	20	100
102	1601.003		Salami sausages	RD	x	20	100
103	1601.009		Others sausages (not canned)	RD	x	20	100
104	16010020		Other chicken sausages	RD	x	20	100
105	1701.1		Sugar	FS, LS	x	40	110
106	17049000		Other sugar confectionery	RD	x	20	100
107	1801.001		Cocoa	LS	x	5	100
108	2101910		Meat of swine: salted or in brine	RD	x	5	110
109	19041000	Cereal preparations	Prepared foods obtained by the swelling or roasting of cereals	RD	x	20	100
110	19053010		Sweet biscuits	RD	x	35	100
111	19059090		Cucumbers and gherkins in packages not less than 50 kg	RD	x	35	100
112	200560		Asparagus	RD		45	100

Sr No	Tariff line	Product group	Products	Main qualifying indicator	Sensitive list	Applied rate	Bound rate
113	21011200	Food preparations	Extracts, essences, and concentrates of tea or mate	RD	x	20	100
114	21039090		Soups and broths and preparations thereof in liquid form*	RD	x	20	110
115	21041020		Homogenized composite food prep for infant use put up for retail	RD	x	20	100
116	21050010		Other ice cream & other edible ice, whether or not with cocoa	RD	x	35	100
117	21069090		Mineral waters	RD	x	20	100
118	22021010	Beverages	Other waters, including mineral waters & aerated waters cont. sugar	RD	x	20	100
119	22021090		Beverages containing cocoa	RD	x	20	100
120	22030010		Stout	RD	x	40	110
121	22042100		Grape must with fermentation prevented/arrested by adding alcohol	RD	x	40	100
122	22060090		Undenatured ethyl alcohol of alcohol strength by volume of 80% or higher	RD	x	40	100
123	23091000		Mixed bird seed	RD	x	20	100
124	220410		Sparkling wine	RD		51	100
125	220830		Whiskies	RD		90	110
126	220840		Rum and tafia	RD		90	110
127	220850		Gin and Geneva	RD		90	110
128	220820		Spirits obtained by distilling grape	RD		91	110
129	220860		(1996-) Vodka	RD		91	110
130	220870		(1996-) Liqueurs and cordials	RD		91	110
131	220890		Other	RD		91	110

6

Effective special safeguard mechanisms

Ramesh Sharma

Introduction

The focus of this chapter is on trade remedy measures in response to such external shocks as import surges and depressed import prices. The WTO Agreements include some general trade remedy measures such as safeguards, anti-dumping and countervailing against subsidies. For agriculture, the Uruguay Round agreement also provided a simpler trade remedy instrument in the form of a special agricultural safeguard (SSG) that can be used to respond to such shocks. In the Doha Round, an agreement was reached that there will be a similar safeguard in the form of a special safeguard mechanism (SSM) for use by developing countries.

6.1 External shocks

Agricultural markets are by nature cyclical and subject to wide fluctuations due in part to weather variability. Other sources of instability include subsidies on production and exports in the world markets and anti-competitive behaviour by trading firms (both state-owned and private). All these affect orderly development and the flow of trade. As countries reduce tariffs and bind them at lower levels, they become increasingly vulnerable to external agricultural market instability and to import surges that could wipe out viable agricultural production activities, whether well-established or nascent.[69] Vulnerability to such external shocks is of particular concern

[69] The term "import surge" is often used in a general sense to indicate two different types of external shocks. One is the phenomenon of volume surges where imports rise suddenly and sharply over and above a base level or trend. The other is depressed import prices, mostly due to movements in world market prices, which undermine, or threaten to undermine, an otherwise viable domestic production.

TABLE 6.1
Recent trends in some food product imports in four CARICOM member countries (in metric tons)

Importer	Product	1998	1999	2000	2001	2002	2003	2004
Barbados	Tomatoes	55	429	155	181	165	107	236
Jamaica	Skim milk powder	3 370	2 057	4 469	6 242	5 067	3 991	4 874
Haiti	Chicken meat	17 300	33 440	15 640	16 850	24 142	28 492	17 178
Trinidad and Tobago	Rice	37 327	39 215	25 031	38 424	43 215	31 873	67 971

Source: FAOSTAT

to developing countries that are endeavouring to develop their agricultural potential and diversify production in order to enhance their food security and alleviate poverty.

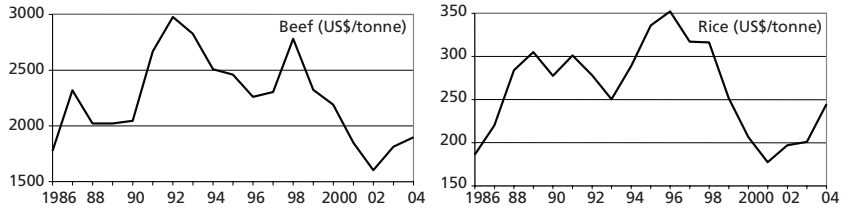
This review draws on various FAO studies and studies by national and international civil society organisations that document increasing numbers of import surges of various food products in developing countries (particularly low-income food-deficit countries (LIFDCs)) since the mid-1990s.[70] Often these reports associate the surge with negative effects on local production and economies. Examples include import surges of chicken in Jamaica, dairy products in Kenya, tomato paste in Senegal and rice in Haiti.

There is widespread concern that these problems will intensify in the coming years as tariffs are further lowered while economies lack alternative safeguards. In several of these cases, imports increased by as much as ten- to twenty-fold within a short period of four to five years, with marked negative impact on domestic production, industry and employment. The phenomenon is relatively frequent for some product groups, notably dairy products, poultry and some other meats, rice, sugar and vegetable oils. As an illustration of the phenomenon of import surges, **Table 6.1** shows recent statistics on the import of four products for four Members of CARICOM.

The other source of external shocks – depressed import prices – is also prevalent. It is common knowledge that the world market prices of agricultural commodities fluctuate markedly. More importantly in the context of safeguards, the problem is when prices remain depressed for a prolonged period before there is an upturn. Some studies have found that the typical length of price slumps for all primary commodities analysed (including non-agricultural products) was 39 months during the past three to four decades, with a range of between 25 months (coconut oil) to 70 months (bananas) (Cashin, McDermott and Scott, 1999; Cashin, Liang and McDermott, 1999). A special safeguard is meant to be an instrument for responding to such situations, and not to address longer-term declining trends in commodity prices. **Figure 6.1** illustrates the above phenomenon for two food products.

[70] Sharma (2005) documents 30 such reports, all for the late 1990s and early 2000.

FIGURE 6.1
Two examples of persistently depressed world market prices (beef and rice)



Such problems seem to have plagued developed and higher-income developing countries as well, as can be seen through the rapid growth after 1995 of anti-dumping and safeguards notifications and disputes.

6.2 Experience with the special safeguard of the Agreement on Agriculture

The problem of import surges was recognized during the Uruguay Round (UR) negotiations and an agreement was reached to create a special trade remedy instrument: the special agricultural safeguard or SSG. Article 5 of the UR Agreement on Agriculture provides the provisions of the SSG, notably how the safeguard is triggered in the face of the import surge or when import prices are depressed, as well as the level of the remedy (additional duties) in such events. It was also agreed that the recourse to the SSG would be limited to those countries that undertook tariffication of non-tariff barriers. As a result, only a total of 39 WTO Members reserved the right to use the SSG for a total of 6 156 tariff lines. Of the 39 Members, 22 were developing countries, with the right to 2 125 tariff lines. The SSG, however, was not used much by these countries. Of these 22, only 6 used SSG during 1995 to 2004, with a total number of triggers of 163.

Barbados is one of the six countries, and the only CARICOM Member, that reserved the right to use the SSG. **Box 6.1** summarizes the experience of Barbados with the application of the SSG.

The 163 triggers used so far by the six developing countries is a fairly small number relative to the potential use of the SSGs. A rough calculation shows that the overall SSG utilisation rate – the ratio of actual use to potential use – was about 1 percent when the potential use by all 22 countries is taken into account, and about 5 percent when the data for the six users only are considered. The utilization rate varied for individual countries: 0.8 percent

BOX 6.1
Experience of Barbados with the application of the SSG

Barbados is the only CARICOM Member (one of six developing countries) that reserved the right to use the SSG. The right was reserved for 37 products at various levels of the tariff line details. The SSG was applied during different periods in 2002 to a total of 22 products or product groups: 12 vegetables, 2 fruits and 8 meat products. The decision to resort to the SSG was taken only around April 2000 when Barbados started to feel the pressure of import surges following the institution of a tariff-only regime, after removing a restrictive import-licensing regime. But it took almost two years to put in place the necessary legislation as well as parameters like trigger prices.

Unlike the case in many other developing countries, at the time Barbados resorted to SSG, it was already applying the full extent of its (relatively high) bound tariffs to the potential SSG products, and thus there was no room left to raise applied tariffs. This experience belied the often-held assertion that a special safeguard is not needed when bound tariffs are high. The Barbados case also showed that the trigger prices for the SSG determined on the basis of 1986–1988 average import prices (as per the rule) turned out to be on the low side, and thus the extent of the remedy (additional tariffs) provided by the SSG was not adequate to check the surge in imports. In view of this, Barbados, as well as other CARICOM Members, has called for more effective triggers for negotiating the SSM, including higher levels of remedies provided by the SSG. It was due to inadequate remedy that Barbados decided to use the price safeguard of the SSG, and not the volume safeguard, in the first place.

Source: Marcus-Burnett (n.d.)

for Philippines, 1 percent for Costa Rica, 2.4 percent for Nicaragua, 7 percent for Republic of Korea and 45 percent for Chinese Taipei.[71]

Eighty-nine of the total 163 triggers (55 percent) were volume SSGs and the rest were price SSGs. Chinese Taipei alone accounted for 84 percent of the volume SSGs; when it is excluded, over 80 percent of the triggers were price SSGs. Four groups of products stand out: primary and processed fruits and vegetables (HS07 and HS08), amounting to 21 percent of the total SSGs; various meat products but dominated by poultry (HS02 and HS16), also

[71] The full official name in WTO of Chinese Taipei is "Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu".

amounting to 21 percent of all SSGs triggered; and rice and beans and peanuts (HS 10 and HS12). The rice figures are dominated by the 24 triggers by Chinese Taipei, which include both rice in grain and various rice products like flour and pasta. There were also some cases where both price and volume SSGs were triggered for the same product, e.g. buckwheat, wheat starch and beans by the Republic of Korea, and preserved poultry meats by the Philippines.

It is not fully clear how a Member decides whether to apply the price trigger or the volume trigger, or indeed not to apply either trigger even when the relevant conditions for the SSG are met. For example, calculations based on import and consumption data for 1995–2002 show that both Costa Rica and Nicaragua could have triggered volume SSGs twice (i.e. the conditions were met), and yet while Costa Rica applied price SSG for rice in 1999 and 2002, Nicaragua did so only once, in 2002.

The SSG experience indicates that in the future (in the context of the SSM), it is unlikely that governments will apply SSGs every time the trigger conditions are met, because applying them is not without costs (especially administrative costs). Authorities might determine that the economy can sustain the shock of a fall in import prices and/or a surge in imports. If the levels of the bound tariffs are high enough, countries can raise applied rates to an extent that offsets the effects of an external shock. There is some evidence that many countries followed this approach, in particular during 1998–2000, when world market prices of several basic foods declined sharply.

However, there is no doubt that the developing countries require a simple and effective trade remedy instrument for responding to import surges, whether or not the instrument is used frequently. During the Doha Round negotiations there was consensus early on that such a special safeguard instrument will be accessible to all developing countries, in the form of the SSM. Once that was agreed, the instrument needed to be designed so that it was effective from the standpoint of the developing countries.

6.3 Designing an effective special safeguard mechanism (SSM)

The key elements for designing a SSM are country eligibility, product eligibility, triggers and remedy. Of these, an agreement has been reached on the first: the SSM will be accessible to all developing countries. Therefore, what follows will discuss the other three elements but mostly on triggers and remedy as these are critical for an effective SSM.

Practically all CARICOM Members (twelve of the thirteen WTO Members), and some additional countries in the Caribbean region, are Members of G33. During early years of the negotiations, the CARICOM Members submitted some proposals on the SSM as a separate country group, but now they negotiate as prominent and active G33 partners. In view of the importance of the G33 alliance for the SSM, its key positions are outlined in **Box 6.2**.

BOX 6.2
Key proposals on SSM by the G33 group

The G33 was initially formed on the eve of the Fifth WTO Ministerial meeting in Cancún (September 2004) by 23 developing countries that constituted an Alliance for Strategic Products and Special Safeguard Mechanisms. By 2006, the Group had 42 Members from all regions. In the WTO negotiations, G33 championed the cause of the SSM and made substantive technical proposals, which served as a starting point in discussions on SSM.

The G33 has always held that the new SSM should be simple, effective and easy to implement. The proposal for a new SSM has as its basic premises: that the general WTO trade remedy measures (such as emergency safeguard) are difficult to apply for most developing countries; that the SSG is not available to a majority of them; that the countries have been very vulnerable to shocks such as import surges and depressed prices; and that their economies are too vulnerable to liberalize without some safety net.

The G33 position has called for:

1) the SSM to be accessible to all developing countries without exception (accepted);
2) similar access for all agricultural products without exception (under negotiation);
3) both price and volume triggers (accepted);
4) a simpler trigger formula (compared with the Uruguay Round SSG), based on *only* three-year moving averages of actual imports; for a price safeguard, the proposal is a three-year moving average of prices as the trigger;
5) the level of the remedy for price surges (i.e. additional duty) to fully offset depressed price; a schedule of remedies for volume safeguards based on the extent of the import surge; and
6) adaptation of the provisions of Article 5.6 of the UR AoA for perishable and seasonal products (adapted).

Source: Based on the G33 proposals on SSM

Product eligibility

The 2004 August Framework Agreement did not specify whether the SSM would be limited to some products only or would apply to all tariff lines. During the negotiations, positions ranged from limited product eligibility based on certain criteria to no restriction whatsoever. The G33 supported no restrictions. The proposal by the United States and a joint proposal by

Argentina, Paraguay and Uruguay proposed some restrictions. The eligibility criteria proposed included only those products that have taken the full tariff cuts as per the standard tariff-cutting formula; those for which new, reduced bound tariffs fall below recent applied rates; and those that are produced domestically or are close substitutes of products produced domestically. Preliminary analysis of these proposal shows that they will severely limit the scope of the SSM for a majority of the developing countries, and thus the effectiveness of the instrument itself. Earlier during the negotiations, other criteria were also suggested such as the contribution of the product to food security, nutrition and rural gross domestic product (GDP) (e.g. CARICOM 2002). However, these ideas were not pursued.

Appropriate references for triggering price and volume safeguards

a) ***Appropriate reference for triggering price safeguard***

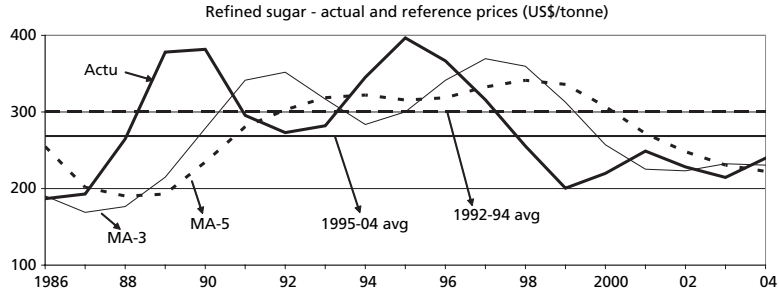
A price trigger mechanism involves three elements or parameters: current import price, reference price, and the trigger decision itself (i.e. the *de minimis* level for triggering the safeguard). Reference price plays the critical role because the frequency of the triggers and their remedy depends on it, in relation to current import prices. In order to encompass various proposals and ideas, the analysis of the effectiveness of a SSM price trigger below is based on an assessment of four types of references:

Fixed reference prices	**Moving reference prices**
1992–1994 average price	3-year average moving prices (MA-3)
1995–2004 average price	5-year average moving prices (MA-5)

Fixed, historical three-year averages are perhaps the most common base periods used in various pillars of the AoA, including the SSG. Such a reference has also been discussed for the SSM. The second reference, the 1995–2004 average, is meant to illustrate the pros and cons of a fixed, historical reference but is based on a longer period. Such a base is much less influenced by short-term fluctuations in commodity prices and is also being considered for some other pillars of the AoA, e.g. blue box and *de minimis* domestic support. The third reference, called Olympic average, is also a fixed base for the implementation period. It is an average of the historical prices after excluding too-high and too-low prices from the series. We base the Olympic averages on the second-lowest five-year prices observed during the 1986–2004 period.[72] The MA-3 and MA-5 references are average prices for the three and five years (respectively) preceding the year when a safeguard

[72] For each product, there are 19 years of price data (1986 to 2004). The price data were first sorted from the lowest to highest. The Olympic average prices were computed based on sixth to tenth lowest prices, i.e. excluding the lowest five price data as well as the top nine.

FIGURE 6.2
Actual world market price of refined sugar along with four references prices



Source: Author.
Note: Although not pinpointed in the figure, a SSM is triggered when actual current prices are below the reference prices (possibly with a *de minimis* provision, e.g. more than 5 percent below). For example, Table 2 shows that for refined sugar, the MA-3 reference triggered eight times. These would be during 1991–1994, 1997–2000, and possibly in 2003 also.

is triggered. Thus, the MA-3 reference price for analysing a trigger in 2003 would be the average of 2000–2002 prices.[73] All analyses commence in 1986.[74]

The ten products for which world market prices are analysed are chicken, beef, skim milk powder, whole milk powder, raw sugar, white sugar, palm oil, soy oil, rice and wheat. These are the products for which import surges are reported to be widespread in recent years. The import prices used are well-known world market prices for the two sugars, two oils, rice and wheat, while unit export values (export value divided by export volumes) of a dominant world exporter are used as a proxy for the world price in the case of chicken, beef and the two milk powders. Although it is anybody's guess how commodity prices will fluctuate in the future, the analysis covers a sufficiently long period of 19 years to capture typical cycles of high and low prices in world markets and thus, we hope, should be valid for the coming years. Lastly, the prices used in the analysis are world market prices while the prices that the SSM will use will be c.i.f. import prices. This could bias the results but most probably to an insignificant extent.

As an illustration for white sugar, **Figure 6.2** shows actual current world market prices and four reference prices. In each case, a safeguard is triggered in the year when the current import price falls below the reference price (subject

[73] The MA-3 reference has been proposed by both G33 and the United States.
[74] Note that for the year 1986, the MA-3 requires statistics from 1983, the MA-5 from 1981.

TABLE 6.2
Number of triggers during 1986–2004 for various reference prices

	Fixed reference prices		Moving reference prices	
	1992–94	**1995–04**	**MA-3**	**MA-5**
Chicken meat	9	5	9	11
Beef	15	7	7	8
Dairy, SMP	9	11	6	6
Dairy, WMP	7	14	7	8
Sugar, raw	11	7	9	10
Sugar, refined	**12**	**8**	**8**	**10**
Palm oil	**10**	**13**	**7**	**9**
Soya oil	**12**	**12**	**6**	**7**
Rice	**9**	**7**	**8**	**7**
Wheat	**8**	**9**	**7**	**7**
All total	**102**	**93**	**74**	**83**
% triggers	*54*	*49*	*39*	*44*

Note: The last row, percent triggers, is the ratio (%) of the number of triggers to 190 (10 commodities times 19 years covered, 1986–2004). In all cases, a 5 percent de minimis level is assumed, i.e. a safeguard is triggered when current prices are below 95 percent of the reference price.
Source: Author

to a 5 percent *de minimis* level). **Table 6.2** shows the number of triggers for ten agricultural products, computed in the same way for 1986–2004.

In evaluating the references, some notion of the effectiveness of the triggers is needed. One criterion is the total number of triggers during the period covered (1986–2004). The other, and more important, criterion is the number of triggers when prices are really depressed, e.g. during 2000–2004 for most products covered in the analysis here. A third criterion could be that a safeguard not trigger too frequently.

With these criteria in mind, it is straightforward to see that a fixed reference price works well only when the base period chosen happened to be the right one relative to the current price trends. Take the case of beef. The 1992–1994 reference triggers safeguards in 15 of the 19 years, which are obviously too many triggers. This occurred because 1992–1994 happened to be the three-year period when beef prices were among the highest. The case of the two sugar prices and soy oil is similar. A reference like 1995–2004 based on several years of price data is less vulnerable to short-term fluctuations in the data and so should give more balanced results. The overall number of triggers with the 1995–2004 reference is fewer than with the 1992–1994 reference. However, even here, as the case of the whole milk powder shows, the reference gives too many (14) triggers because the reference price happened to lie rather high relative to current prices. The outcome is similar for skim milk powder, soy oil and palm oil.

In contrast, the MA references incorporate information on the recent movement of commodity prices and thus do not wander off too far from current prices. The longer the memory (e.g. MA-5) the less sensitive is the trend to sharp but short deviations in prices. The basic idea of using a MA for the purpose of a safeguard is thus sound. When current import prices are trending down, the MA prices also trend down but remain above the actual prices most of the time, thus triggering safeguards.[75] **Table 6.2** showed that the MA-3 triggers 39 percent of the time and MA-5 44 percent of the time, which can be taken as fairly reasonable outcomes.

Because of the longer period averaged, the MA-5 lies above MA-3 when prices are falling. As a result, the MA-5 triggers more frequently than MA-3. Two outcomes in particular make the MA-5 reference more attractive. First, it also triggers safeguards towards the end of a persistently depressed price phase when the MA-3 fails to trigger. For the same reason, the MA-5 also triggers a safeguard when the price begins to trend up, while still at a low level, whereas the MA-3 does not. Second, during the phase when prices decline, the MA-5 reference remains above MA-3; this not only increases the probability of a trigger, it also allows higher-level remedy because the gap between the current and MA-5 prices is higher. (See discussion below). The fact that MA-5 triggers more frequently is considered a disadvantage by some countries; and calculating it does require more statistics.

In order to stress this last point, **Figure 6.3** compares the effectiveness of the MA-3 and MA-5 references during a period when world prices for certain products were persistently depressed (2001–2004).[76] It is clear from the figure that the MA-3 triggers much less frequently than the MA-5. The difference is significant. Indeed, MA-3 does not trigger a single time in 2003 and 2004 for poultry, beef and rice, despite the fact that prices were still depressed. Moreover, for poultry meat and white sugar, MA-3 triggered only once in four years.

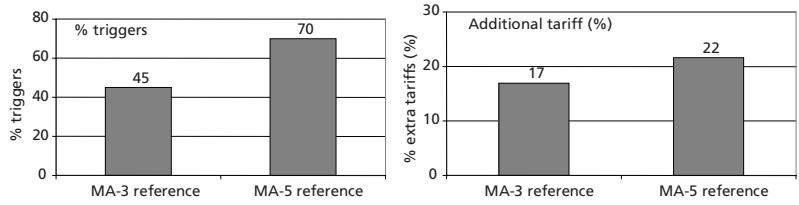
b) ***Appropriate reference for triggering volume safeguard***

In the Uruguay Round SSG, the reference for price trigger was based on fixed 1986–1988 prices while that for the volume trigger was based on moving averages. This made sense because unlike world market prices, which are typically cyclical, import levels often trend up over time and therefore a reference based on a fixed, historical import level would not be appropriate for a trigger. The view that the reference should be variable has also dominated the thinking for the SSM in the Doha Round. According to

[75] When current prices are rising, the MA prices also rise but remain below the rising actual prices. However, a safeguard is not needed for this phase.

[76] This analysis covers only five products (poultry meat, beef, raw sugar, white sugar and rice) because their prices fit this pattern very well.

FIGURE 6.3
Percentage triggers and additional duties for 100% offset during 2001–2004



Note: The analysis in these figures is based on five products (poultry meat, beef, raw sugar, white sugar and rice) for which the world prices were clearly in one of their most depressed phases (2001–2004). The percentage triggers shown in the left panel are the number of triggers during that period for all five products taken together divided by the 20 total potential triggers (5 products over 4 years). The right panel shows average additional duties for periods when safeguards were triggered, again averaged for the five products covered.

Source: Author.

the G33 proposal, a safeguard is triggered when current import levels exceed the average level of imports in the preceding three years.

The following analysis evaluates the effectiveness of four import references encompassing the main proposals currently on the table, based on 10 cases of imports (see **Table 3**).[77]

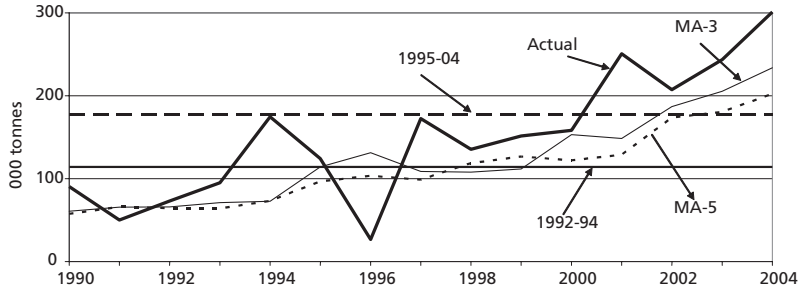
Fixed reference import levels	**Moving reference import levels**
1992–1994 average	3-year average moving prices (MA-3)
1995–2004 average	5-year average moving prices (MA-5)

Of the two fixed references, the 1992–1994 average could be taken as a base period just prior to the implementation of a trade round (in this case, the UR). For the Doha Round, such a period could be 2002–2004. The 1995–2004 reference represents a broader base period than just three years. Such a base, covering the entire implementation period of the AoA, has been proposed for some other elements of the AoA being negotiated.

As an illustration, **Figure 6.4** shows rice imports in Cameroon using actual current imports and four reference import levels. In each case, a safeguard is triggered in the year when the current import level exceeds the reference level (subject to a 5 percent *de minimis* level). **Table 6.3** shows the number of triggers for ten cases thus computed for the period 1990–2004.

[77] The countries and products covered here include the cases in an ongoing FAO study on import surge, based on country case studies.

FIGURE 6.4
Current import levels and various reference imports: the case of rice imports for Cameroon



Note: Although not pinpointed in the figure, a SSM is triggered when current import level is above the reference import level (possibly with a de minimis provision, e.g. by more than 5 percent). For example, **Table 3** shows that for rice in Cameroon, the MA-3 reference triggered 12 times. These would most probably be during 1990, 1993–1995, 1997–1999 and 2001–2004.
Source: Author, based on FAOSTAT trade data.

The effectiveness of various references depends on the behaviour over time of actual imports. For most developing countries, the general trend for the imports to fluctuate around strong rising trends. This explains why the numbers of triggers are so different between the two fixed references (about one-third of the time for the 1995–2004 reference versus two-thirds of the time for the 1992–1994 reference). With very low imports initially, the 1992–1994 reference value is small in comparison with rapidly rising imports in subsequent years, leading to frequent triggers. The debate on the choice of a reference among alternative fixed references is easy to resolve: the reference period cannot be the beginning of the series when imports are expected to trend up strongly. This is in contrast to the case of price triggers because world market prices tend to fluctuate rather than rise or fall steadily all the time.

Table 6.3 also shows that with the moving averages safeguards are triggered about 60 percent of the time. The key issue here is the level of the safety desired, i.e. whether a safeguard should cover the risk of a volume surge 60 percent of the time, or whether the level should be lower, for example 33 percent of the time. There is no easy and objective basis for determining the optimal level of safety that is appropriate for all countries and products because the injury inflicted by a surge depends on the vulnerability of the import-competing sector.

This point is pursued further in Sharma (2006), which shows that the level of safety can be adjusted by assuming alternative values of the *de minimis* level

TABLE 6.3
Total number of triggers during 1990–2004 for various import references

Importer	Product	Moving references		Fixed references	
		MA-3	MA-5	1992-94	1995-04
Cameroon	Chicken meat	8	8	10	3
Ghana	Chicken meat	11	11	13	3
Jamaica	Chicken meat	6	7	7	5
Senegal	Milk powder	6	5	4	6
Sri Lanka	Milk powder	8	10	13	5
Cameroon	Rice	12	13	10	4
Honduras	Rice	12	13	12	5
Nicaragua	Rice	8	7	9	5
Cameroon	Sugar refined	12	11	10	5
Tanzania	Sugar refined	9	8	13	4
	Total	**92**	**93**	**101**	**45**
	% triggers	*61*	*62*	*67*	*30*

Note: MA-3 and MA-5 are 3-year and 5-year moving averages. The last row, % triggers, is the ratio of total triggers during 1990–2004 over potential number of triggers (150: 10 products and 15 years).
Source: Author.

applied. The above results were based on a 5 percent *de minimis* threshold.[78] Higher values reduce the safety rate. For example, a *de minimis* threshold of 15 percent provides a safeguard 51 percent of the time, on average.

6.4 The level of remedy for price and volume safeguards

The word *remedy* refers to the type of measure taken – and to its scale, duration and other characteristics – once a safeguard has been triggered. Examples of measures that might be taken include additional tariffs and quantitative restriction. The important question is the scale of the remedy (for example, how much additional tariff). The three WTO general trade remedy measures apply to a volume surge only and not to import price depressions. The level of remedy in the case of anti-dumping and countervailing measures is grounded on an objective basis: the remedy should not exceed the margin of dumping and the level of subsidy, respectively. In contrast, in the case of the Safeguards Agreement the remedy is prescribed in a general manner. Article 5.1 specifies that a safeguard measure will be applied *only to the extent necessary* to prevent or remedy serious injury and to facilitate adjustment [emphasis added]. In the case of the SSG, the level of the remedy involves variable additional duties linked to the degree of price depression (in the case of the price trigger); and additional duties *up to* a maximum of one-third of current duty (in the case of the volume trigger).

[78] That is, a safeguard is triggered when current imports exceed the MA-3 or MA-5 imports by 5 percent.

TABLE 6.4
Maximum percentage of price depression during 1986–2004 and additional tariff required to offset the price depressions fully (100 percent)

Commodities	Maximum price depression (%)		Additional tariff (%) for 100% offset	
	MA-3	MA-5	MA-3	MA-5
Chicken meat	28	30	39	43
Beef	24	30	32	43
Dairy, SMP	29	26	41	35
Dairy, WMP	31	26	45	35
Sugar, raw	42	45	71	83
Sugar, refined	36	40	56	68
Palm oil	55	53	124	114
Soya oil	44	39	77	65
Rice	31	39	46	63
Wheat	31	31	46	45
Simple average	35	36	58	59

Note: The first two columns are maximum percent price depressions and the last two columns are additional duties required for offsetting these depressions fully (100 percent).
Source: Author

In the context of the SSM, the key question is the same: What level of remedy is appropriate to correct the problem of market disruption due to depressed import prices and import surges?

6.4.1 Remedy for price safeguard

All negotiators have agreed to the proposal that the level of the remedy should depend on the extent of the price depression. Thus, the first step in determining the remedy is to compute the price depression. **Table 6.4** shows the estimates for two references (MA-3 and MA-5) for the ten world-price series covered earlier. The first two columns show the level of maximum price depressions observed in any year during 1986–2004 for MA-3 and MA-5 references. (Note that these are maximum depressions in the entire period; for individual years, price depressions would be lower. The last two columns show computed additional tariffs for offsetting the price decline fully (100 percent). Most of the maximum depressions are in the 30–50 percent range and in no case are they over 60 percent, although that is allowed (for some products not covered here). The overall averages for the ten products are similar, around 35 percent. Both references provide fairly high levels of remedy (additional duties) in most cases, on average about 60 percent for the ten products. The variations for different products and references follow from the trends and fluctuations in the price series. The highest additional tariff (for palm oil) reaches as much as 124 percent for MA-3 and 114 percent for MA-5.

It is very difficult – indeed impossible – to determine in an objective way the most desirable offset rate without taking into account the context

TABLE 6.5
G33 proposal on additional duty for varying intensities of import surges

Band	Surge of:*	Maximum additional duty
1	< = 5%	No duty (*de minimis*)
2	>5% to = <10%	Higher of {50% of the bound rate or 40 percentage points} tariff}
3	>10% to = <30%	Higher of {75% of the bound rate or 50 percentage points tariff}
4	>30%	Higher of {100% of the bound rate or 60 percentage points tariff}

*The extent to which the current import level exceeds the MA-3 import level.
Source: Based on the G33 proposal.

(i.e. the vulnerability of the import-competing sector) in each country. The import-competing sectors in LDCs may be more vulnerable than in non-LDCs and so may require a higher level of the remedy. Given this, the most that could be done for the SSM would be to agree to a high-enough offset rate that applies to all products and countries. The G33 proposal is for up to 100 percent offset. There are no proposals on the table for an offset rate exceeding 100 percent, even if the bound tariffs are very low. It is possible that alternative proposals will be tabled in the negotiations, e.g. 75 percent instead of 100 percent. Additional tariffs for a 75 percent offset would be equal to the 75 percent of the maximum tariffs for a 100 percent offset as shown in the last two columns of **Table 6.4**.

As a final point, note that the SSG remedy provides much lower levels of remedy for the lower range of the price depression (e.g. up to 40–50 percent), after which the duties escalate.[79] For example, additional tariff is only 4 percent of the bound tariff for a price depression of 20 percent, 28 percent additional duty for a depression of 50 percent and 170 percent additional duty for a depression of 80 percent. In no case does the extra duty completely offset the fall in the import price. For a special safeguard mechanism, the SSG remedy is very much on the low side.

6.4.2 Remedy for volume safeguard

In the case of the SSG *volume* trigger, the maximum remedy was fixed at the level of one-third of the ordinary customs duty in effect at the time the safeguard is triggered.[80] (This is different from the remedy in the SSG *price* trigger, where a well-defined schedule was agreed for the remedy such that the additional duty varies with the depth of the price depression.) For the SSM, the G33 proposed an approach similar to the SSG price trigger. In this case the additional duty would vary with the intensity of the import surge (see **Table 6.5**).

[79] The SSG remedy is analysed in depth in Sharma and Morrison (2004).

[80] The language in the text is not specific, but presumably this refers to the bound rate in effect at that time, and not the applied rate.

The rationale for the SSG one-third maximum is not clear. While the remedies proposed by the G33 also have a maximum of one third, the level of the remedy varies with the depth of the problem. Indeed, there is no simple basis for determining how much additional duty is required for a given level of an import surge. This is also a problem commonly faced by panels in the WTO disputes involving the Safeguards Agreement. The guidance the Agreement provides is rather subjective: the remedy should be *only to the extent necessary* to take care of the problem. This is hardly helpful for determining, objectively, the remedy levels.

In trade theory and analysis, however, there is a way of establishing a relationship between changes in domestic price (and tariff) and import levels. The relationship is determined by a behavioural parameter: the elasticity of import demand. The method is explained in detail and illustrated in Sharma (2006). In brief, it was noted that the overall discrepancy between the G33 remedy proposal and that derived from the theory-consistent approach is small for import surges of a magnitude larger than 30 percent, but the gaps are markedly wider for lower levels of the surge, unless import demand elasticities are assumed to be very low. The fact that there are no universally-agreed estimates of import demand elasticities, means that such parameters are very unlikely to be entertained in trade negotiations. Nevertheless, theory provides some guidance and it helps to consider these in determining additional duties, albeit approximately.

6.4.3 A final note on small economies

One consideration for an effective SSM for small economies in particular. Current SSG rules, as well as those being proposed for the SSM, exempt from a remedy response import shipments that are already planned or en route. This makes sense for traders who would be penalized for no fault of their own. However, one characteristic of small economies is that even relatively small shipments can destabilize domestic markets considerably. For them a trade remedy would be effective only when such shipments are also taken into account in the response decision. One way to do this could be to institute a regime of automatic licensing, at least for sensitive products. Such a regime, while not impending normal trade in any way, helps authorities prevent imports that are potentially disruptive. For example, when import licenses issued to traders reached a pre-determined level, e.g. 90 percent of the trigger volume, traders would be warned that further imports could face SSM duties.

6.5 Conclusions

As countries reduce tariffs and bind them at lower levels, they become increasingly vulnerable to external agricultural market instability and to

import surges that could wipe out viable (whether well-established or nascent) agricultural production activities. Vulnerability to such external shocks is of particular concern to developing countries that are endeavouring to develop their agricultural potential and diversify production in order to enhance their food security and alleviate poverty. That the developing countries will need a simple and effective trade remedy instrument for responding to such phenomena has been accepted in the Doha Round negotiations. The response has been the Special Safeguard Mechanism, or SSM.

This chapter has analysed alternative proposals on the table, with a view to identifying a simple and effective SSM. The main findings, summarized below, should serve the needs of the developing countries in general and the concerns of the G33 – including the CARICOM Members – in particular.

With regard to **product eligibility**, some of the recent proposals on the negotiating table that seek to restrict product eligibility could severely limit the effectiveness of the SSM for many developing countries. Many of these countries have a narrow range of production base, i.e. the range of products produced domestically is small. Many of these products are likely to be designated as special or sensitive, in which case they will not be eligible for SSM (according to some proposals still on the table). However, not all special products will have high bound tariffs and could therefore still require an effective trade remedy instrument. SVEs will be affected even more than others because of their narrower range of production.

Regarding **trigger** and **remedy for price safeguards**, fixed reference prices will not be appropriate for a safeguard like the SSM – unless the base period chosen happens by chance to be the right one relative to current price trends. (This was found to be rarely the case.) Both MA-3 and MA-5 were shown to be basically reasonable references, but the MA-5 reference has some additional advantages. It triggers safeguards even towards the end of a persistently depressed price phase when the MA-3 misses out in most cases. MA-5 also provides higher remedy (additional duties) because the gap between the current and MA-5 prices is higher than for the MA-3 prices. Given that commodity prices tend to remain depressed persistently when world prices are on the down side – and that is the period when a safeguard is most needed – the MA-5 reference is more effective.

Regarding **volume safeguards**, the analysis showed very clearly that fixed reference import levels are not appropriate as **triggers** for a safeguard, except by chance. This is because imports follow strong trends in most cases, unlike prices that tend to fluctuate. When using the MA-3 and MA-5 references, the results showed that both references triggered safeguards for the ten products analysed about 60 percent of the time during 1990–2004. Although views are sure to differ on whether this level of safety is on the high or low side, the references nevertheless pass the "effective" criterion. There is one potential problem with both the MA-3 or MA-5 references: safeguards were often

found to be triggered continuously for several (e.g. 6–8) years when imports trend upward steadily, which is a common pattern. This flaw can be rectified by using a higher *de minimis* level in the trigger formula, for example when current imports exceed the MA-3 or MA-5 imports by 15 or 20 (rather than by 0 or 5) percent.

It is very difficult to determine remedy levels (additional duties) in an objective way. Although trade theory provides guidance on appropriate levels of additional duties to remedy given levels of surges, the method requires a parameter such as import demand elasticity for the product in question. This is a behavioural parameter with no universally-agreed values for various products – which renders it somewhat impractical in a negotiating context. Nevertheless, the insights the model provides are useful and should be taken into account to the extent feasible.

Finally, because small economies are more vulnerable to shocks from even small individual shipments, the SSM rule should permit them to take into account *planned* and *en route* shipments when making decisions on responses – possibly through a licensing regime for sensitive products.

References

Action Aid. 2002. *Farmgate: The developmental impact of agricultural subsidies* (available at www.actionaid.org.).

APRODEV. 2004. *The effects of massive dumping of frozen poultry imports from the EU into Cameroon and West Africa.* Copenhagen, APRODEV.

CARICOM. 2002. *WTO negotiations on agriculture - a special agricultural safeguard mechanism for developing countries and small developing economies.* Negotiating proposal on behalf of Members of the Caribbean Community (CARICOM), Special Session of the Committee on Agriculture, informal meeting, 4–6 February (available at http://www.moa.gov.jm/policies/).

Cashin, P, Liang, H. & McDermott, C.J. 1999. *How persistent are shocks to world commodity prices?* IMF Working Paper No. WP/99/80. Washington, DC, IMF.

Cashin, P., McDermott, C.J & Scott, A. 1999. *Booms and slumps in world commodity markets.* IMF Working Paper No. WP/99/155. Washington, DC, IMF.

Ceesay, M., Njie, M. & Jagne, M. 2005. *The effects of importation of poultry, meat and eggs on small-scale poultry producers in the Gambia.* Study commissioned by Action Aid (The Gambia) and Oxfam International (The Gambia).

Christian Aid. 2005. *For richer or poorer. Transforming economic partnership agreements between Europe and Africa*. April (available at www.christianaid.org.uk).

FAO. 2000. *Agriculture, trade and food security. Issues and options in the WTO negotiations from the perspective of developing countries.* Volume II, Country case studies. Rome (also available at www.fao.org/trade).

FAO. 2003a. *WTO Agreement on Agriculture implementation experience: developing country studies.* Rome (also available at www.fao.org/trade).

FAO. 2003b. *Some trade policy issues relating to trends in agricultural imports in the context of food security.* Committee on Commodity Problems, CCP 03/10. Rome (also available at http://www.fao.org/unfao/bodies/ccp/ccp64/ccp64-e.htm).

Kirton, C. & Witter, M. 2006. *Liberalization of the Jamaican economy and the impact of import surges on dairy, poultry and onion production*. Draft consultancy report submitted to FAO.

Marcus-Burnett, E. n.d. *Experience with the current WTO SSG. The case of Barbados.* (mimeo)

Oxfam. 2002. *Milking the CAP. How Europe's dairy regime is devastating livelihoods in the developing world.* Oxfam Briefing Paper number 34. December (available at www.oxfam.org.uk/ what_we_do/issues/trade/bp34_cap.htm).

Oxfam. 2003. *Dumping without borders. How US agricultural policies are destroying the livelihoods of Mexican maize farmers.* Oxfam Briefing Paper No. 50. August (available at www.oxfam.org/en/ files/bp59_unctad_rural_poverty_trap.pdf).

Oxfam. 2004. *A raw deal for rice under DR-CAFTA. How the Free Trade Agreement threatens the livelihoods of Central American farmers.* Oxfam Briefing Paper number 68. November (available at www.oxfam.org.uk/what_we_do/issues/ trade/bp68_rice.htm).

Sharma, R. 2005. *Overview of reported cases of import surges from the standpoint of the analytical content*. FAO Import Surge Project Working Paper No. 1. May.

Sharma, R. 2006. *Triggers and remedy for Special Safeguard Mechanism.* Commodities and Trade Division. Rome, FAO.

Sharma, R. & Morrison, J. 2004. *Considerations for the design of a Special Safeguard Mechanism.* Paper presented at the International Agricultural Trade Research Consortium summer symposium. 19–21 June, Seville, Spain.

Sharma, R., Nyange, D., Duteutre, G. & Morgan, N. 2005. *The impact of import surge. Country case study results for Senegal and Tanzania.* FAO Commodity and Trade Research Working Paper No. 11. Commodities and Trade Division. Rome, FAO (also available at http://www.fao.org/es/ESC/en/ 41470/index.html).

7

Sugar trade in the Caribbean

Piero Conforti and J. R. Deep Ford

Introduction

Preferential trade is very important in the world sugar market. The Africa, Caribbean and Pacific Group of States (ACP) – especially the Caribbean group – have been the most important foreign suppliers of the European Union (EU). At the same time, the sugar industry is a core economic activity for a number of economies in the Caribbean, including Guyana, Jamaica, Belize, Barbados and Trinidad and Tobago.

The industry in the Caribbean and its linkages with Europe have deep historical roots. The perishability of the raw product, coupled with the uncertainty of the means of transport, called for strong regulation of the market. At the beginning of the nineteenth century France was already operating an import duty system, which regulated import flows in order to ensure timely supplies of raw cane to the local processors. Processed sugar in excess of domestic consumption was exported with a subsidy corresponding to the duty paid on the import of the raw cane. Around the mid-nineteenth century, when technology permitted sugar production from beets, a quota system with guaranteed prices was already active in Germany, and a number of European nations – including France, Belgium, Netherlands and the United Kingdom – had already started discussions about the need to achieve a coordinated reduction of import duties.

About one century later, the Common Agricultural Policy (CAP) of the EU inherited this same approach. The Common Market Organization that had been active up to 2005 was based on quotas, guaranteed prices, a highly administered import flow and subsidized exports, with foreign trade supplementing local beet production to secure a timely supply of raw products for domestic processors. In the late 1970s, the attempt to launch an international commodity agreement on sugar resulted in failure. This was due to, among other reasons, the unwillingness of the European countries – heavily influenced by the local industry – to constrain the EU domestic

support regime, whose corollary are administered trade flows. Largely as a reaction to the collapse of the agreement the United States introduced a tariff rate quota system for sugar.

Thus, access into the two major sugar markets became tightly administered. Imports into the European market could take place virtually through preferential arrangements only, while exports were subsidized. This situation persisted until very recently; reform of the EU domestic regime and the prospective implementation of the Everything But Arms (EBA) initiative in the sugar sector are now forcing a change in trade flows. Sugar market reform was promoted in 2005, and the implementation of the provisions of the EBA initiative for sugar is due to be completed in 2009, which will extend full access to the least-developed countries (LDCs) in the EU. These changes will deeply affect the position of the current exporters to the European market.

This chapter reviews the perspectives of the sugar sector in the Caribbean in relation to these two policy changes, the implementation of the EBA initiative and the reform of the Common Market Organization in the EU. Section 7.1 will briefly review the present organization of sugar trade between the Caribbean countries and the EU. Section 7.2 will discuss the expected outcomes of these policy changes, with references to the activities underway in a number of major sugar producers in the region. Concluding remarks and an overall perspective are presented in the final section of the chapter.

7.1 Sugar production and exports to the EU from the Caribbean

Over the last 30 years, world sugar production has been dominated by the EU, Brazil and India, while on the sugar consumption side the major players include the EU, the United States, India, the Russian Federation and China. The total size of the market is around 100 million tonnes per year. Brazil is by far the dominant player in world sugar trade; its exports have increased fourfold from the 1970s, and its current costs of production are among the lowest worldwide. Australia, Thailand, Cuba and India are other major and competitive exporters, while the EU is both an important exporter and importer. The Russian Federation, China, the United States, Japan, the Republic of Korea and Canada are among the other major importers (FAO, 2003).

Sugar is an important income source for developing countries, and trade takes place for a significant share on the basis of agreements and/or preferential schemes. Tariffs on sugar are generally high in developed countries, and particularly in the EU, while they are usually lower in developing countries.

In the Caribbean, the main sugar producers are Barbados, Belize, Guyana, Jamaica, Trinidad and Tobago and Saint Kitts and Nevis. Output amounts to about 8 million metric tons (tonnes) of cane (**Table 7.1**), and shows a decrease over the last decade in the three smaller producers, while it appears altogether stable in Belize, increasing in Guyana and decreasing in Jamaica.

TABLE 7.1
Sugar cane output in the main Caribbean producers (000 tonnes)

	1990-92	1996-98	2002-04
Barbados	574	518	381
Belize	1 114	1 194	1 124
Guyana	2 905	2 965	3 000
Jamaica	2 583	2 432	1 947
Saint Kitts and Nevis	217	254	193
Trinidad and Tobago	1 357	1 293	931

Source: FAOSTAT

TABLE 7.2
Export of sugar (000 tonnes raw equivalent)

				Average shares by destination (2002-04)				ACP sugar protocol quotas
	1990-92	1996-98	2002-04	EU	N. America	Regional	Others	
Barbados	50.7	51.5	35.4	0.9	0.1	0.0	0.0	31.5
Belize	92.9	104.3	93.5	0.6	0.3	0.1	0.0	40.6
Guyana	169.7	246.7	321.1	0.6	0.0	0.4	0.0	160.0
Jamaica	146.6	173.4	138.6	0.7	0.3	0.0	0.0	119.3
Saint Kitts and Nevis	20.4	23.9	9.9	0.7	0.1	0.3	0.0	15.7
Trinidad and Tobago	59.4	70.1	34.9	0.6	0.1	0.3	0.0	47.2

Source: FAOSTAT

Exports amount to about 600 000 tonnes (**Table 7.2**), the vast majority of which comes from Belize, Guyana and Jamaica (88 percent in the last period). It should be noted that while Guyana is increasing its sales abroad and Belize and Jamaica look fairly stable, the smaller producers show a significant decline of their trade in the last period.

For all Caribbean producers the EU is the most significant export market. This is still particularly the case of Barbados and Jamaica, and was even more the case for all Caribbean countries in the past. Within the EU, the United Kingdom is by far the main destination, so that the processing industry of that country is today rather dependent upon raw sugar sourced in the Caribbean.

Belize and Guyana are deemed to be the two most potentially competitive sugar producers in the region, and could survive in an open world market. Currently, the average level of production cost in the two countries is slightly below the protected price paid in the EU. Trinidad and Tobago and Jamaica could also improve their level of competitiveness through diversification and considerable capital investment, while the probability of success appears lower in the case of Saint Kitts and Nevis, where production was in fact ceased as of 2004705.

As mentioned, the main original aim of preferential imports into the EU from the ACPs was that of supplementing local beet production to secure supplies for domestic processors, while part of the surpluses resulting from domestic consumption were re-exported with a subsidy. Most-favoured nation (MFN) importers face a high duty of €419/tonne for white sugar, plus an additional duty that is variable depending on a world-price reference level. After 1994, the additional duty was of €115/tonne, so that the overall tariff faced by MNF importers was around €513/tonne. The Uruguay Round Agreement on Agriculture succeeded in preventing this level being exceeded.

As for preferential schemes, the ACP Sugar Protocol constitutes to date the primary channel through which sugar enters the EU. Signatories are 19 ACP countries plus India; each of them is entitled to a fixed quota within which it can export duty-free at a guaranteed minimum price corresponding to the EU domestic price minus the aid granted to European processors. Among the signatories, the largest share is that of Mauritius, followed at a lower level by Fiji, Guyana and Jamaica (**Table 7.3**). Some countries have not exported under the protocol recently, despite being signatories; this is the case of Suriname and Uganda.

The Sugar Protocol was first signed in 1975 with the Lomé Convention, and was increased progressively with the enlargements of the EU. Recently, the protocol has been renewed with the Cotonou Agreement, signed in 2000 and applied from 2003. Its future prospects are linked to negotiations on the Economic Partnership Agreements, and are not yet known.

Among the Caribbean countries, in 2002–2004 total exports from Barbados came very close to the upper limit set by the Sugar Protocol. Both Saint Kitts and Trinidad, however, did not fill their quota (**Table 7.2**).in the last few years, even though the high pre-reform EU price was still applied.

The second most important scheme for importing sugar into the EU was the Special Preferential Sugar, which covers a quota of about 200 000 tonnes and was introduced with the accession of Portugal into the EU in the 1980s. Imports under this quota are duty-free, and are activated when the EU domestic supply plus the ACP Sugar Protocol imports are not sufficient to cover the maximum supply need defined by the European domestic processors.

TABLE 7.3
The ACP Sugar Protocol

	Quota %
Barbados	2.4
Belize	3.1
Congo	0.8
Côte d'Ivoire	0.8
Fiji	12.6
Guyana	12.2
India	0.8
Jamaica	9.1
Kenya	0.4
Madagascar	1.0
Malawi	1.6
Mauritius	37.4
Mozambique	0.5
St Kitts/Nevis	1.2
Suriname	0.0
Swaziland	9.0
Tanzania	0.8
Trinidad/Tobago	3.6
Uganda	0.0
Zambia	0.6
Zimbabwe	2.3
TOTAL (tonnes)	1 311 231

During recent years, Caribbean country access to this channel has been reduced due to the increase use that African exporters have made of it.

Smaller tariff rate quotas (TRQs) have been granted by the EU to other countries. Brazil and Cuba hold a duty-free import quota of 80 000 tonnes per year, while under the Balkans initiative Albania, Bosnia, Croatia, the Former Yugoslav Republic of Macedonia, Serbia and Montenegro have a quota of about 300 000 tonnes.

The EBA involves duty-free access on all products exported by the LDCs into the EU, with the exception of arms. The initiative is part of a number of extensions of the Generalized System of Preferences (GSP) regime undertaken by the EU, together with the "GSP Plus".[81] For sugar, duty-free and quota-free access is granted from 2009; the implementation schedule up to that year implies: (i) a progressive increase of the duty-free quota between 2001 and 2006, with the quota going from 75 000 to 200 000 tonnes; and (ii) a progressive reduction of the out-of-quota tariff between 2006 and 2009, so that in fact the quota becomes redundant at the end of the period.

A number of factors led to the widely held conclusion that the existing Common Market Organization was no longer sustainable, either domestically or internationally. Domestically, after the Agenda 2000 Reform of the CAP and the 2003 Fishler reform which de-coupled most supports from production, the sugar sector had remained one of the few that was still organized according to the pre-reform logic, implying a high degree of price guarantees coupled with border protection. Internationally, the WTO negotiations (before collapsing in July 2006) raised expectations of a substantial cut in the MFN tariff maintained by the EU. Together with the implementation of the EBA, this could potentially displace a significant component of the domestic supply. Moreover, a WTO panel requested by Australia, Brazil and Thailand established in 2005 that export of the EU sugar produced domestically in excess of the quotas – the so-called C-sugar – was implicitly cross-subsidized by the explicit subsidies granted on the exports of sugar produced within the quotas. Complying with this provision implies in fact a substantial cut in the amount of sugar that the EU can export with subsidies.

These pressures led the EU Council of Ministers to adopt, in November 2005, a reform of the EU Common Market Organization for sugar, which implies the following changes:

- Intervention is abolished and substituted with a private storage scheme that triggers at a level 36 percent lower than the previous intervention price.
- There is a switch to a single quota, and an increase of the quota in the countries that used to produce in excess of the quotas; additional

[81] The GSP Plus provides duty-free access for all products from "countries with special development needs" that implement international conventions on the environment, as well as on human and labour rights.

quotas can be purchases, and the proceedings are employed to finance a restructuring scheme for those processors that leave the industry. (A significant number of processing plants ceased production after the approval of the reform.)
- National-level funds (*envelopes*) were established to grant direct payments to farmers.

This reform of the domestic regime paves the way for a reduction in the applied MNF duties, since it is necessary to defend only a (lower) excess of the domestic price above the world price. Moreover, the reform promotes a reduction in the domestic supply, together with a selection of the more cost-efficient producers in Europe, through the additional production quotas that can be purchased. This eases both the application of the EBA initiative, which is expected to increase imports into the EU, and the limitation of subsidized exports required by the WTO panel.

However, the reform also affects the position of the present exporters into the EU market, and particularly of the Caribbean countries, which are going to be affected in two ways. First, even if the present ACP sugar protocol quotas are maintained, so that each ACP country maintains the right to export an unchanged physical amount, the possibility will increase for other exporters to compete in the EU market for that amount, due to the increased presence of other (potentially more competitive) producers from the LDC group. In other words, any quota assumes the character of an opportunity, rather than of a quasi-guaranteed export, as was the case in the past.

Second, the change in the price conditions brought about by EU domestic reform makes the EU market less attractive in terms of the rent that can be extracted from the preferential exports, while the degree of competition from relatively low-cost producers in the group increases. For a Caribbean ACP it may become more difficult to utilize even the Sugar Protocol quota – assuming these are maintained – because part of the EU market may be supplied by lower-cost ACP and/or LDC competitors.

Therefore, the combined effect of the implementation of the EBA and EU domestic reform tends to erode the existing ACP preferences, both because competition among the ACP countries is likely to increase due to the reduced prices in the EU, and because thanks to the EBA more exporters will access the EU market duty-free for potentially unlimited amounts.

7.2 Quantifying the effects of the prospective policy changes

This section is aimed at shedding light on the likely impact of the changes to be expected from such preference erosion, and at understanding which countries are going to be more affected. A relatively larger number of exercises have focussed on the effect of the EBA initiative, while few studies have focussed on the combined effect of the EBA and EU domestic reform.

Everything But Arms (EBA)

Concerning the potential impact of EBA, UNCTAD (2005) indicates that potential increases in sugar exports to the EU are likely to be limited due to the constraints arising from natural resource endowments and transport infrastructure, which are analysed in detail through country case studies. Among the sugar producers, Ethiopia, Tanzania, Nepal and Burkina Faso (for whom the EBA quota already accounts for a large share of sugar exports) may benefit significantly from the initiative. A similar conclusion is reached by Stevens and Kennan (2001), who suggest that total LDC sugar exports may reach some 300 00 to 500 000 tonnes on top of the EBA quota, once unlimited duty-free access is granted. The results of van Berkum, Roza and van Tongeren (2005) are comparable to the above studies, as they suggest that LDC exports to the EU under the EBA initiative may reach 450 000 tonnes. However, a less conservative perspective is offered by Witzke and Kuhn (2003), who calculate that LDC sugar exports to the EU market may reach 2 million tonnes in 2011. Many studies do not adequately cover important issues relating to international trade in general, and specifically the trade costs countries face, some of which may be prohibitive for LDCs.

EU domestic reform

Among the few studies focusing on the impact of EU domestic policy reform, Witzke and Kuhn (2003) simulate a policy scenario including a 38 percent reduction in EU domestic support price, against a baseline that incorporates the effect of the EBA initiative and its impact on the ACP countries.[82] The baseline shows an increase in the world reference price following the application of the EBA initiative, together with a reduction in EU domestic production and a huge increase in imports from the LDCs, which would reach 2 million tonnes by the end of the baseline horizon. Against this background, the reduction of the EU domestic price leads to a further contraction of the over-quota domestic production, coupled with a small additional world price effect. The simulation suggests that major losses would arise for the EU sugar processing industry, especially in the countries producing within the A and B quotas.

Another study (Conforti and Rapsomanikis, 2006) analyses a scenario that includes both the reform of the EU domestic sugar policy and the EBA initiative, taking into consideration the types of trade costs that arise from

[82] That exercise was based on the combined use of a set of models including a partial equilibrium global model – the WATSIM model – generating impacts on trade flows, whose detailed welfare effect in the EU was analysed with a model including individual member countries' models, the CAPSIM model. Further details on land allocation in individual areas were captured by the CAPRI model, while detailed responses of individual farmers were studied through farm management models (Witzke and Kuhn, 2003).

both tariff and natural trade barriers. The relationship between trade costs and trade flows is represented by the notion of gravity, which postulates that after controlling for size, trade between two countries depends on the magnitude of trade costs.

The results indicate the likely effect on trade flows between the ACPs, the LDCs and the EU and the rest of the world (**Table 7.4**). ACP countries that today export under the Sugar Protocol and the Special Preferential Sugar protocol are expected to be affected primarily in terms of the latter, since most of it is likely to be utilized by the more competitive LDCs. This has already happened in the recent past. In the coming years, the duty-free Special Preferential Sugar exports will be supplemented by the EBA provision. This imply that exports from the LDCs to the EU will become duty-free-quota-free from 2009. Increasing competition for the Special Preferential Sugar quotas – later to fall under theEBA –is evident from the projecteddisappearance (in 2011–2013) of exports under this title from the ACPs that are not also LDCs. There will be a corresponding increase in the exports, particularly from those LDCs in which production costs are low enough to be comparable to those of the major world producers.

Concerning the Sugar Protocol, the study assumes that it is likely to be maintained in the future, which would allow the relatively more cost-competitive ACPs to keep exporting this quota into the EU after implementation of the reform. However, in some countries this share would be reduced by competition both within and outside the ACPs. Among the Caribbean countries, Barbados is projected to experience a steep decline within this quota. Among the other countries, the LDCs that are not currently exporting under the Sugar Protocol and Special Preferential Sugar protocol are likely to gain significant market shares. This is the case for Ethiopia, Mozambique and Sudan, and the group of "other LDCs" comprising Mauritania, Chad, Sierra Leone and Somalia.

Altogether, net additional exports into the EU market following implementation of the EBA is projected to reach about 500 000 tonnes.

Reductions in the EU domestic price are likely bring about a reduction of the value of the exports into the European market (**Table 7.5**). This is a loss that will accrue to those agents that are today capturing the rent generated by the preferential regime. The major effect in these terms is exerted by the reform of the EU domestic market, rather than the implementation of EBA. Exports from Barbados will suffer the most losses among the Caribbean countries, but the value of trade flows will drop significantly for all the major producers. Depending on how such a decrease is reflected in unit production costs, this will generate changes in the internal composition of production. Smaller farmers, who are likely to have higher production costs, will probably be the first to be forced out of the market after the change in price conditions.

TABLE 7.4
Raw sugar exports of ACP and ACP-LDC countries (000 tonnes)

Destination	EU under Sugar Protocol			EU under SPS protocol, then EBA			Rest of the world		
	1995-97	2001-03	2011-13	1995-97	2001-03	2011-13	1995-97	2001-03	2011-13
Barbados	52.5	41.3	5.4	2.4	-	-	0.1	-	-
Belize	40.3	40.3	40.3	9.6	5.2	-	57.4	57.0	33.7
Cote d'Ivoire	10.6	10.6	10.6	12.0	9.1	-	26.5	42.0	30.7
Dominincan Rep.	-	-	-	-	-	-	314.8	173.5	121.8
Fiji	172.5	172.5	172.5	35.1	19.3	-	153.1	83.0	76.4
Guyana	166.3	166.3	166.3	37.3	17.8	-	39.8	114.9	63.7
Kenya	-	-	-	-	10.3	12.2	0.0	6.2	7.3
Jamaica	123.9	123.9	123.9	28.5	17.4	-	21.0	-	12.6
Trinidad/Tobago	45.7	45.7	45.7	10.4	5.5	-	3.4	0.6	-
Swaziland	123.0	123.0	123.0	56.8	32.4	-	215.4	364.6	434.7
Mauritius	512.4	512.4	499.7	39.2	27.0	-	76.0	22.2	-
Zimbabwe	31.5	31.5	31.5	32.4	23.4	-	48.5	48.6	56.4
Burkina Faso*	-	-	-	-	10.9	17.0	-	5.3	-
Ethiopia*	-	-	-	-	15.0	113.6	43.7	74.2	-
Madagascar*	11.2	11.2	11.2	12.2	12.0	27.0	0.0	1.0	0.9
Malawi*	21.7	21.7	21.7	13.9	9.3	83.0	23.4	58.8	-
Mozambique*	-	-	-	-	8.3	54.7		133.0	212.0
Tanzania*	10.6	10.6	10.6	14.9	11.6	39.6	-	-	-
Sudan*	-	-	-	-	18.4	93.6	81.5	223.3	154.4
Zambia*	-	-	-	12.0	9.8	38.3	11.6	130.2	142.8
Total ACPs	**1**	**1**	**1**	**316.7**	**262.7**	**479.0**	**1**	**1**	**1**
	322.3	**311.2**	**262.6**				**116.0**	**535.5**	**335.0**
Bangladesh	-	-	-	-	8.9	12.3	-	6.1	2.7
Other LDCs	-	-	-	-	20.0	49.8	-	-	-
Total LDCs	**43.6**	**43.6**	**43.6**	**52.9**	**124.1**	**490.6**	**160.1**	**628.9**	**500.8**

* ACP sugar exporters classified also as LDCs
Source: Conforti & Rapsomanikis, 2006

The importance of the specific organization of production and trade in determining the outcome of the policy changes suggest the necessity to consider in more details the individual Caribbean countries, going beyond the aggregated results of the projections. According to Garside *et al.* (2006), most of the benefit from the trade preferences in the Caribbean has accrued, to date, to the local producers. Moreover, mills in the region are largely locally owned. This implies that the burden of the erosion of preferences will fall on local producers.

Garside *et al.* (2006) also consider the countries' position in terms of their dependency upon the sugar quota and their competitiveness. In the Caribbean there are three countries in which the share of sugar in the gross domestic product (GDP) is relatively high: Belize, Guyana and Jamaica. The former two have devised plans to reduce production costs and to diversify production, in

TABLE 7.5
Changes in the value of exports (100 = 2001-03)

	2011-13b#	2011-13s#		2011-13b#	2011-13s#
Belize	92	59	Ethiopia*	787	504
Trinidad and Tobago	92	60	Burkina Faso*	245	157
Swaziland	82	53	Tanzania*	409	262
Mauritius	95	62	Sudan*	553	339
Jamaica	91	58	Malawi*	370	225
Guyana	94	60	Zambia*	343	242
Fiji	94	60	Madagascar*	102	85
Côte d'Ivoire	56	36	Total ACPs	115	74
Barbados	15	9	Bangladesh *	100	64
Zimbabwe	60	38	Other LDCs	265	170
Mozambique*	6 959	4 542	Total LDCs	452	290

* ACP sugar exporters classified also as LDCs
#=2011-13b = baseline; 2011-13s = EU domestic reform
Source: Conforti & Rapsomanikis, 2006

order to be able to compete in a more open environment. In Jamaica, plans have been made recently to diversify toward ethanol production, but until now the industry has suffered from high inefficiencies.

On the contrary, quota dependency is lower in Barbados, Jamaica and Trinidad. These are the countries in which production is more likely to be reduced; Saint Kitts, whose level of dependency upon the sugar quota is intermediate, has already ceased exports as of marketing year 2004/05, due to the significantly high level of the production costs.

There is need for more research in this field. The ACP Sugar Group has estimated that the population that would be affected by the sugar policy change in the Caribbean, based on employment figures in the sector, is more than 60 000 people.

7.3 Conclusions

Substantive changes are taking place in the world sugar market that will affect the Caribbean countries. The most likely outcome appears to be increasing competition in the EU market after the implementation of the EBA initiative, among the ACP as a whole and between Caribbean countries, and from LDCs. This will inevitably displace production from countries where production costs are higher. Assessments of the consequences of the implementation of the EBA in the context of the EU domestic market reform show variable figures on how dramatic the displacement will be, ranging from about half a million to about two million tonnes of additional exports into the European market.

The prospective policy changes can be framed as movement towards a more market-oriented regime, originating from the EU reform. For a number of reasons, policy control over the European sugar market is being gradually reduced, and this inevitably leads to changes in the channels through which raw and semi-raw materials are sourced in Europe. The consequence for the Caribbean is that sugar production should no longer be considered a protected domain operating on the basis of a number of pre-determined preferential markets, but rather as an industry that must survive in a wider and more competitive environment. Caribbean sugar is called upon to perform as an independent actor, and to devise its own strategies to survive in the global market.

At the same time, it is fair to argue that since the industry in the Caribbean has been so strongly tied to the EU sugar sector through deep policies such as preferential trade quotas and a guaranteed price, the switch toward being more independent should be facilitated through the provision of resources, on a temporary basis, aimed at promoting changes that make it sustainable. The Economic Partnership Agreements are one forum in which such resources should be negotiated. It is clear, however, that the effort and the commitment of the local institutions in the individual countries are by far the most important ingredient of any successful strategy. In this respect, the distinction made by Garside *et al* (2006) between high- and low-quota dependent countries is interesting. On the basis of qualitative analysis, they indicate that the latter show a higher level of interest and commitment than the former towards making the required adjustments.

The future for the Caribbean of the sugar market appears bleak for at least three reasons.

1) Sugar *exports into the EU* will most probably be displaced as a consequence of EU domestic market reform.
2) Growth in the *demand for sugar* is stagnant in developed countries and could decrease as sugar is targeted as a cause of obesity. The trend arises from saturation and there are no foreseeable reasons for it to reverse. In middle-income countries, moreover, the growth of sugar consumption is likely to slow progressively in coming years for the same reasons.
3) *Product differentiation* – in theory an option to be taken into consideration – is not straightforward for sugar. Sugar is in essence a bulk product, and there are relatively limited possibilities for differentiation. There is some (albeit only patchy) evidence available to suggest that specialty markets – including fair trade, organic, environmental-friendly and other peculiar type of products, are a possibility – although competition is significant. It appears unlikely that any of these markets can greatly expand in the future. Alternative end uses for sugar, mainly in the area of bio-fuel, have recently gained momentum, and many of these appear promising from both the environmental and the energy-efficiency perspectives, because

self-sufficient production plants are available. Jamaica has already planned the development of this industry. However, technology in this area is evolving rapidly and so any project would require a serious assessment of the economic viability of the specific processing plant that is installed, in relation to the scale of primary production; and of the extent to which the switch to this technology implies additional conversion costs in order to utilize the bio-energy produced.

Given this environment, opportunities should be pursued to minimize social consequences while building a long-term strategy for the sugar industry in the Caribbean. The strategy should look at the following four areas:

1) *The regional market.* The common external tariff should be maintained, even if it cannot continue to provide full protection for the regional market. This can be achieved only through a political decision that recognizes the social cost of adjustment in the sector. CARICOM could also select sugar as a sensitive product.
2) The *EU–ACP relations and the Economic Partnership Agreements.* Within this framework, an adequate compensation should be negotiated for damages arising from the reduction in the price paid for the ACP quota up to now.
3) *The GSP framework*. This still offers grounds for maintaining a certain degree of preference compared to some of the major sugar producers, despite reduced benefits arising from lower tariffs. GSP should provide additional room for manoeuvre in terms of time and resources to be invested in improving the production performance and reducing production costs.
4) *Other forms of assistance aimed at supporting investment in product differentiation.* Within the limits highlighted above, new products should be developed, and efforts should be made to make productive conversion toward other agricultural activities.

References

Conforti, P. & Rapsomanikis, G. 2006. Preferences erosion and trade costs in the sugar market: the impact of the Everything But Arms Initiative and reform of the EU policy. Forthcoming in *Journal of International Agricultural Trade and Development.*

FAO. 2003. *Agricultural commodities: profiles and relevant WTO negotiating issues.* Commodities and Trade Division. Rome.

Garside, B., Hills, T., Marques, J.C., Seeger, C. & Thiel, V. 2005. *Who gains from sugar quotas?* ODI-LSE Destin DV406 Research project (available at www.odi.org.uk/iedg/projects/ EU_banana_sugar_markets/ODI_LSE_SugarProject_2005.pdf).

Stevens, C. & Kennan, J. 2001. *The impact of the EU's "Everything But Arms" proposal: a report to Oxfam.* London, Institute of Development Studies.

United Nations Conference on Trade and Development (UNCTAD). 2005. *Effects of the Everything But Arms initiative on the sugar industries of the least-developed countries*. UNCTAD/DITC/COM/2004/6. Geneva.

Van Berkum, S., Roza, P. & van Tongeren, F. 2005. *Impacts of the EU sugar policy reforms on developing countries*. Report 6.05.09. The Hague, Agricultural Economics Research Institute (LEI).

Witzke, H.P. & Kuhn, A. 2003. *Assessing reform options for the Sugar Common Market Organization – quantitative analyses with interlinked models*. Paper presented at the 43 Jahrestagung der Gesellschaft für Wirtschafts- und Sozialwissenschaften des Landbaues e.V. (29 September–1 October 2003). Stuttgart-Hohenheim (available at http://www.uni-hohenheim.de/i410b/download/gewisola/papers/kuhn.pdf).

8

Banana trade in the Caribbean

Claudius Preville

Introduction

The banana sector has long been a source of income and livelihood security for communities in several Caribbean countries. Ever since the demise of sugar as a major export crop from the Windward Islands to the United Kingdom in the 1950s, bananas have assumed prominence as one of the few viable export alternatives. The commodity was responsible for generating a significant part of the region's foreign exchange and provided much-needed income to ordinary farmers as a means of addressing their food security needs. Yet, the banana production and exporting systems have not generally been globally competitive and remain dependent on the preferential market access that they enjoy, that is, tariff- and quota-free market access into the European Community (EC) market. This preferential market access has been steadily eroded over time and the region now finds itself in the precarious position of not being able to meet the employment and food security needs of its rural population.

This chapter reviews the role of the banana sector and particularly its contribution to rural development and food security. It addresses banana trade policy issues from a Caribbean regional perspective and draws mainly on production and trade experience within the Organisation of Eastern Caribbean States (OECS) countries where the banana industry has predominated in the economies. The chapter draws on a range of existing analytical studies on the impact of current banana sector policies on world market conditions and specifically how these have and might impact Caribbean banana-dependent economies. As a way forward, it highlights several interventions and measures that need to be implemented to ensure a meaningful interface between imminent changes in the current policy framework and food security objectives of the banana-producing countries.

8.1 Background to banana trade policy issues

In this section we provide an integration and assessment of the past and current production, processing, market structure, institutions and trade and competitiveness dimensions of the banana sector in the important banana-producing countries of the region.

At the signing of the Treaty of Rome in 1957, EC Member States agreed that a tariff, and optionally a quota, would apply with respect to banana imports from non-ACP countries. In practice, these sources of other banana imports were largely a few countries in Central and South America, where a number of United States-based transnational corporations (TNCs) operated – the "dollar zone" countries. A notable exception to the generally agreed scheme of granting preferential market access was found in Germany, where, under a special protocol annexed to the Treaty of Rome, Germany had secured the right to import nearly all its bananas from dollar zone sources free of duty and taxes. Germany had won the right to this special protocol given that it was the largest single consumer of bananas in Europe at the time, and that it had traditionally sourced all its imports from the dollar zone.

EC Members found themselves implementing two banana import policies that were in fact diametrically opposed to each other, and this would become a major point of contention when the Single European Market (SEM) was implemented in 1993. The basis for granting preferential market access to ACP countries was threefold. First, they were all colonies or ex-colonies of an EC Member at the time, and it was viewed as a mechanism through which the EC countries could facilitate their economic development. Second, there existed little diversity in their exports, making them extremely vulnerable as economies depending on single commodities. Third, the traditional production, marketing and distribution processes they utilized did not allow them to enjoy economies of scale, causing their costs to be relatively high.

However, in the dollar zone countries the converse obtained. All of these countries had attained independence several centuries prior, and their production systems were characterized by mainly foreign-owned, large-scale, capital-intensive plantation technology. Coupled with vertically integrated systems of shipping, marketing and distribution, bananas from dollar zone countries are relatively cheap to produce, market and distribute in the EC.

The EU banana regime that was introduced in 1993 was challenged on several fronts. First, it was challenged in the European Court of Justice (ECJ) by Germany, Denmark and the Benelux countries on the grounds that it would not fulfil the objectives of the single market. Second, some Latin American countries initiated a General Agreement on Tariffs and Trade (GATT) panel to investigate the legality of the banana import policies of several EU Members before the SEM, and another to investigate the legality of the new banana import policy under the SEM. Both these GATT panels ruled

that the banana import policies did not conform to GATT law, particularly Article I that requires most-favoured nation (MFN) treatment for all GATT Members. Third, under the influence of the world's largest banana TNC, the United States initiated an investigation of the EU banana import policy under Section 301 of its 1974 Trade Act. Fourth, the United States, along with several countries in Latin America, initiated a WTO panel to investigate the EU banana import policy, which ultimately led to its defeat. In this section we shall examine only the WTO panel investigation and ruling in detail.[83]

Joint and individual requests for consultations with the European Communities on its banana import regime were made by the United States, Ecuador, Guatemala, Honduras and Mexico (Complaining Parties) on 5 February 1996. In addition to the import regime established under EEC Regulation 404/93, consultations were also meant to address subsequent legislation, regulations and administrative processes related to it. These consultations did not result in a mutually satisfactory outcome, hence on 11 April 1996 the Complaining Parties made a request for establishment of a Panel. The Panel's terms of reference included examining violations under the GATT, the Agreement on Import Licensing Procedures, the Agreement on Agriculture, the General Agreement on Trade in Services (GATS) and the Agreement on Trade-related Investment Measures (WTO, 1997a: 1).

In its defence, the EU deplored the manner in which the panel had been established, questioning the adequacy of consultations as well as the clarity of the issue under dispute. However, the Complaining Parties countered that their action was consistent with Article 4.7 of the Dispute Settlement Understanding (DSU), which provides for establishment of a Panel 60 days after the start of consultations (WTO, 1997a: 3–7). Additionally, the EU questioned the legitimacy of United States interests in the claim that was being pursued, since there was no banana trade between those countries. The United States argued in turn that it had a significant commercial interest since two of its firms, Chiquita and Dole, had played a major role in developing the EU's banana market in the past. Moreover, the United States argued that under Article XXIII of the GATT, dispute settlement action could be initiated by any Member if, in its view, one Member's action was inconsistent with another's interests (WTO, 1997a: 8–9).

Not surprisingly, the Panel ruled against the EU, concluding that certain aspects of its regime were inconsistent with its obligations.[84] Additionally, it recommended that the Dispute Settlement Body request the EU to modify its banana regime, to make it conform with its obligations under the GATT, the Licensing Agreement and the GATS (WTO, 1997a: para. 9.1– 9.2). The EU

[83] See Preville, 2002 (pp. 137–42) for a thorough discussion of the first three of these.

[84] Under Articles I:1, III:4, X:3 and XIII:1 of the GATT, Article 1.2 of the Licensing Agreement and Articles II and XVII of the GATS.

appealed the Panel's ruling both on certain issues of law as well as some of the legal interpretations developed by the Panel. Specifically, the EU again took issue with the right of the United States to advance claims under the GATT and the manner in which the Panel had been established (WTO, 1997b: paras. 15–18). Additionally, where the legal interpretations of the Panel were concerned, the EU brought many issues into question, taking them in turn under the categories of measures affecting trade in goods and services.

The Appellate Body largely upheld the findings of the Panel. In particular, it upheld the Panel's conclusion that the United States had a right to bring a claim in the dispute and that the establishment of the Panel was consistent with requirements under Article 6.2 of the DSU (WTO, 1997b: para. 255a–b). Additionally, it upheld the conclusion of the Panel that the Agreement on Agriculture did not permit the EU to act in a manner inconsistent with its obligations under Article XIII of the GATT 1994; and that the allocation of shares of the tariff quota was not consistent with Article XIII:1 of the GATT 1994 (WTO, 1997b: para. 255d–e).

In its ruling against the EU banana regime, the second GATT Panel instigated by the Latin Americans (mentioned above) had found both the import regime and the procedure through which the EU extended preferential market access to the ACP countries (the Lomé Convention) to be in contravention of GATT law (GATT, 1994: para. 169–70), and mandated the EU to bring its import policy into compliance. With the support of ACP countries, the EU was able to prevent the GATT Council from adopting the panel report. Yet, realizing that if these Latin American countries initiated a WTO Panel to investigate the EU banana import policy it would most likely be defeated, the EU proposed to create its first Framework Agreement with the Latin Americans.

Under the proposed Framework Agreement, the complaining parties would be allocated certain shares of the import quota based on past performance, and the quota would be increased annually by an autonomous amount. In addition to guaranteeing market shares for these countries, the EU agreed to expand the tariff quota annually and reduce the in-quota tariff to ECU 75/tonne (European Council, 1998: Article 18). But the Latin American countries were divided on the matter, both in terms of the size of the quota and their individual shares, rendering the agreement unstable. Notably, Ecuador, Guatemala, Honduras and Panama objected to the agreement, while Costa Rica, Colombia, Nicaragua and Venezuela (Bolivarian Republic of) accepted it (European Commission, 1994: 11–12). Nevertheless, the EU had ensured that the Framework Agreement was agreed to by the United States as part of the completion of negotiations under the Uruguay Round. Additionally, the GATT Council agreed to grant the EU a waiver of Article I.1, thus allowing the EU to give preferential treatment to the goods originating from the ACP countries (European Commission, 1995: 16).

Since 1999, the EU has modified its banana regime several times and the evidence suggests that most of these modifications have taken into consideration the need for WTO compatibility. This is reflected in the sheer number of Commission Regulations that have been passed to modify the original regulation 404/93. In introducing Commission Regulation 2374 in the year 2000, while the EU stated that the regulation was being adopted with a view to ensure uninterrupted supplies and trade with the partner countries, it carefully stated that subsequent measures might be introduced with a view to "complying with the international commitments entered into by the Community within the World Trade Organization". Moreover, the regulations introduced in 2001 gave even greater recognition to the WTO rulings. Council Regulation 216 of 2001 clearly states that it takes due account "of the conclusions of the special group set up under the dispute settlement system of the World Trade Organization (WTO)". It further sets out the size of the tariff quotas, which is based on a projection of effective demand for bananas in the EU as of 2001, structured as follows:

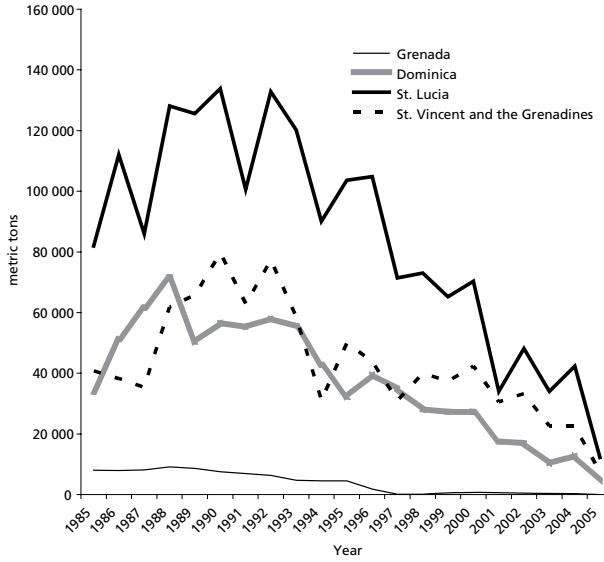
(a) a tariff quota of 2 200 000 tonnes net weight, called "quota A";
(b) an additional tariff quota of 353 000 tonnes net weight, "quota B";
(c) an autonomous tariff quota of 850 000 tonnes net weight, "quota C".

In this revised regime imports under tariff quotas "A" and "B" are subjected to a customs duty of €75/tonne, while those under quota "C" are subjected to a customs duty of €300/tonne. Additionally, the EU grants ACP countries a tariff preference of €300/tonne, consistent with its obligations to the ACP countries.

The last significant changes that have been made to the tariff quotas since then were introduced in December 2001, under Commission Regulation 2587, and according to the EU, the changes introduced "shall apply to imports of fresh products falling within CN [combined nomenclature] code 08030019 until the entry into force, no later than 1 January 2006, of the rate of the common customs tariff for those products established under the procedure provided for in Article XXVIII of the General Agreement on Tariffs and Trade". In other words, these rules applied until 31 December, 2005. The notable change to the tariff quotas are: quota "B" has increased to 453 000 tonnes; while quota "C" has reduced to 750 000 tonnes. ACP countries continue to enjoy a tariff preference of €300/tonne and zero duty on imports.

Additionally, 'traditional importers' have been redefined to refer specifically to primary importers, and the share of licences awarded to non-traditional importers has increased from 3.5 percent to 11 percent. Subsequent regulations passed by the Commission with respect to bananas have not altered the sizes of the quotas, nor the applicable tariffs, but have modified rules for their allocation to specific countries within the set categories. Section 4 of this paper further develops and updates the trade policy challenges related to bananas facing Caribbean countries.

FIGURE 8.1
Windward Islands banana export volumes (1985–2005)



Source: Author's construction based on data from WIBDECO, 2006 (in Appendix).

8.2 Role of bananas and food security

In this section we undertake an integration and assessment of analysis completed on the role of the banana sector in the economies of the Caribbean countries and its multiplier effects, particularly as these relate to food security and rural development. Food security in the Caribbean can be affected by various and interrelated international and domestic factors such as: high cost of production, low productivity, loss of arable lands, limited availability of labour, changes in the international economic environment, particularly with respect to trade, and susceptibility to natural disasters.

The banana sector has played a major role in the economies of Belize, Jamaica and Suriname and an even more important role in Saint Lucia, Saint Vincent and the Grenadines, Dominica and Grenada. Such a role has been captured directly in terms of production, employment and income, with significant indirect effects through multipliers in these countries. In this section we begin with an overview of the banana industry in the region drawing upon data from the regional banana marketing entity, the Windward Islands Banana Growers Association (WIBDECO) that focuses on the

OECS banana producing countries. We then draw upon some of the work done by Allport (2005), Rawlins (2005), Laurent (2003), Thomas (2003) and Preville (2003) to provide an assessment of the role of the banana sector in the major Caribbean exporting countries.

8.2.1 Brief overview of the banana industry in the Windward Islands

The banana industry in the Windward Islands has gone through various cycles of growth and depression over the last several decades. **Figure 8.1** shows the trends in banana export volumes for these countries since 1985. It reveals that for all of the countries, while there have been fluctuations in volumes, there has been a marked decline since 1993.

All of these countries enjoyed their best-ever market performance prior to 1993[85]. Throughout that period Saint Lucia has been the largest single supplier followed by Saint Vincent and the Grenadines, while Grenada's export volumes have stagnated at less than 1 000 tonnes since 1997.

In value terms the banana industry has contributed significantly to the economies of the Windward Islands over the period 1985–2005 (see **Figure 8.2**). For these countries as a group, it is seen that their best-ever performance was in 1990 when together their gross export earnings was EC$387.3 million[86], coinciding with the best ever export performances of Saint Lucia and Saint Vincent and the Grenadines. However, for these islands gross export revenue fell below EC$200 million in 1996 and has declined persistently ever since.

8.2.2 Direct contribution to commercial activity and economic growth

An important role of the banana industry in the Caribbean has been its direct contribution to commercial activity and economic growth. In an attempt to explain how the regional banana trade contributed to an increase in commercial activity, it is important that data are examined at the industry or macro level as well as at the farm enterprise or micro level. At the industry level, we reviewed data related to aggregate production and exports, as these are the best indicators of commercial activity at that level. Particular emphasis was placed on reviewing trends in production and exports, number of active farmers, persons employed and revenues generated by the industry.

At the farm enterprise level, the objective was to obtain the perspective of the farmer and the company directly engaged in production and/or marketing of bananas on how the preference impacted on his/her farm enterprise or business and its performance, growth/expansion and development.

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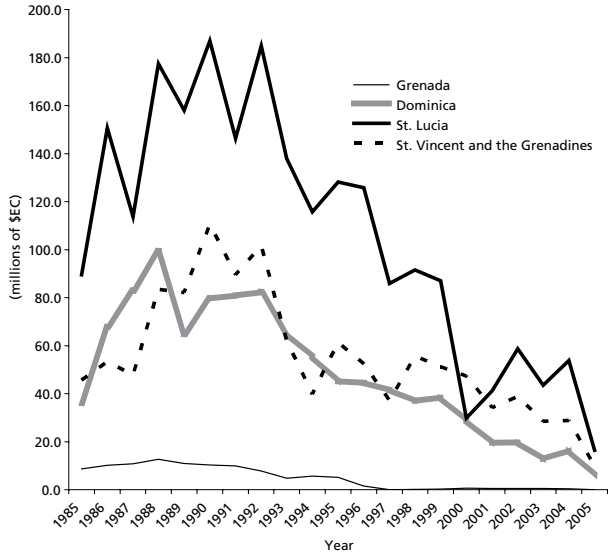
[85] Both Saint Lucia and Saint Vincent and the Grenadines enjoyed their best-ever market performance in 1990 when they exported 133 777 and 79 561tonnes, respectively. Dominica's best-ever performance was in 1992, corresponding to an export volume of 58 024 tonnes; Grenada's best-ever performance was in 1988, corresponding to an export volume of 9 129 tonnes.

[86] EC$ (Eastern Caribbean dollars). US$1=EC$2.6882.

FIGURE 8.2
Windward Islands banana export values (1985–2005)



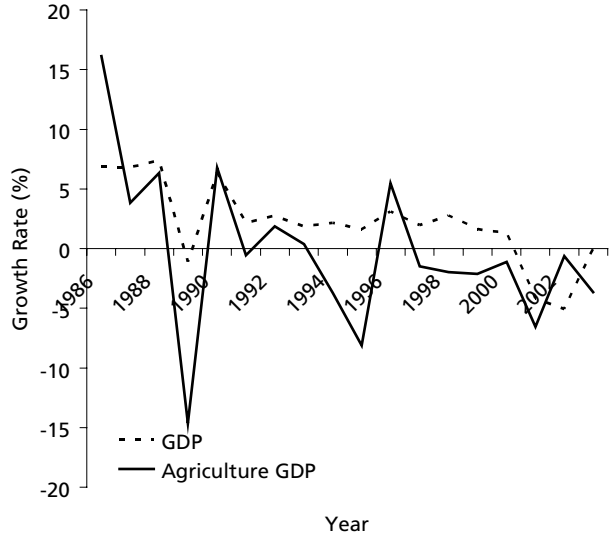
Source: Author's construction based on data from WIBDECO, 2006.

The banana sector has been the major foreign exchange earner for Dominica and Saint Vincent and the Grenadines and also commands an important foreign exchange position in the economy of Saint Lucia. In the case of Dominica, Allport (2005) has hinted at evidence of a correlation between the growth rate of the gross domestic product (GDP) and the performance of the banana sector. Dominica achieved its highest GDP growth rate over the last 18 years in 1988, which coincided with the peak year of banana production for that country. When production subsequently declined the following year the country experienced economic contraction (see **Figure 8.3**).[87] An estimation of the correlation coefficient between the growth of GDP and agriculture GDP was undertaken using data over the period 1986 to 2003. We confirm evidence that these growth rates are significantly correlated at 0.69.

Despite the continued decline in Dominica's banana exports ever since, **Figure 8.4** shows that bananas still account for more than 50 percent of all

[87] GDP grew by 7.4 percent in 1988 corresponding to Dominica's peak banana production of 74 184 tonnes, then declined by -1.1 percent in 1989 following the passage of Hurricane Hugo, when production fell to nearly 60 000 tonnes.

FIGURE 8.3
Growth of GDP and agriculture GDP in Dominica



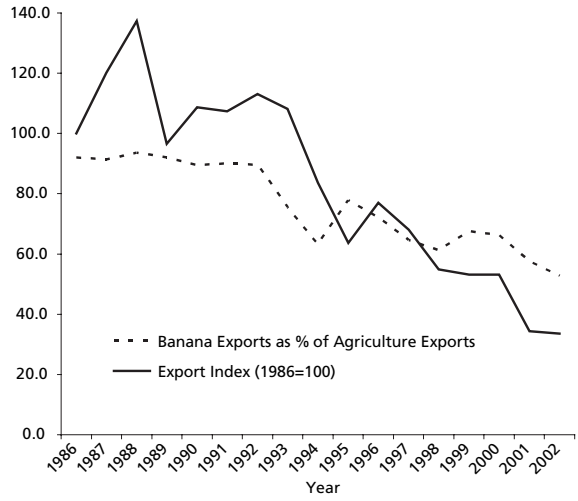
Source: Author's construction based on data from Allport (2005: p.7) in Appendix.

Dominica's agriculture exports by value. In addition, bananas contribute 30 percent of Dominica's national employment.

Figure 8.5 shows the relationship between the growth of GDP, agriculture GDP and banana GDP in Saint Lucia over the period 1990 to 2004. It is clear that the agriculture sector, and primarily bananas, significantly influences the direction of overall economic growth. An estimation of the correlation coefficient between the growth of GDP and agriculture GDP over the period reveals a coefficient of 0.65. In addition, the correlation coefficient between the growth rate of GDP and banana GDP was found to be 0.49. Therefore, it can be concluded that developments in the agriculture sector, particularly the banana industry, impact directly upon the overall economic performance of Saint Lucia.

Although he does not estimate any correlation coefficient between agriculture export production and economic growth, Rawlins (2005) nevertheless makes an important point about the linkages between them. He argues that when Hurricane Alan devastated the banana industry in Saint Lucia in 1980 the contribution of the banana industry to real GDP at factor cost contracted by 32 percent, while overall economic growth contracted by

FIGURE 8.4
Dominica banana export index and percentage of agricultural exports



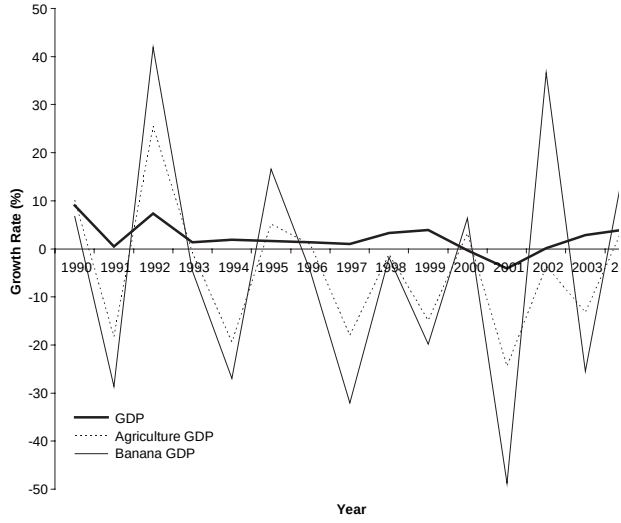
Source: Author's construction based on data from Allport (2005) in Appendix.

1.8 percent. Similarly, when production increased significantly in 1986, the banana industry recorded real growth in the magnitude of 50.5 percent while total GDP grew by 15.3 percent, the highest level of growth in total real GDP for Saint Lucia during the period 1978–2003.

The major decline in Saint Lucia's banana industry (which started in earnest around 1994 when Tropical Storm Debbie struck the island) was accompanied by a period of relatively poor economic performance. Between 1994 and 2003, Saint Lucia's highest level of real economic growth was 3.8 percent in 1999, while the country experienced negative growth in 2000 and 2001.

Rawlins (2005) also asserts the importance of the banana industry in Saint Lucia since the early 1950s. He analyses the significant growth in commercial activity over time in the context of the trade preferences that Saint Lucia and the other Caribbean countries enjoyed in the EU market since 1954. Following the rapid expansion experienced between 1954 and 1963, production and exports followed a generally increasing trend during the balance of the 1960s, with exports reaching a decade high of 86 118 tonnes valued at EC$13.87 million in 1969. Subsequently, exports increased from 54 334 tonnes in 1983 to reach an all-time high of 133 777 tonnes

FIGURE 8.5
Growth rates of GDP, agriculture GDP and banana GDP in Saint Lucia



Source: Author's construction based on data from Saint Lucia Statistical Office (2006) in Appendix.

valued at EC$186.9 million in 1990. The preceding analysis by Rawlins is in accordance with the works of several others on the subject, including Nurse and Sandiford (1995) and Clegg (2002).

Since other sectors of the economy would have autonomously contracted during the 1990s, one cannot attribute the declining performance of the economy to the decline in the banana industry alone. Nevertheless, it is clear that the poor performance of the banana industry contributed both directly and indirectly to the decline in performance of the economy.

8.2.3 Direct impacts at the level of the farm enterprise

In Saint Lucia, Rawlins (2005) concludes that preferential access to the United Kingdom market provided a stimulus for increased production and export of bananas. The increase in production was due in large measure to the active involvement of a large number of small farmers, many of whom were subsistence farmers and/or employees in the sugar industry. There was as a consequence the emergence of a new class of producer – the commercial banana farmer – of which there were 10 000 registered by 1963. Given the highly skewed distribution of land in Saint Lucia, as confirmed by Saint

Lucia's Agricultural Census Report (1996), most of these growers would have been small farmers.

During the period 1988–1992, the net earnings of the Saint Lucia banana industry for banana growers were significant. They averaged EC$87.4 million per annum and resulted in an improved standard of living in all banana-producing rural communities. Banana growers received more than 51 cents of every dollar earned from the export of bananas, with the balance being used to cover the cost of providing a range of services offered by the Saint Lucia Banana Growers Association (SLBGA) and the sourcing of inputs. This level of return to the farmer was slightly more than 32 cents per pound from which farmers would have to pay only labour, as inputs were already netted out. In 1992, the average net earnings per farmer would have been EC$10 357 based on net earnings of EC$98.4 million and the participation of 9 500 active farmers. The revenues earned by growers contributed significantly to improving their standard of living and that of their families in many rural communities. Many of the growers were able to purchase farm vehicles, acquire equipment and machinery needed on the farms and undertake farm improvements using income earned from bananas.

Undoubtedly, the preferential arrangements for the export of bananas set the stage for the transformation of the small farming subsector in Saint Lucia. The financial and technical assistance provided by the United Kingdom Government in the 1950s was followed by significant technical and financial assistance from the Government of Saint Lucia, all geared to ensuring that growers were provided with the best possible technical advice and other support services necessary for commercial banana production.

In Dominica the impact of the banana industry at the level of individual farmers has also been significant. Dominica's banana industry comprised approximately 5 063 farms cultivating over 12 000 acres of the crop on farms that averaged two acres in 1986. The industry continued to grow through 1988 when it reached a maximum of 6 922 farmers. Allport (2005) estimates that the Dominican banana industry employed approximately 46 percent of the country's labour force over the period 1986–1993 given that each farmer employed an average of four farm workers.

Additionally, approximately 59 percent of gross banana revenue earned by the Dominica Banana Marketing Corporation (DBMC) was remitted to farmers from which farmers were expected to pay WINCROP insurance premiums and farmers' Input Cess Accounts.[88] However, DBMC continued to cover other costs directly associated with banana production on the farm. Net payments to farmers averaged 43.2 percent of the gross earnings of the DBMC, resulting in a net payment to farmers of approximately EC$280 million during that period.

[88] In earlier years, farmers were also expected to pay for shrinkages and shut-outs from this gross revenue.

8.2.4 Implications for food security

The deteriorating performance of the region's banana industry, due largely to changes in the external economic environment (primarily in the EU), poses serious implications for these countries with regards to their food security. Most Caribbean countries are small- island states with limited arable lands and in many instances such lands are marginal and hence characterized by low productivity. Consequently, for many of these countries (such as those of the Eastern Caribbean) the previously secure market for bananas in the EU resulted in their over-specialization in production of the commodity for export. It was the banana trade that financed their food imports and on the basis of which rural households earned income that enabled them to access their food needs. The decline in production and exports observed above has led to a severe reduction in registered banana farmers (**Table 8.1**) and associated rural employment opportunities.

Preference erosion in the EU has resulted in precipitous declines in the export revenues from bananas. As farmers gradually exit the industry, production has declined considerably, with significant impacts on economic growth. In order to appreciate the food security dimension of the problem let us briefly analyse the trade patterns for Saint Lucia and Dominica.

Figure 8.6 shows an index of food imports into Saint Lucia over the period 1994 to 2004,[89] along with the share of food[90] in total imports over that same period. While the share of food in total imports has remained fairly stagnant, averaging 21.1 percent over that period, the tendency has been for an increase in the volume of food imports over time, with the food import index having increased by more than 28 percent by 2004, relative to its value in 1994. Therefore, there has been a growing reliance on foreign sources of food for domestic consumption in Saint Lucia since 1994.

Perhaps more importantly, the tendency has been for a decrease in Saint Lucia's food security over the period 1994–2004 (see **Figure 8.7**). One assessment of food security in this chapter is in terms of the ability of Saint Lucia to pay for its food imports from its export revenues, and it is referred to here as the "light" measure of food security. It determines whether food imports can be comfortably paid for by the country's domestic exports, while leaving a significant surplus for financing payments of imports of manufactures. We refer to the "heavy" measure of food security as that which determines whether food imports can be comfortably paid for by the country's total exports (both domestic and re-exports), while leaving a significant surplus for financing its payments of other imports.

Figure 8.7 reveals that while Saint Lucia was capable of financing all of its food imports by export revenue between 1994 and 1996, since 1997 the

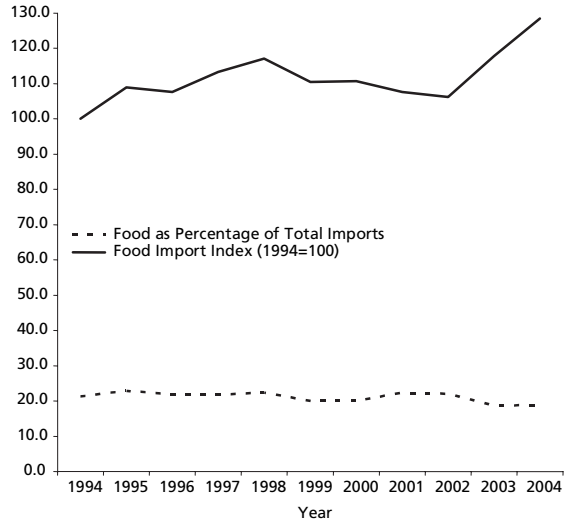
[89] The index was computed using 1994 as the base year, i.e. 1994=100.

[90] Food is defined here as all items classified under Section 0 of the Standard International Trade Classification System (SITC).

TABLE 8.1
Number of registered banana farmers (000)

Countries/Years	1994	1996	1998	2000	2001	2002	2003
Saint Lucia	8.0	6.7	4.5	4.8	3.8	2.0	2.0
Saint Vincent and the Grenadines	7.4	5.7	4.2	3.8	2.2	2.5	2.3
Grenada	0.9	0.2	0.1	0.1	0.1	...	...
Dominica	6.8	5.5	2.9	2.4	1.3	1.0	1.0
Total	**23.1**	**18.1**	**11.7**	**11.1**	**7.3**	**5.5**	**5.3**

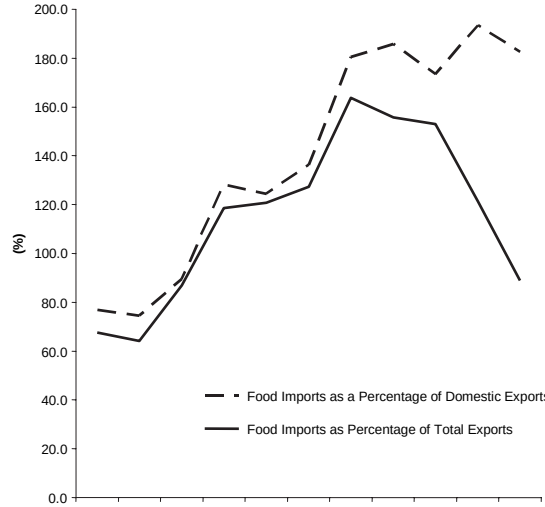
FIGURE 8.6
Index of food imports and share of food in total imports



Source: Author's construction based on data from Saint Lucia Statistics Department (2006) in Appendix.

revenue that the country earns from its exports is not sufficient to pay for its food imports, let alone imports of other items. Using the "light" measure of food security, in 1994 76.9 percent of Saint Lucia's export revenue was used to pay for its food imports and this figure had increased to 89.6 percent in 1996. However, since 1997 even when the country used up all of its export revenue to pay for food imports it still needed to find additional financing to pay for food imports – and the food security situation keeps worsening over time. While the country needed approximately 28 percent more financing over its exports to pay for its food imports in 1997, this figure had grown to

FIGURE 8.7
Saint Lucia's food security situation (1994–2004)



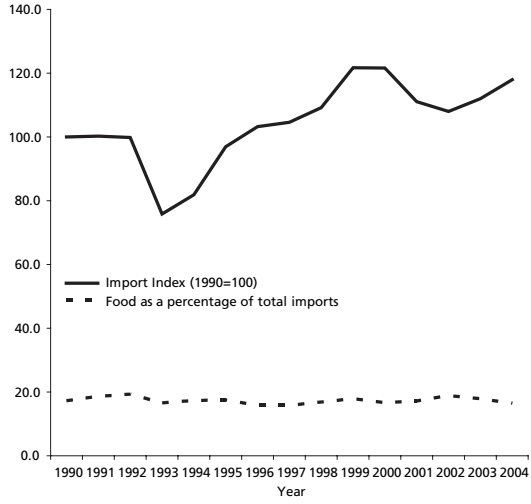
Source: Author's construction based on data from Saint Lucia's Statistical Office (2006) in Appendix.

93 percent more financing over its exports to pay for food imports in 2003. Using the "heavy" measure of food security does not result in significant enhancement of the results up to the year 2000. However, that measure shows significant differences from 2002, even if Saint Lucia remains highly food-insecure as its export revenues remain insufficient to pay for its food imports.

Obviously, the burden to finance the food security gap falls on the tourism sector, which has become the major foreign exchange earner for Saint Lucia since the mid-1990s. Yet, what the above analysis shows is that this approach to development is simply not sustainable. Saint Lucia cannot continue to make its economy grow by relying exclusively on the tourism sector, at the expense of the agriculture sector, which is allowed to wither away. In such a model of economic growth the export revenue derived from tourism is used to finance imports of food for both domestic consumption and for consumption of tourists in hotels (the foreign sector). Therefore, the tourism sector constitutes a major leakage of foreign exchange through unrealized benefits of economic growth in the domestic agriculture sector.

Figure 8.8 shows an index of food imports into Dominica over the period 1990 to 2004 along with the share of food in total imports over that same

FIGURE 8.8
Dominica's index of food imports and share of food in total imports

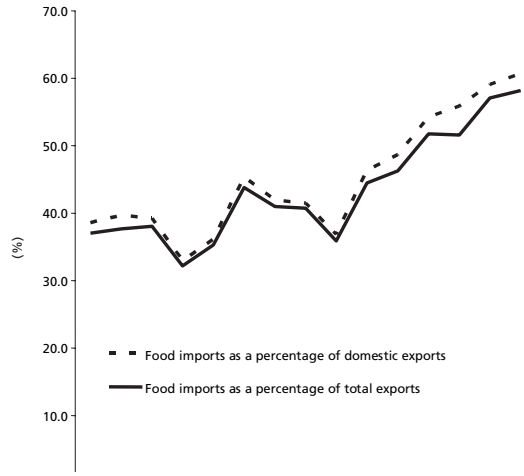


Source: Author's construction based on data from Dominica's Statistical Office (2006) in Appendix.

period. While the share of food in total imports has remained fairly stagnant, averaging 17.3 percent over that period, the tendency has been for an increase in the volume of food imports over time, with the food import index having increased by more than 17 percent by 2004 relative to its value in 1990. Therefore, as in Saint Lucia, there has been a growing reliance on foreign sources of food for domestic consumption in Dominica. However, the extent of reliance on food imports in Dominica is significantly lower than in Saint Lucia over the observed period. Additionally, while the tendency has been for a decrease in Dominica's food security over the period 1990–2004 (see **Figure 8.9**), again the extent of such decline is far less pronounced than for Saint Lucia.

Figure 8.9 reveals that, unlike Saint Lucia, Dominica was capable of financing all of its food imports by export revenue between 1990 and 2004. Although the food security position has deteriorated somewhat over time Dominica can pay for all of its food imports with approximately 60 percent of all its export revenue as at 2004. In addition, these results are essentially the same whether a "light" or "heavy" measure of food security is adopted.

FIGURE 8.9
Dominica's food security situation (1990–2004)



Source: Author's construction based on data from Dominica's Statistical Office (2006) in Appendix.

8.3 Recent changes in the banana trade policy environment

This section reviews the changes taking place (or likely to take place) in the internal and international trading environments, both in terms of policies and trading rules and their likely impact on the banana sector.

Preferential market access in Europe has been the basis for the viability of the banana trade for the Caribbean countries. However, since the formation of the Single European Market (SEM) the EC has sought to reform its common agricultural policy in a manner that is consistent with the objectives of any single market: ensuring that available factors of production are deployed in the most efficient manner, thus maximizing consumer welfare. Hence there have been calls to liberalize the EU market for banana imports both by interest groups within its Member States and by Latin American countries that have a substantial supplying interest but whose bananas are subject to the EC's MFN tariff. The EU has had to reform its banana import policy several times since 1992 and the process continues. Such reforms have had an adverse impact on the major banana-exporting countries of the Caribbean who have responded by undertaking some reforms to their own internal organization of production and trade.

8.3.1 Context of the Caribbean in world banana export trade

Here we provide some background information to situate the Caribbean banana exporting countries in the context of world banana trade and hence the policy debate on the need for regime change.

At the turn of the century, Caribbean countries accounted for the smallest shares of world banana trade, although such shares invariably accounted for the majority of all their banana production (see **Table 8.2**).

No single Caribbean country accounted for 1 percent of world banana exports in 2000, with their market shares ranging from 0.01 in Grenada to 0.68 in the Dominican Republic. By contrast most countries in Latin America account for a significant proportion of world trade: Ecuador accounted for 33.7 percent, Costa Rica for 16.1 percent and Colombia for 13.03 percent in 2000. Even the smaller producers in Latin America typically account for a larger share of the world market than the average Caribbean country. Therefore, while both country groups exhibit significant dependence on banana exports, the Latin American countries clearly command a dominant position in the world market.

Intuitively, any trade policy measure that results in reduction in banana supply from countries in either Latin America or the Caribbean will adversely impact their domestic economies because the majority of production in most cases is for the export market. However, while Caribbean countries are already operating at capacity limit with relatively small market shares, Latin American countries possess capacity reserves and already dominate export markets. When the food security considerations of Caribbean countries are taken into account it would seem that any policy change that adversely impacts their market access will result in further deterioration of their already volatile food security positions.

8.3.2 Challenges to the EU banana import policy

Since the formation of the Single European Market (SEM) in 1993, EU imports of bananas have been governed by the Common Market Organisation for Bananas (CMOB)[91]. The CMOB regulates banana importation through a system of tariff rate quotas (TRQ). In this system, bananas may be imported from third countries under three different tariff quotas. Bananas from all origins may be imported under quotas A and B bananas from ACP countries enter these quotas duty free, while bananas from other origins pay a tariff of €75/tonne. Bananas imported beyond quotas A and B have to pay a much higher out-of-quota tariff of €680/tonne (with a preferential tariff of €380/tonne for ACP bananas). In practice, quotas A and B are managed as if they formed a single quota and are often referred to as "quota A/B". Most of the bananas imported under quota A/B originate from Latin American countries.

[91] As defined by Council Regulation (EEC) Nr. 404/93 of 13 February 1993

TABLE 8.2
Percent of world exports and export production in 2000

Caribbean			Latin America		
Country	Percent of world exports in 2000	Percent of production exported in 2000	Country	Percent of world exports in 2000	Percent of production exported in 2000
Jamaica	0.36	32.3	Ecuador	33.70	60.9
Saint Lucia	0.43	67.4	Colombia	13.03	92.3
Saint Vincent/ Grenadines	0.37	99.1	Costa Rica	16.10	83.7
Dominica	0.24	89.4	Guatemala	6.85	95.3
Grenada	0.01	15.1	Panama	4.60	66.6
Dominican Republic	0.68	44.3	Honduras	1.29	32.1
Suriname	0.34	82.1	Nicaragua	0.39	80.1
Belize	0.59	81.6			

Source: UNCTAD (2003: p.62).

These bananas are often referred to as "dollar bananas" because they are traded in US dollars.[92]

A third quota (quota C) is reserved for bananas imported from ACP countries. Bananas imported under this quota enter duty free. In addition, after the enlargement of May 2004 the EU created an Additional Quantity (AQ), open to all exporting countries, to allow for the importation of bananas into the new Member States.[93]

The quotas are administered by a complex system of import licences. Banana import licences for specific quantities within quotas A, B and C are allocated by the European Commission to market operators established in the EU. These operators include specialized importers, multinational banana companies or subsidiaries of banana-producing and/or exporting companies of supplying countries. Most of the licences are reserved for companies that are involved in the production or shipping of bananas in the producing countries (so-called "traditional operators"), with volumes based on their shares of past imports (system of historical reference). Smaller quantities of the quota are also open to newcomers, namely other banana importers that do not qualify as traditional operators ("non-traditional operators", see EC 2004).[94]

There are virtually no imports of bananas outside the quotas due to the very high level of the out-of-quota tariff. In practice, the CMOB has limited total banana supply into the EU by putting a cap on the imports of dollar bananas, which tend to be more competitive than most ACP bananas, even with the €75/tonne tariff. By limiting supply to a level lower than what

[92] See FAO Technical Note, pp. 4–5.
[93] Ibid.
[94] Ibid.

would exist under free market access, the CMOB has created a quota rent. As a result, banana prices in the EU have been much higher than in most other markets of the world, since they reflect the quota rent and the tariff (for dollar bananas).[95]

Latin American supplying countries challenged the CMOB several times in the GATT and at the WTO because it limits their exports of bananas to the EU. In many cases they were supported by the United States, whose transnational banana marketing companies saw their access to the EU market curtailed by the CMOB in 1993. In 1997, the World Trade Organization (WTO) ruled that the CMOB was incompatible with several articles of GATT and the GATS. The EU implemented a new version in January 1999. However, the second version of CMOB was challenged and again found incompatible with WTO rules. Following the WTO ruling, the EU undertook negotiations with the main parties in the trade dispute to find an agreement on a reform of the CMOB (FAO, 2001). In April 2001, the EU reached two separate agreements with the United States and Ecuador, which led to the third version of the Common Market Organisation for Bananas. Finally, in 2004 the EU had to further amend the CMOB to reflect its enlargement to include ten new Member States of Central and Eastern Europe.[96]

A fundamental aspect of the 2001 agreement with the United States is that the European Commission has committed to changing its import regime from the current tariff rate quota to a tariff-only system no later than 1 January 2006. From 2006 banana imports will no longer be bound by quotas whatever their origin; a single tariff will apply to all banana imports. However, in order to maintain its commitment to ACP countries, the EU intends to give them a tariff preference such that ACP bananas would pay a lower, or no, tariff. Currently, a waiver obtained at the WTO Ministerial Conference of 14 November 2001 in Doha allows ACP bananas to be imported into the EU duty free until 31 December 2007 (WTO 2001).[97]

Tariffication, i.e., the transformation of a TRQ system into a tariff-only system, is governed by Article XXVIII of GATT and stipulates that the country that undertakes tariffication should consult with the supplying countries. If no agreement can be found, the latter may seek arbitration at the WTO. The text of the waiver adopted at the Doha Conference states that should the negotiation go to arbitration:

> *"If the arbitrator determines that the rebinding would not result in at least maintaining total market access for MFN suppliers, the EC shall rectify the matter. If the EC has failed to rectify the matter, this waiver shall cease to apply to bananas upon entry into force of the new EC tariff regime."* (WTO, 2001).[98]

[95] Ibid.
[96] Ibid., pp.5–6.
[97] Ibid., p.6.
[98] Ibid., p.6.

As such, on 13 July 2004, the European Council adopted a decision authorizing the Commission to open negotiations on modifications to the bound duties for bananas. On 15 July 2004, the Commission circulated notice to WTO Members of its intention to modify concessions on bananas and its desire to enter consultations and negotiations with Members under Art. XXVIII of GATT 1994. In particular, the EU proposed to open negotiations under GATT 1994,[99] where only trade under MFN tariffs matters,[100] when WTO Members are to identify which Members have a "principal supplying interest" or a "substantial interest". On 27 October 2004, the EU Commissioner for Trade stated that the proposed initial tariff to apply for bananas from the MFN suppliers was €230/tonne. He stressed that it was the level of tariff protection for the expanded EU of 25 Member States and that the figure was a contribution to the negotiations.

The MFN countries were united in their response to the EU's request for Art. XXVIII consultations and negotiations and its initial tariff offer. They argued for a tariff no higher than €75/tonne, citing a study which found that if the €75/tonne ACP tariff preference were increased, and ACP quota restraints lifted, African exports would expand enormously, displacing Latin American banana exports and inflicting severe damage to the fragile economies of the region.[101]

Art. XXVIII negotiations were completed without a mutually satisfactory solution for all Parties and on 31 January 2005 the EC proceeded to officially notify the WTO that the new tariff to be applied in respect of bananas originating from MFN supplying countries was €230/tonne. Under the Doha Ministerial Decision the MFN countries had 60 days to signal their acceptance or rejection of the proposed tariff and in fact they did reject the tariff and called for WTO arbitration in the matter in a communication dated 30 March 2005.[102]

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[99] "Before 1 January 1958 and before the end of any period envisaged in paragraph 1 a contracting party may elect by notifying the CONTRACTING PARTIES to reserve the right, for the duration of the next period, to modify the appropriate Schedule in accordance with the procedures of paragraph 1 to 3. If a contracting party so elects, other contracting parties shall have the right, during the same period, to modify or withdraw, in accordance with the same procedures, concessions initially negotiated with that contracting party." (Para. 5. Art. XXVIII, GATT 1994).

[100] "In such negotiations and agreement, which may include provision for compensatory adjustment with respect to other products, the contracting parties concerned shall endeavour to maintain a general level of reciprocal and mutually advantageous concessions not less favourable to trade than that provided for in this Agreement prior to such negotiations." (Para. 2. Art. XXVIII, GATT 1994)

[101] They further argued that for every €10/tonne increase in the tariff, Latin American market access is likely to decline by 70 000 tonnes. Consequently, should the EU implement a tariff of €300/tonne, Latin American market access will likely decline by at least 1.5 million tonnes per year, and possibly up to 2.6 million tonnes per year, at the expense of increased market access for African banana exports (See Preville (2005a:3) *Status of The Article XXVIII Negotiations for Implementing a Tariff-only Banana Regime in the European Union*, Briefing Note for Caribbean Heads of Government, April.

[102] See WTO document WT/L/607/Add.1-9.

In its first decision the Arbitrator determined that "the European Communities' envisaged rebinding on bananas would not result in at least maintaining total market access for MFN banana suppliers, taking into account all EC WTO market-access commitments relating to bananas".[103] This means that the proposed tariff level is higher than it ought to be if the MFN countries are to continue to enjoy market access no different than they presently do under the existing tariff rate quota (TRQ) system. In arriving at this determination the Arbitrator took two major points into consideration, both of which deal with the underlying data. First, that the price data series used by the EC did not cover the most recently available three-year period, as is customary WTO practice. Secondly, that the data themselves were not accurate, since they were not actual prices paid by traders, but proxies for these data as announced by traders in any given period.

With respect to the methodology that was applied (the price-gap method), the Arbitrator upheld it as representative and relevant for this type of analysis. In the process, the Arbitrator also questioned whether other methods, including economic modelling methods as suggested by some MFN countries, would yield any better results than the price-gap method. On 12 September 2005 the EU responded to the Arbitrator's decision by tabling a new tariff proposal of €187/tonne for replacing the existing TRQ system that applied with respect to MFN banana imports. In addition, the EU proposed that the ACP countries continue to enjoy duty-free market access for a quota of 775 000 tonnes. The EC then proceeded to consult with the MFN countries on whether they found this solution acceptable. Talks broke down, leaving the EU no alternative but to invoke the second arbitration procedure.[104]

The mandate of the Second Arbitration was to determine "whether the EC has rectified the matter", the understanding of *rectification* to be linked to the finding of the Arbitrator in the First Arbitration. The Arbitrator determined that the European Communities' proposed rectification would not result "in at least maintaining total market access for MFN banana suppliers", taking into account "all EC WTO market-access commitments relating to bananas".[105]

However, the outcome of the Second Arbitration was not the end of the EC banana tariff-only process. Honduras formally tabled the banana issue

[103] See *European Communities – The ACP-EC Partnership Agreement – Recourse to Arbitration Pursuant to The Decision of 14 November 2001: Award of the Arbitrator*, para. 94.

[104] This was communicated to the Arbitrator by the EC on 26 September 2005, in which the EC stated, "There is currently no basis for even seeking a mutually satisfactory solution". See Preville (2005b), *Briefing note on the outcome of the Arbitration process*, Briefing Notes for Caribbean Heads of Government, November.

[105] *European Communities – The ACP-EC Partnership Agreement – Second Recourse to Arbitration Pursuant to the Decision of 14 November 2001: Award of The Arbitrator*, para.127.

for discussion at the Sixth WTO ministerial conference in its communication WT /MIN (05)/2, dated 8 November 2005. In that communication Honduras stated, "If a new EC banana regime is to be installed as of 1 January 2006, the EC must clarify to the MFN supplying interests how it will fully comply with the 14 November 2001 Ministerial Decision, the Arbitration Awards of 1 August and 27 October 2005, GATT Article XIII, GATT Article XXVIII, and all other WTO obligations".[106]

At the Hong Kong Ministerial Conference the EC banana import policy was discussed at length in a plenary session, which went well into the night. The plenary first heard Honduras' argument, which embodied a request for the EC to comply with the various rulings by WTO panels and the recent Arbitration Body. Arguments were then heard from the various MFN banana-exporting countries and the ACP countries. The gist of the MFN countries' arguments was that the proposed EC tariff of €176/tonne would adversely impact their market access and therefore should be revised downwards. ACP countries argued the contrary, that the proposed tariff level was not sufficiently high to guarantee their market access would remain unchanged.

With the assistance of the Norwegian Trade Minister as Facilitator, it was agreed that the EC was to proceed with implementation of its single tariff from 1 January 2006, subject to a monitoring mechanism. The monitoring mechanism would periodically review the performance of the EU banana market to determine whether the single tariff was adversely affecting MFN market access.

The EC has proceeded to implement its single tariff of €176/tonne as was agreed at the Hong Kong Ministerial in December 2005 and has been monitoring the market performance ever since. At this stage the signals emanating from the monitoring mechanism process are mixed. Based on trade data provided by the EC for market performance in the first quarter of 2006, it appears that exports from Latin America have grown relative to the same period in 2005. Additionally, it also appears that exports from the ACP have grown over the same period. Therefore, it would appear that the tariff has not adversely impacted market access for Latin American bananas, the important test that must be fulfilled if it is reasonably equivalent to the previous tariff-quota regime.

Yet, there has been no growth in market share for Caribbean bananas in the EU. All of the growth from the ACP originates from Africa, primarily Cameroon and the Côte D'Ivoire. This has been facilitated by the 775 000 tonne quota that was opened for banana supplies from the ACP.

[106] See WTO document EC Compliance With all MFN Rights and Interests on Bananas under the Doha Ministerial Decision of 14 November 2001 (WT/MIN (05)/15), The Award of the Arbitrator of 1 August 2005 (WT/L/616), The Award of The Arbitrator of 27 October 2005 (WT/L/625), GATT Article XIII, GATT Article XXVIII and All Other WTO Obligations, Ministerial Conference, Sixth Session Hong Kong, 13–18 December 2005.

Latin America banana-exporting countries have nevertheless continued to complain that the tariff level is too high and have issued calls for the EC to further reduce the tariff even ahead of the completion of the one year period of monitoring agreed to at Hong Kong. While the EC has not yet agreed to reduce the tariff, it seems to be considering binding the tariff at its current level and subjecting that tariff to further reduction within the context of the Doha Round.

While there has been no agreement on modalities for tariff reduction in agriculture, all of the proposals under consideration in the WTO would place such a tariff within a band that would subject it to cuts of up to fifty percent. Therefore, should the EC proceed to bind its tariff at the current level and not designate bananas as a "sensitive product", then by the completion of the Doha Round of negotiations, the tariff on bananas could decline to approximately €88/tonne.

8.3.3 Changes in banana industry structure and trade policy emphasis

The significant changes that have taken place in the EC's regime for banana imports since 1993 have had an impact on domestic banana production and marketing policies in the Caribbean. Such changes manifest themselves in two important ways. Firstly, the state-owned enterprises in Dominica and Saint Lucia were privatized in the late 1990s in the hope of increasing productivity and competitiveness as the levels of protection declined. Secondly, at the regional level emphasis shifted from research and development (which had been the primary objective of the Windward Islands Banana Growers Association (WINBAN)) to commercial marketing and distribution in Europe, which became the focus of the new regional company WIBDECO.[107]

Privatization of the industry in the Windward Islands began in Saint Lucia in 1998 when the Saint Lucia Banana Growers Association (SLBGA) Act of 1967 was repealed and a private company, the Saint Lucia Banana Corporation (SLBC) was created. SLBGA had started out as a private company with the growers as shareholders. After passing of the Act of 1967 it functioned as a statutory organization until 1998. Despite subsequent amendments to the Act to allow first WINBAN and then WIBDECO to become the sole exporters of bananas, throughout its existence the SLBGA had been the subject of many changes and tensions centred primarily on its relationship with the government.

During its existence SLBGA provided a number of inputs and essential services to banana growers. These included providing packaging materials,

[107] From Rawlins (2005): "WINBAN was engaged in research and development work aimed at ensuring that the best possible agronomic, quality control and management practices were employed on farms. These small farms were effectively transformed from basic subsistence units to commercial farm enterprises which employed labour and adopted recommended husbandry and best management practices."

research and development, field agronomic services, pest and disease control and a banana transportation allowance. The SLBGA was also responsible for managing significant levels of financial resources on behalf of the banana industry.

However, opposition to the SLBC structure resulted in the establishment of Tropical Quality Fruit Company in 1998, while further disenchantment with the SLBC led to the formation of the Banana Salvation Marketing Ltd and the Agricultural Commodities Trading Company Ltd. Under operation as private entities, significantly larger shares of gross returns from banana sales were remitted to the farmers and this was seen as a positive development. However, all the important services previously provided by SLBGA were to be provided by the farmers themselves. Given the generally small size of their operations it became untenable for these farmers to survive in the industry and thus the privatization process claimed many casualties.

In Dominica bananas were traditionally marketed by the Dominica Banana Marketing Corporation (DBMC), a statutory corporation created by an Act of Parliament in 1984. Its specific purpose was to "promote the well-being of the banana growers and to ensure the financial viability of the Banana Industry".[108] Essentially, like its counterpart in Saint Lucia (the SLBGA), it provided all the supporting services to make the banana industry viable in Dominica: purchase of bananas from producers, leafspot control, depot operations and provision of inputs, among other things.

Commercialization of the Dominica banana industry took place in mid-2002 following ten years of significant declines in the profitability of the DBMC, due to its attempt to stabilize incomes paid to farmers.[109] DBMC is reported to have made payments to its farmers that were well in excess of its gross income for several years, in an attempt to keep as many farmers in the industry as possible. However, such a policy was not sustainable and resulted in the rapid deterioration of DBMC's financial position, with tremendous debt equivalent to 150 percent of the company's export earnings and 7 percent of the country's GDP.[110]

As was the case in Saint Lucia, privatization of the Dominican Banana Industry resulted in the creation of a major private firm, the Dominica Banana Producers Limited (DBPL). Farmers received a larger share of the gross returns to the industry but they had to bear the added costs of management of all essential services to ensure both their individual and group viability. The commercialization of Dominica's banana industry heralded the era of Fair Trade production and marketing, an approach introduced to Dominica by the Windward Islands Farmers' Association (WINFA).

[108] Allport (2005:23).

[109] Most of the decline in gross earnings of the Dominican Banana Industry has been attributed to decrease in both production and exports as opposed to a decline in prices paid to farmers.

[110] Allport, op cit.

Under Fair Trade production and marketing, farmers are paid a price over and beyond that paid for standard commercial bananas provided that they fulfil stringent requirements in the production process. Farmers are also paid a "social premium" that is used for implementation of approved projects in their communities.[111]

8.4 Policy interventions and strategies

Against the background of the current international trading environment, here we propose policy interventions and strategies that would lead to establishment of economic and rural structures that are dynamic and sustainable and result in increased welfare and livelihoods in banana-producing rural areas of the Caribbean. Three fundamental points are made: the importance of both public and private sector investment nationally; the need to target niche and specialty market segments globally; and negotiating within the WTO development measures (such as special products and international financial assistance) through schemes like Aid for Trade.

8.4.1 Private/public sector roles

Most of the Caribbean banana-exporting countries have suffered setbacks since the implementation of the EU's banana regime in July 1993 and the resulting changes. In response they have implemented policies ostensibly geared at enhancing their competitive position and maintaining their access to the EU market. Most of this policy shift has been in the direction of privatization: scaling-back the level of state intervention in the production, marketing and distribution processes and placing these activities in the private domain. While there have been some increases in the efficiency of execution of these activities, from the perspective of farmers the reforms have not been wholly successful. The views of farmers in Saint Lucia, Dominica and Grenada are elaborated below.

Farmers perceive that the increase in the number of private firms (not linked to a cooperative or some other collective production and marketing system) that produce and prepare bananas for marketing has resulted in higher costs of operation as these firms cannot enjoy scale economies individually. Moreover, the management skills that were previously enjoyed by farmers through the former state-owned companies are no longer available at the level of individual firms, even though these private firms are now required to provide all such services to their farmers. None of the firms is large enough to provide these management and technical services in an economically viable

[111] Dominica is now estimated to have a total of 16 Fair Trade farmer associations with a membership of more than 730 farmers. Each of these associations nominates a representative at the national level to form the National Fair Trade Organisation.

manner. These developments have put in serious doubt the future of the region's banana industry.

Connected to the issue of enhancing productivity is the approach utilized by the various stakeholders in addressing the problems of the industry. The farmers are concerned that there tends to be a conflict of interest between what is best for the industry and what would be best for individual companies. They see that the provision of research, education and extension services remains a critical element of the modernization process and a responsibility of the government.

Farmers also expressed much concern over the costs of inputs and the role of transport costs as a major bottleneck to streamlining efficiency in the internal sector. If inputs are sourced in bulk, farmers believe that they would reduce costs. But adequate infrastructure, particularly roads, is needed in order to avoid damage to vehicles and the related rise in costs of production to free on board (FOB) price at the port of exportation.

Farmers continue to emphasize the important role of government in the areas of education, research, incentives for attracting youth to the agricultural sector and land use management, especially related to the impact of tourism on rural areas.[112]

8.4.2 Niche markets

Caribbean banana-exporting countries face considerable challenges if they are to survive in the EU market. These challenges are linked to their production, marketing and distribution structures and to changes in the global environment in which they will be required to trade. Increasingly, it seems that the market for conventional bananas will become too competitive for these countries. However, there is a growing market for Fair Trade and organically produced bananas, and a significant proportion of bananas being exported from the Windward Islands are marketed under these labels. These countries should invest more resources in those niche markets, given the possibility of securing larger returns than with conventional exports. However, while the opinion of many industry leaders is that bananas exported under Fair Trade and Organic labels will become permanent niche markets, given the positions of major multiples and supermarkets like Wal-Mart, it is not only the Windward Islands that produce such bananas. Competition for these niche markets is fierce and growing, with significant supplies from major MFN exporters like Ecuador. Yet, this is the market segment that the Caribbean region can compete in and promotional campaigns that increasingly target it should be emphasized.

[112] See also Springer (2004). .

8.4.3 Negotiations in the WTO

Caribbean countries are clear in their position that the issues related to the erosion of long-standing preferences must be addressed in the WTO negotiations. The region supports the need for the multilateral trading system to include disciplines facilitating food security, rural development and livelihood security – such as special products, sensitive products and a special safeguard mechanism. In relation to its longstanding preferences in bananas, the region would like the EU to designate bananas as a sensitive product in its market, thereby excluding that product (or minimizing the level of reduction) from tariff reduction during the Doha Round. The EU has so far been hesitant in designating bananas as a sensitive product arguing that it has other products which it would prefer to designate ahead of bananas; and it would not like to be seen as reneging on the agreement that had been reached with the United States and Ecuador in 2001 to fully liberalize its banana trade in 2006. If bananas are not designated a sensitive product, then it is likely that they will be subjected to tariff cuts of the order of 50 percent depending on the tariff reduction formula finally agreed to by the WTO membership.

However, one thing seems clear with regards to the survival of Caribbean bananas in the EU market. There have to be major reforms in that sector aimed at improving efficiency of the entire supply chain from production to marketing and final distribution. Such major reforms will necessitate not only significant improvements in labour productivity but will also be capital-intensive and technology-intensive. As such, there is the need for an Aid for Trade regime within the context of the Doha negotiations, as a means of improving the efficiency of the banana industry in these countries. It must be stated clearly that such an Aid for Trade regime should not envisage substituting the banana trade of these countries for aid, but providing financial and technical assistance that will transform the sector to higher levels of efficiency.

Caribbean countries embrace this initiative cautiously because it is not new. A looming fear within the region is that the major developed countries in the WTO who will be the donors of this aid money may coerce countries to accept new aid for trade only if they accept modalities for tariff reduction that will significantly open their markets, possibly to their own detriment.

The Aid for Trade Task Force has so far identified areas for implementation of the initiative through which the region may benefit in modernizing its banana sector. These include:

- trade-related infrastructure including physical infrastructure and trade support institutions;
- building productive capacity, including private sector development; and
- trade-related adjustment, including forward-looking support for adjustment associated with changes in international trade regimes.

Policy coherence is of course the next major consideration in implementing

an Aid for Trade package and Caribbean banana-producing countries need to work with their partners to ensure that both their own and the partners' policies support the changes needed for promoting banana sector transformation, agriculture and rural development.

References

Allport, R. 2005. *Case study of the impact of trade preferences on the banana industry of the Commonwealth of Dominica*. Report prepared for FAO (May). Rome.

Barbados National Strategy for Trade Capacity Building. 2003. Hemispheric Cooperation Program, FTAA.sme/inf/168 (October).

Clegg, P. 2002. *The Caribbean banana trade: from colonialism to globalization*. New York, Palgrave Macmillan.

European Commission. 1994. *Report on the EC banana regime*. VI/5671/94 (July). Brussels.

European Commission. 1995. *Report on the operation of the banana regime*. SEC(95)1565Final (October). Brussels.

European Commission. 2000. Commission Regulation (EC) No 2374/2000 on imports of bananas under the tariff quotas and of traditional ACP bananas for 2001. *Official Journal of the European Communities*, L 275 (26 October). Brussels.

European Communities. *The ACP–EC Partnership Agreement – Recourse to Arbitration Pursuant to the Decision of 14 November 2001: Award of the Arbitrator*. Brussels.

European Communities. *The ACP–EC Partnership Agreement – Second Recourse to Arbitration Pursuant to the Decision of 14 November 2001: Award of the Arbitrator*. Brussels.

European Council. 1998. Council Regulation (EC) No 1637/98 of 20 July 1998 amending Regulation (EEC) No 404/93 on the Common Organization of the Market in Bananas. *Official Journal of the European Communities*, L210.

FAO. 2001. *Bananas: what is the tariff-only equivalent to a tariff rate quota regime?* Technical Note V101. Rome.

GATT. 1994. *EEC – Import regime for bananas: report of the panel*. DS38/R (18 January) (available at http://www.wto.org/gatt_docs/english/sulpdf/91760043.pdf).

Laurent, E. 2003. *Small states in the banana dispute and the lessons to be learnt from their experience*. Paper prepared for the Commonwealth Secretariat.

Matthews, A. 2005. *Policy coherence for development. Issues in agriculture: an overview paper.* Institute for International Integration Studies (IIIS) Discussion Paper No. 63 (March). Dublin, IIIS.

Ministry of Agriculture, Forestry and Fisheries. 2000. *St Lucia's agricultural diversification strategy, January 1, 2001 to December 31, 2005* (October). St Lucia.

Ministry of Agriculture, Lands, Fisheries and Forestry. 1996. *St Lucia's Census of Agriculture final report*. Planning and Statistical Unit. St Lucia.

Nurse, K. & Sandiford, W. 1995. *Windward Islands bananas: challenges and options under the single European market*. Kingston, Jamaica, Friedrich Ebert Stiftung.

Preville, C. 2002. *Trade liberalization under imperfect competition. An analysis of the European Union's market for banana imports*. Maastricht, Shaker Publishing BV.

Preville, C. 2003. *Impact of changes in the European Union's policy for banana imports on the Eastern Caribbean Region (1992–2002).* Study prepared for the Commonwealth Secretariat, London.

Preville, C. 2005a. *Status of the Article XXVIII negotiations for implementing a tariff-only banana regime in the European Union*. Briefing Note for Caribbean Heads of Government (April).

Preville, C. 2005b. Briefing note on the outcome of the Arbitration process. *Briefing notes for Caribbean Heads of Government* (November).

Rawlins, G. 2004. *Analysis of the economic value of agriculture trade preferences. A case study of the banana industry in St Lucia*. Paper prepared for the FAO, Rome.

Springer, C. 2004. *A case study of Saint Lucia's attempts at overcoming economic vulnerability and building economic resilience*. Paper prepared for the University of Malta.

Thomas, M. 2003. *Jamaica and the case in the WTO against the European Communities regime for the importation, sale and distribution of bananas (1992–2001)*. Paper prepared for the Commonwealth Secretariat.

UNCTAD. 2003. *Major developments and recent trends in international banana marketing structures*. Geneva.

WTO. 1997a. Report of the panel in *European Communities – Regime for the importations, sale and distribution of bananas.* WT/DS27/ECU (May).

WTO. 1997b. Report of the appellate body in *European Communities – Regime for the importation, sale and distribution of bananas – AB-1997-3.* WT/DS27/AB/R (September).

WTO. 2005. *EC Compliance with all MFN rights and interests on bananas under the Doha Ministerial Decision of 14 November 2001(WT/MIN (05)/15), The Award of the Arbitrator of 1 August 2005 (WT/L/616), The Award of The Arbitrator of 27 October 2005 (WT/L/625), GATT Article XIII, GATT Article XXVIII and All Other WTO Obligations*. Ministerial Conference, Sixth Session. 13–18 December. Hong Kong, WTO.

Appendix 8.1
Windward Islands banana exports

	Windward Islands banana export volume (tonnes)			
Year	**Grenada**	**Dominica**	**Saint Lucia**	**Saint Vincent and the Grenadines**
1985	8 043	33 829	81 929	40 720
1986	7 940	51 284	112 004	38 246
1987	8 130	61 618	85 993	35 306
1988	9 129	71 474	128 091	61 836
1989	8 620	50 313	125 588	65 663
1990	7 486	56 617	133 777	79 561
1991	6 926	55 254	100 600	62 878
1992	6 300	58 024	132 854	77 361
1993	4 688	55 486	120 127	58 371
1994	4 544	42 781	90 119	30 925
1995	4 514	32 324	103 668	49 900
1996	1 850	39 533	104 805	43 986
1997	102	34 902	71 397	31 021
1998	94	28 135	73 039	39 887
1999	583	27 264	65 196	37 376
2000	722	27 157	70 280	42 336
2001	566	17 575	34 044	30 498
2002	507	16 983	48 160	33 243
2003	393	10 379	33 972	22 558
2004	338	12 721	42 326	22 631
2005	0	4 610	12 223	7 327

Source: WIBDECO (2006).

Windward Islands banana export value (ECD millions*)					
Year	**Grenada**	**Dominica**	**Saint Lucia**	**Saint Vincent and the Grenadines**	**Windward Islands**
1985	8.7	36.0	89.5	45.6	179.8
1986	10.1	67.8	150.6	53.3	281.8
1987	10.8	82.8	113.7	47.6	255.0
1988	12.7	99.4	177.4	83.5	373.0
1989	10.9	64.9	158.0	82.2	316.0
1990	10.3	79.6	186.9	110.5	387.3
1991	9.9	80.9	146.4	89.5	326.7
1992	7.8	82.2	184.8	101.4	376.2
1993	4.8	65.1	137.9	62.0	269.8
1994	5.6	55.4	115.7	39.8	216.5
1995	5.2	45.2	128.1	61.3	239.8
1996	1.5	44.5	125.8	52.4	224.2
1997	0.0	41.5	85.9	37.1	164.5
1998	0.1	37.0	91.5	55.5	184.2
1999	0.3	38.4	87.0	51.1	176.8
2000	0.6	28.8	29.9	47.3	106.6
2001	0.5	19.6	41.2	34.1	95.3
2002	0.5	19.7	58.7	38.8	117.7
2003	0.5	12.8	43.6	28.5	85.4
2004	0.4	16.3	53.8	28.8	99.3
2005	0.0	6.2	16.5	9.8	32.4

Source: WIBDECO (2006)
*EC$2.7 = US$1

9

Rice trade in the Caribbean*

Valentina Raimondi, Arthur Zalmijn and Alessandro Olper

Introduction

Rice has long been the main source of food, and in some countries of the region, income and livelihood security. For two countries in particular, Guyana and Suriname, rice trade has been an important source for government funds that are channeled into national development objectives, and they are beneficiaries of Africa, Caribbean and Pacific Group of States (ACP) associated rice trade preferences. However, changes taking place at the bilateral level (European Union (EU) reform of Common Agricultural Policy (CAP)) and the multilateral level (Doha Round of the World Trade Organization (WTO) negotiations) have a strong impact on the significant socio-economic role played by the rice trade and could affect regional food security. This paper focuses on the link between rice production, trade policy and the impact of market changes on rural development and food security in the Caribbean Community (CARICOM) region. It begins with a brief description of the world rice situation and goes on to describe the Caribbean rice market from a trade and food security standpoint. Subsequent sections address the European rice regime and especially its interface with ACP producing countries. The final section presents conclusions on how to assist rice industry development in the Caribbean in a trade policy context.

9.1 World rice situation and Caribbean rice exports

The global rice industry covers the production of paddy rice, processing, marketing and distribution of rice and rice products in local, regional and world markets. The total area planted globally is approximately

* The introduction and first two sections of this paper were prepared by Mr Arthur Zalmijn, FAO consultant and rice sector specialist. The third and fourth sections were prepared by Ms Valentina Raimondi and Mr Alessandro Olper of the Università degli Studi di Milano.

155 million hectares; in 2005, 628 million metric tons (tonnes) of paddy was generated from the planted area and a record volume of 29 million tonnes of rice (4 to 5 percent of the total) entered the world market. An estimated 50 percent of the world's population consumes rice, and most production is consumed where it is produced. Rice is of critical importance to developing countries. The world's top consumer is China with a 34 percent share, followed by India (21 percent), Indonesia (9 percent) and Bangladesh (6 percent). The EU ranks nineteenth, with a consumption of 2.1 million tonnes. Although there has been an increase in use of rice for animal feed in recent years, rice remains essentially a staple for human consumption. Global demand for the next decade is expected to expand at slightly less than 1 percent per year, down from 1.7 percent in the 1990s. By 2010 Asian countries are expected to supply 75 percent of the international rice market, with Thailand and Viet Nam accounting for half of the world's exports. Far East countries, along with Argentina and Uruguay, will probably have to venture beyond their traditional markets in South America and compete with the United States to gain a larger portion of the Central American and Caribbean markets. By 2010 world real rice prices are projected to be very close to the 1997–1999 averages, which were substantially higher than those of the 2000–2002 period.

Rice trade in the Caribbean reflects the economic and political relations that ACP nations have had through their colonial ties with Europe. Many ACP countries enjoyed a special relationship with the European Community (EC) (now European Union) since long before the official formation of the ACP Group in 1975. This special relationship was extended through the Association of the Overseas Countries and Territories (OCT), instituted under the Treaty of Rome in 1957, and the two Yaoundé Conventions (1963 and 1969) linking the EC with the African states, Madagascar and Mauritius. In signing the Georgetown Agreement on 6 June 1975, the 46 ACP States further affirmed their common identity based on solidarity, and gave the ACP proper legal status. The recent era of EU–ACP economic arrangements related to rice are summarized in **Table 9.1.**

Guyana and Suriname had benefited from these arrangements in terms of rice trade. However, Suriname's rice exports declined from 88 000 in 1996 to 36 000 tonnes in 2005. Guyana's exports increased in the mid-1990s to 280 000 tonnes but declined to about 180 000 tonnes by 2005. The next section provides a more complete picture of the rice market in the Caribbean.

9.2 Rice production and trade in the Caribbean

The most important rice-producing countries of the forum of the Caribbean ACP States (CARIFORUM) are Suriname, Guyana, Dominican Republic, Haiti and Belize, with a 2005 paddy production of 1 621 593 tonnes. Major exporters

TABLE 9.1
Arrangements between the EU and the ACP on rice

Year	Agreements	ACP countries	European countries	Quota	Rice regulations
1975	Lomé I	46	9	No quota system maintained	The volume traded was based on the total quantity shipped during the previous 3 years plus 5 percent. For these quantities the EC applied a reduced levy.
1980	Lomé II	58	9	No quota system maintained	The volume traded was still based on the quantity shipped during the previous 3 years plus 5 percent. For these quantities the EC applied a reduced levy.
1985	Lomé III	65	10	122 000 tonnes of brown rice and 17 000 tonnes of broken rice	Introduction of quota system with fluctuating levy for the direct ACP route; duty-free access of Netherlands Antilles channeled ACP rice into Europe.
1990	Lomé IV	68	12	125 000 tonnes of brown rice, plus 20 000 tonnes of broken rice	Fluctuating levy system for the direct route; duty-free access of Netherlands Antilles channeled ACP rice into Europe.
1992–1994	Lomé IV	70	12	125 000 tonnes of brown rice, plus 20 000 tonnes of broken rice	Fluctuating levy system for the direct ACP route. Penetration of huge quantities of ACP rice into Europe and channeled via the Netherlands Antilles.
1995	Lomé IV, revised in Mauritius	70	15	160 000 tonnes of brown rice, plus 20 000 tonnes of broken rice	Fluctuating levy system for the direct ACP route; penetration of huge quantities of ACP rice into Europe channeled via the Netherlands Antilles.
1997	Mid-term review	70	15	160 000 tonnes of brown rice, plus 20 000 tonnes of broken rice	Ceiling duty paid price; licensed imports of ACP rice into Europe; introduction of tranche system.[1]
2000	ACP–EU Partnership Agreement (Cotonou)	77	15	160 000 tonnes of brown rice, plus 20 000 tonnes of broken rice	Ceiling duty paid price; licensed imports of ACP rice into Europe; introduction of tranche system.
2000–2007	Preparatory period	77	25	160 000 tonnes brown rice plus 20 000 tonnes of broken rice	Ceiling duty paid price; licensed imports of ACP rice into Europe; introduction of tranche system.

are Guyana and Suriname, while major importers are Dominican Republic, Haiti, Cuba and Jamaica. **Table 9.2** shows rice imports for 1996–2000.

As shown in **Table 9.3** the demand for rice in the Caribbean exceeds production. Regional milled production is approximately 568 000 tonnes.

TABLE 9.2
Rice imports to the Caribbean region, 1996–2000, in tonnes

Country	1996	1997	1998	1999	2000
Antigua and Barbuda	650	680	650	650	650
Bahamas	5 600	7 410	7 260	12 926	8 620
Barbados	10 284	7 738	5 605	5 058	8 080
Cuba	338 021	290 564	310 060	448 787	392 549
Dominica	1 019	1 260	1 003	1 003	1 003
Dominican Republic	3 400	68 500	66 000	82 100	53 600
Grenada	3 715	1 581	1 910	1 776	2 056
Guyana	–	–	–	–	–
Haiti	210 600	248 000	216 100	249 000	252 600
Jamaica	78 705	100 900	68 100	69 800	47 200
Montserrat	100	100	25	30	30
Netherlands Antilles	64 500	34 700	3 000	2 500	5 400
Saint Kitts and Nevis	921	1 140	4 100	1 000	1 000
Saint Lucia	2 759	2 812	3 203	3 624	3 624
Saint Vincent and the Grenadines	8 861	13 866	15 312	14 658	6 400
Suriname	–	–	–	–	–
Trinidad and Tobago	59 963	29 473	37 327	39 215	25 031
Caribbean Region	791 828	811 074	743 194	935 586	811 301

Source: CARICOM Secretariat

With 2005 total imports of 856 762 tonnes and exports of 224 193 tonnes, the net available quantity for domestic use that year was about 1 200 000 tonnes. The Dominican Republic is the largest producer, while Cuba, Haiti and the Dominican Republic have the largest imports due mostly to population size. Guyana and Suriname have the highest consumption levels per capita, more than twice the region's average.

According to the Caribbean Rice Association, the main sources of rice imports for CARICOM Member States are regional (52 percent), followed by the United States (40 percent), and Far East and South American countries (8 percent).

9.2.1 Rice-exporting Caribbean countries

Suriname

The rice industry is the most important agricultural activity overall in Suriname, covering approximately a half of the total area under agriculture. Rice acreage grew considerably after 1970: almost doubling in the period between 1975 and 1986, with area planted and paddy production generated reaching 74 900 hectares/325 900 tonnes in 1985. However as a result of worsening macroeconomic conditions, the area decreased more than 25 percent between 1987 and 1994. Cropping intensity (number of times per year area is planted) dropped from 1.5 in 1986 to 1.1 in 1994, indicating the problems farmers face in maintaining a twice-yearly crop.

TABLE 9.3
Caribbean rice: production, imports, exports and net quantities (tonnes) for domestic use (2005)

Country	Calculated milled rice production	Imports	Total	Exports	Quantities for domestic use
Antigua Barbuda	–	650	650	–	650
Bahamas	–	8 620	8 620	–	8 620
Barbados	–	6 253	6 253	–	6 253
Belize	3 500	502	4 002	–	4 002
Cuba	105 000	392 549	497 549	–	497 548
Dominica	–	604	604	–	604
Dominican Republic	210 000	53 600	263 600	–	263 600
Grenada	–	2 056	2 056	–	2 056
Guyana	147 110	10 778	157 888	182 175	24 2872[1]
Haiti	35 000	252 600	287 600	–	287 600
Jamaica	–	46 358	46 358	–	46 358
Saint Lucia	–	9 740	9 740	–	9 740
Saint Kitts and Nevis	–	498	498	–	498
Saint Vincent and the Grenadines	–	35 508	35 508	4 547	30 961
Suriname	64 845	116	64 961	35 877	29 084
Trinidad and Tobago	2 100	36 330	38 430	1 594	36 836
Total Cariforum + Cuba	**567 555**	**856 762**	**1 424 317**	**224 193**	**1 200 124**

Source: CARICOM Secretariat and consultant calculations

[1] The data on production of paddy and milled rice in Guyana does not justify the quantity available for domestic use. Use was probably made of stocks originating from the previous year (2004).

In 1994 the rice sector's share of total agricultural output was 51 percent, or US$36 million. High export prices between 1994 and 1997 led entrepreneurs to undertake investment programmes in both Suriname and Guyana. After 1997 volumes traded and export prices dropped considerably, resulting in erosion of the profitability of farming and processing operations. In 2005 rice accounted for just 16 percent of the total value of agricultural output of almost US$55.4 million. At the macro level the country suffered a decrease in foreign exchange earnings, resulting in loss of jobs and a reduced basis for income generation through the rice industry. Industry organizations in Suriname were weak and unable to mobilize the support necessary to assist the sector as it faced the crisis. **Table 9.4** presents planted area, production and exports in the period 1985 to 2005.

Guyana

In Guyana the rice industry meets local demand, is a major source of income and employment in rural areas and an important foreign exchange earner. There are 10 000 rice-farming households with production processed in 125 rice mills. Guyana rice producers are highly organized; the Guyana Rice

TABLE 9.4
Suriname rice: planted area, paddy production and exports, 1985–2005

Year	Area planted (000 ha)	Paddy production (000 tonne)	Quantity exported (000 tonne)	Export value (million US$)	Average price (US$/tonne)
1985	74.9	325.9	131.1	37.8	288
1994	60.0	218.0	80.3	30.5	379
1995	61.4	216.0	87.2	35.8	410
1996	61.8	229.0	86.7	35.2	405
1997	53.5	213.0	87.1	28.9	331
1998	50.1	188.0	65.5	19.6	299
1999	48.5	180.0	53.7	14.2	264
2000	42.0	164.0	47.3	13.7	289
2001	50.8	191.0	53.1	11.1	208
2002	40.5	157.1	71.8	14.2	197
2003	52.4	193.7	41.9	9.1	217
2004	50.9	197.2	51.8	11.9	229
2005	47.2	185.3	35.9	8.9	248

Source: Ministry of Agriculture, Suriname

Producers' Association (RPA), established in 1946, has 6 000 members and is active at the national level. Two members represent the RPA on the Guyana Rice Development Board (GRDB), which is the umbrella organization for the rice industry in Guyana. Its main objective is to facilitate rice industry development through research, extension work and technical and marketing assistance.

The European market accounts for approximately 60 percent of Guyana rice exports, while Caribbean region markets absorb most of the remainder. The domestic marketing chain is a very short one. Producers are forced to get rid of their paddy immediately after harvest due to lack of post-harvest facilities and paddy's high perishability. Farmers deliver their paddy, wet or dry, to millers who process it and either export the products or sell them on the domestic market, sometimes through brokers. Production and exports peaked in 1997, and investment in the rice industry expanded. Prices collapsed, however, from US$381 in 1995 to US$226/tonne in 2003. **Table 9.5** summarizes the Guyana rice market from 1985 to 2005.

9.2.2 Importance of the rice industry for rural development and food security

The rice industry plays a crucial role in the socio-economic development of Guyana and Suriname, and any contraction of the industry would have a negative impact on their economies and societies. In Guyana, rice accounts for 12.9 percent of total agricultural gross domestic product (GDP), 4.2 percent of total GDP and 13.7 percent of export earnings (National Bureau of Statistics, 2000). In Suriname rice accounted for 10 percent of total GDP,

TABLE 9.5:
Guyana rice: paddy production, export quantities and earnings, 1985–2005

Year	Area harvested (000 ha)	Paddy production (000 tonnes)	Quantity exported (000 tonnes)	Value (million US$)	Average price (US$/tonne)
1985	76.8	260.2	29.3	5.7	193
1994	96.5	378.4	182.6	55.5	303
1995	130.8	525.5	200.3	76.4	381
1996	213.8	543.4	262.2	93.7	357
1997	141.1	568.2	285.0	84.2	295
1998	127.9	522.9	249.7	73.3	293
1999	145.3	562.3	251.5	71.0	282
2000	114.7	448.9	207.6	51.8	249
2001	123.0	495.9	209.0	50.0	239
2002	106.7	443.7	193.4	45.5	235
2003	129.2	546.2	200.4	45.3	226
2004	115.7	500.9	243.0	55.0	227
2005	106.6	420.4	182.2	46.2	253

Source: Guyana Rice Development Board Annual Reports

12 percent of employment and 27 percent of export earnings in 1996. Rice is also crucial for social development. Small, family-operated farms with between 10 and 20 acres of land dominate rice farming in both countries; with approximately 70 percent of Guyana's and 60 percent of Suriname's rice production being exported they are extremely vulnerable to international market forces.

The rice policy goals for the region pursue the development of an integrated and sustainable rice industry. Overall objectives formulated in the regional rice plan include:

- ensuring better nutrition for vulnerable groups;
- generating income for 85 000 farm families and a further 80 000 persons in support services; and
- increasing foreign exchange earnings from rice exports by US$250–300.

Given the declines in price it is not surprising that both the number of farmers and overall production have diminished considerably. In both Suriname and Guyana rice farming has also become concentrated in fewer hands; the number of small farm in Suriname decreased from 4300 before 1990 to 3440 in 2005. Continued erosion of the profitability of small and medium farms will undoubtedly further increase food insecurity and vulnerability.

The decline in the rice industry affects not only the welfare of rice producers but also businesses that supply machines, spare parts and floating inputs (such as fertilizers and other chemicals), contractors and labourers who prepare land, sow, treat crops, harvest and process. All of these linkages make the rice industry critical to livelihood and food security. Small

landholders living near subsistence level have few reliable alternative sources of income and are in the most vulnerable position; they are most dependent on supportive public policies and interventions.

The future of rice trade for the Caribbean is highly dependent on global policies affecting rice markets. The next section of this paper addresses the EU import regime, undoubtedly the most important policy regime for the Caribbean rice market.

9.3 European Union trade policy for rice

The EU trade policy for rice has changed considerably over the past decade and this has affected ACP rice exporters in important ways. This section outlines EU rice duties, quotas and licences and goes on to discuss their implications for ACP countries.

9.3.1 Duties on rice imports

During the 1995–2000 implementation period of the WTO Uruguay Round, all variable levies were converted into fixed tariffs and reduced by 36 percent. The EU rice bound rate for paddy, husked and milled rice was set at €211, €264 and €416/tonne, respectively. However, under WTO Head Note 7, the duty-paid import price could not exceed a ceiling price, fixed at 180 percent (188 percent) of the intervention price for husked Indica (Japonica) rice and at 263 percent (267 percent) of the intervention price for milled Indica (Japonica). This import regime is summarized in **Box 9.1**.

These duties were subject to revision following the 2003 reform of the EU rice regime. In August 2004, Regulation (EC) No 1549/2004[113] introduced new import duties of €65/tonne for husked/brown rice, €175/tonne for milled rice and zero duty on India and Pakistan basmati rice (and other hybrid varieties of basmati). Basmati is a form of rice that has certain physical characteristics in terms of the length and width of the grains and a characteristic aroma that is evident when the rice has been milled. The agreement introduced a control system based on DNA testing and defined the varieties of Pakistan and Indian rice considered to be basmati for purposes of the zero tariff[114]. The agreement also defined that certain basmati varieties had to be grown in specified geographical areas.

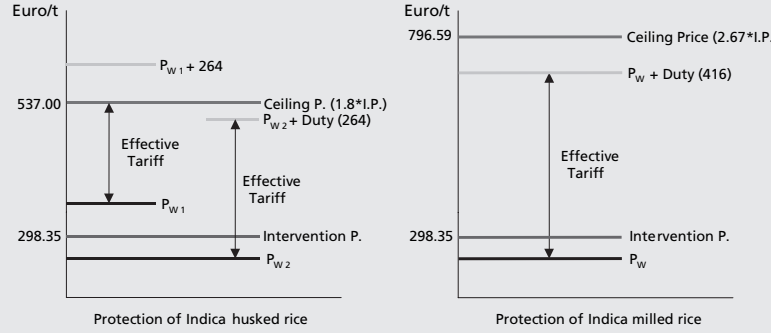
In June 2005, EC regulations[115] fixed the introduction (from 1 March 2005) of variable duties for husked rice depending on the level of rice imports into

[113] Derogating the Council Regulation (EC) No 1785/2003

[114] Pakistan rice varieties are: Kernel (Basmati), Basmati 370, Pusa Basmati, Super Basmati. Indian rice varieties are: Basmati 370, Basmati 386, Type-3 (Dehradun), Tarari Basmati (HBC-19), Basmati 217, Ranbir Basmati, Super Basmati.

[115] Commission Regulation (EC) No 1006/2005; Commission Regulation (EC) No 1007/2005

BOX 9.1
The old rice import regime



During the 1995–2000 implementation period of the Uruguay Round negotiations, all variable levies were converted into fixed tariffs and reduced by a total of 36 percent. The EU rice bound rate (maximum tariff) was set at €211, €264 and €416/tonne for paddy, brown and milled rice, respectively. WTO Head Note 7 established that the duty-paid import price should not exceed a *ceiling price*, fixed at 180 percent (188 percent) of the *intervention price* for husked indica (japonica), 188 percent for husked japonica and 263 percent (267 percent) for milled indica (japonica). In practice, the import price plus the tariff paid should not exceed the ceiling. The results were that imported husked rice was normally competitive with EU rice, whereas milled rice was not (EC, 2002). The system created a community preference because it guaranteed that EU suppliers would always have a price advantage over imports (unless market prices were above those foreseen under the CAP).

The graphs above summarize the combined effects of the bound rate and application of the ceiling. For husked rice [graph at left], at "normal" world price levels (P_{W1}), the ceiling was generally applied. This was because the import price plus the bound rate (P_{W1} + €264/tonnes) would have been higher than the ceiling. However, with recent lower world prices (P_{W2}) the conventional tariff of €264 /tonnes (black arrow) was the effective rate applied because the import price (inclusive of this tariff) was lower than the ceiling.

In the case of milled rice [graph at right], due to the higher level of the ceiling price, the conventional tariff [black arrow] has always been applied.

TABLE 9.6
Import licence volumes of husked rice and consequent tariffs

Import tariff	Tariffs applied				*Previous import licences*	
	€30		€42.5	€65		*Ref.volume*
	if import licence volume has been					*(tonnes)*
Period	*less than*		*between*	*more than*	*Period*	
from Mar 2005	183 463	>	<	248 215	*1 Sept 2004 to 28 Feb 2005*	*215 839*
from Sept 2005	366 926	>	<	496 430	*1 Sept 2004 to 31 Aug 2005*	*431 678*
from Mar 2006	186 013	>	<	251 665	*1 Sept 2005 to 28 Feb 2006*	*218 839*
from Sept 2006	372 026	>	<	503 330	*1 Sept 2005 to 31 Aug 2006*	*437 678*
from Mar 2007	188 563	>	<	255 115	*1 Sept 2006 to 28 Feb 2007*	*221 839*
from Sept 2007	377 126	>	<	510 230	*1 Sept 2006 to 31 Aug 2007*	*443 678*
from Mar 2008	191 113	>	<	258 565	*1 Sept 2007 to 28 Feb 2008*	*224 839*

the EU-25 Member States[116]. The duties are set twice a year, in September based on the previous year's import volume, and in March based on the preceding six months of imports. The EU tariff applied per tonne is then:

- €30 if the import licence volume is 15 percent less than the base;
- €42.50 if the volume is the same as during the base period (plus or minus 15 percent);
- €65 if the import volume is 15 percent more than the base.

The reference level for the first marketing year of the agreement (1 September 2004 to 31 August 2005) was the average volume of EU imports of husked rice (excluding basmati) for the three marketing years beginning 1999/2000 plus 10 percent, i.e. 431 678 tonnes. To take into account the growth in the EU rice market, that base volume is increased by 6 000 tonnes per year for the three marketing years 2005–2008 (see **Table 9.6**). The reference level for each six-month period would be 50 percent of this figure. Before the end of the 2007/08 market year, the parties were to determine new annual increases.

The Agreement with the United States influenced the subsequent "Agreement in the form of an exchange of letters" between the European Community and Thailand (December 2005), which fixed the import duties applicable to semi-milled or wholly milled rice from Thailand beginning 1 September 2005[117]. That Agreement provides for a EU bound tariff of €175/tonne on milled and semi-milled rice and €128/tonne for broken rice, but it allows a six-monthly adjustment of the tariff based on the previous period's import volumes. The annual reference import level is calculated as

[116] Rice import licences are used as a proxy for rice imports because the data is available sooner. By measuring import licences instead of actual imports, EU imports of rice under inward processing schemes are excluded from the tariff calculation.

[117] Commission Regulation (EC) No 2152/2005.

the average volume of total semi-milled and milled rice imports entering the EC-25 from all origin in the marketing years 2001–2004, plus 10 percent (i.e. 337 168 tonnes). The six-month reference import level is calculated as 47 percent of the annual level. The applied tariff per tonne then became:

- €145 if the volume is less than reference import level plus 15 percent;
- €175 if the volume is more than reference import level plus 15 percent.

In addition, the EU would open a new annual semi-milled and milled rice import quota of 13 500 tonnes at zero duty, of which 4 313 tonnes would be allocated to Thailand. In the same period, for broken rice the EU would apply a rate of €65/tonne and would increase the current broken rice quota to 100 000 tonnes at a rate of €65/tonne less 30.77 percent (i.e. €45/tonnes).

One scenario is that if the Doha Round is completed and the EC's proposal accepted,[118] and if rice is not treated as a sensitive product, there would be a further reduction of the tariff on husked rice from €65/tonne to a range between €52 to €35.75/tonne[119], remaining in the range envisaged in the recent agreement with the United States. The €175/tonne tariff on semi-milled rice would be cut to €96.25/tonne[120], reducing the tariff below the €145/tonne level envisaged in the agreement with Thailand.

9.3.2 Quotas on rice imports

One of the main accomplishments of the 1994 Uruguay Round Agreement on Agriculture (URAA) was so-called tariffication, the replacement of quantitative restrictions and other non-tariff barriers (NTBs) with tariffs. To prevent the conversion of NTBs to extremely high tariffs ("dirty" tariffication), tariff rate quotas (TRQs) were introduced (Carter and Li, 2005). Under the negotiations conducted pursuant to GATT Article XXIV(6) in the wake of the accession of Austria, Finland and Sweden to the European Community, it was agreed[121] to open (from 1 January 1996) annual import quotas for 63 000 tonnes of semi-milled and wholly milled rice at zero duty and for 20 000 tonnes of husked rice at a fixed duty of ECU88/tonne. These quotas were included in the European Community list provided for in Article II(1)(a) of GATT 1994. Moreover, under the consultations with

[118] During the sixth WTO Ministerial Conference in Hong Kong in December 2005, the European Commission suggested four tiers for tariff reduction, depending on *ad valorem* equivalent level:
1) if within 0–30 percent, the tariff cut applied would be a minimum of 20 percent and a maximum of 45 percent;
2) if within 30–60 percent, the tariff cuts would be 45 percent;
3) if within 60–90 percent, the tariff cuts would be 50 percent;
4) if over 90 percent, the tariff cuts would be 60 percent or greater if needed to bring the tariff down to the highest permissible tariff of 100 percent.

[119] Because the husked rice tariff *ad valorem* equivalent (AVE) is lower than 20 percent, the consequent tariff cut is between 20 percent and 45 percent.

[120] The semi-milled rice tariff AVE is within the range 40–50 percent; the tariff cuts would be 45 percent.

[121] Commission Regulation (EC) No 327/98

TABLE 9.7
EU rice quotas as of June 2006 (EC Regulation No 965/2006)

Type of rice	Quota (tonnes)	Duty
Wholly milled or semi-milled	103 216	zero
Broken	100 000	30.77% reduction (from €65 to €45/tonne)
Broken	31 788	zero
Husked	1 634	*ad valorem* fixed at 15%

Thailand pursuant to GATT Article XXIII, it was agreed to open an annual quota for 80 000 tonnes of broken rice at an import duty reduced by ECU28/tonne. The volume, distribution and tariff reduction of the import quotas defined in 1998 varied little in the following years, with the exception of the opening of a new import quota of 13 500 tonnes of semi-milled and wholly-milled rice at zero duty and the increase in the import quota for the broken rice to 100 000 tonnes[122].

However, the quotas were revised at the end of June 2006[123], due to the accession of ten new member countries to the European Union[124] (see **Table 9.7**). The revision provides for a further increase of 26 716 tonnes (of which 1 200 tonnes for Thailand) in the annual global tariff quota at zero duty for wholly milled and semi-milled rice, while it opens a new zero-duty tariff quota for broken rice of any origin. [The quota of 20 000 tonnes of husked rice at a duty of €88 became obsolete due to the lower duty applicable from 2004.]

These quotas are allocated to producer countries as reported in **Table 9.8**. The quotas are divided into two or three tranches during the year and import licences are issued for the quota quantities allowed under the tranche. When import licence applications are submitted for rice originating in Thailand or Australia, "export certificates" are also requested. The quotas are administered by applying one of three possible methods, generally considered not explicitly discriminating among exporting countries (OECD, 1999):

1) first come, first served principle (the chronological order of the applications);
2) simultaneous examination method (distribution in proportion of the quantities requested); or
3) traditional/new arrival method (taking traditional trade patterns into account).

Tariff quotas have undesirable features, such as generating quota rents, legitimizing a role for state trading agencies or discriminating among exporting

[122] Commission Regulation (EC) No 2152/2005
[123] (EC) No 965/2006
[124] The accession is been approved by Council Decision 2006/324/EC.

TABLE 9.8
Country quotas on rice imports, in tonnes

Rice	Milled (1) *zero duty*	Milled (2) *zero duty*	Husked *15% ad valorem*	Broken *€45/tonne*	Broken *zero duty*
United States of America	38 721	2 388		9 000	
Thailand	21 455	5 513		52 000	
Australia	1 019			16 000	
Guyana				11 000	
India		1 769			
Pakistan		1 595			
Other origins	1 805	3 435		12 000	
All countries		25 516	1 634		31 788
Total	**63 000**	**40 216**	**1 634**	**100 000**	**31 788**

Source: European Commission
(1) The quotas are divided in three tranches and allocated to producer countries following EC Regulation No 327/98
(2) The quotas are divided in one or two tranches and allocated to producer countries following EC Regulations No 2152/05 and No 965/06.

countries. These aspects make it unclear if the introduction of TRQs truly improves economic welfare (Carter and Li, 2005). The administration of quotas may involve costs such as rent-seeking (i.e. lobbying government officials, bribery, etc.), carrying out complex administrative application processes and negotiating the politics behind the choice of foreign producers (which might not be competitive under normal commercial conditions[125]). However, in the EU increasing quota volumes would likely result in greater welfare gains than would tariff reductions (Bureau and Tangermann, 2000).

9.3.3 EU–ACP Agreement

The Agreement

The EU established preferential trade agreements for imports of rice from ACP countries through Declaration XXII of the Cotonou Agreement (June 2000). While legally it applies to rice originating in any ACP country, in practice only Guyana and Suriname make use of it. It established a quota of 125 000 tonnes for husked rice[126] exports to the EU and a quota of 20 000 tonnes for broken rice. On these quotas a 65 percent reduction in the duty charged was granted, plus a further reduction of €4.34/tonne for paddy and husked rice and €3.62/tonne for broken rice. Milled rice duty is first reduced by €16.78/tonne, then by 65 percent and then by €6.52/tonne. These quotas and their duty reductions are summarized in **Table 9.9**.

The quotas are administered through an import licensing system, with the European Commission issuing licences to European rice importers. Licences

[125] For example, Japan's rice TRQs are allocated in a non-commercial way (Carter and Li, 2005).
[126] This covered paddy, husked and milled rice.

TABLE 9.9
Cotonou Agreement preferential trade agreements for rice imports from ACP to EU

Type of rice	Quota (tonnes)	First reduction in duty charged	Further reduction
Paddy, husked, milled	125 000	paddy, husked: 65% milled: €16.78/tonne, then 65%	€4.34 (paddy, husked) €6.52 (milled)
Broken	20 000	65%	€3.62

for the husked rice quota are issued in January, May and September each year, while the broken rice quota is allocated in two tranches (January and May). In order to receive an import licence European rice importers must apply at the beginning of each tranche. Import licences are issued by the competent authorities of the relevant Member State after a security has been lodged; the security is returned to importers only after their obligations have been fulfilled. The EU rice import market is dominated by a few very large companies – for example, the vast majority of Guyana's rice is imported by just two importers – and there are rules governing how large a quota any single importer can receive.

In some cases, fill rates are below 100 percent. A possible explanation is the complicated and costly administrative procedure for accessing imports under quotas; as a consequence, importers could prefer simpler administrative procedures to a lower tariff (Bureau and Tangermann, 2000).

In the EU system of quota administration, the three tranches system does not coincide with the two cropping seasons of Suriname and Guyana, where harvesting takes place in March/April and September/October. Under the current system, the January–April tranche is the most difficult to supply and this quota is often not met. Because an importer who does not fill a licence within the tranche period in which it was issued has to pay a second security deposit in order to utilize the licence in the next tranche, ACP millers are often subject to a penalty from European importers for the January–April quota. Moreover, millers often offer higher prices for paddy in the period towards the end of April, but when the new tranche begins in May the prices offered for paddy decline, leading to instability in the domestic paddy price. Thus, the three tranches system does not adequately serve the interests of ACP rice producers.

It is not clear how the rent generated by the ACP agreement is allocated. It has been suggested[127] that rice importers earn only a portion of the quota rent, relevant to the duty reduction of 65 percent, while the exporters, selling the rice at ACP prices (which are higher than other international prices),

[127] Personal communication with an Italian rice sector operator

TABLE 9.10
Implications of the changed tariff rate for ACP preference margins, in €/tonne

	Husked rice		Milled rice		Broken rice	
	URAA bound	*Current applied*	*URAA bound*	*Current applied*	*URAA bound*	*Current applied*
MFN tariff	€264.00	€42.50	€416.00	€145.00	€128.00	€65.00
ACP tariff	€88.06	€10.54	€133.21	€38.36	€41.18	€19.13
Level of ACP preference	€175.94	€31.96	€282.79	€106.64	€86.82	€45.87
Loss in preferences		€143.98		€176.15		€40.95

Source: Author estimates

earn the other part of the rent. An importer who obtains a licence to import under quota aims to get a duty-paid price that is lower than the cost of a full-duty import. The exporter in turn hopes to be the one to get the difference between EU domestic prices and the preferential tariff price. The final rent allocation is determined by the relative bargaining power of the importer and exporter.

Implication of EU policy reform for ACP countries

Table 9.10 shows estimated ACP preferences granted within quota, comparing the old and the new EU rice tariffs. Husked rice represents 95 percent of rice exported from ACP. Before 2004 duty on husked rice was €264/tonnes; the ACP tariff within quota was equal €88.06/tonne[128], the ACP preference rate was €175.94/tonne (264 – 88.06). The ACP preference is granted within a quota and €175.94/tonne represents, in effect, an estimate of the quota rent. The current applied tariff for husked rice is €42.50/tonne; the current level of ACP tariff on husked rice is €10.54/tonne[129]. The new level of ACP preference being €31.96. On this basis, the ACP exporter countries have lost a quota rent on husked rice equal to €143.98/tonne (175.94 – 31.96). Assuming that the whole ACP quota is exported in the form of husked rice, the total loss due to the EU tariff reduction would be €18 million[130]. Moreover, the ACP exporters of broken rice, with the new reduced tariff, lose an overall quota rent of €819 000[131].

With only two ACP exporting countries (Guyana and Suriname) and few exporting companies, it is unlikely that an importer would be able to obtain all of the ACP quota rent. Before the tariff reduction, both importers and

[128] 264 times 0.35 – 4.34

[129] 42.50 times 0.35 – 4.34 = 10.54; 42.50 – 10.54 = 31.96.

[130] €143.98 times 125 000 tonnes

[131] €40.95 times 20 000 tonnes

exporters probably obtained some of the quota rent. However, with husked rice rent now down to €31.96/tonne in the EU, non-traditional markets such as Brazil appear more rewarding to ACP exporters, as reported by the Guyana Rice Development Board. Although ACP exporters could obtain a bigger *share* of the rents from heavily-reduced quotas, the reduction of the rent makes the EU less attractive.

9.3.4 Association of the Overseas Countries and Territories

The EU allows duty-free imports from the Association of Overseas Countries and Territories (OCTs), a group of microstates scattered around the globe and linked in a special way to one of several European countries.[132] The agreement used to include imports of products processed in the OCTs using imported raw materials ("cumulation of origin"). This opportunity encouraged Caribbean exporters to pass their rice exports through OCT countries and thereby avoid any duties. As a consequence, increasing quantities of rice grown in the ACP countries and then processed in the OCTs were imported into the EU market, thereby avoiding the EU tariff on direct export into EU. By 1996, total rice exports from Guyana to the EU had reached 260 000 tonnes, 90 percent of which was arriving via the OCTs.

In 1997,[133] as a result of a safeguard request from EC rice producer interests, the ACP's indirect access to the EU market became subject to the limit of 35 000 tonnes expressed as husked rice equivalent. In 2001, when the 1997 Council Decision expired, the EU adopted a new agreement on relations with the OCTs that, applied until 2011, provides an updated cooperation framework for relations between EU and OCTs.[134] This limits the amount of rice that can be imported under the cumulation provision to 35 000 tonnes, 10 000 tonnes of which is reserved for the least-developed OCTs. The figure of 35 000 tonnes can be exceeded if total imports from the ACP (including imports under the cumulation provisions from the OCT) fall below a total of 160 000 tonnes (i.e. 125 000 tonnes under the ACP arrangements and 35 000 tonnes under the OCT agreement).

9.3.5 Generalized System of Preferences and Everything But Arms

The 1996 WTO Ministerial Conference in Singapore resulted in a commitment to improve access for products originating in the least-developed countries (LDCs). In 1998 EU Regulation 602/98 granted preferences equivalent to

[132] Usually listed as the United Kingdom, France, Netherlands and Denmark, but sometimes including Belgium and Italy.

[133] 97/803/EC: Council Decision of 24 November 1997 amending at mid-term, Decision 91/482/EEC on the association of the overseas countries and territories with the European Economic Community

[134] The current legal basis is contained in Decision 2001/822 and implementing provisions are in Commission regulation 638/2003.

TABLE 9.11
EBA tariff quotas for rice imports from LDCs

	2001/02	*2002/03*	*2003/04*	*2004/05*	*2005/06*	*2006/07*	*2007/08*	*2008/09*
Rice (tonnes)	2 517	2 895	3 329	3 829	4 403	5 064	5 823	6 697

Source: European Commission

ACP preferences to the nine non-ACP LDC countries and, in the medium term, duty-free access for essentially all products from the LDCs. In 2000 the Commission proposed duty-free access for all LDC products other than arms and ammunition; it was granted immediately, with a short transitional period (three years) for highly sensitive products (sugar, rice and bananas). The Everything But Arms (EBA) proposal was controversial and the Commission had to make amendments to these transitional provisions. In 2001 the General Affairs Council adopted the Everything But Arms (EBA)[135] amendment to the EU's Generalized System of Preferences (GSP)[136], where zero tariff rate quotas were defined for sugar, rice and bananas.[137]

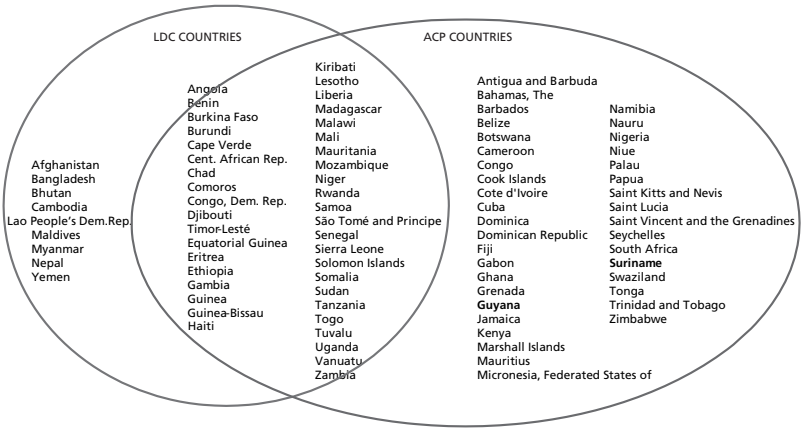
For rice,[138] full liberalization is phased with tariffs reduced on 1 September each year, by 20 percent in 2006, by 50 percent in 2007, by 80 percent in 2008 and entirely suspended as of 2009. In order to provide effective market access until full liberalization, from 2001 LDC rice could enter duty free within the limits of a tariff quota. The initial global tariff quotas for LDCs were based on their best export levels to EU in the recent past, plus 15 percent; the quota grows by 15 percent every year. It started at 2 517 tonnes (husked rice equivalent) in 2001/2002, growing to 6 696 tonnes in 2008/2009 (see **Table 9.11**). The level of imports from the LDCs prior to the granting of this concession was just 2 517 tonnes.

The large potential availability of rice from the LDCs, and the EU prices significantly above world prices, meant the agreement was incompatible with the rice scheme of the first CAP reform, and motivated CAP changes in the context of the mid-term review.

Indeed, an impact analysis published by the Agriculture Directorate of the Commission in 2002 reported that, by the end of the decade, gradual implementation of the tariff reduction for LDC imports would have led to dramatic deterioration in the rice market. From 2006/07 onwards, the significant reduction in tariff for LDC imports could cause imports to the EU to surge to 1.7 million tonnes in 2009/10, replacing a very large part of EU rice production. Moreover, medium-term perspectives for the EU rice

[135] Council Regulation 416/2001 of 28 February 2001.
[136] Council Regulation 2820/98 of 21 December 1998.
[137] For a detailed discussion on the impact of EU preferences for LDCs under EBA see Brenton(2003)
[138] All products of tariff heading 1006: paddy, husked, milled and broken rice.

FIGURE 9.1
LDC and ACP countries involved in EU trade policy



market indicate that, by 2009/10, total rice stocks in the EU would stand at the unsustainable level of 2.8 million tonnes, of which 50 percent would be Indica rice.

The EBA agreement considerably weakens the ACP competitive position in the rice market: while all but nine LDCs are ACP countries, only 52 percent of ACPs are included in the EBA agreement (see **Figure 9.1**). Guyana and Suriname are not within the ACP/LDC countries and the expected import growth from LDCs (although limited by subsequent EU policy reform and intervention price reduction) will probably hurt them considerably.

9.4 Conclusions on future rice trade policy for the Caribbean

The regional objectives for the Caribbean rice industry are to develop an integrated and sustainable rice industry in the CARIFORUM states in order to maximize food security and regional self-sufficiency, improve nutrition of vulnerable groups, increase foreign exchange earnings from rice exports and establish a competitive and sustainable rice industry. Among the first markets targeted should be the intra-Caricom and Caribbean markets, as Haiti and Cuba separately imports more rice than Guyana and Suriname together has to export.

There is a lot of work to be done within the Caribbean to increase rice productivity all along the supply chain and it is essential that at both a national and regional level there be increased efforts to address constraints

on the supply side. Domestic policy actions affect trade outcomes. The link can be seen in the need for Caribbean negotiators in multilateral trade talks to stay vigilant of how domestic rice policy arrangements in other countries might result in unfair competition in rice markets – so that they can propose legitimate countervailing measures to avoid unfair competition. Indications are that if producing and exporting countries agree to reduce domestic support and eliminate export subsidies, Caribbean producers could benefit. Europe and the United States could face decreases in production, importing countries could very well increase their demand, even though changes in the world price are expected to be small.

There could be more attention paid to accessing and managing CARICOM markets for regional rice interests. It is critical that there be more consistent implementation of the agreed Common External Tariff. Arrangements should be made to better facilitate development of intra-regional trade.

The situation with the EU will continue to be challenging. The recent evolution of EU rice support policy – reduction in the most-favoured nation duty, favourable tariff treatment to basmati rice, duty-free access for LDC countries by 2009 and changes in support to its own producers – have all affected the ACP competitive position. Yet the EU remains committed to assisting the development of ACP states, and a number of policy interventions could be made to help Caribbean countries. One would be the removal of the ACP duty, which would generate extra revenue for rice exporters in Guyana and Suriname and redress to some degree the imbalance on rice exports market faced by ACP countries (which do not subsidize rice production) in relation to highly subsidized farming systems.

Another measure would address the mismatch between the current EU import licensing tranche system and the cropping seasons of Guyana and Suriname, which increases costs for ACP exporters and leads to greater instability in domestic paddy prices. Converting the system to a two-tranche system (March–August and September–February) would also reduce transaction costs, especially those related to administration of the marketing system. Given the other forms of support existing in the EU it is still unlikely that a cut in the ACP duty will make an important difference.

The above measures are unlikely to adequately compensate for the EU price reduction, and the removal of remaining quantitative restrictions would help to alleviate the severe impact on the ACPs that the free entry of LDCs could impose from 2009. Unlimited duty-free access for the LDCs will be a more important challenge to ACP exporters of rice than the erosion of preferences deriving from recent tariff reduction and future further cuts that might arise from the Doha Round.

References

Carter, C.A. & Li, X. 2005. *Agricultural tariff rate quotas: impact on market access*. Paper presented at the AEA Annual Meeting. Providence, Rhode Island, 24–27 July.

Brenton, P. 2003. *Integrating the least-developed countries into the world trading system. The current impact of EU preferences under Everything But Arms*. World Bank Policy Research Working Paper WPS 3018. Washington, DC, World Bank.

Bureau, J.C. & Tangermann, S. 2000. Tariff rate quotas in the EU. *Agri. and Resources Econ. Rev.*, 29(1): 70–80.

Ente Nazionale Risi. 2005. Riso. *Evoluzione di mercato e sue prospettive*. November. Rome.

European Commission. 2002. *Rice. Markets, CMO and medium-term forecast*. Commission Staff Working Paper SEC(2002) 788, 10.7.2002. Brussels, EC.

OECD. 1999. *Preliminary report on market access aspects of Uruguay Round implementation*. Document COM/AGR/APM/TD/WP (99) 50. (June). Paris, Organisation for Economic Co-operation and Development.

10

Competitiveness, investment and Caribbean agriculture

J.R. Deep Ford and Andrew Jaque

Introduction

In an era of globalization and in the post-Uruguay Round international economic order that is committed to increased trade liberalization, the ability of small countries generally – and island states in particular – to compete economically in the world market has become critical to the survival of their agricultural sectors and rural communities. It is thus crucial to understand the peculiar characteristics of small countries in relation to concepts of and approaches to achieving increased competitiveness so that their agricultural sectors can continue to contribute to the food security of their populations. Increased market access provides an opportunity, but it is investment to develop supply-side capacity, enterprises and entrepreneurship that will enable the achievement of competitiveness and sustainability. This chapter focuses on competitiveness issues in the countries that comprise the Caribbean Community (CARICOM[139]).

In addressing the current challenges it is important to understand CARICOM economies within the context of the particular characteristics of specific countries and as each country fits into the regional context. The regional context is important because CARICOM and each of its individual Member States are party to an intra-CARICOM free trade agreement and a CARICOM Single Market and Economy (CSME) commitment. The individual country context is important because the countries are very different from one another, with some being tourism centres (e.g. Barbados and the Bahamas), others sources of agricultural raw materials (e.g. Suriname,

[139] The Caribbean Community (CARICOM) is comprised of 15 member states: Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago. The Bahamas is not a member of the CARICOM Common Market.

Belize and Guyana) and still others potential agro-industrial processing points (e.g. Trinidad and Tobago, Jamaica and Barbados). The area and population of each country varies: 7 of the 15 countries have land areas of between 100 and 610 km^2; 8 have arable land areas of less than 9 000 ha; 5 have populations of fewer than 85 000 people. All but two of the countries (Guyana and Belize) are net food importers and most are faced with loss of markets for one or more traditional export crops due to erosion of preference margins.

Given the importance of increasing the competitiveness of CARICOM agriculture there have been efforts to understand the determinants of competitiveness and address these in order to facilitate the transition of agricultural sectors from dependence on a few crops to greater diversification and to becoming dynamic growth centres. This chapter provides an introduction to conceptual aspects and determinants of competitiveness. It then assesses the competitiveness of several commodities using both a qualitative assessment approach and a commonly-used quantitative measure. The last section makes recommendations for increasing competitiveness.

10.1 Concepts and measurement of competitiveness

Achieving competitiveness is a complex process as it results from an interface of many factors at several levels. The search for greater competitiveness has focused attention on: evaluating the competitiveness and investment environment; understanding factors directly related to the competitiveness of a firm or enterprise; and measuring the competitiveness of commodities. These three aspects are addressed below.

Competitiveness and investment environment

The competitiveness and investment environment is closely related to the character of the economy. The competitiveness environment has considerable overlap with considerations related to the investment climate and therefore these dimensions are addressed together here. A wide variety of considerations come into play, especially those relating to management by the public sector, such as:

- a stable policy and economic environment (good governance, efficient regulatory systems and institutions, stable monetary and fiscal policy);
- adequate physical infrastructure (communication, energy); and
- effective health and educational systems (for healthy, skilled workers and to allow for technology development).

The essential dimension here is the entrepreneur's perception of the enabling environment from a political, administrative and infrastructural standpoint. It depends on the effective provision of public goods. In terms of governance, the key aspects are the existence of law and order and hence peace and stability in the country. Efficient regulatory systems provide transparent, predictable

and enforceable laws affecting such areas as enterprise establishment, business contracts and property rights. A stable monetary and fiscal policy environment is generally expected to promote low inflation, lead to a realistic and stable exchange rate and a tax system that promotes investment.

The quality and availability of physical infrastructure services is one of the most basic and visible dimensions for encouraging investment and enabling competitiveness. Transport infrastructure, especially ports and roads, are critical factors that determine trading opportunities. The cost of telecommunications, power and water are often determined by the level of government investment and commitment to making these services widely available and accessible.

The quality of the work force is another significant dimension of the investment and competitiveness environment that is relatively more influenced by the public sector. It requires the existence of an effective health and education system that makes available a healthy and skilled workforce. The existence of both formal and informal education and training opportunities at all levels, readily available to a large cross-section of the population, evidences itself through the achievement of high literacy levels. Policies that promote continued learning and provision of opportunities through both the public and private sectors allows the workforce to upgrade.

The investment climate is very much related to the degree of risk that exists and the extent to which these risks have been mitigated by public sector interventions. It is a question of the character of the economy, of how the private and public sectors interface and trade off – in terms of activities carried out by one or the other, the amount of security and services the private sector requires before it invests, and the extent to which it invests in particular sectors. The greater the risks the more limited will be the range of services and products provided by the private sector. The adverse impact of risks on investment and enterprise development is due to the fact that risks increase firms' transaction costs, thereby undermining their potential competitiveness.

Independent rankings can be used to compare economies in the Caribbean in terms of both their competitiveness (Global Competitiveness Index, GCI) and food security (*State of food insecurity in the world*). Six Caribbean countries were included in the GCI 2006 rankings of 125 countries' economies. Among the six countries, the two extremes are Barbados, ranked at 31st, and Guyana, at 111th. The four countries in between are Jamaica (60th), Trinidad and Tobago (67th), Dominican Republic (83rd), and Suriname (100th). The nine factors in the index are grouped into the three categories of basic requirements, efficiency and innovation factors. The basic requirements data is used here to emphasize what we describe as the character of the economy. The specific ranking for each factor by country is shown in **Table 10.1**.

Generally, the overall GCI ranking holds for the individual indicators, in that Barbados is ranked highest in each category and Guyana is ranked lowest in all but one. The health and primary education ranking of the Dominican

TABLE 10.1
Global Competitiveness Index (GCI): basic requirements

	GCI rank	Basic requirements rank	Institutions rank	Infrastructure rank	Macroeconomy, rank	Health/primary education rank	Undernourished, population %
Barbados	31	32	23	28	61	28	2
Jamaica	60	79	76	53	118	65	10
Trinidad and Tobago	67	63	85	70	38	64	11
Dominican Republic	83	89	93	80	85	89	27
Suriname	100	91	89	100	94	51	10
Guyana	111	108	115	104	121	75	9

Source: World Economic Forum (2006); FAO (2006).

Republic compared to Guyana is reinforced by the Food and Agriculture Organization of the United Nations (FAO) finding that the undernourished population in the former is three times that in the latter. The rankings usually correspond to scores on the individual indicators; in Suriname and Guyana the health and primary education rankings help their overall scores and in the case of Suriname prevents it from ranking with the bottom 25 countries. While Jamaica and Trinidad and Tobago have similar overall rankings and food security performances, their ratings are very different for infrastructure (Jamaica is superior) and macroeconomic management (Trinidad and Tobago is superior). The differences between infrastructure and macroeconomic management can also be contrasted for Barbados and Trinidad and Tobago: Barbados is superior in terms of infrastructure, while Trinidad and Tobago is relatively superior in terms of macroeconomic outcomes.

Enterprise competitiveness

Enterprise competitiveness is more a question of the character of the firm. In terms of individual firms and enterprises two categories of factors have come to dominate considerations of competitiveness: those factors considered to be associated with the supply side and to affect efficiency, specifically the cost of production; and those determined more by the demand and marketing side, which have more to do with the sophistication of the firm, its marketing efficiency, innovation and differentiation of the outputs of the enterprises. Clearly, as the literature on competitiveness reveals, both the environment and the behaviour of the firms determine the competitiveness outcomes.

The literature continues to expand on what it means to have a comparative advantage or to be competitive and have the ability to consistently market a product profitably. It highlights the importance of the public sector services mentioned above, and supply-side cost and differentiation. The latter two aspects, more related to technical production and marketing efficiencies, are elaborated here.

We draw on the work of one of the most respected contributors to the literature on competitive advantage, competitive strategy and the competitive advantage of nations. Michael E Porter (Porter, 1990) emphasizes two basic types of competitive advantage: lower cost and differentiation. *Lower cost* is the ability of a firm to design, produce and market a comparable buyer value (products) more efficiently (at a lower cost) than its competitors. *Differentiation* is the ability to provide unique and superior buyer value (products) to the buyer in terms of product quality, special features or after-sale service and as a result commands a premium price.

In the context of the Caribbean two traditional exports can be identified to bring out this distinction: bananas and coffee. Central American bananas are produced at a lower cost than Caribbean bananas. Several factors related to scale, labour costs and technological practices account for the ability to market a comparable product at a much lower cost. On the other hand, Caribbean coffee producers, particularly in the case of Blue Mountain coffee from Jamaica, are able to differentiate their product and are more competitive because they produce and market what is considered a superior product and thus can command a higher price (which offsets higher production costs).

Higher operational productivity than the competition is fundamental to both types of competitive advantage. It is unusual for a firm to have the competitive advantage in both respects for a single product. The firm that seeks to differentiate its product (as opposed to offering a product comparable to that of its competitors) will very likely incur increased costs. However, it is important that firms pursue both types of competitive advantage while being relatively more committed to one. It is not enough to consider only the cost of production of a commodity but also distribution strategies and targeted market characteristics before concluding an assessment of competitive advantage. In the long run firms producing and marketing products succeed if they possess sustainable competitive advantage.

Very importantly, Porter also helps us to understand how to pursue this competitive advantage in the context of globalization and its implications for the changing role of the state. Five factors influencing competitiveness are identified:

1. *Industry structure factors*: the competitive structure of the industry, firm size and concentration and ownership structure.
2. *Product market demand factors*: market access, marketing infrastructure and product characteristics.
3. *Input market factors*: sources of raw materials and intermediate inputs, human resources, technology and credit.
4. *Infrastructure and support industries factors*: transportation and marketing linkages, information systems, education and entrepreneurial training systems. These are generally shared across industries.

TABLE 10.2
Global Competitiveness Index (GCI): efficiency and innovation factors

	GCI rank	Efficiency factors, rank	Higher education and training rank	Market efficiency rank	Technological readiness rank	Innovation factors rank	Business sophistication rank	Innovation rank	Undernourished population %
Barbados	31	29	24	49	34	54	58	49	2
Jamaica	60	53	67	61	40	56	56	54	10
Trinidad and Tobago	67	64	65	69	60	63	64	67	11
Dominican Republic	83	76	91	82	58	91	79	99	27
Suriname	100	107	99	117	107	114	111	113	10
Guyana	111	114	114	106	101	106	97	116	9

Source: World Economic Forum (2006); FAO (2006).

5. *Government factors:* the general policy and regulatory environment, government support agencies and organizations, agricultural sectoral policies and programmes.

There is also always the factor of uncertainty (chance events) that falls outside the control of firms and, often, governments.

In this section we emphasize aspects of efficiency, specifically market and technological efficiency. Key factors include transaction costs (reflected in the procedures and time it takes to complete business practices); the quality of management schools and availability of specialized research and training services; firm-level technology absorption; and the extent and nature of marketing strategies. In terms of innovation the areas measured include company spending on research, the extent of university/industry research collaboration, and producer sense of value-chains. **Table 10.2** uses data from the World Economic Forum's Global Competitiveness Index (GCI) to present differences in these areas across Caribbean countries.

The column "efficiency factors rank" is an integrated ranking of the three columns that follow it, while the column for the innovation factors rank is an integrated ranking of the two columns that follow it. A striking result is the extent to which the efficiency factors of Barbados are relatively superior to the innovation factors across the countries. This implies that the quality of the work force is better, transaction costs are lower and technology availability and use is more common in Barbados relative to the other countries. In terms of innovation the difference between these countries is much less pronounced, implying that networks and supporting industries and sophistication of a firm's operations and strategies are relatively similar, especially across Barbados, Jamaica and Trinidad and Tobago. Guyana and Suriname are particularly weak in this regard.

Table 10.3 presents Porter's business competitiveness index (BCI) results for the same countries. This index emphasizes microeconomic underpinnings

TABLE 10.3
Business competitiveness index (BCI)

	GCI rank	BCI rank	Busines environment quality rank	Company operations and strategy rank	Under-nourished population %
Barbados	31	42	41	60	2
Jamaica	60	54	55	52	10
Trinidad and Tobago	67	63	64	65	11
Dominican Republic	83	84	86	79	27
Suriname	100	109	108	115	10
Guyana	111	114	115	111	9

Source: World Economic Forum (2006); FAO (2006).

of competitiveness related to improving economic efficiency and productivity. It is interesting that Jamaica and Trinidad and Tobago improve their ranking compared to the GCI, while Barbados moves down considerably. The relatively more established breadth and vibrancy of the private sector in the former two countries may be one reason for this.

It is important to recognize the dynamic aspects of all of the above factors and the fact that changes in conditions that characterize them and innovations can very quickly shift a country's competitive advantage ranking. Among typical innovations that shift competitive advantage are new technologies, new or shifting buyer needs, the emergence of a new industry segment, shifting input costs or availability and changes in government regulations. If firms within nations and regions are to establish and maintain a competitive advantage it is critical that the important role of the government be recognized. In the words of Porter (1990):

> *"Competitive advantage is created and sustained through a highly localized process. Differences in national economic structures, values, cultures, institutions, and histories contribute profoundly to competitive success. The role of the home nation seems to be as strong as or stronger than ever. While globalization of competition might appear to make the home nation less important, instead it seems to make it more so. With fewer impediments to trade to shelter uncompetitive domestic firms and industries, the home nation takes on growing significance because it is the source of the skills and the technology that underpin competitive advantage."*

10.2 Measuring competitiveness of commodities

The need for Caribbean countries to pay attention to improving productivity and competitiveness increased sharply from 1995, when the agriculture sector formally entered into multilateral trade negotiations. Essentially, the commitment to trade liberalization in the agricultural sector, the tariffication of barriers to trade and the lowering of those tariffs has meant the erosion of tariff margins formerly enjoyed by these countries. Thus, their agricultural sectors must be more competitive in order to survive.

Arguably the most comprehensive approach to measuring competitiveness of commodities, and the one used in this chapter, is through the policy analysis matrix (PAM) (Monke and Pearson, 1989), which is based on the computation of a number of price distortions, cost and profit indicators of competitiveness such as the nominal protection coefficient (NPC), the effective protection coefficient (EPC), the domestic resource cost (DRC) coefficient, producer subsidy equivalent (PSE), private profitability and social profitability. The section reports the application of this methodology to the Caribbean countries.

As the importance of enterprise management and value chains in global trade gains recognition, productivity performance indicators comparable across firms and countries are becoming increasingly popular as measures of competitiveness. Obviously, as trade becomes more liberalized and at the same time creates regional and world trade groups, the need arises for comparative indicators. In this context it is useful to have benchmarks for comparing data on supply chains in an industry context.

It is crucial that the concept and measurement of productivity adopted be the one reflected in the broader approach pioneered by Porter; it extends beyond *physical output* per unit of input to represent *consumer value* per unit of output. Factor productivity is important but is only a part of the competitiveness picture; becoming and remaining competitive requires several sets of conditions essential to creating consumer value. To improve and maintain competitiveness it is necessary to identify benchmark indicators of current levels of performance, impediments to growth and opportunities to be pursued in different industries. In the third section of this paper the Porter framework is used to evaluate subsectors in different countries as a strategy toward increased competitiveness.

There are other measures of competitiveness related more closely to market participation. Examples of these are the revealed comparative advantage (RCA) measure, which compares a commodity's share in a country's exports to the commodity's share in world exports; the rate of exposure to competition, which compares exports plus imports to production; and relative trade balance, which measures exports less imports of a commodity, divided by exports plus imports. These measures are not considered useful in a framework where the effort is on increasing competitiveness, making decisions on continuation and/or expansion of an industry, because they can be affected by factors that are not necessarily determinants of competitiveness such as supplies currently available and marketing procedures.

The intention here is to combine indicators that measure the competitiveness climate with indicators more directly related to a particular commodity or industry. Both dimensions are critical. In the Caribbean there are variables in both areas. For example in Jamaica lagging competitiveness is due more to macroeconomic reasons (high interest rates, depreciation of the

foreign exchange rate and praedial larceny), while in Guyana increasing competitiveness would require upgrading agricultural technology and doing better international marketing.

Competitiveness of Caribbean non-traditional commodities: the PAM approach

This section of the paper presents the results of an assessment of the competitiveness and comparative advantage of a number of non-traditional agricultural products in several CARICOM Member States, based on the computation of a policy analysis matrix (PAM). The PAM is an analytical framework aimed at examining the impact of policies based on two enterprise budgets: one valued at market prices, and the other valued at economic or social prices. The divergence between the market and economic values indicates the static impact of the policy setting, and constitutes a convenient way to shed light on the competitiveness of the economic sector(s), and their comparative advantage.

The PAM methodology is presented and discussed extensively in Chapter 12.[140] The following section reports on the specificity of the present application to the Caribbean countries, particularly for what concerns the calculation of the economic prices which are compared with the market prices.

Procedure for economic/social pricing of imports and exports

Our work on Caribbean commodities required amending the standard procedures of economic pricing for determining farm-level values for the traded inputs and outputs because of lack of data.

The procedure of constructing the PAM involves reassessing the initial budget constructed in market prices into a budget valued in economic/social prices. Economic pricing techniques vary depending on if the item is a tradable item or non-tradable item. For tradable items (exports, imports and import substitutes) farm-level export or import parity prices are calculated. The standard procedure for calculating import parity prices begins with the cost insurance freight (CIF) price for the item and then adjusts for the market charges involved in moving the item from the hold of the ship to the level of the farmgate. The CIF price is usually quoted in a foreign currency (US dollars) and this must be converted to domestic dollars using a real (undistorted) as opposed to the nominal exchange rate. In the case of the export parity price the standard social pricing procedure starts with the free on board (FOB) price which is converted to an FOB price in domestic dollars using the real exchange rate before it is adjusted back to the farm-gate level by deducting all marketing and transport charges. Importantly in calculating

[140] Those readers unfamiliar with the Policy Analysis Matrix (PAM) methodology may want to read Section 12.2 of Chapter 12 at this point.

import/export parity prices, taxes and subsidies are omitted. Taxes may be levied in the form of customs charges, environmental levy, customs service charge, VAT, sales tax, consumption tax.

With exception of commodities in Trinidad and Tobago, the social/economic pricing procedures utilized in this study for calculating the import and export parity prices were amended to take account of missing data. In particular, three pieces of data were missing: the real effective exchange rate (REER); CIF prices; and the mark-up charged by intermediaries. In all cases information was available on (i) final (market) price paid/received by farmers, and (ii) the customs charges and other taxes and subsidies in effect.

The amended procedure aimed to obtain an estimate of the value of distortionary taxes and subsidies contained in the market price of the imported/exported item. The social/economic price was then obtained by adjusting the market price to remove the value of the distortions. It also used the nominal exchange rate instead of the REER. However, Trinidad and Tobago and Jamaica have floating exchange rate systems and thus the nominal exchange rate can be considered equal to the REER. In the case of Saint Vincent and the Grenadines, Saint Kitts and Nevis and Dominica, countries that belong to the East Caribbean Currency Union, the International Monetary Fund (IMF) data indicate very little change in the real effective exchange rate (REER based on changes in relative consumer prices with 2000 base year) between 1995 and 2004 – Dominica: 88.1 vs 89.3; Saint Kitts and Nevis: 85.0 vs 88.8; Saint Vincent: 87.8 vs 86.2. In all countries the REER appreciated from 1995 and then depreciated (stimulated by movements in the US dollar exchange rate) in the last 3-4 years. The immediate point here is that conclusions from comparing REER values are highly influenced by the beginning and end points of the time series used. A second point is that for the countries other than Trinidad and Tobago and Jamaica the results should be interpreted with some caution that the social/economic pricing have not fully isolated the effects of macro-economic distortions.

In cases where only the CIF data were missing (as in the case of carrots in Jamaica) a spreadsheet was used to set up a schematic of the social pricing process. For carrots it was determined that the value of the tariff was 52 percent of the value of the final (market) price. In cases where the CIF and one other piece of data were missing (this was the case in most situations) a simple rule was applied to come up with the value of distorting customs charges. It was assumed that the CIF price was 50 percent of the final price. The implication of this rule is that a percentage tax on CIF prices could be modelled as a tax of half that rate on the market price.

Results

Table 10.4 provides results of 28 PAMs for non-traditional commodities in six Caribbean countries, with the country in the first column and the

commodities assessed in the second column. For Belize six commodities were assessed (white potato, hot peppers, papaya, cabbage, onion, tomatoes); for Trinidad and Tobago three commodities were assessed (but it presents four farming systems for rice and three for cocoa). The final column of the table shows whether the commodity is exported or imported.

All commodities were competitive (using the indicator of private profits), with the exception of dairy and two of the rice farming systems in Trinidad and Tobago. All commodities had comparative advantage (using indicators of the DRC and social profits), with the exception of dairy and the four rice farming systems in Trinidad and Tobago. In many cases exported commodities had higher levels of comparative advantage (exceptions were Belize and Saint Vincent and the Grenadines). Generally, levels of return on investment (profit/total cost) were strongly correlated with values for comparative advantage (DRC); specifically, return on investment (ROI) was higher the greater the level of comparative advantage. However, among commodities within countries the relationship between ROI and competitive advantage (private profitability) was obscure.

We found that imported items received more policy support and protection than exported items. Within countries the PSE (which measures the percentage contribution of policies to gross revenue) for imported items were generally higher than those for exported items. The NPCs (which measures the level of policy-induced protection provided to the output) on exported commodities tend to be 1.00 (or close), while that for imported items showed a greater range of variation, with values often higher than 1.00. The NPCs of value 1.00 indicate zero policy-induced protection. NPCs of values greater than 1.00 on the imports indicate that much higher levels of protection are provided to commodity imports rather than to exports, as would be expected.

The results indicate good opportunities for improving food security in CARICOM countries. The strong results for root crops (white potatoes in Belize; sweet potatoes and yams in Jamaica peanuts and sweet potatoes in Saint Kitts and Nevis) provide reasons for further investment in these areas to improve food availability of staple food items. All the root crops have strong levels of competitiveness and comparative advantage and receive very low levels of support from governments. The major constraint to improving the output of these commodities and their significance in food security is if there is a swing in consumption patterns away from them. The strong results in terms of ROI and profit as a percentage of revenue indicate that root crops and vegetables (such as pumpkin, cabbage, tomatoes, carrots, hot peppers, sweet peppers) can make a contribution to increasing farm household-level food accessibility by providing the cash income required to secure other commodities.

The potential impact of these commodities on farm household income must take account of farm sizes. While per hectare returns may be quite attractive, the commodity may not be attractive to farmers (and contribute

TABLE 10.4
Summary results of the 28 PAMs for Caribbean non-traditional commodities*

Country	Commodity	Land unit	POLICY INDICATORS				Social profit $	Private profit $	Total cost $	Total $ revenue	Return on inv (%)	Profit as % of TR	Remarks
			NPC	EPC	PSE	DRC							
Belize	White Potato	Acre	1.25	1.33	0.18	0.13	4 732	6 542	3 458	10 000	189.2	65.4	Import
Belize	Hot Peppers	Acre	1.00	0.98	-0.02	0.31	7 526	7 270	5 930	13 200	122.6	55.1	Exp
Belize	Papaya	Acre	1.00	0.96	-0.04	0.32	16 700	15 391	18 609	34 000	82.7	45.3	Exp
Belize	Cabbage	Acre	1.50	1.54	0.33	0.04	8 779	13 686	1 314	15 000	1041.6	91.2	Import
Belize	Onion	Acre	1.11	1.12	0.08	0.08	6 556	7 412	3 588	11 000	206.6	67.4	Import
Belize	Tomatoes	Acre	1.25	1.34	0.19	0.08	5 842	7 981	3 269	11 250	244.1	70.9	Import
Dominica	Pumpkin	Acre	1.00	1.00	-0.02	0.06	27 798	27 125	3 115	30 240	870.8	89.7	Export
Dominica	Hot Pepper	Acre	1.00	0.99	-0.01	0.43	6 115	6 009	6 791	12 800	88.5	46.9	Export
Dominica	Sweet Pepper	Acre	1.00	0.95	-0.04	0.54	3 935	3 507	7 393	10 900	47.4	32.2	Export
Jamaica	Carrots	Ha	2.08	2.35	0.53	0.86	32 731	367 684	262 666	630 350	140.0	58.3	Import
Jamaica	Escallion	Acre	1.00	0.99	0.00	0.28	321 437	321 300	146 580	467 880	219.2	68.7	Export
Jamaica	Sweet Potato	Acre	1.00	0.99	0.00	0.27	134 730	135 597	60 775	196 372	223.1	69.1	Export
Jamaica	Hot Pepper	Ha	1.00	1.00	0.03	0.64	271 398	301 153	658 847	960 000	45.7	31.4	Export
Jamaica	Yellow Yam	Ha	1.03	1.03	0.07	0.41	438 113	494 672	298 735	793 408	165.6	62.3	Export
Saint Kitts/Nevis	Pumpkin	Acre	1.00	1.00	0.01	0.09	17 668	17 545	2 333	20 000	757.5	88.3	Export
Saint Kitts/Nevis	Peanut	Acre	1.06	1.07	0.05	0.33	3 671	3 298	3 829	7 500	95.9	48.9	Import
Saint Kitts/Nevis	Sweet Potato	Acre	1.00	1.00	0.00	0.15	12 120	12 068	2 880	15 000	420.8	80.8	Export
Saint Kitts/Nevis	Onion	Acre	1.11	1.13	0.09	0.27	10 690	9 097	6 910	17 600	154.7	60.7	Import
Saint Vincent	Carrots	Acre	1.43	1.49	0.34	0.40	5 318	10 171	4 229	14 400	240.5	70.6	Import
Saint Vincent	Hot Peppers	Acre	1.00	1.01	0.08	0.51	13 011	15 487	15 113	30 600	102.5	50.6	Export

Country	Commodity	Land unit	POLICY INDICATORS				Social profit $	Private profit $	Total cost $	Total $ revenue	Return on inv (%)	Profit as % of TR	Remarks
			NPC	EPC	PSE	DRC							
Trinidad/Tobago	Rice (Small Farm-Transplanted)	Acre	1.75	2.38	0.66	4.51	-3 610	-1 406	4 737	3 330	-30.0	-42.2	Import
Trinidad/Tobago	Rice (Small Farm Broadcast)	Acre	1.75	2.73	0.60	4.62	-2 954	-948	4 278	3 330	-22.2	-28.5	Import
Trinidad/Tobago	Rice (Medium Farm)	Acre	1.76	4.56	0.43	2.47	-528	781	2 231	3 012	35.0	25.9	Import
Trinidad/Tobago	Rice (Large Farm)	Acre	1.79	3.68	0.39	2.45	-645	443	2 316	2 759	19.1	16.1	Import
Trinidad/Tobago	Dairy	kg	1.74	1.95	0.29	3.34	-2.51	-1.68	4.54	2.86	-37.0	-58.6	Import
Trinidad/Tobago	Cocoa–Small Farm	Ha	0.91	0.91	0.06	0.52	2 117	2 380	1 780	4 160	133.7	57.2	Export
Trinidad/Tobago	Cocoa–Large Farm	Ha	1.00	0.95	0.05	0.58	3 425	3 929	6 411	10 340	61.3	38.0	Export
Trinidad/Tobago	Cocoa-6x6 sys	Ha	1.00	0.99	0.06	0.47	13 998	15 837	16 581	32 418	95.5	48.9	Export

Assistance from the following persons in completing the analysis is acknowledged: Belize – Mr Phillip Tate; Dominica – Mr Winston Magloire; Jamaica – Ms Janice Bennet, with Ms Stacy Rose for carrots only; Saint Kitts and Nevis – Mr Alistair Edwards; Saint Vincent and the Grenadines – Mr Alex Myers; Trinidad and Tobago – Mr Denny Seecharan for rice, Ms Lueandra Neptune for cocoa, Ms Vanessa Hyacinth-Ash for citrus, Ms Marlene Andrews for dairy.

*All dollar values are in domestic currencies. These currencies and exchange rates to 1US$ are: Trinidad and Tobago: TT$6.3; Jamaica: J$68; Dominica, Saint Kitts and Nevis, and Saint Vincent and the Grenadines: EC$2.7; Belize: Bz$1.9.

sufficiently to income) if production methods and/or market size means that farmers plant small parcels of land.

10.3 Increasing Caribbean commodity competitiveness

It is urgent to improve the competitiveness of the agricultural sector in the Caribbean, both to alleviate poverty and food insecurity in depressed areas of Caribbean countries and to seize income-earning opportunities that promote overall development. Given the results of several studies[141] of the traditional sectors (sugar, bananas, citrus, rice) it is clear that some producers will have to give up producing some crops or increase productivity significantly very soon. Some producers who have increased their efficiency are well-positioned to compete in both regional and global markets. For example, DRCs for rice in Belize, Guyana and Suriname are between .66 and .75 (FAO, 1998), in contrast with the DRCs for rice in Trinidad and Tobago.

Table 10.5 provides a summary of factors affecting competitiveness of rice in Belize, Guyana and Suriname and areas where improvements can be made. The ability to supply quality (rice) products on a reliable basis can make the difference in whether producers in CARICOM are able to supply the region and beyond it. At the field level irrigation facilities maintenance and improvement will increase yields and contribute greatly to enhancing competitiveness.

The challenges to making the two main traditional products competitive are immense because competition is based mainly on price. For countries that remain sugar producers one of the most important ways to increase productivity is by increasing the efficiency of the transport system. More banana producers in the region will go out of business, as has already happened with sugar producers. In the case of bananas, lower-cost producers (e.g. Ecuador) are able to drive the price down and still produce very profitably. To sustain banana trade some degree of product differentiation, especially promoted at a regional level, and higher-income market segments globally, could make a difference to the survival of CARICOM banana producers.

There is increased recognition that to promote growth and development in the agricultural sector it is necessary to have a strategy of diversification and expanded value-added, paying more attention to efficiency and competitiveness all along the value chain. Two subsectors with potential are non-traditional agricultural products (see DRCs in Table 10.4) and livestock products (especially Belize, Guyana and Suriname, where estimated DRCs are consistently less than 1). **Tables 10.6 and 10.7** present factors influencing competitiveness in these subsectors that need to be addressed. Livestock

[141] FAO. 1998. *Assessment of the impact and implications for policy of trade liberalization on the agricultural sector of CARICOM countries*. Rome.

TABLE 10.5
Summary of factors influencing the competitiveness of rice in selected CARICOM countries

	Belize	Guyana	Suriname
Product market factors			
Market access	Produced primarily for domestic market	Preferential access to EU but attractiveness of market reduced substantially and potentially unstable	Preferential access to EU but attractiveness of market reduced substantially and potentially unstable
Marketing infrastructure	Inefficient in the small farm sector; Belize Marketing Board management needs improving	Guyana Rice Exporters and Marketers Development Association strong	Weak producer and marketing association, government regulations increase transaction costs
Product characteristics		Variable quality of exported rice	High-quality rice could provide some scope for differentiation
Input market factors			
Intermediate input access	High input costs, especially energy and transportation	Adequate	Adequate
Labour/human resources	Generally very low productivity on small farms	Quantity and quality has declined with political instability	Minimally adequate; difficulty attracting reliable labour
Technology and productivity	Milpa system; low technology; low input on small southern area farms	Overcapitalized processing capacity, technical viability	Moderate productivity and technology on small farms
Irrigation infrastructure	Poor to non-existent on small farms	Lack of sufficient investment in maintenance of irrigation and drainage facilities	In need of major rehabilitation. and investment
Access to credit	Limited	Needs to be improved	Needs to be improved
Industry structure			
Size distribution	Mix of milpa systems and large mechanized commercial farms	Large small-farming sector; some large producers	Bimodal (few large farms; many small farms)
Ownership structure	Private, but small-farm product marketing dependent on BMB*	Private farms	Predominantly private farms
Infrastructure			
Transportation	Improved greatly recently	Shipping charges high relative to competitors	Needs to be improved
Information systems	Needs improving	Needs improving	Needs coordination and improving
Government			
Regulatory environment	Government interventions	Guyana Rice Dev. Board oversees sector	Burdensome export procedures
Support agencies	Assistance from regional support institutions	Research moved under GRDB**; farmer organizations strengthened	Inadequate support capacity of public sector
Trade and support policies	Import duties contribute to high input costs; tariffs protect domestic sector	Licensing requirements removed; domestic and export market liberalized	Some aspects liberalized

*Belize Marketing Board
**Guyana Rice Development Board

Table 10.6
Summary of factors influencing the competitiveness of non-traditional crops in selected CARICOM countries

	Barbados	Grenada	Jamaica	Saint Lucia	Suriname	Trinidad/Tobago
Product market factors						
Market access*	Access via CBERA and CARIBCAN;, some linkages with tourism	Limited exports; access via CBERA and CARIBCAN	Access via CBERA and CARIBCAN	Access via CBERA and CARIBCAN	Primarily produced for domestic market	Domestic market; negligible exports
Marketing infrastructure	Informal; inefficient; export infrastructure lacking	Very inadequate	Improving; informal domestic market	Informal; more attention to grade and size standards; no cold storage facilities	Poor; informal; inadequate export infrastructure	Improving with strengthened marketing board
Product characteristics	Inadequate grade and size standards	Potential for differentiation	Potential for differentiation	Potential for differentiation	Good quality	Potential for differentiation
Input market factors						
Intermediate input access	Adequate; some import duty concessions	Adequate though dependent on imports	High cost	Some dependence on imports	Normally available	Normally available
Labour/human resources	High cost; need improved mgmt and entrepreneurial skills	Inadequate expertise; need entrepreneurial capacity	Need improved mgmt and entrepreneurial capacity	High cost; poor mgmt and entrepreneurial capabilities	Foreign labourers; need improved mgmt and entrepreneurial skills	High cost; need improved entrepreneurial capabilities
Technology and productivity	Technology and productivity increasing	Low productivity	Low productivity and tech. with exceptions (peppers, papayas)	Low technology and productivity	Low technology with exceptions	Technology and productivity increasing
Irrigation infrastructure	Limited	Limited	Increasing	Limited	Some	Some
Access to credit	Barely adequate	Limited	Limited and high cost for small producers	Limited	Difficult to access	Available
Industry structure						
Size distribution	Small farms; significant production tied to sugar crop rotations	Small farms, many part-time	Mainly small farms; few medium and large-scale producers	Mainly small farms	Mainly small part-time farmers; a few medium-scale parastatals	Small farms, part time
Ownership structure	Private	Private	Private	Private	Predominately private	Private; Caroni

	Barbados	Grenada	Jamaica	Saint Lucia	Suriname	Trinidad/Tobago
			Infrastructure			
Transportation	Domestic adequate; international linkages limited to air	Maintenance problems with domestic road transport; int'l linkages poor (air only)	Domestic inefficient; int'l linkages improved	Domestic minimally adequate; export mainly air	Domestic adequate but road repairs needed; int'l limited and unreliable	Improved
Information systems	market information systems inadequate	inadequate and almost absent	improving with RADA systems	inadequate	Needs improving	improving with NAMDEVCO
			Government			
Regulatory environment	Needs improved regulations	Needs improved regulations	Needs improved regulations	Needs improved regulations	Limited and not applied generally	Needs improving
Support agencies	Numerous support organizations	Minimal	Public sector support strengthened	Minimal beyond targeted projects	Needs improving	Considerable support from MALMR** and other gov't initiatives
Trade and support policies	Producers protected	Protection could be strengthened	Producers protected	Import licensing protection; some duty concessions on inputs	Some protection of producers from imports	Gov't support and protection from imports

*CBERA = Caribbean Basin Economic Recovery Act; CARIBCAN = Caribbean–Canada Trade Agreement. MALMR = Ministry of Agriculture, Land and Marine Resources

TABLE 10.7

Summary of factors influencing the competitiveness of livestock products in selected CARICOM countries

	Suriname	Belize	Guyana	Jamaica	Trinidad/Tobago
Product market factors					
Market access	Produced mainly for the domestic market	Domestic market for milk and poultry; beef exports	Mainly domestic market	Mainly domestic, targeting tourist & fast food market	Mainly domestic
Marketing infrastructure	Poultry – adequate; beef and small ruminants – inadequate	Poultry – adequate; beef, milk and small ruminants – need improving	Milk has collapsed; beef and small ruminants poor;, poultry being rehabilitated	Very good in poultry and milk; less so for beef and small ruminants	Good for milk and poultry; less so for beef and small ruminants
Product characteristics	Minimal product differentiation	Limited product differentiation	Almost no product differentiation	Some forms of product differentiation; good quality product	Some product differentiation; adequate quality product
Input market factors					
Intermediate input access	Adequate	Limited supplies	Adequate	Adequate	Adequate
Labour/human resources	Limited for dairy farms	Scarce; mainly immigrant labour	Adequate	Adequate	Shortages for dairy operations
Technology and productivity	Poultry – modern; beef, milk and small ruminants – low productivity	Poultry – modernizing; beef & milk –, improving	Poultry – modernizing; beef & milk system related to rice – declining	First rate for poultry; declining productivity for milk and beef	Modern for poultry; low productivity for milk & beef
Irrigation infrastructure	inadequate				
Access to credit	Limited for small producers	Difficult to access	Needs to be strengthened	Difficult to access	Improving recently – Agricultural, Development Bank (ADB)

	Suriname	Belize	Guyana	Jamaica	Trinidad/Tobago
Industry structure					
Size distribution	Small farms – beef & dairy, few large poultry	Small & large beef; small dairy; Mennonite poultry	Small beef and dairy; poultry sector being rebuilt	Poultry – contract growers; some large beef and dairy; many small farmers	Poultry – contract growers; dairy projects in specific areas Small farmers beef
Ownership structure	Private	Private	Private now – Livestock Company divested	Private	Private mainly
Infrastructure					
Transportation	Adequate; buyers provide/control	Adequate	Adequate – improving	Adequate	Adequate
Information systems	Limited; non-existent	Weak	Very weak	Weak	Framework in place, needs improving
Government					
Regulatory environment	Health regulations mainly	Health regulations mainly	Health regulations– need strengthening	Health regulations mainly	Health regulations mainly
Support agencies	Limited	Belize Livestock Producers Association being rebuilt	Weak	Declined; needs rehabilitating	Needs strengthening
Trade and support policies	Poultry – some level of protection	Some level of protection	Some level of protection	Some level of protection	Some level of protection dairy farmer support

products are receiving consumer attention from health food and animal welfare standpoints. Marketing the humaneness of the livestock production system and improved health to the consumer, and the direct linkages to increased income and welfare domestically, may be one way to help maintain a livestock sector in some parts of the region.

Identifying specialized markets and promoting particular characteristics of the CARICOM agricultural product is an important part of converting systems with higher costs of production into competitive systems. This may be the only viable option for sustaining competitiveness of many of the non-traditional exports from the region over the longer run. More attention should be paid to the needs of the market at every point in the commodity system. The agricultural sector should be made more knowledge-based, with comprehensive integrated policy support that provides incentives for upgrading technology systems and implementing innovative management systems linked to such productivity measuring tools as scorecarding and benchmarking.

The competitiveness of agricultural products in the CARICOM region will depend as much on product differentiation as on production costs. It will not be individual commodities or firms that determine competitiveness but rather a partnership between the public and the private sector that ensures that factors influencing competitiveness are addressed adequately. The analysis in this chapter has shown that there is certainly the potential for many agricultural products from the Caribbean to have a competitive advantage in the regional market and beyond. However, competitiveness factors at both the macro-economic and microeconomic levels need to be improved to enable firms to better seize opportunities that arise in the changing international environment.

References

Caribbean Community (CARICOM) Secretariat. 2000. *Caribbean Trade and Investment Report 2000*. Kingston, Jamaica, Ian Randle Publishers.

CARICOM Secretariat. 2006. *Caribbean Trade and Investment Report 2005*. Kingston, Jamaica, Ian Randle Publishers.

FAO. 1998. *Assessment of the impact and implications for policy of trade liberalization on the agricultural sector of CARICOM countries*. Rome.

FAO. 2006. *The state of food insecurity in the world 2006*. Rome.

International Monetary Fund (IMF). International financial statistics. Available at http://www.imf.org/external/data.htm.

Monke, E. & Pearson, S. 1989. *The policy analysis matrix for agricultural development*. Ithaca, NY, Cornell University Press.

Porter, M.E. 1990. *The competitive advantage of nations*. New York, Free Press.

World Economic Forum. 2006. *The global competitiveness report 2006–2007*. Available at http://www.weforum.org/en/initiatives/gcp/Global%20Competitiveness%20Report/index.htm.

11

Accessing market opportunities: quality and safety standards*

Crescenzo dell'Aquila and Dario Caccamisi

Introduction

The importance of competitiveness of Caribbean agrifood sectors is related to the fact that trade liberalization would not result in growth in rural areas and increased food security unless domestic producers and traders are able to take part in increased trading opportunities. Quality and safety standards are among the many factors affecting competitiveness in agrifood trade, and have become increasingly important in the last decade as major dimensions of both trade policy and private marketing strategies.

On one hand, the trade policy of developed countries is increasingly providing legal ground for safety and quality standards, which are meant to protect consumer rights to safe food and accurate information about the characteristics of food products. These standards sometimes end up functioning as disguised trade barriers, discriminating against foreign providers, and there is a need for multilateral control over such rules and customs practices. On the other hand, the private sector – in particular, major retail chains – is developing and implementing private quality and safety standards, which can also function as entry barriers that are even more restrictive than trade policy measures. Furthermore, safety and quality schemes (based on, respectively, the World Trade Organization (WTO)

* This chapter draws upon work prepared for the regional workshop on Use of produce quality and food safety principles to enhance the marketing of agricultural and food products within and outside the Caribbean (Port of Spain, Trinidad and Tobago, 9–13 October 2006), and was carried out under the FAO projects "Promoting CARICOM/CARIFORUM Food Security" (GCP/RLA/141/ITA) and "Support to the Regional Economic Organizations for the Implementation of their Regional Programmes for Food Security" (GTFS/INT/928/ITA). Sections 11.2.2, 11.3.2 and 11.3.3 were prepared by Mr Dario Caccamisi. The rest of the chapter was drafted by Mr Crescenzo dell'Aquila.

Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) and the Agreement on trade-related aspects of intellectual property rights (TRIPS Agreement) are becoming benchmarks both for negotiating strategies in the context of multilateral trade negotiations (WTO and Economic Partnership Agreements (EPAs)) and for investment strategies in technology, organization and capacity-building for public administrations and private operators. These developments, along with the shift in market power towards retailing stages, call for new strategies to integrate multilevel negotiations (main trade players, non-governmental organizations (NGOs), private sector retail chains) and to build capacity at all points of the supply chain.

This chapter presents a description of various frameworks for addressing quality issues, especially as they might function as entry barriers in international agrifood trade. It also provides a reference for understanding features and implications of the most common food quality and safety regulations shielding developed markets. Specifically, the chapter: a) introduces the link between quality and safety standards and supply management issues; b) discusses current features of the multilateral institutional framework providing technical and legal references for national legislation relevant to quality and safety of agrifood products; c) introduces the major private quality assurance and certification schemes and discusses their relationships with multilateral arrangements; and d) facilitates awareness among institutions and operators of the growing relevance of quality and safety standards and provide essential references for dealing with them.

The next section introduces food quality dimensions and requirements, placing them in the context of an export product supply chain. Section 11.2 presents multilateral agrifood regulations and particularly SPS and geographical indications (GI) requirements, as determined by the WTO agreements and accredited benchmarking organizations. Section 11.3 considers the market-driven side of the same process, providing details on major food quality and safety assurance and certification schemes and the relationship between legal and private standards. The final section draws conclusions with reference to policy and institutional solutions in support of Caribbean exporting sectors.

11.1 Food quality dimensions and the supply chain[142]

The quality of food products is increasingly important to food industries, whether for food safety or other qualitative attributes. On the one hand, national legislation, with their sets of policies and infrastructures, are in place to protect consumer health and provide the legal bases for the differentiation

[142] The main source of this section is CARIRI/INEA (2006).

of products (e.g. extent to which they are authentic, ethical, healthy, safe, etc.). At the same time, international agreements and institutions try to make sanitary and quality standards objective and predictable in order not to harm trade. On the other hand, private health and quality standards are increasingly defining entry barriers to the richer markets of developed countries. The reality is that an agrifood industry wanting to engage international trade will have to deal with opportunities and constraints stemming from those standards. All in all, both national legislation and private standards spread responsibility across everyone in the supply chain, including farmers and growers, manufacturers and processors, food handlers and consumers.

Public regulations have strong legitimacy because people have the right to expect the food they eat to be safe and suitable for consumption. In addition, international food trade is increasing and, along with its social and economic benefits, can contribute to the spread of food-borne illness around the world. Food-borne illness and food-borne injury are at best unpleasant and can be fatal. There are also economic impacts when outbreaks of food-borne illness damage trade and tourism, leading to loss of earnings, unemployment and litigation. Food spoilage is also wasteful, costly and can adversely affect trade and consumer confidence. Effective hygiene control, therefore, is vital for avoiding the adverse human health and economic consequences of food-borne illness, food-borne injury and food spoilage.

Private standards serve agro-industry operators well. They can help meet health or other regulations (such as national SPS, geographic indications, organic or fair trade) and facilitate marketing strategies that emphasize product differentiation linked to higher or stricter product attributes. From the private sector standpoint, food quality can be considered a complex of characteristics that determines its value or acceptability to consumers, while food safety is a basic requirement of food quality. Food safety implies absence, or safe levels, of contaminants, adulterants, naturally occurring toxins or any other substance that could make food injurious to health on an acute or chronic basis. Quality attributes also include: nutritional value; organoleptic properties such as appearance, colour, texture and taste; functional properties and symbolic features (FAO, 2000).

Both public and private standards based on safety and quality can be considered entry barriers (Porter, 1980) when they create the possibility of higher revenues for firms capable of selling products consistently to the given standard; these firms can thereby define and benefit from new sources of competitive advantage. A summary representation of quality and safety standards commonly faced by agrofood supply chains for export markets is shown in **Figure 11.1**.

The emerging relevance of both public and private quality and safety standards increases pressure on the different actors of the supply chain. This is due mainly to increasing costs of complying with safety and quality

FIGURE 11.1
Quality dimensions and the supply chain

Production / Pre-harvest stages		Post -harvest stages	
Quality dimensions:	*Quality assurance/ certification schemes:*	*Quality dimensions:*	*Quality assurance/ certification schemes:*
Product attributes		**Product attributes**	
• Food safety	• Legal standards (SPS, TBT, Codex, National legislations)	• Food safety	• Legal standards ((SPS, TBT, Codex, National legislation)
• Commercial quality	• GAP, GAP based schemes (EurepGAP), GHP, other private standards (product), ISO 22000(2005), traceability	• Commercial quality	•GMP/HACCP, GMP based schemes (BRC) GHP, other private standards (packaging/ labelling/ storing/transport), ISO 22000(2005), traceability
Process attributes		**Process attributes**	
• Produce Origin	• Geographic Indications		
• Method of production	Organic, Fair trade		
• Ethical Issues (worker's welfare)	• SA 8000		
• Environmental issues	• GAP, GAP based schemes (EurepGAP)	• Environmental issues	• ISO 14001 (2004)
• Process information and documentation	• Traceability	• Process organization, information and documentation	• ISO 9001(2000), traceability

Source: CARIRI/INEA (2006)

standards. These costs arise from technical and managerial requirements and adaptation of strategies – that is, the need to comply with systems of *quality control* (for the detection of defects) and *quality assurance* (for the prevention of defects), within wider *quality management systems*.

Quality assurance (QA) covers a range of activities related to the life of the product: design, development, production, installation, servicing and documentation. It includes the regulation of the quality of raw materials, assemblies, products and components; services related to production; and management, production and inspection processes. According to quality management practice, the main goal of QA is to ensure that the product fulfils or exceeds customer expectations.

Moreover, the adoption of quality standards is increasingly documented through voluntary *certification* of a business. Certification indicates that, in the view of the certifying bodies, the business has a specific set of knowledge,

skills or abilities. Although voluntary, certification is often required by large retail chains operating in more developed markets. Certification needs to be renewed periodically (although for GIs certification may be permanent – see later section). Certification bodies are business organizations or, less often, professional bodies or non-profit organizations. (Sometimes the latter exist primarily to offer a particular certification.) Whatever its nature, the certifying body determines the policies of the certification programme. Legal and private standards, and their relationships with the multilateral framework provided by the WTO and accredited benchmarking organizations, are discussed in more detail in later sections.

11.2 Multilateral regulation of safety and quality standards

The Codex Alimentarius[143] and other WTO-accredited organizations (such as OIE[144], IPPC[145] and others[146]) elaborate benchmarking standards to guide governments in working out their own national standards in a harmonized way, so as to facilitate international trade in agricultural and food products. The Uruguay Round (UR) of General Agreements on Tariffs and Trade (GATT) negotiations (1994), and specifically the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) formally recognized the Codex standards and other recommendations as benchmarks for international harmonization. The Agreement on Technical Barriers to Trade (TBT Agreement) also recognizes Codex standards. These agreements contribute to defining standards relevant for food companies and also serve as the basic texts for resolution of trade disputes (FAO, 2000; FAO, 2005a).

The SPS Agreement deals directly with trade-related sanitary and

[143] The Joint FAO/WHO Codex Alimentarius Commission was set up in 1962 to protect the health of consumers and ensure fair practices in food trade. It is an intergovernmental body engaged in preparing international food standards and other relevant recommendations that promote quality and safety of food. Codex can be attributed with over 200 food standards; nearly 3000 maximum residue limits for pesticides, veterinary drugs, mycotoxins and environmental contaminants; codes of hygienic practices; a general standard for food labelling; a code of ethics for international trade in food; and a wide range of guidelines and recommendations for governments and industry.

[144] The World organization for animal health (OIE) is an intergovernmental organization created in 1924. To ensure transparency in the global animal disease situation, each Member Country undertakes to report the animal diseases that it detects in its territory.

[145] Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) to assess scientific, technical and socio-economic information relevant for the understanding of climate change, its potential impacts and options for adaptation and mitigation. It is open to all Member States of the United Nations and the WMO.

[146] Although not mentioned in the Agreement on Agriculture (AoA), organizations such as the International Standards Organization (ISO) have achieved a similar status; see later section.

phytosanitary measures for protection of human health. Its principal objective is to minimize the negative effect on trade from the adoption and enforcement of SPS measures. WTO Member States are encouraged to adopt internationally recognized standards (if these exist), but are free to apply stricter standards. The latter are allowed conditional on the provision of scientific justification for the measures and the implementation of risk assessment mechanisms (FAO, 2005b; Wilson, 2003).

The TBT Agreement addresses "product characteristics or the related processes and production methods" reflected in technical regulations and requires that these regulations conform to basic principles of transparency and non-discrimination. It seeks to ensure that technical regulations and standards, including packaging, marking and labelling requirements, and analytical procedures for assessing conformity with technical regulations and standards, do not create unnecessary obstacles to trade. Relevant international standards developed by bodies such as the International Standards Organization (ISO), if they exist, must be used as the basis for technical regulations, unless this would be inappropriate because of climatic, geographic or technological factors (FAO, 2005b; Wilson, 2003). WTO-accredited standards set by OIE, IPCC, ISO, etc. are voluntary, becoming compulsory only when required by national legislation.

Other WTO-accredited standards are rooted in the UR Agreement on trade-related aspects of intellectual property rights (TRIPS), which call for application of some fundamental WTO principles (i.e. most-favoured nations (MFN) status) in that field. In the section on TRIPS, entirely devoted to protection of geographical indications (GIs), the aim is explained as providing institutional guarantees for the competitive advantages and revenues that a product derives from its reputation and traditions related mainly to geographic origin (De Filippis and Salvatici, 2006; WTO, 2000; WTO, 2002).

11.2.1 Sanitary and phytosanitary measures (SPS)

SPS regulations are an area of increasing importance in national trade policies and international efforts for harmonizing trade rules. Regulation of food safety, as well as animal and plant health, is evolving rapidly in all countries. While some trends in regulation are consistent with minimizing trade distortions, the general orientation towards more stringent regulation of a wider range of risks and quality attributes raises new potential barriers to agricultural trade. Food safety regulations and standards evolve differently around the world as countries respond to food safety crises and prepare for perceived exposure to emerging food safety risks. These differences in regulations and standards can lead to international trade conflicts or disputes and can ultimately affect global patterns of food demand and reduce trade. These trends are often entwined with increased consumer demand for

credence attributes of food products in general, because quality and safety are often jointly produced (Unnevehr and Roberts, 2003; Wilson, 2003; Buzby, 2003).

In addition, non-traditional agricultural exports from less developed countries – particularly of fresh and minimally processed products – to developed countries are growing rapidly. This trade arises in part from the decreased relevance of traditional protection (tariffs and quotas) for some of these commodities, such as seafood and tropical fruits. But such products frequently have high risks for certain SPS hazards, which may be exacerbated by trade over long distances. As developing countries work to meet higher and evolving food safety standards, they have raised concerns about whether the increasing standards will impede their participation in world trade (Unnevehr and Roberts, 2003; FAO, 2004a; Henson *et al*., 1999; Athukorala and Jayasuriya, 2003). Moreover, the private sector is evolving rapidly to meet demands for process attributes throughout the world, in many cases setting standards that are higher than public ones (Caswell *et al*., 1998; Lee, 2006). These efforts frequently affect international trade, especially exports from developing countries, exacerbating the other difficulties.

Taken together, these trends in the international food system pose continuing challenges to the SPS Agreement, as well as to efforts to reduce barriers to agricultural trade and improve the trade performance of developing countries. Although the WTO as a mechanism of last resort for disagreements over such technical barriers has made much progress since 1995, SPS measures are still a contentious field, due to the wide room left by SPS principles and WTO arrangements for governments to impose ad hoc measures restricting market access. Moreover, due to increasing multilateral constraints on traditional tariff and non-tariff barriers, the number of SPS measures is increasing while gains made on traditional trade policy measures are reducing.

For instance, phytosanitary controls imposed by importers are currently limiting developing country exports of fresh fruit and vegetables. These controls are particularly stringent in the United States, Australia and Japan. Between 1995 and 2000, nearly 270 SPS measures were introduced against imports of fresh fruit and vegetables worldwide (FAO, 2003a). Thus, a major hindrance to fresh produce trade is the lack of harmonized technical standards and treatments for exports. Some countries apply the Codex Alimentarius for maximum residue limits (MRLs) on pesticides, while others apply their own, often stricter MRLs that may only partially conform to the Codex. Another difficulty arises from setting MRLs at the laboratory limit of determination, as this often makes verification of compliance dependent on very costly modern analytical methods.

Quarantine regulations are another serious impediment and measures designed to prevent bio-terrorism are likely to increase the administrative

and regulatory burden on exporters of fresh fruits and vegetables in particular. Moreover, developing countries exporting tropical fruit face serious challenges in meeting the phytosanitary regulations of importing countries due to the uneven phasing out of methyl bromide.[147]

There are blurred profiles in the implementation of all the basic principles of the SPS agreement, which leaves room for their use as disguised trade barriers. These principles are:

1. *Harmonization of rules*. Members should use common criteria (international standards, guidelines and recommendations) to set up SPS measures and in all cases these measures should be justified scientifically. The above example referring to widely ranging restrictions on use of methyl bromide shows how countries can continue to establish requirements that are not in line with international guidelines.
2. *Equivalence of measures*. WTO members should recognize another country's SPS measures as equivalent to their own if those measures provide an appropriate level of protection. Inspections and accreditation by public officers from the importing country are often the only way around SPS barriers, no matter what the level of controls and eradication measures carried out by phytosanitary authorities in the exporting countries. Moreover, costs relating to inspections are usually borne by exporters.
3. *Appropriate level of protection*. This principle is often challenged because it is thought to be violated through the outright interdiction on all imports of certain fruits and vegetables applied by many countries, ranging from the United States, India, China, Japan and Australia, to Mexico and Chile, to many others including some Caribbean countries and other small island developing states (SIDS). These countries ban all foreign fruits and vegetables from their territories, unless a lengthy and costly "import risk analysis" or "pest risk analysis" has shown that the imports do not constitute a risk to consumer or plant health. This practice is tantamount to a reversal of the "burden of evidence". Rather than setting SPS requirements as a function of the risk presented by certain imports of plant products, these countries oblige exporters to demonstrate that their products are safe.
4. *Non-discrimination.* SPS measures must not unjustifiably discriminate between countries where similar conditions prevail, and imports should be treated no differently from domestic produce. However, a number of countries maintain differentiating requirements when dealing with

[147] Fumigation with methyl bromide greatly affects the quality and shelf life of produce and is still required by many countries for fruits and vegetables imported into their territory. Its use is in contradiction with international guidelines established though the Montreal Protocol (1987) signed by United Nations members, which foresees the total elimination of the use of methyl bromide by 2015, in view of its toxicity and harmful effects on the ozone layer.

domestic produce. For instance, the United States applies stricter maturity standards and tolerance levels to imported Italian blood oranges than for its domestically produced blood oranges: imported oranges must have an acidity level of at least 9° Brix, whereas the standard for domestic produce is set at 8° Brix.

5. *Transparency.* Countries should be required to notify trading partners of changes in their SPS measures to allow them to adapt to the new measures. Delayed notifications, and frequent and sudden changes in SPS requirements for imports, are common.
6. *Regionalization*. This principle stipulates that countries should not ban imports of plant or animal products from pest- or disease-free areas. However, there are frequent impediments to importing produce from pest- or disease-free areas within countries that are not entirely pest- or disease-free.

Despite the attempt in the Uruguay Round to provide a durable multilateral framework to regulate the use of food safety and quality regulations, a remarkable divergence of views has emerged about this framework in the Doha Round trade talks. Developing country proposals signal frustration with the increasingly exigent standards faced by their exports, or the new obligations to justify their own regulatory regimes, or both. The substantial costs facing some developing countries in meeting SPS standards in high-income markets reduces their potential gains from trade and confirms the concern about their further marginalization in international trade, regardless of progress made in reducing other trade barriers (Unnevehr and Roberts, 2003; Henson *et al*., 1999).

11.2.2 Geographical indications (GIs)

Definitions

Article 22.1 of TRIPS defines GIs as: "...indications which identify a good as originating in the territory of a member country or a region or locality in that territory, where a given quality, reputation or other characteristics of the good is essentially attributable to its geographical origin",[148] thus recognizing a direct link between quality of foodstuffs and their origin. A GI is usually the name of a specific location, although at times traditional names can be non-geographical, such as the Greek cheese "feta". Article 22 provides that GIs for all goods must be protected against misuse and establishes a minimum standard of protection for all GIs, whatever the nature of the good to which it is applied. Scope of such protection is limited to the prohibition of the use of GIs by producers not located in the region designated by the particular GI.

In line with marketing principles, from the standpoint of consumers, GIs are meant to prevent their being misled about the origin and production

[148] See, among others, WTO (2002) and EC Regulations 2081/92 and 2082/92.

methods (and therefore process attributes) of the product. Consumers are thus assured that they receive the genuine article they pay for. From the standpoint of producers, GIs are a means of branding outputs, which increases product diversification and producer income.[149]

Debate and initiatives on GIs

The WTO Doha meeting in November 2001 agreed to negotiate the establishment of a multilateral system of notification and registration of GIs for wines and spirits by the Fifth WTO Ministerial Conference. However, the Conference was held in Cancun in September 2003 without any formal discussion on the issue. WTO members cannot agree on whether negotiations were also mandated for extending protection to products other than wines or spirits and on the adoption of a multilateral register of protected GIs. Two proposals underpin the debate on this latter issue: a) a register with legal effects (European Union (EU) plus 17 WTO members (1998)); or b) a register for information purposes only (United States plus 16 WTO members (1999)) (De Filippis-Salvatici, 2006).

The EU, Switzerland and other WTO members strongly support the claim that unauthorized use of GIs is harmful to consumers and legitimate producers and that increased market access needs to go hand in hand with enhanced GI protection. EU objectives within the WTO debate on GIs are:

- to obtain effective protection against usurpation of names in the food and beverages sector;
- to make market access effective, by ensuring that products that have the right to use a certain denomination are not prevented from using such a name on the market; and
- to ensure consumer protection and fair competition through regulation of labelling.

Protection of GIs by the EU is ongoing and based on the conclusion of bilateral and regional agreements on protection of intellectual property rights for wines and spirits and prevention of fraud in the use of product names. Those agreements link concessions on access to the EU market from third countries with the protection of EU GIs in those countries.[150]

[149] As previously suggested, GIs help producers obtain a premium price for their products. According to a recent study of the French market, GI cheese prices hover around +30 percent and are up to +230 percent for wines. GIs can also positively affect the position of agricultural producers in sharing value added in the supply chain: according to the same study the price of milk for GIs is 100 percent higher than milk used for other cheeses.

[150] Examples of specific agreements on GIs are: EC–Australia (wines, 1994), EC–Mexico (spirits, 1997), EC–South Africa (wines and spirits, 2002), EC–Canada (wines and spirits, 2003). Examples of general agreements with specific section for GIs are EC–Chile (wines and spirits, 2002) and EC–Mercosur (Southern Common Market), which foresees improved access to EU market versus adequate protection of all EU GIs in Mercosur countries (negotiations still ongoing in 2006).

GIs can have several positive effects. They can be an excellent means to promote rural development, because they help producers obtain a premium price for their products, allow for a better distribution of the value added to agricultural producers, bring value to the region of origin and can increase production and create local jobs, thus preventing rural exodus. GIs can be an effective marketing tool, as they encourage variety and diversity of production, and allow producers to market differentiated products, with clearly identifiable features. They are a tool to preserve local know-how, natural resources and biodiversity and can play an important role in local culture, contributing to social cohesion (helping local producers work together) and raising the profile of local and national identity (making producers and consumers proud of their traditions). They can have other positive indirect effects, such as promoting tourism.

GIs can also have shortcomings and problems of implementation. Protecting traditional products through GIs is costly to governments, because they require more qualified extension services and more and better controls; to producers, because of increased costs for inspection systems; and to consumers because they have more information to gather and process. Moreover, problems of recognition of GIs arise on cultural grounds as many names of products have travelled with emigrants, who would like to continue to make the same products and use the same terms to identify those products.

11.3 Market-driven agrifood regulations and quality assurance and certification schemes

11.3.1 Private and legal standards

WTO agreements and accredited benchmarking organizations provide a reference not only for national regulations, but also for private, commercial standards. There are many reasons for retail chains and some producers to create or develop their own standards. Retail companies may require private food certification of their national and third-country suppliers to assure consumers that the products they sell are safe and to shield the business from liability in case of unsafe foods sold through their outlets. Specific good agricultural practices (GAPs) or good manufacturing practices (GMPs) standards, such as those of the Euro-Retailer Produce Working Group (Eurep) and British Retail Consortium (BRC) certification are cases in point. Producers can develop standards related to particular production processes, or to raw materials – often linked to local attributes of the production process or input, or to ethical values or health concerns. These quality standards target the willingness of customers to pay a premium price for "authentic", "traditional" or high-quality food products. They are based upon international agreements and/or national legislation protecting names of products belonging to particular regions, obtained by particular

production processes or marketed through contractual arrangements that protect small producers.

Private standards are part of commercial agreements between voluntary parties in a free market, and as such are not subject to state intervention and fall outside the jurisdiction of the WTO. This is the case of the Fair Trade standard of the NGO Fairtrade Labelling Organizations International (FLO-I) and the Eurep and BRC global standards. Whenever a voluntary standard is taken into consideration for (full or partial) inclusion within a country's legislation,[151] the standard should not conflict with SPS and TBT Agreements. In other words, it should not become a disguised barrier to trade (Wilson, 2003; FAO, 2004b; FAO, 2003b).

Private, voluntary standards can have a very strong impact on international trade as entry barriers, this because private sector often sets standards that supersede public ones (Caswell, Bredahl and Hooker, 1998). These private standards frequently affect exports from developing countries, exacerbating their problems for greater involvement in international trade. Costs of compliance with these private standards may be high, and many suppliers in developing countries, especially small farmers, cannot afford the luxury of private certification. Some developing countries have complained about private standards constituting de facto SPS barriers to more developed markets and ask the authorities of the United States, the EU and other countries to address this concern (Lee, 2006; Wilson, 2003; Unnevehr and Roberts, 2003; Henson *et al*., 1999).

More generally, food companies are finding it difficult to simultaneously manage overlapping quality standards, such as the ones discussed below.[152] They are either becoming too expensive or, as a result of "simplifying" efforts made by so-called global standards, may undermine the efficiency of the food companies' quality strategies and drive those strategies under the control of large, multipurpose retail chains.

11.3.2 Quality assurance and certification schemes

The hazard analysis and critical control point (HACCP)

The HACCP is a system that identifies, evaluates, and controls hazards significant for food safety. Its adoption is compulsory in some countries and voluntary in others.[153] HACCP implementation is meant to be guided by scientific evidence of risks to human health. It identifies specific hazards and measures for controlling them by focusing on critical control points (CCPs)

[151] Such as in the cases of the EU, the United States Department of Agriculture or Japan Agricultural Standard organic standards.

[152] French and German retailers have recently developed their own quality standard, the International Food Standard (IFS). Its management may be even more complex than for the standards reviewed below.

[153] For more details on the HACCP method, see Codex Alimentarius Commission, 2003.

along the production flow from primary production to final consumption.[154] Redesign of an operation should be considered if a hazard is identified but no CCPs are found. Any HACCP system is capable of accommodating change, such as advances in equipment design, processing procedures or technological developments.

HACCP is a tool to ensure the safety of food by focusing on prevention rather than relying mainly on end-product testing. HACCP can provide other significant benefits in terms of control and improvement of the production flow, improvement of working conditions and reduction of production costs. Moreover HACCP can aid inspection by regulatory authorities and promote international trade by increasing confidence in food safety. Successful application and implementation of the HACCP system to any stage of the food chain requires the full establishment of prerequisite programmes, such as good hygienic practices according to the Codex of General Principles of Food Hygiene, and the appropriate Codex practice and food safety requirements (Codex Alimentarius Commission, 2003). Successful implementation requires training and a multidisciplinary approach, including expertise as appropriate in agronomy, veterinary health, production, microbiology, medicine, public health, food technology, environmental health, chemistry and engineering. The application of HACCP is compatible with the implementation of quality management systems such as the ISO 9000 series (see later section), and is the system of choice in the management of food safety within such systems.

EurepGAP

EurepGAP is a quality standard that began in 1997 as an initiative of large European retailers belonging to Eurep to respond to consumer concerns about food safety, environmental protection, workers' health, safety and welfare and animal welfare (mad cow disease, use of pesticides, genetically modified organisms (GMOs), etc.). The objective was to develop voluntary standards and procedures for the global certification of GAPs. It works by:

- encouraging adoption of commercially viable Farm Assurance Schemes, which promote the minimization of agrochemical inputs;
- developing a GAP framework for benchmarking existing assurance schemes and standards, including traceability;
- providing guidance for continuous improvement and the development and understanding of best practice;
- establishing a single, recognized framework for independent verification; and
- communicating and consulting openly with consumers and partners, including producers, exporters and importers.

[154] CCP is a step at which essential controls can be applied to prevent or eliminate a food safety hazard or reduce it to an acceptable level.

Collaboration between retailers and producers resulted in a protocol for independent, recognized third-party certification of farm production processes, which farmers around the world can use to demonstrate their compliance with GAPs. EurepGAP certification covers fruit and vegetables,[155] flowers and ornamentals, integrated farm assurance, aquaculture and green coffee. The scheme covers the whole agricultural production process of the certified product, from before the plant is in the ground (seed and nursery control points) to non-processed end product (produce handling control points). It also works to establish awareness and responsibility regarding social issues and animal welfare criteria for farms. EurepGAP stresses the importance of residue screening, setting up a standard on MRLs and developing guidance notes to help farmers and growers be better able to demonstrate that their produce meets destination MRL requirements.

BRC global standards

The development of the BRC global standards was initially driven by the need to meet the legislative requirements of the EU General Product Safety Directive and the United Kingdom Food Safety Act. It established a standard for the supply of food products and acted as evidence for UK retailers and brand owners to demonstrate "due diligence" in the face of potential prosecution by the enforcement authorities.[156] The BRC standard is comprehensive in scope, covering all areas of product safety and legality, including such critical topics as the HACCP system, quality management, factory environment standards and product and process control. Major business benefits derive from customer confidence lent by the BRC certification.

Each standard is developed under the leadership of the BRC and its members; it is extensively revised to reflect changing EU legislation and continuously develops best practice requirements. The use of the BRC standard is legally voluntary, but strongly recommended for those food producers that are willing to supply the British multipurpose retail chains. The 2005 edition included changes in legislation related to:

- traceability of food components through the supply chain;
- ensuring that food components remain uncontaminated by other elements (important when allergens labelling is a statutory requirement);
- food product suppliers being able to advertise that farmed goods in their products come from a particular source;
- ensuring that guidelines governing various processes in the manufacture

[155] The normative document for *EurepGAP Fruit and Vegetables* certification was developed by a group of European representatives from the fruit and vegetables sector, with the support of producer organizations outside the EU. The standard covers all fresh, unprocessed agricultural products of plant origin grown for human consumption. It does not cover herbs or plants exclusively used for medicinal purposes or for their aromatic attributes. See EurepGAP, 2004.

[156] For additional details on BRC standard see Lee (2005) and the BRC Web site (www.brc.org.uk).

of food products are sufficiently robust; and
- what suppliers can say in their communications to inform the business community about their BRC certification.

The standard has become global and is now used by suppliers from around the world. BRC global standards have been designated for packaging and are being developed for identity-preserved non-genetically modified food ingredients and consumer products. The BRC and Institute of Packaging (IOP) developed the packaging standard, which provides a common basis for auditing companies supplying packaging for food products to retailers and assists retailers and food manufacturers in the fulfilment of their legal obligations.[157]

ISO standards

The International Standards Organization (ISO) is a network of the national standards institutes of 157 countries, with one member per country and a central Secretariat in Geneva. It occupies a special position between the public and private sectors: while many of its member institutes are part of the governmental structure of their countries, other members are firmly rooted in the private sector. This helps enable ISO to reach consensus on solutions bridging the requirements of business with the broader needs of stakeholder groups like consumers and associations.

The ISO 9000 and ISO 14000 families are among its most widely known standards, implemented by 760 900 organizations in 154 countries.[158] ISO 9000 helps organizations meet customer quality requirements and applicable regulatory requirements. ISO 14000 helps organizations to minimize harmful effects on the environment caused by their activities and to improve their environmental performance. While most ISO standards are highly specific to a particular product, material, or process, the ISO 9000 and ISO 14000 standards are "generic management system standards" because the same standards can be applied to a variety of organizations.

11.3.3 Food traceability

Definitions

ISO defines traceability as the "ability to trace the history, application, or location of that which is under consideration". Gellynck *et al*. (2005) refer to "the information necessary to describe the production history of a food crop and any subsequent transformation or process the crop might undergo on its

[157] The main sections of the standard are: a) scope; b) organization; c) hazard and risk management system; d) technical management system; e) factory standards; f) contamination control; g) personnel; h) risk category determination; and i) evaluation protocol.

[158] More details on the ISO network can be found at: http://www.iso.org/iso/en/aboutiso/introduction/index.html#two and http://www.iso.org/iso/en/iso9000-14000/index.html.

journey from the grower to the consumer's plate". Information on foods can be traced forward and back at each stage of the food chain, i.e. production, preparation/processing, distribution and sale. The "traceability of a product" relates to sources of materials and parts, as well as the history of processing, post-shipment delivery and existence of the product.[159]

The definition of traceability for food is necessarily broad because food is a complex product and traceability is a tool for achieving a number of different objectives. The logistics objectives of traceability (for example, procedures for withdrawing food products unfit for the market) can be linked to marketing objectives to allow targeting specific market segments and to assure consumers about the origin and quality of food. Food traceability is linked to both consumer safety issues (food safety, bioterrorism, consumer's right to know) and to the marketing and investment behaviour of producers.

Traceability can be divided into tracking and tracing. Tracking refers to the location of items as they move through the supply chain. Tracing relates to the role, composition and treatment of a food product during the various stages of production. Thus, "traceability can be described as a combination of the flow of substances and of information."[160]

A traceability system is composed of an organization, a system and a process, documented procedures, resource management (personnel, financial resources, machinery, equipment, software, technologies and techniques), rules and education, and training. Key concepts of traceability are:

- identification of supply chain participants and products along the various stages of the supply chain;
- recording of relevant information on manufacturing and distribution of a product;
- identification of consistent product batches; and
- in-factory tracing of relevant information that is related to the identified product batches.

Purposes

By tracking and tracing food and its information at each stage of the food chain, traceability systems can achieve the following purposes:

i) **Greater reliability of information.** Traceability systems can secure the transparency of distribution routes; the quick provision of information to consumers, customers and government agencies; and the match between the product and its label. As a result, the system helps prevent misidentification of labels and information and makes transactions fairer.

[159] More details on traceability systems can be found in Golan, Krissoff and Kuchler (2004).

[160] ISO 9000:2000 incorporates the previous ISO 8402:1994 standard and provides a specific section covering traceability and product identification related issues (ISO, n.d.).

In particular, the systems enable consumers to get correct information about food and its suppliers, make good use of this information when they buy food products and take steps to prevent risks. The systems also enable the customer and the competent government agencies to obtain accurate information for product and risk management purposes and help food business operators increase the reliability of their products.

ii) **Contribution to food safety.** Traceability systems can help trace quickly and easily the cause of accidents related to food safety and help remove a food product problem promptly by zeroing in on the product and tracing it to its destination. This helps minimize both damage to the consumer and economic loss along the entire food chain. In addition, the systems make it easier to collect data about unexpected impacts on health and long-term effects and help develop risk management techniques. Finally, they help define the responsibility of food business operators.

iii) **Contribution to achieving higher levels of business efficiency.** Traceability systems help increase the efficiency of product management (including inventory) and quality control by using identification numbers and by storing and offering information about the origins and characters of products. This contributes to cost-saving and improvement in quality.

In most cases, the purposes listed above are pursued simultaneously, but their priority may be different depending on product characteristics, state of the food chain or consumer demand. A food business operator will consider these factors when building a traceability system.

Costs and limitations

While traceability systems are effective tools, they may have limitations and problems. Traceability systems are generally too complex to be complete. Even a hypothetical system for tracking beef – in which consumers scan their packet of beef at the checkout counter and access the animal's date and location of birth, lineage, vaccination records and use of mammalian protein supplements – could be considered incomplete because it does not provide traceability of bacterial control in the barn, use of genetically modified feed or animal welfare attributes such as hours in the barn or at pasture. There are both technical and economic reasons for such limitations.

Technical reasons limiting traceability include the differing scope of applications according to the character of the product, work or sector, as well as the various factors determining efficiency losses. Applications are affected by the nature and state of raw materials, lot size, cargo collection, division and transportation method, production and manufacturing method, packing method, number of stages from production to retailing and scale and number of food business operators. Efficiency losses occur i) when the processes (e.g. order placement and receiving procedures) differ among the food business

operators concerned; ii) information is unreliable; iii) transmission of information between food business operators is difficult or interrupted; and iv) lots are non-uniform.

Attempts to track or trace food and its information more accurately may result in very high costs. The main costs involved in introducing and managing a traceability system include those for:

- drafting the basic idea and procedures necessary for construction of a traceability system;
- purchasing equipment (e.g. measuring apparatuses, information processing equipment);
- managing the system, such as identification, recording, arranging and storing information, education and training; and
- inspection by the third party to secure the system's reliability.

Food business operators must compare the objectives and effects to be achieved with the costs involved when they seek to establish a traceability system. In particular, small enterprises should devise effective strategies for accessing financial and human resources. They should collect information about traceability, define the objectives and scope of their system and consider cutting costs through joint efforts with other enterprises. The traceability system does not directly perform safety (sanitation) management, quality control and environmental management in the production process; these require separate systems.

11.3.4 The EU case

The relative strength of private standards in relation to public legal requirements has increased in many parts of the world. In the case of the EU, a recent report underlined the fact that private food standards are more stringent than EU legal requirements on food safety (Lee, 2006).

EU legislation on food safety stipulates legal requirements for suppliers in third countries. For food of non-animal origin, the EU requires "equivalence of risk-outcome" as laid out in the SPS and TBT Agreements of the WTO.[161] However, with the exception of MRLs for some specific products, it does not specify how to meet those legal standards and does not require specific certification. Only in the case of organic products may imports into the EU be facilitated by an initial certification obtained in the country of origin. Basically, as long as the final imported products pass official controls in member countries, the EU does not look into the process by which products are produced or processed in third countries.

[161] Regulation (EC) 882/2004 of the European Parliament and of the Council of 29 April 2004, on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules.

Competent authorities in third countries are relied on to carry out inspections on farms. However, the inspection bodies of the import countries cannot oblige competent authorities in third countries to bring their systems in line with EU ones. There is no way to verify effective official controls of competent authority in third countries, with the exception of organic production. Also, many developing countries do not have sound national food safety systems, and some of them do not even have competent functioning authorities. Therefore EU business operators must resort to private certification to show due diligence and to protect themselves from legal claims.

Private certification based upon standards such as EurepGAP and BRC require "equivalence of systems", setting out specific measures with reference to EU legislation and that of member countries, to ensure that products imported into the EU are legally compliant. As such, they do not necessarily set higher standards on the safety of final products. Rather, they require tight controls over the *process* through which products are produced or processed. As a means to an end, it is claimed that private requirements on production processes assist developing-country suppliers to comply with legal requirements, which otherwise would involve a complicated process of aligning with both EU legislation on food safety and those of member countries.

The trend towards strengthening process control is also demonstrated by the growing body of legislation in the field,[162] which implies an institutional shift towards sector-oriented quality assurance schemes and away from enterprise-level quality management approaches (Schiefer, 2004). This trend also fuels networking or other forms of horizontal and vertical coordination of the supply chains, which become a relevant source of competitive advantage (Hanf and Hanf, 2005; Gellynck *et al*., 2005).

The debate continues on whether these standards based on equivalence of systems are a market opportunity for suppliers or disguised trade barriers.[163] On the one hand, their adoption may give operators better and easier access to developed markets. The retail industry, food manufacturers, importers,

[162] The introduction of the General Food Law in the EU made a move towards process-based controls for primary production, such as HACCP and traceability systems, to be implemented from 1 January 2005 in each food company in the EU.

[163] In the case of the EU, several Directorates General (DG) have been involved in queries related to this issue. The DG for Agriculture and Rural Development and the DG Joint Research Centre have run a pilot project on private food schemes. The European Aid and Cooperation Office was presented with requests for technical assistance in meeting private food standards, i.e. EurepGAP, from a number of countries in Asia. The DG for External Relations was posed with enquiries from third countries about private food standards. The DG for Health and Consumer Protection is concerned with reported confusion between official EU standards and private ones, in particular in developing countries. The DG for Trade has received complaints from developing countries in the WTO about private food schemes constituting SPS barriers to market access.

caterers, ingredient suppliers and the food service industry can all benefit greatly from global standards, such as BRC. On the other hand, there is no doubt that BRC adoption may become a supplier selection criteria in the hands of dominant market players (namely, multipurpose retail chains) and thus an entry barrier with significant trade impact. The independence of accredited certification bodies becomes particularly important to ensure producers sufficiently fair access to BRC-oriented markets.

It is in the EU's interest to become involved in the dynamics of private food schemes. Firstly, the European Commission (EC) should be the only legal body to set protection levels, and legal requirements should be adequate to guarantee food safety. Secondly, as a member of the WTO, the EU should ensure that SPS measures do not constitute barriers to trade. Finally, the EU should be aware that the trend of European retail chains to be more demanding on the safety and quality features of their developing country suppliers could end up seriously harming both the EU commitments on international development and its efforts to strengthen the capacity of developing-country farmers to export.

EC Regulation 882/2004 does open the possibility for public–private collaboration on controls of food safety. Although it is not advisable for the EU to recognize any private food schemes (unless the EU is willing to assume liability for what the private sector is doing), it could be appropriate to maintain a continuous dialogue with private standard-setting organizations and retailers, if only to sensitize them to the specific concerns of developing-country suppliers. The EU should also pay attention to the functioning of the market for certification to avoid price hikes that would undermine donors' efforts to assist developing countries. In terms of technical assistance, the EU may wish to make use of EurepGAP specifications to help developing countries upgrading their systems and meeting EU standards on food safety (even without referring specifically to EurepGAP).

11.4 Conclusions in a Caribbean perspective

Future challenges for Caribbean firms competing in foreign markets will involve fewer traditional trade policy barriers (tariffs, quotas) and more non-tariff barriers based on quality, safety and technology. SPS measures could play a prominent role in these. Additional challenges will arise from the segmentation of more demanding markets where entry barriers related to private safety and quality standards may be higher.

If not managed effectively, or left unattended, national regulatory systems of safety and quality standards can be impediments to maintaining and expanding trade, especially for developing countries. Managed successfully, they can be a stimulus to trade and enhance the opportunity to exploit comparative advantage to the mutual benefit of all.

In the multilateral arena, where the harmonization, transparency and appropriateness of safety and quality standards must be established, it is becoming increasingly complex and difficult for institutions to implement and regulate the quality and safety standards set. One of the most striking infractions against the SPS Agreement is the outright ban on imports of fruits and vegetables imposed by many countries. These countries shift the "burden of evidence": rather than setting SPS requirements in function of the risk presented by imports of certain plant products, these countries oblige exporters to demonstrate that their products are safe. Moreover, the capability of the current structures to deal with emerging issues (such as GMOs) or with the structural disadvantages of least developed countries (LDCs) is rather limited.

Thus, exporters from developing countries are facing a complex set of public and private rules, often considered by them to be managed in an unfriendly manner, which can pose organizational and technological challenges that can put them at a competitive disadvantage. On the one hand, national SPS regulations and related technical requirements are often an obscure and arbitrary device for selecting providers, usually in favour of national producers as opposed to foreign companies. On the other hand, while market power shifts towards big retail chains, the complicated terrain of overlapping private quality standards such as HACCP, BRC and ISO is becoming increasingly difficult and costly to manage. It has reached the point that many suppliers in developing countries – and especially small farmers– cannot afford the luxury of private certification and have raised the issue of private standards constituting de facto sanitary and phytosanitary barriers to trade.

We have seen that private, voluntary standards can have a very strong impact on international trade as entry barriers, as they sometimes supersede public standards. These private standards frequently affect exports from less developed countries, exacerbating the problems for developing country involvement in international trade. The issue of restrictiveness of public/private safety regulations in some cases could boil down to whether it is necessary to go further than "equivalence of risk outcome" to require "equivalence of systems" from third countries. One proposal is to allow controls on risk outcomes to be sufficient to ensure food safety; to establish public authorities as the only legal body entitled to set health protection levels, with legal requirements adequate enough to guarantee food safety.

It is necessary to recognize private schemes as a part of a commercial contract between suppliers in developing countries and retailers in more developed countries, and as such are not imposed on developing countries; their acceptance is a voluntary business decision. Business operators often argue that they require private certification to ensure food safety and reflect consumer concerns. The SPS Agreement is binding only for its member States, and not for business operators. Thus, for governments to intervene in

the free market to ensure that safety and quality requirements do not become impediments to developing country exports they will have to establish dialogue between states, NGOs and operators.

Although from the perspective of developing countries – and above all LDCs – the current system of food regulation and multilateral rules cannot be considered satisfactory, the rules are not bad for them *per se*. On the contrary, the rules can act as a catalyst for change, and by doing so increase developing countries' competitive advantage and contribute to more sustainable and profitable trade in the long term. In the consumer-driven, media-driven world of today – a world of food scares, single-issue campaigns and intense public scrutiny of issues affecting human health and food quality – rules are facts of life and will not go away. It is legitimate for consumers to insist on their entitlement to buy products that meet certain levels of sanitary, health and quality requirements, but countries should not allow their standards to be based on prejudice or to be established in response to pressure groups. In the long run, all countries must gain from closer international cooperation on these issues. This is of interest to Caribbean countries themselves and requires regional cooperation, use of international assistance for institutional building in these areas and collaboration with international standard-setting organizations.

Caribbean countries should consider quality and safety issues in the framework of regional strategies, comprising different components that are consistent with the overall objective of improving the quality of the region's agricultural supplies, improving recognition of regional quality products, increasing intra-regional trade and expanding appropriate niches in higher-income markets. The framework should also consider adoption of environmental quality standards to facilitate environmental management and certification of territories.

One starting point for a comprehensive regional approach to quality issues could be to broaden and strengthen regional agencies related to quality and safety of products and services, such as the Caribbean Regional Organisation for Standards and Quality (CROSQ). There are several reasons to recommend a regional approach. Firstly, exporters often find it very difficult to convince their national administrations of the importance of resolving SPS disputes. This is because agrifood exports are often fragmented across a wide range of destination countries, and even if they are concentrated, the value of these exports is too low to make it worth the effort of national governments entering into negotiations with one importing country. National governments in developing countries generally do not have the financial and human resources to engage in lengthy and costly negotiations of often very complex and technical SPS matters with importing countries. Secondly, as the set of quality dimensions relevant to international agrifood trade expands, the

costs of dealing with those dimensions increases. A regional approach would optimize the use of human and financial resources on a regional scale.

By gathering representatives of regional institutes (e.g. the Caribbean Agricultural Research and Development Institute (CARDI) and the Caribbean Food and Nutrition Institute (CFNI)); national institutions (e.g. ministries of agriculture and health, universities and research centres); parastatal organizations (e.g. the National Agricultural Marketing and Development Company (NAMDEVCO) and the Barbados Agricultural Development and Marketing Corporation (BADMC)); and private organizations (Agroempresarial, National Flour Mills Ltd, Guyana Manufacturers & Services Association, etc.), the operationalization of a regional agency may contribute to addressing the many aspects of quality and safety issues. The establishment and operationalization of the Caribbean Agricultural Health and Food Safety Agency (CAHFSA) could provide the Caribbean region with a wide-ranging agricultural health and food safety agency to deal with phytosanitary issues, policy-making regarding plant health issues, programme planning and implementation and obligations under the various international agreements. It could also assist in the development of common positions on plant health issues for Caribbean Community and Common Market (CARICOM) Member States to present at international fora.

On the export side, the regional quality agencies should define, in close cooperation with national governments, the quality policy and practices in the region, and should harmonize and coordinate efforts on SPS export dossiers. The critical areas that the regional quality agency should focus on are: development of supply chain practices, starting from negotiations with private global quality standard owners; detection of traditional products suitable for recognition of GIs; setting up of regional and sub-regional initiatives aimed at linking certified products to the operation of other sectors (trade, tourism); identification and launching of specific quality control programmes; and development of information technology tools for quality management in the region.

Improving the recognition of quality products can be important for Caribbean countries, especially as market access widens. In the context of both market strategies and negotiations this should emphasize the rich variety of Caribbean food products based on traditional know-how, or which have clear features attributable to their geographical origin. This approach has considerable potential for building market reputation and increasing revenues. Some examples of products that have acquired recognition and a reputation worthy of protection on external markets are: bananas from Grenada and St Lucia, peppers from Jamaica and Belize, coffee from Jamaica and sea island cotton from several of the Caribbean islands.

Caribbean countries could have much to gain from the EU's strong interest in supporting the extension of protection of GIs at a WTO level, as well as

the EU's need to build alliances in this field. By demanding an extension to all goods of the protection currently awarded under the TRIPS Agreement only to wines and spirits, and establishment of a related binding register of GI names, Caribbean countries could boost the commercial value of their traditional products, and could also build a negotiating ground with the EU, both for alliances in the WTO negotiations and exchanges in EPA negotiations.

Cooperation between developed countries, donor countries and developing countries can help shape a better trade environment through a number of avenues:

- Developed countries that genuinely pursue trade liberalization should adjust their cooperation schemes to help developing countries improve their capacity to meet SPS rules and requirements This is crucial if developing countries are to be properly and progressively integrated into the global trading system. Specific provisions for trade-related technical assistance in the field of SPS should be included in aid programmes (for example, cultivation or breeding programmes, food-chain integration programmes for slaughter houses, etc.).
- Developed countries should help developing countries identify and focus on products that can be more easily exported to higher income markets. For instance, the sensitivities of EU consumers are highest with some products such as meat, where developing countries face the most challenges in meeting hygiene and other requirements. In contrast, sensitivities are lower when it comes to plants and vegetables. There should also be greater efforts to increase transparency of EU, United States and other export buyers' regulatory systems. One example would be to accelerate the process of harmonization in the application of the EU's border inspection controls.
- Developed countries should put more effort into standard-setting at an international level and ensure effective participation of developing countries in the formulation of these standards. The definition of safety and quality regulations for higher-income markets would then take on board the specific needs of developing countries from the beginning and allow them to agree on specific carve-outs and transition periods where appropriate.
- Finally, the functioning of international organizations also matters. Improving coordination between international aid donors, as well as increasing coherence between WTO and other international organizations such as the International Monetary Fund (IMF) and the World Bank, would make aid in the field of safety and quality standards more effective. The issue of resources for international standard-setting organizations, such as the Codex Alimentarius, is relevant in this regard: they are not sufficiently equipped, given the importance of their task. Although the

Codex has made huge efforts to set up a Trust Fund to help its members participate in Codex standards, there is still a great need to continue the push for harmonization of SPS product and process requirements through the establishment of more and better international rules.

References

Athukorala, P.-C. & Jayasuriya, S. 2003. Food safety issues, trade and WTO rules: a developing country perspective. *The World Economy*, 26(9): 1395–1416.

Buzby, J.C., ed. 2003. *International trade and food safety: economic theory and case studies*. USDA Agricultural Economic Report No. 828. Washington, DC, United States Department of Agriculture.

CARIRI/INEA. 2006. Presentations and other training materials for the regional workshop on Use of produce quality and food safety principles to enhance the marketing of agricultural and food products within and outside the Caribbean, Port of Spain, Trinidad and Tobago, 9–13 October 2006. Caribbean Industrial Research Institute/Istituto Nazionale di Economia Agraria [accessed through FAO and INEA libraries, Rome].

Caswell, J.A., Bredahl, M. & Hooker, N. 1998. How quality management metasystems are affecting the food industry. *Review of Agricultural Economics*, 20(20): 547–557.

Codex Alimentarius Commission. 2003. *Recommended international code of practice-general principles of food hygiene*. CAC/RCP 1–1969, Rev.4–2003 (available at http://www.codexalimentarius.net/download/standards/23/cxp_001e.pdf)

De Filippis, F. & Salvatici, L., eds. 2006. *Un percorso difficile. Il negoziato agricolo nel Doha round del WTO*. Rome, Procom Edizioni.

EurepGAP. 2004. *General regulations: fruit and vegetables.* Version 2.1 (October 2004) (available at http://www.eurepgap.org/fruit/Languages/English/documents.html).

FAO. 2000. *The importance of food quality and safety for developing countries* (available at http://www.fao.org/trade/docs/LDC-foodqual_en.htm). Rome.

FAO. 2003a. *Important commodities in agricultural trade: fruits and vegetables.* FAO Fact Sheets: Input for the WTO Ministerial Meeting in Cancún. No. 13 (available at http://www.fao.org//DOCREP/005/Y4852E/y4852e13.htm).

FAO. 2003b. *Environmental and social standards, certification and labelling for cash crop*s. FAO Commodities and Trade Technical Paper no. 2. Rome.

FAO. 2004a. *The market for non-traditional agricultural export*. FAO Commodities and Trade Technical Paper no. 3. Rome.

FAO. 2004b. *Voluntary standards and certification for environmentally and socially responsible agricultural production and trade*. FAO Commodities and Trade Technical Paper no. 5. Rome.

FAO. 2005a. *Codex and the international food trade* (available at http://www.fao.org/docrep/w9114e/W9114e06.htm).

FAO. 2005b. *Perspectives and guidelines on food legislation, with a new model food law*. Development Law Service Study 87. Rome, FAO Legal Office.

Gellynck, X., Januszewska, R., Verbeke, W. & Viaene, J. 2005. *Firm's costs of traceability confronted with consumer requirements* (available at http://www.eaae.uni-goettingen.de/Startseite/EAAE-Vortraege/Gellynck%20et%20al..pdf).

Golan E., Krissoff, B. & Kuchler, F. 2004. Food traceability: one ingredient in a safe and efficient food supply. *Amber Waves*, 2(2): 14–21. Economic Research Service, USDA (on-line document, available at www.ers.usda.gov/Amberwaves/April04/Features/FoodTraceability.htm, 2004).

Hanf, J. & Hanf, C.-H. 2005. *Does food quality management create a competitive advantage?* Paper prepared for the 92nd EAAE seminar on Quality management and quality assurance in food chains, 2–4 March 2005. Göttingen, Germany.

Henson, S., Loader, R., Swinbank, A. & Bredahl, M. 1999. *The impact of sanitary and phytosanitary measures an developing country exports of agricultural and food products.* Paper prepared for the World Bank and presented at the Conference on Agriculture and the New Trade Agenda in the WTO 2000 Negotiations, Geneva, 1–2 October 1999.

International Standards Organization (ISO). (n.d.) *ISO 9000:2000 series* (available through http://www.iso.org).

Lee, G. C-H. 2006. *Private food standards and their impacts on developing countries.* European Commission, DG Trade Unit G2 (available at http://trade.ec.europa.eu/doclib/docs/2006/november/tradoc_127969.pdf).

Porter, M.E. 1980. *Competitive strategy.* New York, Free Press.

Schiefer, G. 2004. Traceability and certification in food quality production: a critical view. *In* A.G.J. Velthuis, L.J. Unnevehr, H. Hogeveen & R.B.M. Huirne, eds. *New approaches to food-safety economics*. Norwell, MA, Kluwer Academic Publishers.

Unnevehr, L. & Roberts, D. 2003. *Food safety and quality: regulations, trade, and the WTO*. Invited paper presented at the international conference on Agricultural policy reform and the WTO: Where are we heading? Capri, Italy, 23–26 June 2003.

Wilson, J.S. 2002. Standards, regulations and trade. WTO rules and developing countries concerns. *In* B. Hoekman, A. Mattoo & P. English, eds. *Development, trade and the WTO: a handbook*, pp. 428–39. Washington, DC, World Bank.

World Trade Organization (WTO). 2000. *Agreement on trade-related aspects of intellectual property rights (TRIPS)* (available at http://www.wto.org/english/tratop_e/trips_e/t_agm3b_e.htm).

WTO. 2002. *The relationship between the TRIPS agreement and the Convention on Biological Diversity and the Protection of Traditional Knowledge.* Council for trade-related aspects of intellectual property rights. 24 June 2002 (available at http://commerce.nic.in/wto_sub/TRIPS/sub_Trips-ipcw356.htm).

12

Trade and food security policy analysis: a practical guide*

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Introduction

The consequences of policy decisions are becoming more complex and far-reaching every day, mostly as a result of the deepening of economic interactions among agents, activities and policies. These interactions are taking place within an increasingly wider trading environment, characterized by diverse technologies, infrastructures, resource endowments and consumer's preferences. A simple decision, like the establishment of a tariff or subsidy regime in a specific sector, or even a change in the implementation rule of one particular regime, may imply consequences that go well beyond the sector itself, and well beyond the trading parties more directly involved in that regime. This means that understanding the likely effect of a policy decision tends to require the conceptualization of complex linkages among a large number of variables, which is creating an increasing demand for policy analysis.

The interest of policy-makers is usually multifaceted. Often, changes in trade policies are assessed in terms of their likely consequences on the degree of exposure of the industry involved to foreign competition, on the related effects in terms of employment or on the balance of payments. Increasingly, the impacts on poverty and food security levels are investigated. Policy-makers' attention is primarily attracted by the short term impacts of reforms,

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however there are considerable longer term effects that also need to be evaluated. Policy analysis is useful in all these areas – for example, in assessing the current degree of competitiveness of an industry, or the possibilities of maintaining competitive advantages in a wider environment through time. In those contexts in which poverty and food security are important issues, the need to understand its linkages with policies and the farther-reaching consequences of reforms requires more complex analytical tools.

Most policy matters boil down to establishing the extent to which conveniently computed benefits outweigh costs. This calls for numerical estimates of the consequences of policy changes, computed on the basis of a set of explicitly postulated relationships reflecting the interactions involved.

In the specific area of global agricultural trade, a number of different quantitative models have proven to be potentially useful, particularly for demonstrating how specific reform packages might impact on different countries and commodities, and for helping to settle controversial issues such as trade disputes between countries. An interesting recent development in this area is the considerable degree of networking now undertaken by researchers and analysts around the world. Based on the potential offered by the growing power of computers and the Internet, increasingly often analysts share their conceptual approaches, analytical frameworks and tools, lowering significantly the start-up costs of the analyses in terms of data collection, organization and even model development. In turn, this is enhancing the degree of transparency and replicability of the results on key questions, and is widening the areas of analysis and the public involvement in the investigations, with beneficial feedback effects on the quality of the results themselves.

This chapter presents elements of common quantitative tools used in the investigation of the consequences of trade and agricultural policy changes. It is intended to be a practical introduction for agricultural and trade sector policy analysts in the Caribbean. Emphasis is placed on trade policy, and an attempt is made to show how the linkages with food security, agricultural development and rural development can be addressed. Particularly, the chapter aims to: a) show the potentials of quantitative analysis while highlighting the associated challenges and limitations; b) introduce different approaches and analytical frameworks; and c) facilitate awareness of the availability of databases and computer based tools that can be used as starting points.

The following section presents an overview of the major approaches, considering the two wide categories of *ex post* and *ex ante* evaluations and introducing modelling approaches and related policy representation issues. Section 2 deepens *ex post* approaches and explains and implements some of the most common descriptive indicators used for food security, trade and trade policy analysis. Section 3 deepens *ex ante* approaches by introducing

partial and general equilibrium frameworks and including references to some of the models and databases that can be accessed more easily to start using analytical tools. The appendices to the chapter present a glossary and more specific references to data sources and other resources for policy analysis.

12.1 Approaches to quantitative trade policy analysis and main models' characteristics

Among the number of ways of classifying the approaches employed in the analysis of policy changes, a broad and convenient distinction can be made between *ex ante* and *ex post* methods. The former include those studies aimed at answering a "what-if" type of question, that is, at providing comparative information on a counterfactual scenario built by making assumptions on the value of a policy variable. For instance, given that the tariff on sugar in the European Union (EU) is €400/metric ton (tonne), one may want to analyse how trade and prices would look like in the sugar market should the tariff be €200/tonne. This requires a credible representation of the sugar market as it is, with the tariff at €400/tonne, making it possible to analyse comparatively the effect on trade and prices under a scenario in which the tariff is €200/tonne.

By contrast, *ex post* studies are based on the analysis and comparison of current and past data with the aim of assessing the effects of trade policy measures on trade, welfare, food security and other dimensions of interest, which occurred following implementation of the given policies. Such studies can be based either on econometric techniques, or on computation of sets of descriptive indicators.

The results of econometric exercises can rely upon statistical tests, indicating the existence of a statistically significant relation between a change in a policy variable and the change of a given indicator. For instance, one may wish to analyse the extent to which the implementation of a free trade agreement between two countries has brought about an increase in the volume of trade. An econometric test would then be run on data encompassing both the period prior to the implementation of the agreement and the period after it. This can indicate the extent to which the volume of trade is related to the lowering of the tariffs, and, under given assumptions, also provide indications on the causal direction.

If the same exercise is conducted on the basis of descriptive indicators, instead, there are no measures of the statistical reliability of the evidence proposed. This approach has the advantage of simplicity and is far less demanding in terms of data and technicalities; but it also involves a cost in terms of more limited analytical content. However, one of the methods introduced in the chapter, the PAM, shows a considerable analytical content despite being based mostly on a set of descriptive indicators.

12.1.1 Models and their features

Both *ex ante* and *ex post* approaches to quantitative analysis are based on sets of functional relation, which are commonly referred to as "models". Models are sets of equations aimed at representing in a stylized way the behaviour of economic agents and their interaction, and can be classified in a number of ways; useful summary reviews are available in van Tongeren and van Meijl (1999), and FAO (2006). For the purposes of this chapter, the criteria to look at are:

- the extent of the representation of the economy;
- the presence/absence of a time dimension;
- the nature and origin of the parameters, and the availability of measures of the statistical reliability of the results;
- the type of functional form; and
- the type of closure rule.

One possible model classification divides partial equilibrium (PE) and general equilibrium (GE) models, depending on the first of the criteria listed above. PEs are those models in which the analysis excludes at least some markets, assuming that they will not be affected by what happens in the market analysed. In contrast, GE models include the entire economy by definition.

The second criterion yields another model classification by dividing static from dynamic models. Static models are those in which the time dimension is absent; they compare two alternative states of the world without observing the adjustment path between them. In contrast, dynamic models include a time dimension, so that the values of the variables can depend upon past and future values; they adjust to changes through more than one period.

Depending on the origin of the parameters, models can be classified as "econometric". Econometric models are those in which parameters are estimated, allowing a statistical validation of the results. Parameters are the numbers that shape the behavioural relations. In *ex post* analyses parameters can constitute an output of the analysis, since the objective of deriving a statistically-controlled measure of the relationship between two or more variables is achieved through one or more tests upon the "soundness" of the parameters computed by means of available data. In other words, in the above example, the existence of a relation between the level of the tariffs and the volume of trade between two countries is analysed on the basis of the statistical reliability of the parameter that can be computed to represent this relation.

In contrast, in *ex ante* analyses, parameters can constitute one of the inputs: whatever their origin (*ad hoc* estimation, literature, or calibration[164]) they

[164] Calibration implies fitting the unknown parameters to the values that reproduce the data in the base period.

embed assumptions about the behaviour of the variables employed to describe the existing environment, based on which the counterfactual experiment will be run. Returning to the above example, a credible representation of the sugar market implies an assumption on the elasticity of demand and supply in the EU, if we want to consider comparatively the effects on the prices and volume of trade of reducing the tariff from €400/tonne to €200/tonne. Under both scenarios we shall assume that the behaviour of producers and consumers is unchanged with respect to prices, incomes and inputs in production.

In *ex ante* analyses, however, the availability of a measure of the statistical reliability of the parameters constitutes an important advantage, as it allows for checking the reliability of the results. Other types of tests can also be run to check the performance of *ex ante* simulation models, such as computation of data from past periods for which the observed value of the variables is known. Such tests can measure the stability of the results, which allows for verifying the reliability of dynamic models.

The mathematical functional form of the equations is another key feature of the models, which embeds assumptions about the behaviour of economic agents. Models can be based either on reduced form equations (in which it is implied that optimizing behaviour is modelled through the restrictions on the parameters, such as those of adding-up, homogeneity or symmetry) or on structural form equations (in which optimization is explicit). Models employed in *ex ante* analysis tend to be based on relatively simple functional forms, such as the linear or log-linear, the constant elasticity, the log-log, or the Cobb Douglas. In contrast, more sophisticated and theoretically sound functional forms are found in econometric exercises, which are more suitable for *ex post* analyses.

Finally, the closure rule is an important characteristic for equilibrium models. This differentiates variables into exogenous and endogenous, therefore determining the criteria used to solve the model. As will be shown in Section 3, the closure rule is particularly important because it implies assumptions about the functioning of the market represented.

To conclude this section, it may be useful to recall six basic "rules of thumb" valid for model-based analyses, which however commonsensical they may appear, are still very important and often overlooked.

Firstly, no model is suitable for analysing all types of problems, and it is more usual that a model is suited for only one particular problem. Adapting a model built for one purpose to a totally different problem is seldom a successful strategy. Secondly, no model can be better than the data on which it is based. Data are always one of the most important parts of any analysis and often a major source of the limitations of the results; they should be carefully considered and extensively discussed. Thirdly, the credibility of the assumptions is important, but not always nor necessarily a value *per se*; models can sometimes capture essential and pertinent aspects of reality even

by starting from very unrealistic assumptions. Fourthly, generating numbers is important, but understanding how they are generated, and under which assumptions and limitations, is more important. Therefore time needs to be spent on understanding the numerical results that are generated. Fifthly, the results of models usually indicate at best a sign and an order of magnitude. Finally, results seldom speak for themselves, and more often require interpretation based on deep knowledge of the problem analysed.

In all cases, results of models are the mere outcome of the interaction among exogenous assumptions, behavioural hypotheses and parameters, and should be strictly considered as such. However, they can assist policy-makers in building "menus" of policies and their consequences, to support a given choice and to communicate with other policy-makers, especially in the context of trade negotiations.

12.1.2 Policy representation

Policies are difficult to represent in a model, for at least two main reasons. Firstly, they are specified at a far higher level of detail than is normally used in a model. For instance, policy normally specifies a tariff at a far more detailed product level than it is possible to adopt in a model, given data availability and the need to avoid making the model unmanageable. Representing policy in a model requires aggregations, which implies making a number of assumptions.

Secondly, it is often difficult if not impossible to represent policies *explicitly*. An explicit representation is one in which the model includes as an exogenous variable (that is, a variable that can be shocked) the same variable operated by the policy-maker (Anania, 2001). In the practice of policy analysis, this is seldom possible. More often a one–to–one representation of policy measures is not possible, due both to the difficulty associated with capturing the details of the decision-making process, and to the presence of policies that imply similar and cumulative effects that cannot be separated in a stylized setting.

As an example, consider the representation of a fixed tariff in a model in which tariffs are defined in percentage terms. The analyst will need to convert the fixed tariff into an *ad valorem* tariff, on the basis of some relevant price. Suppose, further, that the tariff is coupled with a domestic price support mechanism that operates in conjunction with the tariff. The analyst will need to find some measures capable of capturing the effects of both policies, avoiding double-counting and without giving up the possibility of simulating changes in only one of the two policies.

These problems call for the calculation of some kind of "equivalent" measure, capable of aggregating over policies implemented on different products, and aggregating over different types of measures operated on the same (group of) product. This equivalent measure would be capable

of capturing those policies that are in fact put in place and changed. For tariffs, a standard approach employed in trade policy analysis is the computation of some "tariff equivalent", based on the difference between a world market price and the comparable domestic price.[165] Problems with this type of measures arise both in the aggregation across tariffs defined for different specific goods (where theoretical foundations are absent in common calculations) and in aggregation across types of tariffs, due to the distortion of world market prices, which complicates the identification of a convenient price to be adopted in the conversion.

The level of complication increases when more articulated policy measures are taken into account. For instance, quantitative restrictions cannot be meaningfully represented through a tariff equivalent, nor it is it possible to represent other common non-tariff measures in these terms, such as tariff-rate quotas or multiple and variable tariffs. Wider discussions on these topics can be found in Laird (1997), Anania (2001) and Cipollina and Salvatici (2006).

12.1.3 Linkages with poverty

Authoritative efforts have been made recently to shed light on the key matter of linkages between changes in trade policy and poverty outcomes.[166] It has been observed that the analytical tools employed for this purpose need to address a number of linkages involving the following variables:[167]

- price and availability of goods;
- factor prices, income and employment;
- taxes, subsidies and the availability of public resources for financing them;
- investment and innovation for long-term growth;
- external shocks, particularly from price; and
- short-run adjustment costs.

A partial representation of the economy is sufficient to assess the first of such linkages, while a more satisfactory representation is needed to analyse the second and third ones. The fourth and sixth are usually studied in ad hoc frameworks (such as non-structural cross-country analysis or aggregated GE approaches) while the fifth can be analysed within several approaches.

In many cases, a key starting point on the linkage between changes in trade policy and poverty outcomes is the modelling of the labour market. As highlighted recently by Ackerman (2005), one of the major gaps in current

[165] A common method to derive tariff equivalents is to use Producer Support Estimates (PSE). These comprise price distortions or market price supports (transfer from consumers to producers) as well as transfers from government to producers. A similar concept exists for Consumer Subsidy Equivalents (CSE). See also the Policy Analysis Matrix approach in Chapter 10.

[166] One example, covering a variety of approaches, is a book edited by Hertel and Winters (2006) and published by the World Bank.

[167] Hertel and Reimer, 2005.

trade policy analysis literature is that representation of the labour market tends to be poor. This is one important drawback of the results of several models, and it may significantly affect the conclusions of many trade liberalization studies, particularly those on developing countries. This lack clashes with the importance that policy-makers rightly attach to the labour market.

12.2 *Ex post* trade policy analysis: the Policy Analysis Matrix and the descriptive indicators

Ex post evaluations assess the effects of trade policy measures on trade, welfare, food security and other dimensions of interest to policy-makers, which occur following implementation of the given policies. These approaches use various kinds of statistical and econometric tools, ranging from descriptive analyses of trends to econometric models.

Econometric models are the standard way to control for and analyse factors affecting the trade pattern. These approaches typically estimate world trade flows by defining a simplified explanatory hypothesis, and ascertain whether the estimated relationships change as a consequence of implementing a certain policy. The main strength of these models is the possibility of statistically validating hypotheses about various variables affecting trade. Weaknesses include the lack of details in the definition of variables relevant for policy analysis, the need for a great deal of data and the impossibility of treating the structural break determined in the model when large policy changes take place (Taylor, 2004; Lucas, 1976).

On the other hand, non-parametric approaches (such as the indices discussed in this section) avoid the problem of defining a model for trade flows. They can provide first-glance *ex post* assessments of the impact of both trade and food security policy measures, as well as preliminary pictures of realities to be modelled. By using descriptive indicators, analytical procedures are faster and less demanding in terms of data. This makes them particularly suitable for providing quick answers to policy questions, especially for phenomena occurring on a world scale and involving a large number of commodities. The main weakness of this approach is that its descriptive nature does not allow for detailed analysis of various factors (not necessarily policy factors) affecting the trade pattern, nor of the level of food security; nor does it allow statistical validation of hypotheses (Hoekman, English and Matoo, 2003; Drysdale and Garnaut, 1982).

The third framework introduced is the policy analysis matrix (PAM) (Monke and Pearson, 1989). The PAM is a tool that constructs two enterprise budgets, one valued at market prices and the other at economic/social prices; the impact of policy is then assessed as the divergence between the market and economic values. The PAM, once assembled, provides a convenient method of measuring policy effects, competitiveness and comparative advantage.

This section provides definitions and examples of indicators relevant for trade policy, food security and vulnerability analysis, with special reference to: the contribution of trade to food security, the analysis of trade flows, the openness and dependence of the trade regime and the exposure of exports and imports in thinly-traded markets.[168] It then introduces the PAM tool.

12.2.1 Indicators of dependency, vulnerability and food security related to trade

There are numerous general indicators for each of these three concepts, but most are not necessarily related to trade and therefore not mentioned here. The relationship focused on here can be illustrated through an example of how the three concepts are linked: dependency on food imports is linked to foreign exchange generation, which can make a country very vulnerable to price declines in export markets (especially in those markets where it is a price taker). Depending on the particular national context the analyst would identify one indicator as being more relevant than another.

Cereal supply indicator (SI) uses cereals as representative of food needed and is measured by dividing the total supply for domestic utilization (production + imports – exports + changes in stocks) by the population. An example **(Table 12.1)** of this indicator (cereal supply/kg per capita) for three Caribbean countries over three years indicates three very different outcomes:

$$SI_r = \frac{y_r + m_r - x_r + \Delta_r}{pop_r} * 100$$

where:
y_r = cereal production
m_r = cereal imports
x_r = cereal export
Δ_r = changes in stocks of cereals
pop_r = country r's population

TABLE 12.1
Cereal supply indicator

	1995	2000	2003
Saint Vincent/Grenadines	97.6	113.3	118.9
Grenada	100.8	90.2	88.6
Jamaica	104.4	98.4	103.7

Source: FAOSTAT, 2006

[168] Other policy indicators of agricultural support and trade competitiveness are defined within the Policy Analysis Matrix approach (see section 12.2.3) and applied to CARICOM countries/products in Chapter 10.

At a very general level SI provides a snapshot of how much food has been available domestically on average. One word of caution is to pay attention to how supply is defined (total supply is production plus imports minus decreases in stock), another is to remember that the supply is not evenly distributed, and still another is to notice, for example, that it is not clear (without going back to the base data) whether Saint Vincent and the Grenadines' supply is increasing because of domestic production or due to a greater reliance on imported food. Conclusions need to be made with care.

Food import capacity indicator (ICI) is the ratio of the food import value to the total export value (excluding services):

$$ICI_r = \frac{M_r}{X_r} * 100$$

where:
M_r = value of the country r total import (excluding services)
X_r = value of the country r total export (excluding services)

This could also be measured more directly and easily using cereal imports as a proxy for food imports and it is also often compared to total agricultural export earnings as opposed to total merchandise trade. The table below **(Table 12.2)** shows food import values over total agricultural export earnings and again reveals three very different situations.

TABLE 12.2

Food import capacity indicator

	1995	2000	2004
Barbados	1.59	1.66	1.52
Belize	0.32	0.38	0.36
Haiti	10.33	10.83	22.10

Source: FAOSTAT, 2006

Belize's (stable and considerable) agricultural export capacity, which allows it to purchase food imports, can be contrasted with the vulnerability of Haiti, both in terms of foreign exchange earnings from the agricultural sector and of natural disasters and their impacts on agricultural production and exports. (Haiti was hit by severe hurricanes in 2003 and 2004.) Changes in the type of food consumed (for example more processed food or higher-value food imports) can lead to an increase in the indicator, but is not necessarily a sign of increasing food insecurity. In addition, the capacity to import based on an expanding service industry may not be reflected, depending on the variables used in the indicator.

Food import coverage indicator (FIC) compares the foreign exchange reserve balances of the country (at end of year) with the food import bill value (annual) and indicates how vulnerable the country's food security could be to severe shocks that might disrupt either its domestic supply (which would have to be replaced) or lead to a loss of foreign exchange earning capacity through price or export supply shocks.

$$FIC_r = \frac{Fb_r}{Fib_r} * 100$$

where:
Fb_r = foreign exchange reserve balances of country r
Fib_r = food import bill value (annual) of country r

Table 12.3 shows four very different situations; it reflects effects of positive and negative economic (international price) or political shocks on the changing capacity of a country to cover the imports of its food from its foreign exchange reserves in the case of a crisis.

TABLE 12.3
Food import coverage indicator

	1995	2000	2004
Guyana	5.18	4.23	3.41
Suriname	2.93	0.87	1.86
Trinidad and Tobago	1.62	5.38	10.03
Haiti	0.65	0.68	0.31

Source: FAOSTAT, 2006 and IMF, 2006

Guyana's foreign exchange reserve coverage of food imports increased five times between the 1990 level, where there was a ratio of .86 (less than one year's food import coverage), and 1996 (potentially a five-year coverage). In Guyana, 1990 was the beginning of a period of significant economic growth that also coincided with major political change. Rice and sugar exports increased substantially in the first half of the 1990s and suffered from declining growth rates and prices thereafter. Suriname was similarly affected by declining rice prices. The healthy Trinidad and Tobago situation reflects clearly an expansion of oil revenues while Haiti's consistently high vulnerability position worsened. Several factors in addition to global commodity prices affect this ratio, such as changing food import levels, performance of the economy as a whole and, in many Caribbean countries, the performance of the tourism sector. In several countries, tourism receipts have been a major factor in improving results when this indicator is the measuring rod.

12.3.2 Trade shares and indicators of trade structure and performance
Coverage ratio (XC) indicates how much of the value of imports is financed by export. It is given by the percentage ratio of export over import:

$$XC_r = \frac{X_r}{M_r} * 100$$

where:
X_r = value of the country r total export
M_r = value of the country r total import

The index varies between 0 (import fully covered by entries of the balance of payments other than export) to +∞, with a value of 100 indicating that export is fully capable to cover import. Over time the index can monitor the development of sectoral surpluses or deficits of export over import. In the case of the Caribbean countries, this index tend to show an excess of export over import with the rest of the world for bananas and sugar, determined by the preferential trading ties with the EU15.

Normalized trade balance (NB) is the net trade indicator used most often. It is the ratio of the trade balance of a country/industry over a dimensional measure of the flows (i.e. the total value of trade, measured as a sum of import and export):

$$NB_i = \frac{(X_i - M_i)}{(X_i + M_i)} * 100$$

where:
X_i = value of exports of country/industry i
M_i = value of import of country/industry i

The index varies in the range $-100 \leq NB_i \leq 100$. Negative values mean that the country/industry i is a net importer, to the extreme value of -100, which signals that only import takes place in the country/industry considered. Positive values have the opposite meanings (net export positions).

Trade balances give a synthetic measure of the degree of disequilibrium of trade flows, while their normalization is meant to make them suitable for comparisons. The improvement, over time, of the NB suggests improved trade performance of the sector even when the trade balance worsens. This can happen, for example, when we start from a sizeable trade deficit, and the export growth is higher, in percentage terms, than that of imports. In this sense, NBs can show more accurately than simple trade balances the changes that occurred in trade performance.

Moreover, in disaggregated analysis, the normalized trade balance is often interpreted as an indicator of trade specialization. High and positive NBs are recorded for commodities in which either market or policy determinants, or both, make national production competitive in both foreign and domestic markets. Therefore, the NB may be considered an *ex post* synthetic indicator of the competitive success of national products.

The NB for Caricom's agrifood trade performance is expected to be generally negative, and strongly negative for agricultural products.

Trade/GDP ratio (O) is a conventional measure of openness, given by the percentage share of GDP traded:

$$O_r = \frac{X_r + M_r}{GDP_r} * 100$$

where:
X_r = value of the country r total export
M_r = value of the country r total import
GDP_r = gross domestic product of country r

Evaluating the "degree of openness" to trade of economies or sectors is a rather common approach for assessing the impact of trade policies. Although econometric attempts to estimate measures of openness have often been inconclusive, the idea that the share of GDP (or consumption) traded can detect changes in openness of the country/sector have made those ratios the conventional measures of openness.

Due to its shortcomings,[169] the trade–to–GDP ratio is used to describe broad changes in openness over a long time or, at times, to compare degrees of openness before and after implementation of trade agreements. In fact, this index gathers more information than it should in order to be a refined measure of openness. It is not able to differentiate historical, geographical, economic and political factors affecting the share of agricultural GDP traded; therefore it is affected by many factors not directly involving trade policies and policy-determined openness. Also, the index is negatively correlated with the size of an economy, because large countries, with larger and more diverse stocks of resources, are better able to match demand and supply domestically, and transportation costs are likely to favour domestic producers for a range of products that widens as the size of the country increases (Perkins-Syrquin, 1989). This implies that the ratio is not comparable among different countries.

Trade shares (S) are useful indicators of the structure of trade, trade performance and its evolution over time. Most of the indicators introduced in this section are trade shares, or a combination involving them.

Trade shares can be calculated in several ways, according to the purpose of the analysis. For instance, the share in world export of a country (or a single industry of the country) is the ratio of a country's (or country's single industry) export to the world over world export (or world's single industry export):

[169] A discussion of limitations of the trade–to–GDP ratio and an attempt of an econometric estimate of this measure of openness are available in Leamer (1988).

$$S_i = \frac{x_i}{X}$$

where:
x_i = exports of country i
X = world export

The index ranges between $0 \leq S \leq 1$ (or $0 \leq S \leq 100$, if we prefer the index to be expressed in percentage terms and therefore multiply it by 100), where higher values indicate greater importance of the country in world exports. On the demand side, for share in world imports, the same meaning may be obtained by switching export with import in the previous definition.[170]

In the case of CARICOM, shares of world market are expected to be negligible, however important the products are for the local economy. This indicates that CARICOM countries are not expected to be able to affect world prices. However, shares can be higher in a specific target market and/or product. For instance, if we compute the share for the EU, expressed as

$$S_i = \frac{m_{EU,i}}{M_{EU}}$$

where:
$m_{EU,i}$ = EU import from country i
M_{EU} = EU import from the world

This will turn out to be significant, especially for certain products, such as sugar, rice or bananas, while still not significant for the whole agrifood sector as a whole. In general, CARICOM agrifood trade shares are expected to be relatively higher for beverages, sugar, prepared cereals and fruit and vegetables.

Trade shares can also be computed to evaluate the relevance of a specific sector on the total export or import of a country. For example, e_i is the export (import) of the i sector of country j, while E is the total export (import) of the same country:

$$S_i = \frac{e_i}{E}$$

where:
e_i = export of product i by country j
E = total export of country j

Or, to evaluate the relevance of a specific sector on the export to (import from) a given country, e_i is the export (import) of the i sector of country j to the partner k, while E_i is the export (import) of sector i of country j:

[170] It must be noted that exports to a partner country are generally expressed in free on board (f.o.b.) price, whereas imports usually include costs of insurance and freight (c.i.f. price). Therefore, the value of *exports* from country A towards country B differs from the value of *imports* into B from A (the value of imports expressed in c.i.f. price will be greater than the value of exports expressed in f.o.b. price). Care must be applied when gathering import and export flows in the same indicators in order to avoid inconsistency in the data.

$$S_{i,k} = \frac{e_{i,k}}{E_i}$$

where:
$e_{i,k}$ = export of product *i* from *j* to *k*
E_i = total export of product *i* by country

In percentage terms, in the first case, the closer the indicator is to 100 the higher the relevance of the sector in the structure of export (import) of country *j*. In the second case, the closer the indicator is to 100 the higher the relevance of partner country *k* in the structure of export (import) of country *j*.

Revealed comparative advantage. Balassa (1965) suggested measuring comparative advantages as they are revealed by trade data using a specialization indicator, often called the index of revealed comparative advantage (RCA). RCA is the ratio between the share of product *j* in country *i*'s export (numerator of RCA) and the share of product *j* in world export (denominator of RCA). In practice, it detects the relative specialization of country *i* in exporting product *j* on the basis of *j*'s importance in world trade.

$$RCA_{ij} = \frac{x_{ij} / X_{it}}{x_{wj} / X_{wt}} * 100$$

where:
x_{ij} = country *i*'s export of product *j*
X_{it} = country *i*'s total export
x_{wj} = world export of product *j*
X_{wt} = world total export

RCA_{ij} is always positive (≥ 0) and, by being expressed in percentage terms, RCA > 100 signals a revealed comparative advantage of country *i* in product *j*. The index can be adjusted for examining comparative advantages in reference areas other than the world (i.e. a single CARICOM country with reference to total CARICOM export).

RCA deals with the difficulties of measuring comparative advantages by observing the relative specialization in export of product *j*. Since prices cannot be observed in conditions of autarky, measuring comparative advantages for the purpose of defining a country's position in the international division of labour becomes rather arduous[171]. Even if one expects, following the traditional neoclassical approach, that a country's international specialization is determined by its relative endowment of production factors, significant problems arise that hamper the quantitative evaluation of such endowments.

For the Caribbean it is expected that the RCAs are significant for products such as bananas, rice and cane sugar, given that preferential trade policies meant that the area is engaged significantly more than the world average in these products.

[171] See also Chapter 10.

Concentration index (HX). This indicator measures the degree of concentration of the export structure of a country. This feature makes it interesting for many developing countries, whose structure of export is often highly dependent on relatively few primary commodities. The HX index is based on the Hirschman Index, calculated using the shares of the various products in the export structure of a given country,

$$HX = \left(\sum_{i \to n} s_i \right)^2$$

where:
S_i = share of product i in the export of country j
n = number of product exported

The smaller the value of the index, the less concentrated the structure of country *j*'s export. In this version the index ranges from 1 to ∞, which makes it difficult to compare among countries. However, this index can be normalized (i.e. forced to assume values between 0 and 1) by dividing it by the number of different products that, theoretically, could be exported (n). This implies that the values the index will assume are dependent on the nomenclature and the digit level adopted for the analysis (i.e. if the calculation is performed for agrifood sector by using 2-digit level HS nomenclature, then there would be 24 products considered, and $n = 24$).

$$HX_{norm} = \frac{\left(HX - \frac{1}{n} \right)}{\left(1 - \frac{1}{n} \right)} \Rightarrow \frac{\left[\left(\sum_{i \to n} s_i \right)^2 - \frac{1}{n} \right]}{\left(1 - \frac{1}{n} \right)}$$

In this new version the HX index is comparable among countries and takes the value 1 for maximum concentration (one product covers all exports).

Indicators of trade similarity. Some trade specialization indicators measure the merchandise similarity between the export flows of two countries in the same reference market. The export structure similarity index (ES) compares the relative dimension of the export shares for a given merchandise aggregate between two countries towards a specific target market. For each item the share of total agrifood exports is considered for each of the two countries compared.[172]

In math:

[172] Starting from the original *export structure similarity index* (ES), other related indicators were developed, such as the *product similarity index* (PSI) and the *quality similarity index* (QSI) (Grubel and Lloyd, 1975; Finger and Kreinin, 1979). In this chapter we go into detail on the ES only.

$$ES = \sum_{i} [\min (x_{iA}, x_{iB})] * 100$$

where x_{iA} and x_{iB} are the shares of total agri-industrial exports of country A and country B (respectively), regarding item *i.*

The use of these indices as an analytical instrument for evaluating competition between agrifood exports towards a specific market is based on the idea that the more similar the structures and features of two countries' exports are toward a common reference market, the stronger the competition between those two countries in relation to those goods.

The index varies between 0 and 100: in the first case the similarity is null, while in the opposite case the structures of the two flows (in terms of trade shares) are identical. The results, however, depend heavily on the level of disaggregation adopted[173].

12.2.3 The policy analysis matrix (PAM)

As mentioned, the PAM is an analytical framework aimed at examining the impact of policies based on two enterprise budgets: one valued at market prices, and the other at economic or social prices. The divergence between the market and economic values indicates the static impact of the policy setting, and constitutes a convenient way to shed light on the competitiveness of the economic sector(s), and their comparative advantage.

The enterprise budgets used to construct the PAM comprise revenue and cost data for the production and marketing of a specific commodity organized into two accounting identities. One calculates profit as the difference between revenues and cost. The other calculates the value of the divergence (distortion) induced by policy as the difference between economic and market values.

The structure of the PAM matrix is presented in **Table 12.4**. It allows for viewing the two accounting identities and readily calculating the profits and divergences. The first column displays data on revenue. The next two columns separate the cost items into tradable and non-tradable components, with "value" as a sum of quantity and price. (Intermediate inputs such as seeds, fertilizers, pesticides and transportation are separated into tradable and non-tradable components.) The final column is calculated as *profits = total revenue – total costs*.

The first two rows of the PAM value the revenues and costs (and thereby the profits) using different valuation methods. The first row uses market prices, which captures the effects of policies (distortions). The second row uses economic prices, which are the efficiency prices, devoid of distortions.

[173] Understandably, the higher the level of disaggregation, the higher the accuracy of the comparison between trade structures, but also the lower the probability of having "similar" trade shares.

The final row reinforces the second identity, using *distortion = market price – economic price*; it captures the distortion (or divergence) in revenues, costs, and profits.

TABLE 12.4
The Policy Analysis Matrix (PAM)

	Benefits	Costs		Net profit
	Gross revenue	Tradable inputs	Domestic factors	
Budget at market prices	**A** = *Pid * Qi*	**B** = *Pjd * Qj*	**C** = *Pnd * Qn*	**D**
Budget at economic prices	**E** = *Pib * Qi*	**F** = *Pjb * Qj*	**G** = *Pns * Qn*	**H**
Divergences	I	**J**	**K**	**L**

Where:

Pid = *domestic market price of output i*
Pjd = *domestic market price of tradable input j*
Pib = *economic price of output i*
Pjb = *economic (parity) price of tradable input j*
Pnd = *domestic market price of non-tradable input n*
Pns = *domestic economic (shadow) price of non-tradable input n*
Qi = *quantity of output i*
Qj = *quantity of tradable input j*
Qn = *quantity of non-tradable input n*

The PAM provides a visually appealing way of capturing and presenting the data on divergences and profits, which may be labelled as follows:

private profits: D = (A – B – C)
social profits: H = (E – F – G)
output transfers: I = A – E
input transfers: J = B – F
factor transfers: K = C – G
net transfers: L = D – H; or L = I – J – K

The PAM allows for calculation of the indicators of policy effects, competitiveness and comparative advantage. Indicators of the effects of policies on the farm system include the nominal protection coefficient (**NPC**), the effective protection coefficient (**EPC**) and the producer subsidy equivalent (**PSE**). The NPC measures the impact of policies on production process and output prices. The EPC measures the effects of policies on valued added (revenue less value of traded inputs). The PSE measures the net contribution of policies to farm revenues, that is, the net value of transfers as a percent of farm revenues valued in private prices. The private profit is a measure of international competitiveness. In effect competitiveness means that the production units have profitable production with the policy support provided.

The Domestic Resource Cost (DRC) is a measure of comparative advantage and implies that the production units can have profitable production even in the absence of policy support. The indicators of policy effects, competitiveness and comparative advantage may be calculated from the PAM as follows:

nominal protection coefficient (NPC)	=	A/E
effective protection coefficient (EPC)	=	(A–B)/(E–F)
producer subsidy equivalent (PSE)	=	(L/A)
private profits	=	D = (A – B – C)
social profits	=	H = (E – F – G)
domestic resource cost ratio (DRC)	=	G/(E–F)

The major limitation of the indicators (NPC, EPC, PSE, DRC) and the PAM is that they typically use fixed input–output coefficients. As a result, it is not possible to use them directly to indicate producer or consumer responses to policy changes that reduce distortions.

12.3 *Ex ante* policy analysis and equilibrium models

As pointed out above, *ex ante* policy analysis constitutes an attempt to anticipate the likely result of a policy change, through the building of a counter-factual scenario that is compared with a status quo scenario capable of answering a "what-if" question. The analysis involves the comparison of two different states of the world on the basis of some variables of interest. One state represents reality during a given period of time, usually called the baseline (or base case or benchmark), and the other state represents reality under a different policy option, usually referred to as the counter-factual or policy scenario.

Models considered here are economic equilibrium models, in which the solution corresponds to (at least some) market clearing conditions. Among the classes of models available, computable partial equilibrium (PE) and general equilibrium (GE) models are those based on the interaction among endogenous variables, which is absent in the analyses based on simple statistical indicators. The large number of microeconomic details involved makes these models suitable for predicting changes in production, demand, trade, prices, incomes and welfare.

The variables utilized in these types of models are classified as exogenous and endogenous. Exogenous are those whose value is determined outside the model, while endogenous are those whose value is determined by solving the model. Examples of typical exogenous variables in policy analysis models are the population, the rate of technical change and the policy variables themselves. Examples of typical endogenous variables include prices, consumption, production and trade.

Dynamic models can be classified as "recursive dynamic", when the solution is based on the forecasted value of the exogenous variables and on

the values of the endogenous variables in the previous period. In this kind of models, agents' behaviour is optimal within each period, but not through time[174]. On the contrary, fully dynamic models can be based on dynamic optimization, in which solutions are provided in the form of an optimal behavioural path, and behaviour is optimized through time.

One last remark is in order on the nature of the results of models used in *ex ante* analyses. The only additional information that such exercises can convey is the outcome of a policy experiment, indicating how the world would look with, for instance, a different tariff or a different subsidy. By no means should this be confused with a provisional exercise, which tells how some phenomenon may evolve in the future. The confusion arises particularly with the results of dynamic models, which often need to utilize the outcome of some provisional exercises – typically for exogenous background variables such as the population, GDP, productivity factors – in order to build a credible representation of the world through time. Provisional exercises, however, pertain to the building of a baseline against which the policy experiment will be run. Therefore it would be misplaced to judge the "soundness" of the policy analysis on the basis of its capacity to produce correct forecasts that are normally not a product of the analysis, but are rather the product of different exercises employed as a starting point in policy analysis.

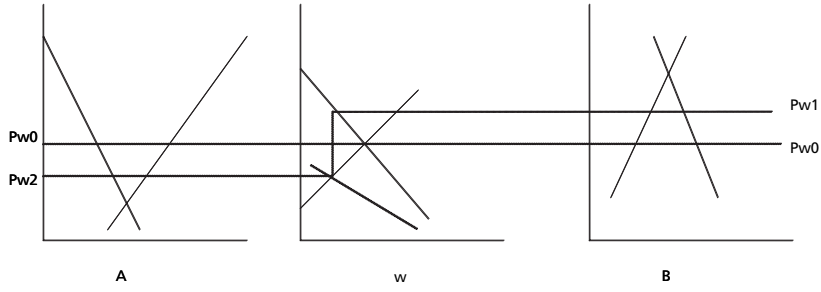
General and specific limitations of equilibrium models (from modelling assumptions, to data quality, to policy representation) were discussed above. This section provides an introduction to PE and GE approaches as applicable to trade policy and food security analysis.

12.3.1 An introduction to partial equilibrium (PE) models

Our focus here is on large global PE models that include multiple regions and countries, and multiple product markets, and that are employed in macro-level analysis of agricultural policy (particularly agricultural trade policy). Usually, these tools include the main agricultural markets only, while no factor markets are considered. (Their features are supposedly taken into account by the value of the parameters.) Demand, supply and trade for agricultural commodities are generated simultaneously with equilibrium prices, given a number of exogenous macroeconomic assumptions – such as the GDP, the exchange rate, the consumer price index and technical change – and the level of policy variables. The rest of the economy is assumed not to be affected by, and not to affect. what happens in agriculture. A basic textbook reference for this type of analysis is Francois and Reinert (1997).

[174] It should also be noted that in recursive dynamic models, which are considerably more frequent in agricultural trade policy analysis, the endogenous variables of period *t* behave in fact as exogenous variables with respect to the solution of period *t+1*. They are sometimes referred to as "pre-determined" variables, since they are endogenously computed in one period, but employed as exogenous in the following one.

FIGURE 12.1
A partial equilibrium net trade model



Country A is an exporter, while country B is an importer. The graph in the middle shows the transaction in the world market. If country B imposes an *ad valorem* tariff raising the price from P_{w0} to P_{w1} the world price will be reduced from P_{w0} to P_{w2}, and trade will be reduced accordingly.

In the past, goods were often assumed to be perfectly homogeneous; this has changed in some of the more recent contributions, several of which assume some degree of differentiation across the same good in different markets. In general, the partial equilibrium approach has been employed extensively for commodity markets, under the assumption that all markets represented are linked by (at least some) degree of transmission between prices.

This type of model assumes the presence of a representative agent, while it does not provide indications about possible underlying distributional effects. Agent behaviour is assumed to be maximizing, if restrictions are imposed on the parameters, and models are calibrated on a base year, in order to run counter-factual scenarios (if comparative, static) or paths (if recursive, dynamic).

Figure 12.1 offers a schematic illustration of the functioning of a PE model for one individual product.

A *typical* partial equilibrium model[175] consists of a set of behavioural equations, a set of equilibrium relations between supply and demand, and a set of identities that aggregate variables. Equations can be grouped into a supply component, a demand or utilization component, and a foreign trade component; this pattern is repeated for each region and product included. In addition, there are price transmission equations, linking world prices to

[175] The following can be referred to a number of models, such as the Cosimo-AGLINK model of the Organisation for Economic Co-operation and Development (OECD) and FAO, or the FAPRI model of the Center for Agricultural and Rural Development (CARD), or the European simulation model (ESIM) built by the University of Bonn. A review of some of these exercises can be found in van Tongeren and van Meijl (1999).

BOX 12.1

The structure of a standard partial equilibrium agricultural model

Crop products	*Livestock products*
	supply
(1) $s_{i,n} = s(p_{v,i,n}, p_{v,j,n}, Pols)$	(8) $c_{i,n} = c(p_{z,i,n}, p_{z,j,n}, Polc)$
(2) $r_{v,i,n} = r(p_{v,i,n}, PR)$	(9) $AL = al(p_{v,i,n}, p_{v,j,n})$
(3) $Qo_{v,i,n} = s_{i,n}\ r_{v,i,n}$	(10) $r_{z,i,n} = r(p_{z,i,n}, AL, PR)$
	(11) $Qo_{z,i,n} = c_{i,n}\ r_{z,i,n}$
demand	
(4) $Cu_{v,i,n} = cu(p_{v,i,n}, Y_n, POP_n)$	(12) $Qd_{z,i,n} = qd(p_{z,i,n}, Y_n, POP_n)$
(5) $AA_{v,i,n} = aa(Qo_{z,i,n})$	
(6) $SE_{v,i,n} = se(s_{v,i,n})$	
(7) $Qd_{v,i,n} = Cu_{v,i,n} + AA_{v,i,n} + SE_{v,i,n}$	

price transmission

(13) $p_{i,n} = p(p_{i,w}, tc, Polp)$

trade

(14) $(E_{i,n} - I_{i,n}) = Qo_{i,n} - Qd_{i,n}$

closure

(15) $\Sigma\ (E_{i,n} - I_{i,n}) = 0$

where:

i, j = products
v = crops
z = livestock
n = country
and
s = land (hectares)
c = heads (number)
AL = index of feed cost
r = yield (per hectare or per head)
$Polp$ = policies directly affecting prices
$Pols$ = policies based on land
$Polc$ = policies based on livestock heads
Cu = demand for human consumption
E = exports
I = imports
tc = exchange rate
PR = yield trend
Y = GDP
POP = population
p_n = price in country n
p_w = world price
AA = demand for feed
SE = demand for seeds
Qd = total demand
Qo = supply

domestic prices, and world market equilibrium conditions that closes the model.

A simplified representation of the standard structure of the models considered is shown in **Box 12.1**.

The supply component consists of equations for crops and for livestock; supply is obtained as the product of a yield per hectare of land or per head, times the number of hectares employed or the herd size. Yields depend on a trend variable (which is used to represent technical change) on output prices and on feed costs for livestock. These are included in an aggregate feed price index. Land and heads allocation depends on relative output prices, and on the policies directly affecting their allocation.

This type of modeling is simplified in several respects. First, production is entirely deterministic: no uncertainty factors, such as climatic variability, are accounted for. No assumptions are made concerning farmers' attitude toward risk, unless they are included in the parameters. Input demand is included only for land, herds and where primary products are employed as inputs in the production of other (processed) goods included in the model, as is the case with feed crops, oilseed (where seeds are inputs for mealcakes and oils) and in dairy production, where milk is the input of butter, cheese casein, etc. The demand for non-agricultural inputs, such as fertilizers, pesticides and machinery is not included. Land use and herd size depend solely on the price obtained for agricultural products, rather than on the prices of land and heads themselves.

The demand component for crops consists of an aggregation, by means of an identity, of the amount used for human consumption, for feed and for seeds. For livestock, only feed is included, along with the prices of products, the demand for human consumption includes the prices of a few more direct substitutes, together with the GDP level and the population as exogenous shifters. The demand for feed is directly related to the number of livestock, through technical coefficients. By the same token, the demand for seed is directly related to the number of cultivated hectares.

The typical partial equilibrium model considered here is comparative static, and does not include stock formation. This choice is usually justified by considering that stocks cannot be increased or depleted after a given point, and thus, their variation must add up to zero. Nonetheless, the absence of stocks from the model can be a problem, especially in modeling those markets where they may assume a structural character and may significantly affect the behaviour of economic agents.

In the more standard applications the trade component is made up of excess supply equations. Goods produced in different countries are assumed to be perfectly homogeneous, and world markets are treated as a single arbitrage mechanism of excess supplies. All markets influence prices throughout the

model, that is, price changes occurring in one market are always transmitted to all the others. The closure rule is defined by the sum of the excess supplies in all markets, which have to add up to zero. The solution generates countries' net trade positions, but it does not include information on bilateral trade flows.

A popular alternative to this approach in the trade component is the so-called Armington assumption, which is based on the idea that substitutability between domestic and foreign products in each market is less than perfect. Francois and Hall (1997) offer a simple treatment of this approach within a PE setting. This assumption allows the endogenous generation of bilateral trade flows, so that the market clears through the sum of total exports and total imports in the model.

The possibility of generating endogenously bilateral trade flows is indeed a very important feature of the model in the exercises aimed at analysing discriminatory trade policies, such as preferential trading schemes, or any other provision which does not apply multilaterally. Hence the popularity of the Armington approach, whatever its limitations. An extensive discussion of the limitation of this approach and of the models capable of handling satisfactorily bilateral trade and discriminatory policies may be found in Anania (2001).

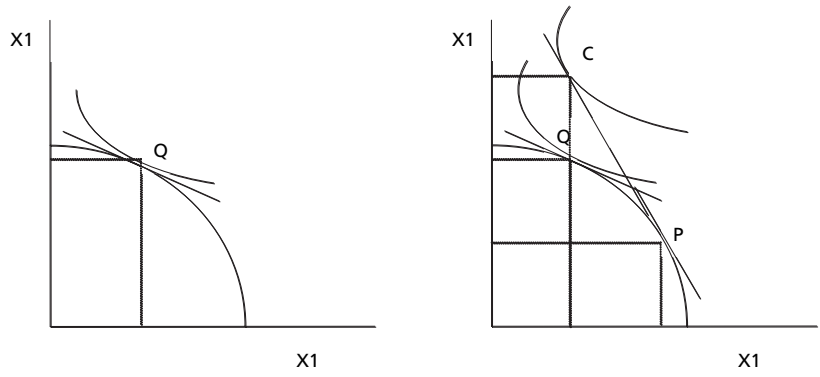
12.3.2 An introduction to general equilibrium (GE) models

The basic structure of a GE model can be described through blocks of relations dealing with production, consumption, factors market, savings/investment and the balance of payments. Basic references for this modelling approach are in Ginsburgh and Keyzer (1997) and Devarajan *et al.* (1997). De Muro and Salvatici (2001) offer a useful review of the different types of models within this approach, highlighting relevant matters related to its potential and actual uses in the analysis of agricultural and trade policy.

GE models are characterized by the fact that they take into account all activities and institutional entities (such as households, government and firms) without assuming absence of feedback effects for any of them within the economy. In principle, this characteristic is totally independent from the details included in the model: even if it is formulated for one single good, one producer and one consumer, these will be representative of the entire economy.

A very basic representation can be provided with the graph shown below, with reference to one consumer who is also a producer. Given an initial factor endowment which defines the production possibility frontier of goods X_1 and X_2, and the utility function parameters which define the structure of the indifference map, an autarky equilibrium is found in Q, where the indifference curve and the production possibility frontier are tangent to the isocost line. If we allow for trade (within a small, open economy setting), the represented country will have access to a consumption level of C, while

FIGURE 12.2
A general equilibrium model



producing in P, given exogenously-defined terms of trade, and will be trading the difference between these two points defined in terms of the two produced goods X_1 and X_2.

In more realistic settings, GE models include three sets of relations, determining real flows, expenditure and income, respectively. Moreover, equilibrium conditions make it possible to "close" the model, by defining endogenous and exogenous variables. A set of identities ensures that income does not exceed expenditure and equals that of the factors of production.

A very simple example, with only initial factor endowments and utility function parameter being exogenous (while all the rest is calculated by the model), is given in **Box 12.2** (adapted from Magnani and Perali, 2002).

In their more standard setting, GE models are solved by imposing the equilibrium condition in all markets, following the so-called Walras law. It is important to highlight that the closure rule acquires a fundamental meaning, which is that of defining the beliefs of the analyst on the ultimate mechanism that regulates the economy. A "neo-classical" closure will therefore attribute a propulsive role to savings, and assume that the level of investment varies to ensure equivalence between the two. A "Keynesian" closure, instead, will permit the existence of unemployment, and ensure equilibrium through its presence with an endogenous labour demand. In other exercises, in which a decisive role is attributed to investment, these will be adjusted to savings, and consumption will be determined by sales. In other exercises, it is assumed that factors of production are not paid for according to their marginal productivity, and equilibrium is achieved through a redistribution of income, which influences the savings rate. By representing the entire economy, therefore, GE models make all assumptions more explicit.

BOX 12.2

The basic structure of a general equilibrium model

Production

Goods – sectors	*Production function*
agriculture	XSagr = f (L, K)
textiles	XStex = f (L, K)

Consumption

Agents	*Utility function*
rural	Urur = f (Xagr, Xtex)
urban	Uurr = f (Xagr, Xtex)

Factors of production

	Endowments
labour	L = L
capital	K = K

Variables

endogenous		***exogenous***	
p_i	price of good *i*	L^S_h	Labour endowment of consumer *h*
w	wage	K^S_h	Capital endowment of consumer *h*
r	Return to capital	a_{hi}	Utility function parameter
X^S_i	Supply of sector *i*		
$_hX^D_i$	demand for *i* of consumer *h*		
$_DL_i$	Labour demand of sector *i*		
$_DK_i$	Capital demand of sector *i*		
Y^h	Income of consumer *h*		

The trade component can be specified either as a residual of the domestic market – which is especially the case in those exercises involving one country where the small, open economy assumption is often adopted – or through an Armington structure, as for PE frameworks. The Armington has gained popularity in GE modelling also.

In order to become "computable", general equilibrium models (the common acronym is CGE) require:

- a database describing the flows of resources in the economy, at the level of aggregation considered in the model; and
- a set of parameters for the behavioural relations of the model.

BOX 12.2
Continued

Equations

real flows

$X^S_i = f({}_D L_i, {}_D K_i)$ supply of good i

$w = (\partial X^S_i / \partial X_i {}_D L_i)\, p_i$ labour demand

$r = (\partial X^S_i / \partial X_i {}_D K_i)\, p_i$ capital demand

expenditure

${}_h X^D_i = a_{hi} (Y^h / p_i)$ demand for i

equilibrium conditions

$X^S_i = \sum_h {}_h X^D_i$ demand equals supply

$\sum_i {}_D L_i = \sum_h L^S_h$ demand for labour equals labour endowment

$\sum_i {}_D K_i = \sum_h K^S_h$ demand for capital equals capital endowment

income flows

$Y^h = w L^S_h + r K^S_h$

identities

$P_i X^S_i = {}_D L_i\, w + {}_D K_i\, r$

$Y^h = \sum_i {}_h X^D_i\, p_i$

Adapted from Magnani and Perali (2002).

The database on which a CGE is based is known as Social Accounting Matrix (SAM): it is a consistent set of accounts describing resource flows between consumers, producers, the government and foreign economies.

Parameters can be obtained through calibration or estimation. In the latter case, once the database to be employed as a benchmark equilibrium for the economy has been constructed, the model will be solved in "reverse" mode, so that the solution will determine the values of the parameters that are compatible with the known values of the exogenous variables, and of the endogenous variables of the benchmark equilibrium. Given that the benchmark period is normally represented by one observation – either the

reference year or some average of a few years – it is clear that the calibration procedure generally does not make it possible to assess the statistical reliability of the parameters obtained.

To avoid this problem one solution is the estimation of parameters, which involves calculating them through econometric techniques. While desirable, this is usually unfeasible. Firstly, the average size of a CGE model implies the need to estimate a high number of parameters, which increases with the number of sectors and households considered. In turn, this implies that a large number of consistent observations must be available, especially if parameters are to be estimated simultaneously. Separate estimations for model blocks – such as one for production, one for demand, or one for each product – still would not take into account all the equilibrium conditions considered in the model.

12.3.3 Which model is better?

Compared to the PE approach, the GE approach removes one major simplifying assumption. In fact, when some activities are excluded from the analysis, it is assumed that what happens in one activity does not affect demand and supply in the sectors that are considered. This also applies to the factor market, which is seldom included in the PE models employed in *ex ante* analysis of policies for agricultural products. The extent to which this is an acceptable assumption defines the extent to which a PE analysis can be suitable for a particular problem at hand. The possibility of including a higher level of detail, which has frequently been considered as a driver of the choice in favour of PE models – tends to be an increasingly misplaced argument, since the power of computational tools seems not to prevent the specification of relatively large-size models.

Instead, it is a question of the focus of the analysis. In general terms, PE and GE models fare better at representing redeployment of resources than at capturing productivity and growth. If the aim is to understand changes in agricultural supply and demand, a PE framework can provide useful answers, especially if the analysis includes many policy details. If the focus is more general, and answers have to be provided in terms of changes in income, factor allocation or distributional consequences, then the model must address the linkages between trade and these aspects, and a GE appears more appropriate. In this respect, a GE approach may be a more effective choice when analysing issues in which it is important to highlight the existence and the effects of a general "budget constraint" in the economy, so that changes in the resource allocation imply significant feedback effects to be taken into account; and when considering the second-round effects of policy changes.

Dealing with these aspects within a GE framework requires:

- more data to be assembled and made coherent;

- more parameters to be either estimated or derived through calibration; and
- more explicit hypotheses on the functioning of the economy and on all markets represented.

Moreover, given that an accurate representation of all these aspects usually requires an increase in the number of non-linear relations included in the models, a more complex representation may involve more difficulties in solving the model using standard algorithms.

In summary, "it may be difficult to justify devoting otherwise scarce resources to more complex and less transparent models, when they may yield only marginal extensions of the basic insights taken from simpler approaches" (Francois and Hall, 1997, p. 122). In fact, among the models employed in the analysis of agricultural policies GE approaches have been used more frequently in those cases in which agriculture forms a large share of the economy; and in those cases in which the focus is more on intersectoral effects rather than on the peculiarities of single products. However, in recent years, given the increased power of computers and the easier exchange of information among analysts, the use of GE models has become more common.

12.3.4 Where to begin?

As mentioned earlier, policy analysts around the world are benefiting increasingly from networking, and a number of initiatives have been undertaken aimed at sharing data, modelling codes and other resources that can contribute to lowering significantly the costs involved in starting quantitative trade policy analysis. Here we present some key networking experiences, with the aim of providing the reader with practical starting points. For PE models, reference will be made to a number of networking experiences, including those related to the Agricultural Trade Policy Simulation Model (ATPSM), jointly built by the United Nations Conference on Trade and Development (UNCTAD) and FAO; and to the Cosimo-AGLINK model, jointly developed by the Organisation for Economic Co-operation and Development (OECD) and FAO. Concerning GE models, reference will be made to the experience of the Global Trade Analysis Project (GTAP), which is probably the case in which networking has developed the most.

ATPSM

The Agricultural Trade Policy Simulation Model (http://r0.unctad.org/ditc/tab/atpsm.shtm) is a deterministic, comparative, static, partial equilibrium model of world agricultural markets, built by UNCTAD and FAO. The model and database are publicly available. The model is intended to serve as a tool for quantifying the economic effects at the global and regional levels of recent changes in national trade policies, and to analyse potential changes

that would result from future policy reforms in individual countries. It provides estimates of changes in trade volumes, prices and welfare indicators associated with changes in trade policies.

Domestic supply and demand equations are specified as functions of farm and wholesale prices (respectively) in proportional terms, allowing for cross-effects in production and substitution in consumption. Export supply is proportional to production, while imports are derived as a residual of the domestic market. The trade component of the model is essentially a residual of the domestic markets, and therefore the model can be employed to compute changes in the net trade positions of the countries. Concerning policies, the model includes *ad valorem* tariff equivalents, export subsidies and the domestic subsidy component which exceeds trade protection, in order to avoid double counting the trade-distorting effect. Where tariff-rate quotas are implemented, the domestic price is computed on the basis of the out-of-quota tariff.

Given the nature of the trade component, the model has been used mainly to study the impact of multilateral trade agreements; a recent application is in Poonith and Sharma (2004). The results are easily accessible, and the associated software is particularly simple and intuitive (an Excel version is also available), which also facilitates its use in capacity-building.

AGLINK and Cosimo-AGLINK

AGLINK is a partial equilibrium dynamic model of world agriculture built by the OECD Secretariat in cooperation with its member countries and a number of independent consultants. Results, which are generated on the basis of member-country responses to questionnaires, are employed in the preparation of the OECD *Medium-term Outlook*, the periodical reporting the medium-term forecasts on the market development for main agricultural commodities in OECD countries and their main trading partners. The model was also used for several policy experiments run by the OECD Secretariat. The model assumes perfect competition in all markets, and perfect homogeneity for products from different countries. For most products and countries, trade is the residual of the domestic market, and therefore the model does not generate bilateral flows. AGLINK is very rich in the representation of policies; it explicitly takes into account tariffs, export subsidies, domestic subsidies and taxes, and complicated mechanisms like floor prices and tariff-rate quotas. The model is available to the OECD and a network of authorized co-operators.

Cosimo is a partial equilibrium dynamic agricultural model, built as a complement to the AGLINK model of the OECD[176]. The two models can be solved simultaneously, and Cosimo contains both the countries and regions included in AGLINK, plus the details for countries which were originally

[176] See http://www.fao.org/docrep/meeting/009/J4756e.htm.

included in the "Rest of the World" region of AGLINK. Like AGLINK, Cosimo is aimed at generating medium-run market outlooks (jointly published by FAO and the OECD) and at conducting policy simulations.

Cosimo was developed by considering a slightly different product space than AGLINK, reflecting the production and consumption mixes of the countries involved. The product structure of the model is flexible, based on a number of aggregated products for which market clearing conditions are specified, which are made up of different individual products specific to each country module. Therefore, for instance, the aggregate "coarse grains" might be made up of maize, barley and sorghum in one country, while it may include millet and oats in another country.

Concerning policies, the model includes both bound and applied *ad valorem* tariffs in the price transmission equations. Other policies considered are some of the more important tariff rate quotas (TRQs), through conditional statements; intervention prices, which are also introduced as conditional statements; and direct payments, which are modelled as subsidies affecting the returns per hectare in the land allocation system.

Parameters are derived from a number of sources, including available estimates from the literature (particularly from the World Food Model, the Food and Agricultural Policy Research Institute (FAPRI) and the USDA model), calibration through the constraints imposed on the system, ad hoc estimation and model validation with historical simulation. All are checked and validated by specialized commodity analysts.

Cosimo is currently employed to produce the medium-term outlooks on key agricultural markets, within a joint exercise with the OECD Secretariat, and is not publicly available. However, databases on which the model is based are available from the OECD website, and the working group of the Commodities and Trade Division of FAO can be contacted to verify the possibility of extending/detailing the model for some regions, and of running particular policy simulation experiments. Being essentially a net-trade model, Cosimo is more suited for analysing phenomena that involve the global markets and non-discriminatory policies, such as MFN tariffs reductions, and less suitable for analysing discriminatory policies, such as preferential trade schemes.

The Global Trade Analysis Project (GTAP)

The GTAP (https://www.gtap.agecon.purdue.edu/) was launched in the 1990s with the idea of building a global general equilibrium model and database for analysing trade policies. The initiative gradually evolved into a worldwide network of paying users, sharing a common starting point in global general equilibrium analysis. The database and the associated standard models are available for a fee, which varies according to the degree of participation in the project.

The GTAP was initiated by Purdue University in the United States, in cooperation with other research institutions around the world, which formed a consortium. The project has developed considerably over the years, due in part to the active participation of a large pool of institutions which includes, among others, the World Bank, the WTO, UNCTAD, FAO, the International Food Policy Research Institute (IFPRI), the Massachusetts Institute of Technology, and a large number of national agencies. Several very influential analyses have been carried out on the basis of the database and the associated model.

The GTAP standard model is a perfectly competitive, comparative, static, general equilibrium computable framework (Hertel, 1997). A standard dynamic version has been made available recently. The structure of demand and supply, which is homogeneous across regions and products, is built upon the social accounting matrices of individual countries and regions, while parameters are drawn mostly from the literature and calibrated on the reference database period. The model assumes the presence of representative consumers and producers together with a government sector, and all incomes are assumed to accrue to a single "regional" household. Therefore, all distributional aspects are overlooked, and all consumers are assumed to purchase all goods. By the same token, government costs and revenues do not need to balance, as it is assumed that any discrepancy accrues directly to the households (i.e. the single "regional" household). Government's consumption behaviour is endogenous, while policies are exogenous (Hertel, 1997).

Substitutability among primary factors and with intermediate consumption is modelled through a set of nested constant elasticity of substitution systems, while the production of final goods is aggregated through a fixed coefficient function of the Leontiev type. On the demand side the representative agent allocates his or her income among savings, government and private consumption through a Cobb-Douglas utility function, while allocation within different private goods is modelled through a constant difference of elasticity demand system. Bilateral trade flows are modelled through product differentiation on the demand side, with the assumption of imperfect substitutability between similar goods produced in different countries and regions. Transaction costs are also accounted for in the model, as transport services are explicitly considered among the activities in the economy. The standard model adopts the Walrasian closure rule, by which investment at the global level is adjusted to global savings, and the balance of payments is endogenous in individual countries and regions.

The most recent publicly available database version (Version 6) includes data on up to 92 regions and countries, 57 industries and 5 endowments, and refers to year 2001 as a base period. In general, there are two groups of data which are of particular relevance for global models: those on border protection and those on bilateral trade flows. The GTAP database is built

from the COMTRADE data, supplied by the United Nations Statistical Office, through an ad hoc reconciliation procedure based on a reliability indicator of the information supplied by each importing and exporting country. Trade policy data are retrieved from the MacMaps database (Bouët *et al.*, 2001), while data on domestic support in agriculture is based on the OECD and USDA producer support estimates. Export subsidies are directly derived from countries' notifications to the WTO.

References

Ackerman, F. 2005. The shrinking gains from trade: a critical assessment of Doha Round projections. *Global Development and Environment Institute Working Paper 05-01*. Medford MA, Tufts University.

Anania, G. 2001. Modeling agricultural trade liberalization and its implications for the European Union. *Osservatorio sulle politiche agricole dell'UE Working Paper no. 12*. Rome, Istituto Nazionale di Economia Agraria (INEA).

Balassa, B. 1965. Trade liberalisation and "revealed" comparative advantage. *The Manchester School*, 33: 99–123.

Bouët A., Fontagné L., Mimouni M. & Pichot, X. 2001. Market access maps: A bilateral and disaggregated measure of market access. *Cepii Document 18*. Paris, Centre d'Etudes Prospectives et d'Information Internationale.

Cipollina M.P. & Salvatici, L. 2006. Measuring protection: mission impossible? *TRADEAG Working Paper 2006-07* (available at http://lotus5.vitamib.com/hnb/tradeag/tradeag.nsf/Web/Frame?openform).

De Muro P. and Salvatici L. 2001 The Common Agricultural Policy in Multisectorial Models, Working Paper n 11, INEA, Osservatorio sulle Politiche Agricole dell'Unione Europea, http://www.inea.it/opaue/WP11.pdf

Devarajan S., Go, D., Lewis J., Robinson S. & Hall, H. 1997. Simple general equilibrium modelling. *In* J.F. Francois & K.A. Reinert, eds. *Applied methods for trade policy analysis. A handbook.* Cambridge, UK, Cambridge University Press.

Drysdale, P. & Garnaut, R. 1982. Trade intensities and the analysis of bilateral trade flows in a many-country world. Hitotsubashi Journal of Economics, 22: 62–84.

FAO. 2006. Trade policy simulation models: estimating global impacts of agricultural trade policy reform in the Doha Round. *FAO trade policy technical notes no. 13*. Rome.

Finger, J. & Kreinin, M. 1979. A measure of `export similarity' and its possible uses. *The Economic Journal*, 89(356): 905–912.

Francois, J. & Hall, H. 1997. Partial equilibrium modelling. *In* J.F. Francois and K.A. Reinert, eds. *Applied methods for trade policy analysis. A handbook.* Cambridge, UK, Cambridge University Press.

Francois, J. & Reinert, K., eds. *Applied methods for trade policy analysis. A handbook*. Cambridge, UK, Cambridge University Press.

Ginsburgh, V. & Keyzer, M. 1997. *The structure of applied general equilibrium models.* Cambridge, MA, MIT Press.

Grubel, H. & Lloyd, P. 1975. *Intra-industry trade: the theory and measurement of international trade in differentiated products.* London, Macmillan.

Hertel, T. 1997. *Global trade analysis: modelling and applications*. Cambridge, UK, Cambridge University Press.

Hertel, T. & Reimer, J. 2005. Predicting the poverty impacts of trade reform. *Journal of Int. Trade and Econ. Dev*., 2005, 14(4): 377–405.

Hertel, T. & Winters, A., eds. 2006. *Poverty and the WTO. Impacts of the Doha Development agenda.* Washington, DC, World Bank and Basingstoke, UK, Palgrave Macmillan UK.

Hoekman, B., English, P. &. Matoo, A., eds. 2003. *Development, trade and the WTO. A handbook*. Washington, DC, World Bank.

Laird, S. 1997. Quantifying commercial policies. *In* J. Francois & K. Reinert, eds. *Applied methods for trade policy analysis. A handbook*. Cambridge, UK, Cambridge University Press.

Leamer, E.E. 1988. "Measures of Openness", in Baldwin, R. E., Trade Policy Issues and Empirical Analysis, University of Chicago Press, Chicago.

Lucas, R. 1976. Econometric Policy Evaluation: a critique. *Carnegie-Rochester Conference Series on Public Policy,* 1: 19–46. Amsterdam, North-Holland.

Magnani, R. & Perali, F. 2002. Laboratorio di Politica Economica. Benessere, Equilibrio Generale, e Sviluppo Economico, Università di Verona.

Monke, E. & Pearson, S. 1989. *The policy analysis matrix for agricultural development*. Ithaca, NY, Cornell University Press.

Perkins, D. & Syrquin, M. 1989. Large countries: the influence of size. *In* H. Chenery & T. Srinivasan, eds. *Handbook of development economics*, Vol. II. Amsterdam, North-Holland.

Poonith D. & Sharma, R. 2004. The impact of WTO negotiating modalities on developing countries. *In* G. Anania, M. Bohman, C. Carter & A. McCalla, eds. *Agricultural policy reform and the WTO: Where are we heading?* Cheltenham, UK and Northampton, MA, Edward Elgar Publishing Ltd.

Taylor, L. 2004. *Reconstructing macroeconomics: structuralist proposals and critiques of the mainstream*. Cambridge, MA, Harvard University Press.

Van Tongeren, F. & van Meijl, H., eds. 1999. Review of applied models of international trade in agriculture and related resource and environmental modelling. *Agricultural Economics Research Institute Report 5.99.11*. The Hague, LEI.

Appendix 12.1

Glossary of trade terminology[177]

***AD VALOREM* TARIFF**	A tariff calculated on the value of the dutiable item and expressed as a percentage of the value of goods; for example, 10 percent *ad valorem* means 10 percent of the value of the entered merchandise.
AGREEMENT ON AGRICULTURE (AoA)	A WTO agreement establishing rules and commitments to ensure a fair and market-oriented system for trade in agricultural goods and products. The Agreement on Agriculture consists of rule-based commitments to reduce protection and support of agricultural goods and products over a specified implementation period. The Uruguay Round of Agreement on Agriculture signed in 1994 was the first major international agreement on agriculture.
AGREEMENT ON RULES OF ORIGIN	A WTO agreement addressing the rules that determine the country of origin of an imported product. Usually applicable among members in a Free Trade Agreement. A decision by a customs authority on origin can determine whether a shipment falls within a quota limitation, qualifies for a tariff preference or is affected by an anti-dumping duty.
AGREEMENT ON SUBSIDIES AND COUNTERVAILING MEASURES	The agreement permits signatories to impose specific duties on imports to offset – or "countervail" – the benefits of subsidies to producers or exporters provided by the government of the exporting country.

[177] This glossary draws some of its definitions from the following sources: FAO, UNCTAD, USAID and World Bank.

APPLIED TARIFF The tariff actually applied by a country at its border. When the country belongs to WTO, applied tariffs respect the ceiling defined by the *bound tariffs* agreed upon (MFN rates). Many countries actually apply tariffs lower than MFN rates. A larger set of countries applies tariffs lower than MFN under preferential agreements (free trade agreements, system of generalized preference, preferential access for certain countries or regions, special agreement with developing countries, etc.). Applied tariffs also include the lower-than-MFN tariffs agreed upon in the WTO framework that are applied within tariff rate quotas (called, in general, the "in-quota tariffs").

ARBITRATION An arrangement through which two parties to a dispute agree to the appointment of an impartial chairperson or a group of competent persons to decide the disputed issue and agree in advance to abide by the decision rendered.

BALANCE OF PAYMENTS The difference between the funds received by a country and those paid by a country for all international transactions.

BALANCE OF TRADE (BOT) The value of a country's exports minus the value of its imports.

Base tariffs The base tariffs were the 1995 MFN tariffs, which had to be decreased over the implementation period of the Uruguay Round agreement. A number of developing countries were free to decide the base tariff on which the reduction commitments were applied. The resulting tariff is called the **bound tariff**, i.e. a ceiling tariff at the end of the implementation period (2005).

Binding overhang Expression used when a country has set a **bound tariff** at a level higher than the tariff applied in practice (often, in order to maintain a margin for a possible increase in **applied tariff** up to the bound tariff).

Border price	Can be based on **FOB** (free on board) or **CIF** (cost, insurance and freight) prices. FOB are usually adopted for export values, while CIF values are usually adopted for imports.
BOUND TARIFF (BINDING)	Maximum tariff rates resulting from GATT negotiations that are incorporated into a country's schedule of concessions and enforceable as an integral element of the WTO regime. Binding is a provision in a trade agreement that no tariff rate higher than the rate specified in the agreement will be imposed during the life of the agreement.
CAIRNS GROUP	A group of agricultural-exporting nations established to develop a common negotiating position for the Uruguay Round. It comprises Australia, Argentina, Brazil, Canada, Chile, Colombia, Fiji, Hungary, Indonesia, Malaysia, New Zealand, the Philippines, Thailand and Uruguay.
CARIBBEAN BASIN INITIATIVE (CBI)	A preferential trading arrangement that came into effect on 1 January 1984 and provided several tariff and trade benefits to many Central American and Caribbean countries exporting into the United States market.
CIF	A commercial term meaning that the selling price includes all "costs, insurance and freight" for any goods sold. The seller arranges and pays for all relevant expenses involved in shipping goods from their point of exportation to a given point of importation.
COMMON AGRICULTURAL POLICY (CAP)	A system of EU agricultural subsidies and levies. These subsidies work by guaranteeing a minimum price to producers and by direct payment of a subsidy for particular crops planted.
COMMON EXTERNAL TARIFF (CET)	A tariff rate uniformly applied by member countries of a common market or customs union, such as the European Community, to imports from countries outside the union.

COMPETITION POLICY	Legislation and regulations designed to protect and stimulate competition in markets by outlawing anti-competitive business practices such as cartels, market sharing or price fixing.
COMPOUND TARIFF	A combination of an *ad valorem* tariff plus a specific tariff. Also called a "mixed tariff".
Current access	The 1994 Marrakech (Uruguay Round) Agreement on Agriculture specified that after tariffication, current market access (i.e. the level of imports that existed during the reference period) had to be maintained or increased. For some countries, this was achieved by the opening of tariff rate quotas, called "current access" quotas (as opposed to quotas open under **minimum access**).
CUSTOMS UNION	A group of countries that adopt free trade (zero tariffs and no other restrictions on trade) on trade among themselves, and that also agree to levy the same tariff (on a given product) on imports from outside the group.
De Minimis	In the WTO Uruguay Round Agreement on Agriculture this refers to the rules permitting exemption of notification of assistance from Aggregate Measurement of Support (AMS), related to domestic subsidies - if that support is below a certain threshold - the total must make up no more than 5% of the total value of agricultural production of that product or where it is not product specific, it should not be more than 5% of the value of agricultural production -for developed countries. The values are 10% for developing countries.
Dirty tariffication	Tariffication is the conversion of non-tariff barriers that existed for agricultural products before the Uruguay Round into tariffs meant to bring an equivalent level of protection. Some countries, however, are said to have set base tariffs at a level higher than the one actually provided by the measures they replaced. This practice is called "dirty tariffication".

EFFECTIVE TARIFF RATE	The concept that "effective tariff" protection for a product depends on tariff and other non-tariff barriers on both its inputs and outputs.
ENABLING CLAUSE	Enables WTO members to accord "special and differential treatment" to developing countries, without according such treatment to other contracting parties.
EXPORT SUBSIDY	The incentives paid by the government to an exporter based on the quantity of commodity exported.
Fill rate	The proportion of imports during a given year, relative to the commitment in terms of import quantity as defined by the **tariff rate quota (TRQ)**.
FOB	The "free on board" price of a product, that is, after loading onto a ship but before shipping, thus not including transportation, insurance and other costs needed to get the product from one country to another.
FREE TRADE AREA AGREEMENT	An agreement between two or more countries to eliminate tariff and non-tariff barriers on trade among themselves, while each participating country applies its own independent schedule of tariffs to imports from countries that are not members of the agreement.
GENERALIZED SYSTEM OF PREFERENCES (GSP)	The GSP is a system through which industrialized high-income countries grant preferential access (mostly lower tariffs) to their markets to developing countries.
HARMONIZED SYSTEM (HS)	A complete product classification system developed by the International Customs Organization that is organized in a particular framework and that employs a numbering or coding system consistent with its organizational arrangement. For example HS 2002 has 97 codes for all merchandise products at the most aggregated level of product grouping.

IMPORT-SENSITIVE PRODUCTS	See **sensitive products**
IMPORT QUOTAS	Import quotas are quantitative restrictions that control the amount or volume of various commodities that can be imported into a country during a specified period of time.
INTERNATIONAL/ WORLD PRICE	Represents what the commodity can earn as an export or what it costs to the economy as an import. It is the (foreign) opportunity cost for a country for a particular commodity.
LINEAR REDUCTION OF TARIFFS	A reduction by a given percentage in all tariffs maintained by countries participating in a round of trade negotiations.
MARGIN OF PREFERENCE	The difference between the duty payable under a given system of tariff preferences and the duty that would be assessed in the absence of preferences.
MARKET ACCESS	The conditions that govern the entry of foreign goods into a domestic market. The extent to which the foreign market is accessible generally depends on the existence and extent of trade barriers, including tariff and non-tariff barriers.
MINIMUM ACCESS	The WTO Marrakech Agreement specified that, for developed countries, starting in 2001, access to domestic markets had to be open to imports for up to 5 percent of the domestic consumption over the period 1986–1988. For countries that still maintained high tariffs, this was achieved by the opening of tariff rate quotas. These quotas are called "minimum access quotas".
MOST-FAVOURED NATION (MFN) TREATMENT	The policy of non-discrimination that applies to all WTO members, providing all WTO trading partners with the best customs and tariff treatment given to any other partner.
MULTILATERAL AGREEMENT	An international compact involving three or more parties.

MULTILATERAL TRADE NEGOTIATIONS (MTN)	Negotiations held under the auspices of the GATT from 1947 to 1994 and thereafter of the WTO, aimed at mutually beneficial agreements for reducing barriers to world trade.
NOMINAL TARIFF RATE	The rate of duty charged on the gross value of a given product, rather than on the value of its components (i.e. inputs and outputs). Contrasts with **effective tariff rate**.
NON-TARIFF BARRIERS (NTBs)	Measures other than tariffs that restrict imports or that have the potential for restricting international trade. These include quotas, licensing and voluntary export restraints.
NOTIFICATIONS	GATT rules specify that, under the obligations of transparency, member countries must notify as to the way they fill their obligations and implement their commitments under the market access provisions. A set of documents is submitted to the WTO on a regular basis. It includes modifications in the Schedules, the way tariff rate quotas are filled and administered, etc.
PREFERENCES	Special advantages extended by importing countries to exports from particular trading partners, usually by admitting their goods at tariff rates below those imposed on imports from other supplying countries.
PROGRESSIVE TARIFF	See **tariff escalation**
PROTECTION	Government measures including tariff and non-tariff barriers that raise the cost of imported goods or otherwise restrict their entry into a market and thus strengthen the competitive position of domestic goods.
PROTECTIONISM	The policy of restricting imports through measures such as tariffs, quotas, etc. in order to protect the domestic producers of the product.
QUOTA FILL RATE	Describes the proportion of imports, during a given year, under a committed and notified quota amount.

RECIPROCITY	The practice by which governments extend similar concessions to each other, as when one government lowers its tariffs or other barriers in exchange for equivalent concessions from a trading partner on barriers affecting its exports (a "balance of concessions").
RETALIATION	The suspension of concessions or other obligations under a trade agreement, or the imposition of other barriers to trade, by a government in response to the violation of a trade agreement or the imposition of other unfair trade barriers by another government.
RULES OF ORIGIN	See Agreement on Rules of Origin.
Safeguards	The Marrakech Agreement on Agriculture allows for special temporary safeguard mechanisms for products subject to **tariffication**. They are imposed if increase in volume or drop in import prices exceed certain trigger levels.
SANITARY AND PHYTOSANITARY MEASURES (SPS)	Measures applied to ensure food safety and protection of human or animal health.
SCHEDULES	The official tariff commitments for WTO members are specified in the Schedules, which are legally binding documents defining the **bound tariffs** (**MFN**) for a list of commodities.
SENSITIVE PRODUCTS	In trade negotiations and agreements, countries often identify lists of particular sensitive products that they regard as especially vulnerable to import competition and that they wish to exempt from trade liberalization.
SPECIAL AND DIFFERENTIAL TREATMENT (SDT)	The principle that developing countries should be given favourable treatment such as preferential access to markets of developed countries and that developing countries participating in trade negotiations need not fully reciprocate concessions they receive.

SPECIFIC TARIFF	A customs duty assessed as a stated monetary amount per unit of physical quantity, such as US$1000 on each imported vehicle or US$50 on each metric ton (tonne) of wheat.
STANDARD INTERNATIONAL TRADE CLASSIFICATION (SITC)	A classification of goods to enable comparison between countries and for reporting trade. It was established by the International Customs Organization and is similar to the HS nomenclature (see harmonized system).
TARIFF	Customs duties on merchandise imports. Tariffs can be levied either on an *ad valorem* basis (percentage of value) or on a specific basis (e.g. US$10 per 100 kg), or on both forms simultaneously for the same tariff line.
TARIFF CUT DILUTION	The Marrakech Agreement specified that tariffs had to be reduced by a given average (36 percent for developed countries) over the implementation period. The term "tariff cut dilution" refers to the fact that many countries have reached this objective by higher percentage cuts on less politically sensitive tariffs, and minor cuts (often 15 percent) on more sensitive products.
TARIFF ESCALATION	Tariffs increasing with the degree of processing. It occurs when tariffs on processed forms of a commodity are higher than the tariffs on the primary form of the commodity.
TARIFF PEAKS	Very high (often prohibitive) tariff lines, significantly higher than the average.
TARIFF-RATE QUOTA or TARIFF QUOTA (TRQ)	A combination of an import tariff and an import quota in which imports below a specified quantity enter at a low (or zero) tariff and imports above that quantity enter at a higher tariff.

TARIFFICATION	Tariffication is the conversion of non-tariff barriers that existed for agricultural products before the Uruguay Round into tariffs meant to bring an equivalent level of protection. During the tariffication process, developed countries used current bound rate for products that were previously bound. In the case of developing countries, if the tariff was previously unbound, the country could offer a ceiling binding.
TECHNICAL BARRIERS TO TRADE (TBT)	Technical regulations or standards such as testing requirements, labelling requirements, packaging requirements, marketing standards, certification requirements, origin marking requirements, health and safety regulations, and sanitary and phytosanitary regulations that restrict trade flows.
Terms of trade	Usually refers to the relationship between the average price of a country's exports and the average price of its imports. It indicates the relative profitability of exports *vis-à-vis* exports.
WATER IN THE TARIFF	When used in generic terms, refers to a situation when a cut in the tariff will not lead to an effective increase of market access and covers the cases of binding overhang, large preferential margins and prohibitive tariffs. In more restrictive terms the expression implies a difference in tariff rate levels between applied and bound tariffs. (For example, if applied tariff on a product is 20 percent and the bound rate on the same product is 100 percent, the water in the tariff is 80 percent.)

Appendix 12.2
Trade data bases

FAOSTAT TradeStat

FAOSTAT is an agricultural information data base maintained by the Food and Agriculture Organization of the United Nations (FAO). It provides access to over 3 million time-series and cross sectional data relating to food and agriculture. FAOSTAT contains data for 200 countries and more than 200 primary products and input items. The core thematic areas around which the FAOSTAT database is organized are agricultural **production**, **consumption**, **trade**, **prices** and **resources**.

FAOSTAT has several different modules, including TradeStat, PriceStat, ProdStat, ResourceStat, AquaStat, FIGIS, **Food Security Stat** and CountryStat.

The new FAOSTAT **TradeSTAT** module contains agricultural trade data from 1986 to 2005. The agricultural trade data are detailed official data, provided electronically (CD-ROMs, etc.) by over 100 countries/ territories on an annual basis. The national commodity classification (usually the Harmonized System) is converted to the FAO commodity classification to cover over 600 food and agriculture commodities. All trade data displayed is converted (standardized) from detailed trade (including transformed commodities) into primary equivalents. TradeStat can be accessed from the main FAOSTAT Web page or directly at http://faostat.fao.org/site/534/default.aspx .

The main uses of the FAOSTAT TradeStat data base are to download data series on primary equivalent food and agriculture exports and imports in terms of quantity, unit price, value, agricultural trade shares and net trade for comparative analysis across countries and time, and importantly for use with other analytical approaches/tools.

WORLD INTEGRATED TRADE SOLUTION (WITS)

WITS is a widely used "hub" that contains a number of important trade and trade policy databases and analytical tools. Its notable features include wide geographic (number of countries), period (times series data) and product (all merchandise products) coverage. WITS is a free software. However, access to its databases can be fee-charging depending on user status. For more information, see http://wits.worldbank.org/witsweb/Faq/default.aspx.

The following are the databases and analytical tools available in WITS:

COMTRADE: Global merchandise trade flows including agricultural flows are contained in this database. It has information on exports, imports and re-exports (quantity and value) for more than 140 countries. Useful for seeking data on, for example, main exported commodities, main suppliers of these commodities and main importers of these commodities. Information can be obtained for a number of internationally recognized trade and tariff classifications such as SITC, ISIC, MTN and HS. The HS (Harmonized System) classification is the most common and data for products can be obtained at the 2-, 4- and 6-digit level (2 digits is the most aggregated level of a product group while 6 digits is a highly disaggregated level). The time series data availability goes back as far as 1962 for some countries.

TRAINS: Trade Analysis Information System (TRAINS) contains information on imports, applied tariffs, para-tariffs and non-tariff measures for 119 countries. The data on applied tariffs, para-tariffs and non-tariff measures are available at the most detailed commodity level of the national tariffs (i.e. at the tariff line level). The data are recorded according to three internationally recognized trade and tariff classifications. Optional information includes *ad valorem* equivalents of specific, mixed and compound duties and preferential duties.

IDB and CTS: The Integrated Data Base (IDB) contains imports by commodity and partner country and MFN applied tariffs for over 80 countries at the most detailed commodity level of the national tariffs and the **Consolidated Tariff Schedule** (CTS) data base contains chiefly WTO bound tariffs. The CTS is the official source for bound tariffs, which are the concessions made by countries during a negotiation (e.g. the Uruguay Round of multilateral trade negotiations). The data are recorded according to two internationally recognized trade and tariff classifications.

AMAD: The Agricultural Market Access Database (AMAD) contains information on tariffs (bound and applied) and tariff rate quotas (TRQs) (scheduled quantities, country allocations, out-of-quota and in-quota tariff rates). It also contains supplementary information on imports (volumes and value), supply utilization, world unit values and exchange rates. The coverage of countries in it is lower than the WTO CTS and TRAINS databases. However, its most important contribution is the information on TRQs. It is freely available at www.amad.org.

SMART: The System of Market Analysis and Restrictions on Trade (SMART) is one of the analytical tools in WITS for simulation purposes. SMART is a

simulation model containing in-built analytical modules that support trade policy analysis such as effects of multilateral tariff cuts, preferential trade liberalization and ad hoc tariff changes. The underlying theory behind this analytical tool is the standard partial equilibrium framework that considers dynamic effects constant. Like any partial equilibrium model, it has the strong assumptions allowing the trade policy analysis to be undertaken a country at a time. WITS/SMART can help estimate trade creation, diversion, welfare and revenue effects.

MARKET ACCESS MAP (MacMap)

Market Access Map is an interactive database of tariffs and market access barriers. It contains the market access conditions applied at the bilateral level by over 170 importing countries to the products exported by over 200 countries and territories. Market Access Map's strength lies in its wide geographical coverage; its taking into account of almost all multilateral, regional and bilateral trade agreements; the integration of *ad valorem* equivalents of specific tariffs; as well as certificates and rules of origin. Market Access Map allows users to analyse the protection of any geographic grouping and sectoral aggregation. It also offers the possibility of simulating tariff reductions using various negotiation formulae. Developed by ITC in collaboration with CEPII, UNCTAD and WTO, Market Access Map aims to enhance market transparency, support international trade promotion and facilitate the analysis of related trade policy issues. Market Access Map is available online at www.macmap.org. The ITC software is available to the public but only against a contribution that is used to fund the ongoing data and software development work.

ECONOMIC RESEARCH SERVICE (USDA)

A useful source for information on trade policies viz., domestic support and export competition is the Economic Research Service (ERS) of the United States Department of Agriculture (USDA). The publicly available free Web site (**http://www.ers.usda.gov/db/wto/)** contains information on domestic support (expenditure on aggregate measurement of support (AMS), Green Box, *de minimis*, etc.) and export subsidies (quantity of subsidized exports and expenditure on export subsidies) as notified by WTO members.

CARIBTRADE

CARIBTRADE is a merchandise trade and transportation database maintained by the Economic Commission for Latin America and the Caribbean (ECLAC) Subregional Headquarters for the Caribbean. Apart

from answering queries on direction of trade, the database provides analysis options through indicators listed on the site that enable the evaluation of recent trends in trade and in the performance of items traded. Access to the database at the Web site (http://celade.eclac.cl/redatam/CARIBTRADE/index.html) has been designed at two levels. The first level of access accommodates the queries of a wide variety of users and is provided up to the third digit of the SITS Rev. 3 and HS classifications. Another level of access is accorded to a limited number of personnel at national level. The chief statisticians of the contributing countries have access to their data at the most disaggregated level of data supplied. Researchers wishing the use of data at a lower level of disaggregation than 3 digits may contact the chief statisticians of the countries for that level of data. The database contains external trade and transportation statistics for 16 Caribbean countries. The data series begins in 1995 and extended to 2003 (at the end of 2005). The countries whose data are included in the present database are: Anguilla, Antigua and Barbuda, Aruba, Barbados, Belize, British Virgin Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, the Netherlands Antilles, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago.

FREE TRADE OF THE AMERICAS

HEMISPHERIC TRADE AND TARIFF DATABASE

The information in the Hemispheric Trade and Tariff Data Base for Market Access consists of **n**ational customs tariffs based on the Harmonized System (HS) at the most detailed tariff line level, with corresponding product description. For each tariff line, the following information is available, as applicable: MFN applied tariff rates; preferential tariff rates and the countries to which they apply; tariff lines for which agricultural tariff rate quotas (TRQs) may apply; and agricultural exports for which export subsidies may apply; import and export statistics by partner country, in value and volume, at the most detailed level of the national custom tariff. The data in the data base are compiled by the Inter-American Development Bank from the official submissions by countries participating in the FTAA initiative. The data base is updated on an annual basis with tariffs available in the second quarter and trade flows in the fourth quarter of each year. The data base can be accessed at http://www.ftaa-alca.org/NGROUPS/NGMADB_e.asp.

EUROPEAN COMMISSION HELP DESK FOR DEVELOPING COUNTRIES

The Export Helpdesk is an online service, provided by the European Commission, to facilitate market access for developing countries to the European Union. It can be found at **http://exporthelp.europa.eu**.

The Web site covers the following categories:

- The **requirements and taxes** section enables users to get access to detailed information on EU and member countries' import requirements as well as internal taxes applicable to products.
- The **import tariffs** section enables users to get access to detailed information concerning import tariffs and other measures that apply to a particular product.
- The **customs documents** section provides information concerning the documents to be produced by an exporter in order to qualify for preferential duty treatment under the different trade regimes available for developing countries.
- The **rules of origin** section provides information on the conditions that need to be met for goods to qualify for advantageous tariff treatment under the GSP and ACP systems.
- The **trade statistics** section provides detailed trade statistics covering imports and exports for the 25 EU member countries collectively and individually, and intra-EU trade.

Appendix 12.3
Product nomenclatures and WITS utilities

Since 1988, OECD member countries provide data according to the Harmonized System (HS or more detailed classification). The *International Trade by Commodity database* of OECD stores data in HS. Data are then converted to different nomenclatures using a correlation table.

The harmonized system (HS) is an international 6-digit commodity classification developed under the auspices of the International Customs Cooperation Council. Some countries have extended it to 10 digits for customs purposes, and to 8 digits for export purposes.

In the harmonized system goods are classified by what they are, and not according to their stage of fabrication, use or origin. The HS nomenclature is logically structured by economic activity or component material. For example, animals and animal products are found in one section; machinery and mechanical appliances (grouped by function) are found in another. The nomenclature is divided into 21 sections, while additional sections (i.e. Section 22 and 23) are used for country-specific special purposes. For example, South Africa uses Section 22 for items such as postal articles, ship stores and platinum and Section 23 for Original Equipment Manufacturer motor vehicle components.

Each of these sections group together goods produced in the same sector of the economy. Each section consists of one or more chapters, with the entire nomenclature being composed of 99 chapters. Some chapters are reserved for special purposes or future use. Chapters of sections I to XV (except section XII) are grouped by biological similarity or by the component materials from which articles are made. For those chapters in which goods are grouped by raw material, a vertical structure is used in which articles are often classified according to their degree of processing. For example, Chapter 44 contains items such as rough wood, wood roughly squared and some wooden finished products such as wooden tableware. Articles may also be classified according to the use or function. This classification (by function) mainly occurs in section XII and sections XVI to XXI. For example, section XVII contains chapters on motor vehicles (87), aircraft (88) and ships (89).

The Standard International Trade Classification (SITC) has been developed by the United Nations with the purpose of classifying traded products not only on the basis of their materials and physical properties, but also

according to their stage of processing and economic functions in order to facilitate economic analysis.

As SITC has been developed principally for statistical purposes, it has to maintain a correlation with the tariff nomenclature, given that customs declarations are the principal source of trade data. For this reason, SITC has undergone three revisions, to align itself with the development of the tariff nomenclatures.

The latest revision of SITC (Rev.3) establishes a correlation with the HS, while the previous revisions were related to BTN (SITC Rev. 1) and CCCN (SITC Rev. 2), respectively.

SITC Rev. 3 was adopted in 1988 and maintains the basic 10-section structure of the previous editions; the sections are subdivided into 67 two-digit divisions, 261 three-digit groups, 1 033 four-digit groups, and 3 118 five-digit headings.

A useful characteristic of WITS is that it makes it possible to work with different product classifications. Product classifications, or "nomenclatures", are ways of aggregating data for a specific purpose. (For example, the GTAP nomenclature aggregates trade data up to a level compatible with the input–output tables used to build the model.) The possibility of linking different nomenclatures is useful particularly in those cases in which more than one database, using different classifications, is required to obtain a complete data set.

WITS also allows for checking the composition of commodity classes when working with different nomenclatures. For instance, when working with a GTAP database, where aggregated data are based on the original HS nomenclature, we can check the WITS tool "Nomenclatures concordances" (accessible through "Help and Information") in order to find out which HS goods are included in the GTAP category of "paddy rice". The tool helps find the concordances between the GTAP code and the HS 2002 nomenclature. Under "paddy rice" we find two HS lines, paddy rice (100610) and husked rice (100620).

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Promoting **CARICOM/CARIFORUM** Food Security

FAO Trust Fund for Food Security and Food Safety – Italian Contribution

This book is largely a result of work implemented under the trade policy component of the project "Promoting CARICOM/CARIFORUM Food Security". The financial contribution of the Italian Directorate for International Cooperation to the FAO Trust Fund for Food Security and Food Safety funded the project. Italy's National Institute of Agricultural Economics (INEA) was actively involved in capacity-building activities under the trade policy component, particularly in organizing and carrying out training in the areas of trade policy analysis and negotiations and quality and safety requirements in international trade and marketing. The book examines various dimensions of trade policy and related issues of relevance to the countries in the CARICOM/CARIFORUM region and presents policy instruments to address trade and food security and rural development linkages. It will serve as a useful guide and reference document for agricultural trade policy analysts, trade negotiators, policy-makers and planners in both the public and private sectors.

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