Sector Studies

THE FUTURE FOR AGRICULTURE IN THE OECS COUNTRIES

Rural Sector Note

FAO/World Bank Cooperative Programme
Latin America and the Caribbean Service
Invesment Centre Division

This Technical Paper was prepared by a team of the FAO Investment Centre within the framework of the FAO/World Bank Cooperative Programme. The team was led by Paolo Lucani and included Julia Wolf and Mario Castejón. In FAO the study was coordinated and supervised by Selim Mohor, Chief of the Latin America and Caribbean Service of the Investment Centre.

The report is based on an extensive review of available literature and on findings from field surveys conducted by two Investment Centre staff in the OECS States to review experiences of agricultural development projects initiated by the private or public sectors. Preparation of the report benefited from substantive contributions by FAO and World Bank staff who commented on the draft and participated in its review.

The findings and conclusions presented in the report are the responsibility of the authors and do not represent the views of FAO or the World Bank.

SECTOR STUDIES

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ACRONYMS [1]

ACP	Africa Caribbean Pacific
ACS	Association of Caribbean States
AHLA	American Hotels and Lodging Association
ART	Agency for Rural Transformation in Grenada
AWIA	Association of Women in Agriculture
BFCC	Blue Flag Campaign in the Caribbean
BGA	Banana Growers Associations
BNTF	Basic Needs Trust Fund
BPoA	Barbados Plan of Action
CABA	Caribbean Agri-business Association
CABFI	Caribbean Association of Banking and Financial Institutes
CAFP	Caribbean Agriculture and Fisheries Programme
CAHFSA	Caribbean Agricultural Health and Food Safety Agency
CALGA	Caribbean Local Governments Association
CAMID	Caribbean Agribusiness Marketing Intelligence and Development
CANARI	Caribbean Natural Resources Institute
CAPGERNET	Caribbean Plant Genetic Resources Network
CAPHNET	Caribbean Post Harvest Network
CaRC	Caribbean Regional Centre
CARDATS	Caribbean Agricultural and R&D Advisory and Training Service
CARDI	Caribbean Agricultural Research and Development Institute
CARIBCAN	Caribbean Canada Trade Agreement
CARICAD	Caribbean Centre for Development Administration
CARICOM	Caribbean Community
CARIFORUM	Caribbean Forum
CARIFRUIT	Caribbean Fruit Network
CARIFTA	Caribbean Free Trade Area
CARINET	Byo-stematics Network
CARTAC	Caribbean Regional Technical Assistance Centre
CASRUNET	Caribbean Small Ruminants Network
CAST	Caribbean Alliance for Sustainable Tourism
CBERA	Caribbean Basin Economic Recovery Act
CBI	Caribbean Basin Initiative
CCA	Caribbean Conservation Organization
CBTPA	Caribbean Basin Trade Partnership Act
CDB	Caribbean Development Bank
CDE	Centre for Development of Enterprises
CDERA	Caribbean Disaster Emergency Response Agency
CEDA	Caribbean Export Development Agency
CEDP	Caribbean Export Development Project
CEED	Caribbean Enterprise Education and Development Trust Fund
CEHI	Caribbean Environment Health Institute
CEPAT	Continuing Education Program in Agricultural Technology
CET	Common External Tariff
CFAT	Caribbean Financial Action Task force
CFC	Caribbean Food Corporation
CFLI	Canada Fund for Local Initiatives
CRFM	Caribbean Regional Fishery Mechanism

[1] The list of Acronyms also includes organizations not directly mentioned in the report but useful to keep on record.

CFSC	Caribbean Financial Services Corporation
CFSI	Caribbean Food Safety Initiative
CGCED	Caribbean Group for Cooperation in Economic Development
CPEC	Regional HRD Program for Economic Competitiveness
CHA	Caribbean Hotel Association
CHA/CHTI	Caribbean Hospitality Training Institute
CHEMI	Caribbean Hotel Environmental Management Initiative
CIDA	Canadian International Development Agency
CIF	Caribbean Investment Fund
CIPMNET	Caribbean Integrated Pest Management Network
CLAWRENET	Caribbean Land and Water Resources Network
CNIRD	Caribbean Network for Integrated Rural Development
COTED	Council for Trade and Economic Development in CARICOM
CPDC	Caribbean Policy Development Centre
CPEC	Caribbean Program for Economic Competitiveness
CRIDNET	Caribbean Rice Industry Development Network
CRIP	Caribbean Regional Indicative Programme
CRNM	Caribbean Regional Negotiating Machinery
CROSQ	Caribbean Regional Organization for Standards and Quality
CRP	Caribbean Regional Program of the USAID
CSA	Commonwealth Sugar Agreement
CSME	Caribbean Single Market and Economy
CTCS	Caribbean Technological Consulting Services of the CDB
CTISP	Caribbean Tourism Integrated Standards Project
CTLS	Caribbean Tourism Learning System
CIDA	Canadian International Development Agency
CTO	Caribbean Tourism Organization
DAC	Development Cooperation Directorate
DBMC	Dominican Banana Marketing Corporation
DEOSCoop	Essential Oil and Spices Cooperative Society
DEVCO	St. Vincent Development Corporation
DEXIA	Dominica Export and Import Agency
DFID	Department for International Development UK
EBA	Everything but Arms EU Facility
EBAS	EU/ACP Business Assistance Scheme
EC	European Commission
ECCB	East Caribbean Central Bank
ECCDM	Environment, Climate Change and Disaster Management Group
ECCU	Eastern Caribbean Currency Union
ECHB	Eastern Caribbean Home Bank
ECLAC	Economic Commission for Latin America
ECODEF	Eastern Caribbean Organization of Development Foundations
ECTEL	Eastern Caribbean Telecommunication Authority
EDADU	Export Development and Diversification Unit of the OECS
EPA	Economic Partnership Agreements of the EU for ACP countries
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FOB	Free on Board
FTAA	Free Trade Area of the Americas
GEF	Global Environment Facility
GIDC	Micro-enterprises Project
GLIS	Grenada Land Information System

HACCP	Hazard Analysis Critical Control Point Quality Monitoring
HDR	Human Resource Development
ICT	Information and Communication Technology
IDB	Inter-American Development Bank
IFAD	International Fund for Agricultural Development
IICA	Inter-American Institute for Cooperation on Agriculture
IMF	International Monetary Fund
LRSI	Land Resource Information System (OECS)
MFN	Most Favoured Nation
NARI	National Agricultural Research Institute
NEMS	National Environmental Management Strategies
NERA	Economic consulting
NFA	National Farmers Association
NFU	National Farmers Union
NSA	"non-sugar agriculture"
OECS	Organization of Eastern Caribbean States
PAHO	Pan American Health Organization
PROCICARIBE	Agricultural Science & Technology Networking System of the Caribbean
PSIP	Public Sector Investment Programme (STABEX)
QTC	Quality Tourism for the Caribbean
RIDS	Caribbean Regional Integration and Development Strategy
RPF	Regional Planners Forum
RTA	Regional Technical Assistance Team for the SFA program
RTPA	Regional Transformation Program for Agriculture
SEDU	Small and Medium Enterprise Development Unit
SFA	Special Framework for Assistance to ACP Banana Producers
SIDS	Small Island Development States
SPS	Special Preference Sugar
SRI	Sandals Resort International
SSA	Special System of Assistance
SSMC	St. Kitts Sugar Marketing Corporation
STABEX	Export Stabilization Fund of the Lomé Convention
STEP	Small Technical Enterprises OAS Project
TROPO	West Indies Tropical Produce Support Project
UNDP	United Nations Development Programme
UWI	University of the West Indies
WHO	World Health Organisation
WIAP	Windward Islands Action Plan (Stream I and Stream II)
WIBDECO	Windward Island Banana Development and Export Company
WINBAN	Windward Island Banana Association
WINCRO	Windward Island Banana Insurance Program
WINFA	Windward Island Farmer's Association
WISFAP	Windward Islands Standards for Fresh Agricultural Produce

OECS States- Social and Economic Indicators

	Years	St.Lucia	St.Vincent & the Gren.	Grenada	St.Kitts & Nevis	Dominica	Antigua & Barbuda
Area (Km2)		616	388	345	360	750	442
Population(1000)	1995	145	110	98	44	73	68
	2000	156	112	101	40	72	72.3
	2003	161	108	103	47	71	79
Unemployment Rate	1995	16.3	…	17	4.5	…	7.8
	2000	16.5	…	11.5	…	…	8.1
	2003	22.2	22	…	…	13	7
GDP Annual Growth *	1999	1	4.1	10.1	3.5	0.7	4.1
	2002	2.5	2.2	1.2	2.1	-5.2	2.9
	2003	1.7	2.8	2.5	2.4	-0.7	3.2
GDP/Head (Av.1999/02) US$		4300	2920	3930	7200	3680	9710
Agriculture as % of GDP	1995	9.6	14.1	10.1	5.3	18.9	3.9
	2000	7.4	10.8	7.7	2.7	18.1	3.9
	2003	5.4	9	10	3.3	17.6	3.8
Exports US$ Million	1995	114.6	61.9	24.6	36.6	50.3	53.1
	2000	63.1	51.8	83	49.4	54.7	42.3
	2003	62	39.9	64.3	68.3	40	39
Imports US$ Million	1995	269.4	119.4	129.8	117.1	103.2	301.8
	2000	312.5	144.4	220.9	170.6	130.4	342.4
	2003	392.6	163.1	209	143.8	111.5	336
Agric.GDP Growth Rates**	1997	1998	1999	2000	2001	2002	2003
	-7.1	1.1	-4.7	0.8	-8.3	5.6	-4.4
Rural Population * % of Total**		62	44	62	66	29	63
Agricultural population ** %of Total**		23	23	23	24	23	24
Total Agric Exports	1990/92	79	72	15.3	12.7	36.6	1.4
(US$ Million)	2000/02	42.6	33.1	25	8.8	19.7	1.5
Agric.Exports/GDP (%)	1999/02	6.4	9.5	6.2	2.6	7.6	0.2
Agr.Exports/Total Exp.(%)	1990/92	60	91	65	38	72	2
	2000/02	84	75	40	13	46	0.5
Total Food Imports	1990/92	58.2	29.8	28.1	15.9	25	33.4
(US$ Million)	2000/02	99.7	49.7	39.4	26.4	29.9	28.3
Food Imports Capac.	1990/92	0.33	0.23	0.74	0.48	0.34	0.92
Food Imp./Agr.Exp.)	1999/01	1.45	0.48	0.42	1.06	0.5	0.37
Food imp./Tot.Exp.	1990/92	22	24	30	20	33	…
(%)	1999/02	26	21	19	22	23	…
Top Single Agr.Exp	2000/02	68.2	49.8	57.4	83.8	63.1	44.2
over Tot.Agr.Exp.(%)		Bananas	Bananas	Nutmeg	Sugar	Bananas	Crustaceans
Value of preferences	1990/91	10895	7347	1277	5899	5134	90
under the EU/ACP	2002	3549	2360	184	7320	1443	115
Trade Regime							
US $ 1000							
Tourist Arrivals (000s)	1998	252	67	116	93	66	204
	2002/03	277	78	142	64	73	198
Cruise Passenger Arrivals (000s)	1998	372	35	266	154	236	336
	2002/03	393	65	147	167	177	386
Visitor Expenditures (US$million)	2002/03	282	82	170	57	51	274

Sources:
Caribbean Development Bank, Social and Economic Indicators - 2003, World Bank Selected Indicators
FAO, SIDS - Agricultural Production and Trade, Preferences and Policy, January 2005
World Bank-World Development Indicators Database, August 2004
*** Worl Bank selected Indicators**
**** Source: Economic Survey of Latin America and the Caribbean 2003-2004**
*****Population residing in rural areas**
******All persons whose livelihood depends on agricultural activities**

SUMMARY

(i) This draft report prepared by an FAO - Investment Centre team upon request of the World Bank, is based on an extensive review of available information including technical papers and policy statements on OECS agriculture and on findings of short visits to the OECS countries to review development projects in the rural areas initiated by private investors, which could be of interest to the design of future agricultural sector development strategies. The objective of the report is to provide additional thoughts to the ongoing debate on the future for OECS agriculture and to the broader issue of regional strategies. Substantial additional work at field level and discussions at policy level would obviously be needed to translate the proposals outlined in the report into concrete operational recommendations.

(ii) The OECS countries share a number of common features including fragile ecosystems, historical dependence of agriculture on a few key export commodities and a domestic private sector that is very limited in human resources and financial capacity. Although diverse in terms of agricultural potential and prospects, the OECS countries are all suffering from a marked deterioration of the agricultural sector performance, problems in adjusting to trade liberalization, the severe competitive pressures from more efficient agricultural producers and a common search for appropriate agricultural sector policies that could provide an adequate response to overcome the current crisis.

(iii) Banana and to a very minor extent sugar, both crops with preferential market access to European countries, have been for long time the mainstay of the OECS agricultural economy. The national institutional systems including extension and the marketing arrangements have all been geared to the management of export crops economies while little attention was paid to food crops or diversification crops.

(iv) Over the years this scenario has slowly but radically changed due to the progressive erosion of the trade preferences for bananas and sugar and the alternative opportunities for employment in the service and informal sectors and in the tourist and construction industries, offering more attractive remuneration to labour than agriculture. The result has been a declining trend in agricultural sector performance, increasing dependence on food crop imports, income insecurity and loss of jobs in the rural areas and continuing migration of young people out of agriculture. Despite Governments and donors efforts, diversification led agricultural growth has not materialized and the sub region as a whole has lost ground on its traditional agricultural exports without seizing opportunities in non-traditional crops or livestock production and more processed food or import substitutes.

(v) OECS Governments are becoming increasingly concerned as poverty, unemployment and food supply data indicate the presence of significant low-income pockets of population that may not have adequate access to food. Higher levels of food sufficiency are now amongst the main priorities together with increased agricultural productivity, increased diversification of agricultural exports and increased incomes for the poor mostly living in the rural areas.

(vi) OECS Governments have a long tradition of working together and taking concerted actions on a long-term strategic vision for the sub regional agriculture. The 2003 Agricultural Policy Framework and Strategic Plan for the OECS countries, taking into account the disappointing performance of the agricultural sector, defines a series of goals including policy and institutional reforms, restructuring of the institutional and legal framework, appropriate land

policies and integration of the farming community into the policy reform process. Strategic priorities have successively been confirmed in a series of policy statements including the creation of an enabling business environment, strengthening of private sector organizations in agriculture, rationalisation of the work of the Ministries of Agriculture, support to farmers and commodities associations and transformation of the agricultural sector through the adoption of a commercial and industry led approach.

(vii) The major challenges to agricultural development and competitiveness are well known: the small and fragmented nature of most farm units, which barely justify any investments in increasing production and productivity, the high cost and low productivity of agricultural labour, problems regarding availability of improved seeds and seedlings, inadequate farm equipment and supplies and irregular and unreliable production patterns.

(viii) At the other end of the scale there are weak institutions and inefficient cooperatives or farmers' associations in charge of marketing of export crops, created in a different historical period and badly needing restructuring, and very few farmers grass-root organizations which could act as intermediaries to achieve economies of scale in food or diversification crops production, inputs supply, extension and diffusion of improved technologies. The educational system is not geared to prepare the farming community to the challenges of a modern agricultural economy, there is poor access to information and to appropriate technologies, inadequate infrastructure and support services including transportation, communication and electricity supplies and inter-island transport. Present land tenure and land administration systems make access to land a difficult and lengthy process and there are no comprehensive land zoning plans to balance the limited resource basis of the small islands with the requirements of the various sectors that have competing claims for land use.

(ix) The future of the agricultural sector of the OECS countries will be influenced by: i) future developments at the global and regional scale i.e. the process of trade liberalization and the WTO policy agenda, the possibility of internalizing the increasing safety and quality requirements for export products, the effective implementation of the CARICOM market; and ii) by the successful implementation at national level, of a series of structural improvements and reforms that would concur in creating an appropriate enabling environment for small farmers' led agricultural sector growth.

(x) On specific sub-sectors and with respect to the banana industry, the most likely scenario is that in the medium term there will be a reduction of the export price for Caribbean bananas and that therefore, no small-scale Caribbean farmers will be able to compete unless they receive subsidies, add value to the produce through organic or fair-trade agriculture and deliver top quality products. Prospects for cocoa and nutmeg indicate that there is little scope for large scale expansion and that it will be important to add value to the crops looking for derived products and/or niche markets to obtain better prices and remain in the market. In St. Kitts sugarcane and sugar production will very likely, be phased out after the upcoming 2005 harvest.

(xi) A number of private sector initiated agricultural development projects were reviewed in the context of this report, to provide indications for future agricultural sector development strategies. The case studies indicate that transformation of the OECS agriculture could be facilitated by focussing attention on: i) promoting a community/farmers' group based approach to agricultural development to build up local capacity, integrate farms into productive alliances and increase the scale of operations to a minimum economic size; ii) identifying new mechanisms for providing adequate extension and technological support to progressive farmers/entrepreneurs;

iii) providing adequate infrastructure and services in the rural areas; iv) reviewing the work programmes of the Ministries of Agriculture so as to increase their effectiveness in delivering services; v) improving the overall "land" framework starting from land zoning, and including appropriate changes to existing land tenure policies to facilitate land acquisition and/or renting, transparent land administration procedures and accessibility to land; vi) developing mechanisms to allow an easy access to information on adaptable technologies and equipment, product lines, quality standards, labelling and packaging with brand names and clustering of specialized activities; and vii) advancing on agro tourism development by linking agro tourism and the tourism sector to marketing of local products, brand names.

(xii) The achievement of such objectives would depend on: a) supportive policies to create a proper incentive and regulatory framework for the private sector to invest in agricultural sector development and b) on whether farming could be made an attractive proposition both to the existing farmers and to the younger generation. For this to happen, priorities should be set on those areas where there are clear comparative advantages such as commercial and niche markets and on improving the economic environment in which farmers operate through capacity building, development of social capital, education, promotion of community approaches and supporting productive alliances .

(xiii) Agriculture should be seen in a multifunctional context with progressive farmers educated to invest in new opportunities, interested in sound land management as a way to maintain property values, good quality food crops, agro-tourism, niche products for export and the tourist market, on farm processed products and other agricultural related business.

(xiv) The changes that have occurred in the agricultural sector of the OECS countries in the last two decades are characterized by the slow but constant decline of the "old" export crops agriculture and the gradual emergence of "new" farming systems based on productive alliances with the tourist trade and/or on the production of niche products that add value to traditional crops typical of the islands' ecology.

(xv) These pioneer initiatives deserve priority attention because they could justify innovative future programs designed to accompany the transition from a merely productive to a multifunctional form of agriculture. At the level of each individual OECS country this attention could be translated into an operational action program implying inter alia: i) the identification, preparation and implementation of investment projects designed on the basis of replicable Productive Alliances experiences already ongoing in a few countries and ii) the design of a coherent OECS wide incentives framework having the objective of promoting new agro-business enterprises that add value to traditional crops and exploit niche markets. This should be accompanied by preparation at country level, of feasibility studies for promoting private sector led investment projects in new integrated agro-business ventures. Proposals should include the necessary modifications to existing rules and regulations affecting the establishment of new businesses, access to land, services and infrastructure.

(xvi) Together with the preparation of the above feasibility studies there could be a reassessment always at country level, of the activities of the Ministries of Agriculture highlighting how these latter could play a more effective role in promoting access to appropriate technologies by new entrepreneurs or young farmers. This reassessment should be supported by the OECS at sub-regional level with assistance by regional or sub regional technical bodies.

(xvii) There are a number of topics that for the limited time and resources available have not been sufficiently explored in terms of issues and potential and which may warrant additional investigations for their interest in the design of future comprehensive strategies. These are listed in the last chapter of the report and include updating of some relevant information, deepening analysis on some of the case studies, reviewing potential for fisheries and finally investigations on the possibility of establishing appropriate contacts with agro-tourism networks in Europe that could provide useful indications on the best way to go to exploit synergies, available experiences and clustering of specific activities.

THE FUTURE FOR AGRICULTURE IN THE OECS COUNTRIES

RURAL SECTOR NOTE

INTRODUCTION

1.1 The purpose of this technical paper is to provide a summary up to date assessment of the agricultural situation and development prospects in the OECS countries. It should be viewed as a contribution to the ongoing debate on the future of agriculture in the OECS states within the context of the policy initiative by the Alliance for the Sustainable Development of Agriculture and the Rural Milieu.

1.2 This draft report was prepared following World Bank request, by a team of the Investment Centre of FAO[1]. It is based on i) an extensive review of available documents from CARICOM, OECS, CDB, WB, IDB, UNDP, EU, ECLAC, FAO, IICA, DFID and other bilateral donors, information available from internet sources, discussions with the sub regional FAO Representation, OECS and CDB and CARICOM officials and on ii) findings from field trips to the OECS States to review experiences of agricultural development projects initiated by the private or public sectors.

1.3 The field surveys were conducted by two Investment Centre (IC) staff, spending individually three to five days on each island over the period of three weeks. As a start up the mission team met with the FAO sub-regional office, CDB and OECS Secretariat. At the national level consultations were continued with government officials, the private sector and farmer representatives, donor agencies and resource persons to identify cases of interest to the objectives of this Technical Paper.

1.4 The field visits were successful in identifying interesting experiences initiated by the private sector including entrepreneurs, commercial and subsistence farmers and farmers groups. Each case study identified during the course of the survey was written up in a summary form and it is found in annex to the report. Given the limited time and resources available, the case studies were selected at random on the basis of proposals made by local authorities and they cannot be considered representative of the majority of such similar rural development experiences in the OECS countries unless confirmed by further detailed investigations. The value of the case studies is therefore limited to provide preliminary indications as to possible alternative strategies to foster agricultural sector growth with no expectation to propose models of replicable technical and economic sustainability.

[1] P. Lucani, Economist consultant, leader, J. Wolf Economist and M. Castejón, Economist both FAO staff.

1.5 In the first part of the report, Chapters I to III include country agricultural profiles, a summary overview of production trends and prospects for main crops, some background on land tenure, employment and poverty issues, OECS Governments strategies and policies for agriculture and rural development and a discussion on major challenges to diversification and competitiveness. Chapters IV and V in the second part, are by and large derived from the findings of the field survey on case studies and use these findings as a baseline to highlight issues and strategic considerations on development priorities. Substantial additional work at field level and discussions at policy level would obviously be needed to translate the draft suggestions made into concrete operational recommendations.

2. AGRICULTURE BACKGROUND

Introduction

2.1 A group of seven small island states forms the Organisation of Eastern Caribbean States (OECS) which accounts for about 5% of the population of CARICOM, about 10% of its GDP and about 7% of exports.

2.2 The OECS countries[1] have in aggregate, a total land area of about 2900 sq. km and a population of about 570,000 people. Their total annual GDP is equivalent to US$ 2.8 billion about the same as Barbados[2]. GDP per head varies from US$ 10,000 for Antigua and Barbuda to US$ US$ 3,000 for St. Vincent and the Grenadines.

2.3 Though at different stages of their development, the OECS countries share a number of common features including: i) small population (from about 47,000 in St. Kitts and Nevis to 160,000 in St. Lucia; ii) fragile ecosystems, compounded by the presence of active volcanoes on some of the islands and the location of most of the countries in the Atlantic "hurricane belt", iii) historical dependence of agriculture on a few key commodities two of them in particular (bananas and sugar) supported by preferential trade arrangements, and a domestic private sector that is very limited in human resources and financial capacity.

[1] For the purpose of this report the OECS is defined to include Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines. There is a seventh member (Montserrat) and two associate members (Anguilla and the British Virgin Islands) which are overseas territories of the United Kingdom. Geographically they are split into the Windward Islands (St Lucia, St. Vincent, the Grenadines, Grenada Dominica and Martinique), and the Leeward Islands (the Virgin Islands, Guadeloupe, Montserrat, Antigua, Barbuda, St. Kitts, Nevis and Anguilla).

[2] Source IMF: World Economic Outlook, 2005

Geographical Features

The Windward Islands *are characterized by a sharp relief, high annual rainfall, large areas of wet forest, and only small areas of dry, scrub habitat. The Windward Islands lie within the trade wind belt with prevailing south-easterly winds. The rainy season occurs in summer and fall. Hurricanes and tropical storms pass over the islands during this period. Annual rainfall in the interior highlands ranges from 10,000 mm in Dominica to 3,750 mm for the lower elevation mountains in Grenada.*

The Leeward Islands *are characterized by rugged, volcanic mountains covered in moist tropical forest. They lie within the trade-winds belt resulting in a subtropical climate. Islands with sufficient relief receive adequate rainfall, but those with a more subdued topography tend to be dry to semi-arid. The main hurricane track passes through these islands. Due to the small size of the Leeward Islands, the forests are particularly important. The forests of this eco-region, including the forested cores and their peripheral edges, have provided the down slope communities with a wide variety of useful goods and services such as building materials, fuel wood, natural medicines, wild fruits, and a habitat for game species and other wildlife. By far however, the most important service provided by the forests is as a reliable source of domestic water for each respective island. Except for the more remote, inaccessible areas characterized by high relief, many of the forests on different islands in this eco-region suffer from similar human-related pressures, i.e., agricultural encroachment, hunting, and limited enforcement of wildlife and environmental legislation.*

2.4 Because they are small, OECS economies lack a diversified range of domestic resources. They depend heavily on imports to support local production and satisfy consumers' demand and given the size of the domestic market they also depend on export revenues to sustain economic growth. An over reliance on public sector led growth, high levels of public sector debt and fiscal imbalances[1] are also a common relevant problem which has been emerging in these last years following the changed economic scenario and heavy fiscal spending commitments. Tourism development has been successful but remains very vulnerable to fluctuations in foreign demand.

2.5 During the 1980s the OECS countries grew at a very high average annual rate of about 6% due to large concessional aid inflows for infrastructural investments, preferential market access and favourable prices for bananas and sugar and the doubling of tourism revenues. Positive growth although at a lower rate (about 3%) due to unfavourable weather and reductions in preferential access to markets and aid flows continued during the 1990s.

2.6 The last two years for which statistics are currently available (2002-2003) saw a continuation of this downward trend with GDP growth fluctuating between 1.2% (Grenada) and 3.2% (Antigua and Barbuda). Dominica was the worst performer with a negative growth. Main factors influencing growth rates are hurricane or other natural disasters, international commodity prices for the traditional export crops, the performance of the tourist sector which only in 2003 showed a very fast upturn in arrivals, the internal management of public sector finances and finally increasingly high oil prices.

2.7 Historically, OECS economies have evolved as primarily agricultural economies characterized by monoculture large scale plantation agricultural activities coexisting with peasant agriculture which emerged in the post colonial period. This pattern has changed over the years as only sugar[2] has remained as an estate crop (in St. Kitts) while bananas, nutmeg and cocoa are produced by both estates and smallholders. Other crops include plantains, citrus, coconuts, vegetables, root crops and tubers.

[1] In year 2000 overall deficits ranged from 1.3% in St. Lucia to 14.3% of GDP in St. Kitts and Nevis. Debt/GDP ratios were from 46.4 % in Grenada to 26.2% in St Lucia. Source: OECS-Human Development Report 2002

[2] Production and exports will be discontinued as from 2006.

2.8 There is a very high dependency on single crops exports. Bananas represented[1] in 2000-2002 more than 68% of the total agricultural exports of St. Lucia, about 50% of the exports of St. Vincent and the Grenadines and 63% of Dominica. Sugar was 84 % of the agricultural exports of St. Kitts and nutmeg, mace, cardamom represented more than 57% of the agricultural exports of Grenada.

2.9 The dependency on single crops exports and the high vulnerability of agricultural production to climatic changes reflects on the performance of the agricultural sector. From 1995 to 2003[2] there has been a declining trend in agricultural production aggravated by the adjustment difficulties related to trade liberalization and increased competition in the food production sector by imported products. Annual agricultural growth rates have been positive only in three years (1998, 2000 and 2002) out of nine and indications for 2004 are that the negative trend has continued mainly because of the fall in banana exports.

2.10 Less than one fourth of the population is engaged in agriculture, a figure perhaps overestimated taking into account that it may include part time farmers or farmers whose primary income derives from other sources. Smallholders are responsible for most of the food crop production, particularly tubers, plantains and vegetables both for home consumptions and the domestic market. The agro processing sector is characterized by small agro-industries concentrating on the production of non-traditional products (frozen fish products, canned fruits and vegetables, jams and preserves, condiments and spices).

Country Profiles

2.11 **Antigua and Barbuda** is one of the Caribbean's most prosperous nations, thanks to its tourism industry and offshore financial services sector. Tourism continues to dominate the economy, accounting for about 40% of GDP in 2003 but weak tourist arrival numbers since early 2000 (only resumed in 2003) have slowed the economy, and have resulted in fiscal problems. The agricultural sector contribution to the economy is small, accounting in 2003 for about 3.8% of GDP about the same as in 1995. Livestock, since the closure of the sugar industry in the 1980's has traditionally occupied the largest share of agricultural production, followed by fishing and crops. The country's agricultural production is focused on the domestic market and constrained by a limited water supply and a labour shortage stemming from higher wages in tourism and construction. Besides livestock, main agricultural products are cotton, fruits and vegetables. Fisheries (lobsters) are the top single agricultural export accounting for about 45% of total agricultural exports (less than 1% of total exports in 2000-2002).

2.12 Although mountainous, **Dominica** is endowed with fertile soils and with a larger proportion of its economy depending on agriculture than the other OECS states. Agriculture and fishing accounted for about 18% of GDP in 2003 down from 25% in 1990. Agriculture is centred on and around the banana industry, although increasing attention is being given to non-traditional agricultural crops such as plantain, coconut oil, oranges, mangoes and root crops. Bananas are the principal export crop and are mainly destined for the UK, but export revenues from this source fell from US$ 30 million in 1992 to less than US$ 10 million in 2003 as a result of low volume and prices, mainly resulting from changes in the EU banana import regime. Copra produced from local coconuts provides the basis for the main manufacturing industry, soap. Reduced export demand for this product has had a negative impact on coconut producers since 2000. Tourism

[1] Source: FAO-Small Island Developing States. Agricultural Production and Trade, Preferences and Policy; 2005

[2] East Caribbean Central Bank (ECCB) data indicate that the only subsectors showing an increase were fisheries and livestock while "crops" decreased by 14% over the 1995-2001 period. Forestry output remained constant.

showed some signs of recovery in 2003 as Government sought to promote Dominica as an "ecotourism" destination. Development of tourism remains difficult however, because of the rugged coastline, lack of beaches and the absence of an international airport. The government began an extensive restructuring of the economy in 2003 - including elimination of price controls, privatisation of the state banana company, and tax increases - to address Dominica economic crisis and meet IMF targets.

2.13 **St. Kitts and Nevis** is heavily dependent on agriculture but tourism and a growing offshore financial industry are assuming increasing importance. Sugar was the mainstay of the St. Kitts economy until the 1980s and it is still the most important crop. Output in 2003 was estimated at only 16,000 tons from a peak of 31,000 tons in 1997 and a further decline to 14,000 tons is projected for 2004. The state owned sugar company is the island's largest employer: during the crop season, its 2300 employees make up almost 15% of the labour force. Sugar manufacturing will stop in 2005 as the industry with the phasing down of the preferential pricing system is not competitive on the world market and losses are equivalent to at least 3-4% of the GDP. The rest of the agricultural sector is small scale, with fruits, vegetables and livestock produced mainly for local consumption. Fishing is about 2% of value added in agriculture, about the same percentage as the other countries in the sub-region.

2.14 **St. Lucia** has a larger population and more diversified economy than most of its neighbours and its GDP is almost the double of the other two Windward Islands. Its economy has been growing at a very fast rate in the late 80s before slowing down as in the other OECS states following the troubles of the banana industry which affected also other sectors of the economy. Tourism is the main source of foreign exchange with an all time high of about 280,000 arrivals in 2003 i.e. 33% of all tourist arrivals in the OECS states. The island has fertile, volcanic soils but due mainly to topographical constraints only about 30 % of the total land area is suitable for agriculture. The agriculture sector contribution to GDP declined from 14.7% in 1990 to 5.4% in 2003. By far the most important export crop is bananas. However export revenues fell from US$ 92 million in 1998 to less than US$ 43 million in 2003[1] as a result of reduced export volumes, low prices and changes in the EU import regime. There are some exports of flowers and foliage plants. A wide variety of fruits and vegetables is also produced for local consumption, with some exported to the regional market. There is some livestock production for the local market and a small fishing industry.

2.15 **St. Vincent and the Grenadines** is the lowest per head income country in the OECS. The economy is most vulnerable on account of its small economic base and its dependence on agriculture. In recent years economic growth has tended to fluctuate in line with developments in the banana sector. GDP grew at an annual average rate of 3.4% in 1996-99, slowed down to 2.2% in 2002 and recovered to 2.8 in 2003. Economic activity has historically been dominated by agriculture which was 14% of GDP in 1995, declining to 9% in 2003 as a result of the troubles in the banana industry. The soil on the main island, St. Vincent is generally fertile and rainfall is adequate for most tropical crops. An irrigation programme has increased productivity of the main export crop - bananas, and quality has also improved. However export earnings declined from US$ 61.9 million in 1995 to just US$ 39.9 million in 2003 following the above mentioned changes in the EU import regime. St. Vincent is the world's main exporter of arrowroot used for production of natural starch. Flowers and foliage plants are also exported. Other fruits and vegetables, including plantains and sweet potatoes are grown for local consumption and for export to Barbados, Trinidad and Tobago and other regional markets. Livestock is raised on a small scale. There is some commercial fishing which mainly supplies the local market. Tourism has developed mainly in the Grenadines where the best beaches are.

[1] Caribbean Development Bank, 2003.

2.16 **Grenada**. Tourism is the island's main economic activity. Agriculture, before Hurricane Ivan in 2004, accounted for about 10% of GDP. Soils are reasonably fertile and well drained and a wide range of tropical crops (bananas, sugarcane, vegetables, and root crops) can be grown. Small farmers produce a wide variety of fruit and vegetable crops and some livestock products. Before the hurricane Ivan in 2004 nutmeg and mace were the major exports: Grenada was the world's second largest producer of these crops after Indonesia, supplying one quarter of world demand. Rising prices and volumes saw an increase of more than 400% in export earnings from these products in 1995-2000. Bananas and cocoa were also exported but on a small scale. Grenada is seen as a source of quality cocoa on the world market and efforts have been directed to differentiate its product and enhance its competitiveness. Production however has been going down from about 2000 to 1000 tons from 1990/92 to 2000/02. A hurricane rehabilitation programme is currently being prepared with assistance from a number of donors. Both cocoa and nutmeg could be back to full production in not a too distant future if the necessary measures are taken by Government to rationalise the industry and if adequate incentives are provided to farmers to replant, increase production and productivity.

Land Use and Major Crops

Land Use

2.17 According to FAO data base, total land available for cultivation in the OECS countries is about 90,000 ha of which about 57,000 ha under permanent crops (bananas, cocoa, fruit trees, nutmeg trees.) and 27,000 ha under annual crops. Details are in the two following tables.

Area under Major Permanent Crops (2003)[1]

Major Crops/ (000 ha)	St. Luc.	St. Vinc. & Gren.	Grenada	Domin.	Ant. & Barbu.	St. Kit. & Nev.	Total
Banana	9.2	4.6	1.2	...	2.9	...	**17.9**
Fruits	5	1	1.7	0.2	6.8	1.4	**16.1**
Cocoa	...	0.7	0.7	...	2.1	...	**3.5**
Nutmeg	...	0.4	5.6	...	...	...	**6**
Coconuts	3.5	0.6	2.3	0.2	3.5	...	**10.1**
Others	0.8	1.5	0.3	...	0.5	...	**3.1**
Total	**18.5**	**8.8**	**11.8**	**0.4**	**15.8**	**1.4**	**56.7**

2.18 As far as annuals, broad orders of magnitude of areas under major crops are shown in the table below. Figures relate to 2003 but no major variations seem to have been occurring in the last decade.

[1] Source: FAOSTAT.

Area under Major Annual Crops (2003)[1]

Major Crops/ (000 ha)	St. Luc.	St. Vinc. &Gren.	Grenada	Domin.	Ant.& Barbu.	St. Kit. & Nev.	Total
Cereals	...	0.2	0.3	0.1	...	...	**0.6**
Oil crops	3.5	0.9	...	3.4	...	0.2	**8**
Seed cotton	...	0	0.1	0	0.7	...	**0.8**
Pulses	...	0.3	0.6	0.2	0	0.2	**1.3**
Roots and Tubers	2.8	2.4	0.6	2.9	0.1	0.4	**9.2**
Spices	0.6	0.2	0.1	...	...	0	**0.9**
Vegetables	0.1	0.5	0.3	0.7	0.5	...	**2.1**
Sugarcane	...	...	0.2	0.2	...	3.5	**3.9**
Total Area	**7**	**4.5**	**2.2**	**7.5**	**1.3**	**4.3**	**26.8**

Major Crops

2.19 Bananas The ownership structure of the Caribbean banana industry is characterized by small holders, the majority of which produce on farms that are mostly on lands of steep topography prone to run-off erosion within a system that is barely ecologically sustainable[2]. Average farm size is one hectare and yields about 11 tons per ha. The Banana Growers Associations (BGA)[3] have the exclusive rights to buy bananas for exports while the sub-regional Windward Island Banana Development Corporation (WIBDECO)[4] is responsible for the marketing and port handling. The EU is the principal export market providing preferential market access by means of mechanisms stipulated in the Banana Protocol of the Lomé Convention and Cotonou Agreement. The EU banana regime has been modified in several stages in the last few years[5] leading to progressive erosion in preferences with a significant impact amongst Caribbean banana producers.

1 Source: FAOSTAT.

2 Small-scale farmers are not insured against weather induced losses, and although the crop has a strong capacity to recover, inputs are nevertheless required for replanting after a disaster such as tropical storms and hurricanes. For example, after the destruction caused by hurricane Lili in 2002, small farmers in the Windward Islands relied partly on foreign based firms UK supermarkets providing cheap credit for the purchase of production inputs to remain in business. (FAO, The World Banana Economy-2003).

3 Established by Acts of Parliament, most in the process of being privatized.

4 Formerly known as the Windward Islands Banana Growers Association.

5 The EU adopted a new banana import regime in December 2001 that provides duty free access to the EU market for specific quotas of bananas as follows: Quota A: 2.2 million tons, Quota B: 453,000 tons, Quota C: 750,000 tons. Quota A and B are open for imports originating from a third country. Quota C is reserved for ACP countries and imported at zero duty. The within quota tariff for banana is US$ 94 per ton for Latin America countries and zero for ACP countries; outside this total the tariff becomes US$ 850 per ton. The A and B quotas are allocated as 83 percent to "traditional exporters" and 17 percent to "non-traditional exporters". The right to import under the various quotas are allocated through issuing import licenses. Accordingly, to export to the EU a supplier must both meet the origination criteria of the quota concerned and have a licence to import (or sell to a company that has such licence). If those who have the licence (Windward Island Banana Association (WINBAN) for the Windward Islands) are not prepared to make them available to others (even at their market value) then these licenses can act as an additional barrier to export to the EU. It is to be noted that almost 90% of WIBDECO profits come from license rents in the EC that could evaporate if the tariff-only system is accompanied by a reduction of tariff preferences. The 2.2 million tons quota will be abolished by 2007 and it will be replaced by the MFN (Most Favoured Nation) regime. Negotiations on the tariff to be applied for non ACP countries as from 2007 are underway.

2.20 This latter can be measured in terms of areas cultivated, export earnings, impact on employment and overall dependence on banana exports. In the four bananas producing countries, (the Windward Islands) the cultivated area has declined significantly from 29,000 ha in 1990 to 21,000 ha in 2003. Land use has changed but there are no statistical data on the use of the land which has been going out of banana production. Volume of exports went down from 192,000 tons (average 1994/1996) to 86,500 tons (average 2001/2003) with value of exports decreasing from US$ 93 million to US$ 50 million respectively over the same period.

Banana Export Volumes (000 tons)[1]

Countries/ Years	1994	1996	1998	2000	2001	2002	2003	2004
St. Lucia	92	102	54	50	20	98	35	42
St.Vinc. &Gren.	35	49	41	43	33	40	28	...
Grenada	4	2	...	0.7	0.6	0.5	0.4	...
Dominica	44	43	31	31	21	18	12	...
Total	**175**	**196**	**126**	**124.7**	**74.6**	**156.5**	**75.4**	**42**

2.21 The number of registered banana growers which was about 23,000 in 1994 came down to 5,300 in 2003 but the impact on number of banana workers is probably much greater considering also the hired labour used during harvesting and the linkages between the banana industry and transport and marketing services.

Number of Registered Banana Farmers (1000)[2]

Countries/years	1994	1996	1998	2000	2001	2002	2003
St. Lucia	8	6.7	4.5	4.8	3.8	2	2
St.Vinc. &Gren.	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	1
Total	**23**	**18**	**11.7**	**11.1**	**7.3**	**5.5**	**5.3**

2.22 As the number of workers deriving all or part of their income within the banana sector exceeds – according to EU commission estimates – the number of farmers by a factor of three, the total decline in banana sector employment in the Windward Islands and Dominica could be as high as 67,000 people or 18% of the total population in working age.[3] Some reports indicate that the impact on the livelihoods of job losses has been limited in many communities by the structure of the work force: many workers were part time or close to retirement age. Other workers have taken early retirement, have found other employment in the service sector or emigrated.

1 Source: FAOSTAT.
2 Source: NERA Economic consulting and European Commission
3 Source: NERA and European Commission. Figures may be overestimated as there may be growers registered with more than one banana company.

2.23 An analysis of the competitiveness of the banana industry in the Windward Islands and Dominica has been carried out by a DFID commissioned study in 2004[1]. The findings of the study indicate that the Caribbean producing countries face significant cost disadvantages when compared to Latin America and some Western Africa countries for issues related to land, climate, labour and transport costs. On land, productivity is lower because soils are of inferior quality, cultivation is on slopes, which makes irrigation and mechanization difficult and property structures are fragmented as most farms are family owned smallholdings. Yields may be as low as 5 tons per ha and they rarely exceed 15 tons per ha compared to 30-60 tons per ha for Latin America countries. Climate wise, Caribbean producers suffer from irregular rainfall pattern, more need for irrigation and the problems cause by the frequent heavy storms and hurricanes. Labour wages of banana workers in the Caribbean appear to be significantly higher than in Central and South America and they are not compensated by advantages in productivity (measured by output per worker) which is higher in Latin America because banana farming is more capital intensive and mechanised[2].

2.24 Finally on costs, the study suggests that the situation faced by the Caribbean producers is equally difficult as export volumes are smaller than Latin America countries, so small that ships are required to stop at different ports for completing the cargo, port facilities are less mechanised which leads to longer loading time, ships are smaller and therefore with higher unit costs than larger cargos and capacity utilisation on ships more uncertain because of uncertain production volumes due to unpredictable weather and adverse natural conditions.

2.25 The FOB export unit values are shown to range between US$ 400 – 500 per ton although some reports quote an even higher figure. As Latin America producers export at about US$ 230 -270 per ton the competitiveness gap between Caribbean and Latin America producers would be about US$ 170 - 230 per ton which should be in principle the equivalent tariff needed to sustain current Caribbean production. Under the tariff scenario which is being considered by the EU Commission[3] only some of the most efficient producers in the Windward Islands could survive if productivity could be increased through investments in infrastructure, land consolidation and institutional reforms to Banana Growers Associations[4].

2.26 In the event that the above tariff scenario would not materialize[5], and as significant productivity gains are unlikely to happen there would be alternative opportunities for the banana

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1 Addressing the Impact of Preference Erosion in Bananas on Caribbean Countries. NERAEconomic Consulting-August 2004.

2 Whether wages might in future adapt to offset a sharp reduction in bananas prices is difficult to predict and will depend on the proportion of the labour force depending on banana production and alternative employment opportunities. So far this adaptation does not seem to have happened at least to the extent necessary to compensate for the large productivity gap.

3 Negotiations are currently underway and proposals range from US$ 40 per ton (L.A. producers) to US$ 340 per ton (Caribbean producers).

4 Investments in infrastructure (Irrigation &Drainage, mechanisation, rural roads, packing sheds, cold storage and port facilities); Institutional reforms to service providers (marketing, input supply, pest control..); Consolidation of land holdings; formation of farmer-led producers associations and cooperatives and privatisation of the Growers Associations; Research and Extension on disease resistant varieties; Support for meeting quality standards and traceability requirements; Support for developing niche markets (organic and fair trade certification, packaging).

5 The Cotonou Agreement foresees an Export Revenue Stabilisation Scheme FLEX (replacing STABEX as emergency assistance) where support cannot be financed from the EU budget to mitigate adverse effects of instability in export earnings and the Special Framework for Assistance (SFA) to ACP banana producers programmed on an annual basis for ten years using the EC budget. SFA aims at enhancing the competitiveness of banana producers, diversify their agricultural sector and to create safety nets for producers.

industry to exploit niche markets such as fair trade and organic bananas. Some success stories exist like in Grenada and Dominica were most banana producers who have remained active have been relying on supplying fair trade and organic bananas[1] making about 70% of total banana exports. Niche markets in general provide a 15-30% price premium but there is concern that a high proportion of bananas exported from the Windward Islands fail to meet specifications including traceability requirements and environmental and sanitary standards.

2.27 Sugarcane is still the main crop in St. Kitts and Nevis the main sugar producer in the Windward and Leeward Islands. The sugar sub-sector which accounted for about half of the value added of the agricultural sector in the 80s fell from 6.2% of GDP to 2.7% in the 90s The outturn was to a large extent related to a contraction in sugar cane production, due partly to unfavourable weather and a reduction in acreage under cultivation from about 4000- 5000 ha in the 1980s to 3000- 4000 ha in the 90's. Sugar production declined from about 350,000 tons to about 190,000 tons over the same period.

2.28 While the sugar industry remained up until now one of the main contributors to economic activity in St. Kitts and Nevis, the erosion of the preferential arrangements for the exportation of sugar, and the unprofitable state of the sugar industry even with these preferential arrangements led to the decision by the government to stop sugar manufacturing after the upcoming 2005 harvest. The government-owned St. Kitts Sugar Marketing Corporation (SSMC), the sole producer and exporter of sugar, has consistently sustained heavy losses. Production costs are higher than US$1000 per ton with the EU price at US$ 650 per ton and the world price at US $ 200 per ton. The industry's annual losses are equivalent to 4% of GDP and its accumulated debt reached EC$300 million (US$120 million) by 2004, placing a serious strain in the country's economy. With the EU price to be cut to € 421 (US$ 526) per ton by 2007, losses would increase sharply unless restructuring takes place.

2.29 The SSMC employs approximately 1,400 permanent workers and an additional 600 migrant workers during the peak season, which represents 7-8% of employment in the economy. Due to this fact, as well as the significant levels of sunk investment in sugarcane and the environmental services that the crop provides in terms of soil conservation, the government is carefully analyzing the main elements of what would be its exit strategy from sugar manufacturing. Among the options being contemplated, there is a proposal that calls to reduce the areas planted with sugarcane to develop "non-sugar agriculture" (NSA), and to leave some sugarcane production for alternative uses, such as: (a) co-generation of electricity (10-15 Megawatts); (b) production of industrial methanol for fuel; (c) distillation of rum; and (d) animal feed. The government plans to undertake feasibility studies on these options to support their decision.

2.30 As a result of the above-mentioned situation, there is a renewed and increasing emphasis on agricultural diversification. An Agricultural Diversification Project for financing by the Caribbean Development Bank is being currently considered as part of the exit strategy from sugar production.

2.31 Nutmeg and Cocoa Nutmeg is grown in Grenada, one of the three most important world suppliers. In 2003 it was estimated that nutmeg was grown in pure stand on about 1,300 hectares including about 150 ha of government run estates and the balance of 1,150 ha being farmed by some 800 farmers. In addition nutmeg tree are grown on a further 11,500 ha of farmland inter-planted with other crops. In total there are some 10,000 registered nutmeg farmers on the island equivalent to about 10% of the population. A further 20,000 depend in part on the

[1] Recent opportunities include delivery of fair trade bananas to the Swiss Coop at guaranteed prices, above those normal for fair trade exports.

industry for a living. The Grenada Cooperative Nutmeg Association responsible for all matter affecting the industry operates a rather inefficient distillation plant at Marli to extract oil from mace and kernels in an effort to add value to the primary products and it has tried to develop by products such as nutmeg jam made from the pulp of the nutmeg fruit, but have lacked the resources to market these products effectively[1].

2.32 In 2003, exports declined to just under 2,500 tons continuing the prevailing trend over the past decade. This decline could be attributed partly to a reduction in overall output and partly to a drop in quality[2]. Cocoa is grown in Grenada, St. Vincent and the Grenadines and Dominica. Total number of ha planted should be around 1900 (pure stand equivalent) the majority of which in Grenada. Grenada cocoa is sold at a 20% premium to hybrid cocoa as it is considered "fine flavoured". Production before the hurricane Ivan in 2004 was around 800-900 tons, with an export value of about US$2-3 million. As in the case of nutmeg there are some pure stands of cocoa, but most is produced from trees planted with other crops in mixed farms.

2.33 Initial estimates of the 2004 hurricane damages to the crops suggested that 85% of the nutmeg trees and 70% of the cocoa trees were destroyed and will have to be replanted by those farmers who wish to continue producing. It has been suggested that the hurricane damage to the two crops could probably result in an acceleration of the transfer of the land and of the plantations to younger family members. Furthermore the rehabilitation of the sub-sectors also provides for a good opportunity to introduce a number of institutional and policy reforms (improving processing efficiencies, increasing productivity, reviewing the mandate of the growers associations) which many consider essential if the industries are to stay competitive in the years ahead[3].

2.34 Annual crops, fisheries, livestock Root crops, vegetables, tropical fruits and animal and fisheries products consumed by the households or for the tourist market include the so called "ethnic crops" which are particular of the Windward and Leeward Islands and which have both a local and a foreign market amongst the Caribbean community abroad. The table below summarizes production data for 1995 and 2003.

Production of main food-crops (1000 tons)[4]

Crop	Year	St. Luc.	St.Vinc &Gren.	Gren.	Domi.	Ant. & Ba.	St. Kit.& Nev.	Total
Fruits	1995	33	4.4	12.6	18.7	9.3	1.4	**79.4**
	2003	36.6	5.4	11.5	27.8	10.7	1.3	**93.3**
Roots& Tub.	1995	10.2	11.7	3	18.9	0.2	1.1	**45.1**
	2003	11	13.9	3.2	22	0.1	1	**51.2**
Vegetables	1995	0.9	3	2.4	5	1.5	1	**13.8**
	2003	1	3.9	2.4	5.5	2.1	0.8	**15.7**

[1] A private investor is reported to have established a more modern facility to extract oil, but was forced to suspend operations because the GCNA refused to allow growers to supply his unit with kernels, on the grounds that they, the GCNA have an exclusive right to market nutmeg.

[2] The drop in output is mainly due to poor management of nutmeg trees, especially in the government owned plantations, whilst the drop in quality is attributed in the main to poor post harvest handling.

[3] See FAO/Investment Center Report dated January 2005.

[4] Source: FAOSTAT.

2.35 Fruits, root and tuber crops and vegetables production has been growing between 11 to 18 % over the ten year period i.e. about 1-1.5% per year. Still in terms of volume, production of main food crops is marginal when compared to other Caribbean countries. For example in 2003, total fruits production of the OECS countries was equivalent to about 30% of the production in Jamaica, that of root and tuber crops was around 26% and that of vegetables around 8%.

2.36 As far as exports, FAOSTAT data indicate that in 2003 OECS countries exported about 4-5000 tons of fruits, 1-1500 tons of vegetables and 4-5000 tons of root crops mainly arrow root from St. Vincent. No up to date disaggregated data are available of the relative share of production of fruits, vegetables and other fresh food consumed by the residents and the tourist industry respectively. Assuming that production of local foodstuffs is to a certain extent representative of trends in local fresh products consumption it may be derived that over the period per capita consumption of fruits has increased by 13%, and of root crops and of vegetables by 7%. Part of this additional consumption might be imputable to increased tourist arrivals (about 4-5% more over the period).

2.37 Fisheries play an important and sometimes underrated part in the economies of OECS member states, providing both, full-, part time and seasonal employment and contributing to domestic food security and national GDP. The fishing industry is predominantly artisan with a notable characteristic of a large percentage of female workers who are involved in critical areas of seafood operations including processing, distribution and retailing in local markets. Available statistics[1] indicate average fish landings between 1000 and 2500 tons per year (except St. Kitts around 300-400 tons) and employment figures of about 1000 to 3000 people per island. Per capita fish consumption ranges from a few kilograms per year to a high 60 Kg per year (Antigua). Most of the countries are net importers of fish. Against total exports from the OECS countries of about 1000 tons per year of high value species there are at the same time imports of about 6000 tons to supply the local market with less valued products for use both by the islands' population and for the tourist industry.

2.38 There is concern over the way fisheries resources are exploited and about the overall status of stocks and fisheries management also in view of the potential and increasing tourist market for quality fish and fishery related activities and products. Adverse factors include lack of institutional capacity, difficulties associated with improving inshore fisheries management using traditional knowledge and practices and old fishing craft, equipment and gear. At national and sub-regional level there has been a significant investment in fishery infrastructure with grant funded projects (EU, Japan) which have financed the establishment of landing sites, processing infrastructure and facilities for storage of both fish and equipment. A Caribbean Regional Fishery Mechanism (CRFM) has recently (2003) been created to promote sustainable fishery management and development and regional cooperation.

2.39 Available data and information on the livestock sub-sector do not permit a more substantiated analysis of past trends and prospects except that there seems to be consensus that in the specific small islands context and in view of the feed and pastures resources available only small livestock raising may have some economic viability. In poultry production there are few organised business coexisting with small scale activities. Sheep, goat and cattle tend to be predominantly small-scale mainly for domestic consumption[2].

[1] Source: FAO Fisheries Department and OECS Fisheries Management and Development Strategy and Implementation Plan; OECS Natural Resources Management Unit. October 1999.

[2] FAO supports the Caribbean Region with one TCP project "Backyard Farming Development" in, Grenada, Jamaica, St. Lucia, St. Vincent and the Grenadines (TCP/RLA/3008; Duration: April 2004-March 2006).

Land Tenure [1]

2.40 Most of the land in the OECS states is either state owned or held under some form of family ownership[2] which is typical of Caribbean countries (see table below). The rest is under communal ownership[3] like in Dominica where about 2000 ha are vested in the Carib Council, or of uncertain tenure. In all islands given their common characteristics and historical background, there are significant interactions between the various land uses for agriculture, tourism, constructions, industry and other infrastructure and issues of land and coastal areas management. The incidence of the problems varies according to the particular country conditions but challenges are rapidly growing following tourism development, some opening of the land markets to foreign investors, issues of access to beaches, large out migration with consequent cases of absenteeism amongst land owners and the problems caused by the transformation of the OECS agriculture with the downscaling of plantation crops (i. e. divestment of the sugar lands in St. Kitts) and the need to identify alternative uses for sloping lands under bananas that would not compound existing erosion problems.

[1] Most of the information and data presented in this section is drawn from the proceeds of the Workshop on Land Policy, Administration and Management in the English Speaking Caribbean held in 2003 under the auspices of the Land Tenure Center, University of Wisconsin.

[2] A complex of interrelated features defines such "family lands" as a cultural or social system in peasant communities throughout the English speaking Caribbean. Family land is an unofficial transformation of official freehold tenure which in the Caribbean has generally been identified with large scale land holdings. Family land on the contrary is always small in size. It is regarded as the inalienable corporate estate of the purchaser's descending family line. Rights to family land are essentially validated through oral tradition and while initially acquired through purchase are primarily transmitted to children whereby all children and their descendants are considered heirs.

[3] Common lands are the evolution of the collapsed plantation system where plantation lands were claimed by community residents. Such lands are still held in common by the heirs of the original community residents without written designation of individual portions. This creates a restraint on the alienability of the land. In St. Kitts the common land system has been combined with the "family" tenure.

Land Profiles

	St. Lucia	St. Vincent & Gren.	Grenada	Dominica	Antigua & Barbuda	St. Kitts & Nevis
Area (1000 ha)	62	39	34	75	44	36
State Land (%)	…	47	10	…	42	78
Priv. Owned Parcels (No)	33287	…	52229	…	41000	…
Other Ownership	Family Lands[1]	Rented Lands or Owner like[2]	Family Lands[3]	Communal[4]	Comm. Land or uncertain	Family Lands/ Rent
Title Registration	Land Rights[5]	Conv. Deed	Registr.	Reg./Con. Deed[6]	Land Act	Reg./ Con. Deed[7]
Land Information	Database	Records	LIS	Proposed Land Bank	…	GIS

2.41 The various issues connected with land tenure resulting in a cumbersome and costly legal framework for land policy, continued state interference and inequitable and expensive access to land - where the inflexibility of the formal procedures has given way to an appropriation of the market by informal procedures at the expense of security - have been the subject of a number of studies and experts meetings[8]. All these recognize the urgency to introduce modern and more efficient land administration programs to improve land tenure security, land transactions, the upgrading of land registries and cadastral offices and regularisation of informal land titles.

2.42 One of the earlier attempts at improving land tenure systems occurred in **St. Lucia** with the assistance of a USAID funded Land Registration and Titling project initiated in 1983 after a land tenure study by the Land Reform Commission. This project resulted in the creation of a land registry but had limited success in achieving the original goal of modifying the tenure structure by encouraging the conversion of the family land system to freehold.

2.43 The Ministry of Planning, Development and the Environment of St. Lucia has the responsibility for land-use planning (including private and state-owned land) and is expected to allocate land resources according to their optimal use. In spite of this and due to the absence of a comprehensive zoning plan, development often takes place at the expense of the natural environment and agricultural lands. A Land Conservation and Improvement Act was promulgated in 1992 and a Land Conservation Board was subsequently constituted under the auspices of the Department of Agriculture. To date, however, the Board only convened once and supporting regulations are yet to be developed.

1 Estimated at 45% of all lands.
2 Rented lands are about 23% of agricultural lands. Owener's like is related to some forms of informal ownership.
3 Estimated at 15% of all lands.
4 Carib. territory: 3700 acres vested in the Carib Council.
5 Family Lands not included.
6 Registry and conveyance Deed.
7 Registry and conveyance Deed.
8 The last in the series being a report by Allan Williams and David Stanfield for the Workshop on Land Policy, Administration and Management in the English speaking Caribbean held in 2003 under the auspices of the Land Tenure Centre, University of Wisconsin.

2.44 All land in **Antigua and Barbuda** is registered land with several government units involved in the planning and management of land. The majority of the land available for farming is owned by Government and is available to farmers only on a short term one-year lease although at least in theory and only very recently, longer term lease options could be available. The inability to obtain lease for longer periods has hampered investment opportunities as Government leased land cannot be used as collateral for obtaining loans. Besides, insecure land tenure plays a big role in the undercapitalisation of small holdings, destructive land clearing practices, erosion in the watershed areas and undirected urbanisation and loss of agricultural land. Most agricultural land is left idle or it is underutilized.

2.45 In **Dominica** the Planning and Development Corporation exercises the regulatory control of land use. Private land ownership is more widespread than in other OECS countries but distribution of land is uneven with 74% of the population holding less than 2 ha but accounting for 24% of the land. At the other extreme, 1.3% of the farmers control more than 35% of the agricultural land in parcels exceeding 25 ha. Dominica places high priority on the conservation of its Forest Reserves and National Parks but it has no national land use zoning plan: lands identified for specific purposes acquire the status of being zoned for that specific purpose.

2.46 Land tenure in **Grenada** is predominantly freehold. About 72% of the land in farms is owned, 15% are "family lands" operated as if they were owned and only 12% are under lease arrangements. Crown Lands (10% of the total) are eventually expected to be transferred to the control of private farmers. The most recent land divestment program was carried out in 1985 to settle about 182 farmers but instead only 88 farms were established, the remaining being classified as housing lots. In 1994 a FAO assisted project introduced a modern system for agricultural land use planning - called the Grenada Land Information System (GLIS) - which is used by the Land Use Division within the Ministry of Agriculture.

2.47 In **St. Kitts and Nevis** the majority of the lands belonging to Government are registered in the Land Registry, the majority of private lands are still held by deed. There is no cadastral registration. The major challenge facing Government is the allocation of the sugar estate lands to alternative uses after divestment of the sugar plantations. The Development Control and Planning Board[1] is in principle in charge of providing an orderly development of land both in urban and rural areas but there is no land zoning system nor legislation on land management and land use. Given the fact that the Government controls 82% of the land area this becomes a critical issue.

2.48 There are three institutions in **St.Vincent and the Grenadines** that have responsibility for land management and tenure[2] with the department of Land and Surveys in a central role. There are difficulties in accessing land as demonstrated by the large proportion of informal rental arrangements and the incidence of squatting, the number of these latter estimated at about 16,000. Illegal occupation is threatening the Forest Reserve and the management of watersheds and there is competition for accessing to land which results in increasing land values. The issue for St. Vincent is to ensure an orderly divestment of Government owned lands and an efficient utilisation of privately owned estates to be able to diversify the agricultural economy with wider access to private ownership.

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1 The most recent legislation on security of tenure – the St. Kitts and Nevis Land Development Act of 1991 - provides formal land rights to tenants of Crown lands with 35 years leases. As far as "family lands" an application for partition can be made to the court, for subdivision. In case of impossibility to subdivide, the land can be sold through the court and the proceeds distributed proportionally.

2 These are the departments of Lands & Surveys, the Registry and the Physical Planning and Development Board.

***The Workshop on Land Policy, Administration and Management for the English speaking Caribbean (2003)**, encouraged the Caricom Heads of State to establish at the Regional Level an Exploratory Committee for mutual support to CARICOM Member States to:*
a) Conduct at the country level a Comprehensive Review of the Status of Land Policy, Administration and Management;
b) Identify and formulate a regional protocol on Land Policy which would support social and economic integration and the CARICOM Single Market Economy;
c) On the basis of this protocol, coordinate opportunities for the training of officials, community leaders and practitioners in participatory Land Policy formulation, and in best practices in Land Administration and Management;
d) In cooperation with the private sector, civil society and the Workshop Network, build a service centre for technical support to Member States in modernizing their Departments/Divisions dealing with land registration, land use policy, development control and land information systems.

Employment

2.49 The ongoing adjustment process of OECS countries to increased competition from both in the CARICOM and international markets has direct impact on the already strained labour markets. Unemployment levels have been traditionally high in OECS countries ranging between 7% and 22% of the total workforce with female being much higher than male unemployment[1] particularly for Dominica, Grenada and St. Vincent and the Grenadines. Unemployment, in particular, is highest among youth, reaching about 50% for young people between 25 and 30 years of age[2]; a reflection of slow economic growth and mismatch between skills provided through the education system and those needed on the market.

2.50 Agriculture, notwithstanding the decline in the number of banana growers (para. 26) remains an important employer in the Windward Islands, occupying a relatively large fraction of the workforce (about one fifth) while making lower contributions to GDP; in 2003, 23% of the labour force in St Lucia was in agriculture which contributed only 5.4 % to GDP; in Grenada 23 % of the workforce was in agriculture which contributed 10 % to GDP.

2.51 There has been an increase in jobs in the tourism and manufacturing sector. However according to available data these latter have never been able to absorb more than 8-10% of the employed labour force. More opportunities seem to have been available in the informal sector which provided in 2002 an occupation to about 35-40% of total workforce[3]. In terms of distribution available data indicate that the private sector employs about 50% of the workers, the public sector 25% and that the rest is self employed.

2.52 The unemployment problem has been alleviated so far by: a) the high emigration rates. OECS countries with the highest rate of unemployment also seem to have had the highest rates of net emigration; b) government jobs, which however have been much reduced in recent years due to declining budgetary resources; and c) welfare programmes, social investment funds, and remittances[4].

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1 According to the Human Development Report 2002 in 1996, St Lucia had male unemployment of 13.8 and female unemployment of 19.3% in a context in which only 80.8% of eligible males and 59% of eligible women participated in the labour force.

2 Source EIU and OECD Human Development report 2002.

3 Source: OECS, Human Development Report-2002.

4 An examination of the relationship between growth and employment creation in the Caribbean, argued that it would require long term growth rates of about 4% to address the high levels of unemployment. However, building up competitiveness of labour would mean, among other factors: a) an increased interest and response of the private sector and public sector employment initiatives; b) an increase in labour productivity; and perhaps c) continuous depreciation of the currency to maintain a lower wage rate.

Poverty and Food Security

2.53 Despite the relatively high GDP/head and progress in income growth (per head GDP is between US$ 3000 to 9700[1]), poverty still remains a problem in most OECS countries. It is a reflection of problems regarding overall economic management and of the OECS countries narrow economic and export base, their dependence on a small range of goods and services and their limited competitiveness. Income insecurity is a particularly important factor in the OECS countries given their extreme vulnerability to unfavourable natural phenomena like hurricanes, severe storms and volcanic activity. Many countries and individuals depend heavily on tourism and are hit heavily when tourist demand decreases as it has been the case in the recent past. Serious deficiencies in human resources and organisational capacity, growing HIV/AIDS problems and illegal trade are additional complications.

2.54 Available national poverty assessments[2] indicate that for St. Lucia, Grenada and Dominica about 25 to 33% of the population is below the poverty line while in St. Vincent and the Grenadines it is about 38%. Antigua and Barbuda, the highest income country has the lowest rate, around 12%. For all countries where data are available (St. Lucia, St. Vincent and the Grenadines and St. Kitts and Nevis), poverty levels in the rural areas are invariably higher than those in the urban areas. This depends on the low productivity levels, the low level of skills required by the agricultural sector at its present level of development and the associated low levels of remuneration. Many rural households cycle in and out of poverty depending on the income from commercialized production, the availability of alternative sources of employment in the informal sector and remittances from abroad.

2.55 The linkages[3] between poverty and gender are not as evident as in other countries of the Caribbean. There are a large percentage of female headed households but these families are not always poorer than male–headed households. Female labour force participation in total employment is relatively high and this has sometimes but not always translated in greater female involvement in successful development initiatives.

2.56 Poverty, unemployment and food supply data indicate the presence of significant pockets of the population that may not have access to sufficient food. In some countries like Grenada and Dominica, Governments have initiated specific programmes to foster the development of off-farm rural income generation through financial and other kinds of assistance. Higher levels of food self sufficiency are now amongst the main priorities together with increased agricultural productivity, increased diversification of agricultural production and exports and increased incomes for the poor.

1 For St. Vincent and the Grenadines and Antigua and Barbuda, respectively.
2 Source: DFID, Regional Assistance Plan for the Caribbean: June 2004 and World Bank Country Assistance Strategy, 2001.
3 Source: DFID: Regional Assistance Plan for the Caribbean, June2004.

Impact of 9/11 on Employment and Food Security

The 9/11 incidence has affected the islands in the Caribbean differently. The big players in the region, Dominican Republic, Cancun, Puerto Rico, Jamaica and Cuba, have had greater flexibility to take measures to offset the negative impact of 9/11 on tourism such as shifting idle workers to other jobs, anticipating vacations and leaves, accelerating regular maintenance and executing major repairs and refurbishment, increasing promotion and sales calls, etc. The small destinations like the Windward and the Leeward Island unless affiliated with an important hotel chain, demonstrated to be much more vulnerable to economic shocks.
On a positive note, the 9/11 fall-out induced a greater recognition by Caribbean governments of tourism's importance to their national economies and has speeded up improvements in "product enhancement, safety & security, marketing & promotion, and created the basis for greater public-private sector cooperation. Further, there is evidence not substantiated by any hard data, that 9/11 was the origin of a number of problems in the supply of essential agricultural imports from the United States. These events highlighted in the minds of the policy makers, the issue of dependency on food imports and the importance of food security considerations in agricultural policy making.

2.57 An analysis of the special geographical and socio economic characteristics of the small island states which have an impact on food security has been recently (2003) carried out by FAO in the preparation of the CARICOM/CARIFORUM) Food Security Project. The short cycle rain fed systems of crop production are seen as the fundamental problem facing small farmers who produce for domestic consumption and export. Traditional farm practices and inappropriate use of inputs have resulted in low productivity and uneconomic production systems. Mechanisation is also low due to the lack of appropriate farm machinery adapted to small-holders needs and capacities. Research and associated new technologies cycles on small-holders agriculture are very limited. Critical to increasing food insecurity is addressing the substantial dependence on rain fed agriculture through the introduction of improved practices linked to irrigation that increase productivity, intensification and diversification of production systems. "*While there have been improvements, the Region still faces a significant challenge in increasing the availability of fresh and nutritious foods that will ensure the food security, health, nutrition and even governance for generations to come."*

3. AGRICULTURAL POLICIES AND STRATEGIES

A. Policies and Plans

3.2 The Caribbean Governments have a long tradition of working together and taking concerted actions on the long term strategic vision for the region. Regional economic integration has a long history started in 1968 with the establishment of the Caribbean free trade area (CARIFTA), followed in 1973 by the treaty establishing the Caribbean Community and Common Market (CARICOM) and in 1989 by the establishment of the Caribbean Single Market and Economy (CSME) at the heart of which there is the protocol on the right of establishment, trade in goods and services and free movement of capital and people. The articulation of the regional agricultural policy in the Caribbean is outlined in the revised treaty (1989) which includes the agreement for the implementation of the CARICOM Single Market and Economy.

3.3 The Regional Planners Forum (RPF) composed of agricultural planning personnel from CARICOM member states is involved in regional policy formulation, appraisal, monitoring and evaluation. The Regional Transformation Program for Agriculture (RTPA) represents the institutional mechanism through which regional agricultural policy once formulated is to be implemented. Since about two years CARICOM Ministers of Agriculture (as part of CARIFORUM Ministers of Agriculture together with representatives of producers and industries)

have been meeting under the aegis of the "Alliance for the Sustainable Development of Agriculture and the Rural Milieu"[1] to discuss major agricultural policy issues and coordinated strategies.

3.4 At sub-regional level the Eastern Caribbean countries are pursuing economic integration through the OECS which combines the smallest states in the region and established in 1983 a monetary union. The OECS Secretariat and the ECCB in partnership with Governments, the private sector, the larger CARICOM[2] community and external bilateral and multilateral donors including CDB, the World Bank, IDB, CIDA, DFID, EU, UNDP, FAO, IICA, USAID have all been directly involved or sponsoring the preparation of strategic or analytical sector or sub-sector policies and plans.

3.5 A comprehensive **Development Strategy** for the **Eastern Caribbean** was completed in 2000 highlighting as key elements economic cooperation and macroeconomic stability, private sector led economic growth and diversification, developing human capital, addressing social issues and particularly chronic unemployment and problems associated with youth, and public sector reforms.

3.6 Building on this strategy, the OECS prepared in 2003 an **Agricultural Policy Framework and Strategic Plan** which taking into account the disappointing performance and the well known constraints of the agricultural sector defines the overall goal as to "transform the agricultural sector of the OECS by diversifying agricultural production and exports, intensifying market led agro-industrial development, deepening institutional reforms, expanding agricultural business and management and generally, conducting agricultural production on a competitive market oriented, internationally integrated and environmentally sustainable sound basis". Strategic areas of action were identified in:

- *Policy and institutional reforms, upgrading the institutional and regulatory framework including appropriate land policies, common legislation for agricultural production and trade, effective organisation and integration of the farming community in the policy reform process;*
- *Natural resources management;*
- *Improved financial and incentives regimes and insurance;*
- *Adding value to agricultural production through strengthening research on diversified and higher value production;*
- *Establishing mechanisms for introducing food quality and safety standards;*
- *Improving marketing and building technical capacity for commercial agriculture and agri-food chain including promoting product development and innovation; and*
- *Food security and development of the linkages between agriculture, tourism and manufacturing with production of non-traditional fruits and vegetables to meet the demand of the hospitality sector at acceptable standards.*

3.7 A formal mechanism comprising the OECS Secretariat and representatives of the OECS member states has been established to design and implement regional agricultural sector plans. Follow up meetings have monitored and interpreted the above policy considerations assessing progress and reviewing implementation issues. Some important weaknesses have been highlighted[3]:

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1 An FAO/IICA sponsored activity.

2 Institutionally the CARICOM Secretariat has responsibility for coordinating the design of agricultural policy in the region. Representatives of the national governments and other stakeholders discus proposals and present them to the Council for Trade and Economic Development (COTED).

3 Source: Agriculture Strategic Plan for the OECS. 40th Meeting of the Authority - OECS Secretariat, November 2004.

- ***The Ministries of Agriculture*** *appear not to have the capacity to adequately deal with the issues of planning, trade and competitiveness of production and marketing systems. The farming community lacks the capacity and appropriate organizational structures required to function effectively in a competitive environment. Therefore there is the need to i)* ***restructure and rationalise the work programmes of the Ministries of Agriculture*** *to increase their effectiveness in the delivery of critical support services; and ii)* ***develop and implement focused programs for supporting and establishing/strengthening farmer and commodity associations*** *at the national and regional level.*
- *The challenges of diversifying and expanding OECS exports cannot be met by individual exporters or even the marketing boards independently one from each other and an effective organisational mechanism is required.*[1]
- *There is the need of a comprehensive programme to strengthen the Agricultural Health and Food Safety Systems.*
- *There are increasing concerns with respect to* ***water supply and management*** *such as increasing levels of pollution, increasing demand for water from competing sectors, decline in water resources, over extraction from aquifers, depletion of surface resources and increased salt water intrusion.* ***Water policy and water legislation*** *have to be developed including the introduction of water users' groups.*
- *A* ***disaster management plan and an early warning system for the OECS*** *is yet to be developed as well as investigations for the operation of a sub-regional insurance facility.*
- *A model to* ***transform the agricultural sector through the adoption of a commercial and industry led approach*** *should be started with assistance from the Martinique chamber of agriculture.*
- ***Land use policy and zoning is of crucial importance*** *and a programme for the establishment of land use database,* ***reviewing existing policies and legislation on land use planning, land tenure and land legislation*** *linked to a GIS system are urgently required.*

3.8 Regional policy makers have engaged in a consultative process to reorient and readjust their agricultural and rural development policies in order to create an enabling economic and business environment for competitive and sustainable agricultural and rural development. A recent meeting in Paramaribo[2] follow up of the of the Forum of the Ministers of Agriculture of the Alliance for Sustainable Development of Agriculture and the Rural Milieu in January 2005, has endorsed an initiative by the President of Guyana[3] that invites the Heads of Governments of the Caribbean Community to take up a number of interventions so that agriculture could contribute significantly to national and regional development, facilitate inflow of capital, stimulate the entrepreneurial capacity of Caribbean agricultural communities and enable the region to achieve an acceptable level of food security.

[1] Under the Caribbean Agri-business Marketing Intelligence and Development Network (CAMID) the establishment of a joint marketing programme is included as a critical component to provide marketing intelligence, overseas promotional services, negotiation of purchasing agreements, consolidation of sales into minimum volumes, joint procurement of raw materials, joint negotiation for freight space and rates, management of extra regional warehouse facilities...

[2] Inter-sessional Meeting of the Conference of Heads of Government of the Caribbean Community (Paramaribo 6-17 February 2005): A Proposal for Interventions to Alleviate the Key Binding Constraints to the Agricultural Sector in CARICOM Countries presented by President Bharrat Jagdeo.

[3] The proposal is coherent with the Regional Transformation Program for Agriculture (RTP, 1996), it incorporates and builds on previous actions such as the Alliance for the Sustainable Development of Agriculture and the Rural Milieu (1998), the CDB symposium on the Repositioning of Regional Agriculture (2002), the FAO Food Security Project and the OECS Agriculture Policy Framework and Strategic Plan.

President Bharrat Jagdeo Proposal[1]

Priority strategic considerations should concentrate on:
*- **Financial, physical and institutional arrangements** that underpin **the enabling business environment** through interventions that seek to facilitate and stimulate increased financing and new investments into the sector,*
*- Expanding supply capacity and competitiveness by strengthening the **legislative and regulatory trade framework** and the research and development capacity in the region,*
*- **Strengthening of Private Sector Organizations in Agriculture, including farmers and commodity associations,** as a medium to facilitate, develop and empower entrepreneurial capacity throughout the value chain and address the inadequacy of skilled human resources, and*
*- **Efficient Resource Management**, as a prerequisite for economic, social and environmental sustainability including incentives primarily for improved land and water management, develop an integrated and coordinated regional approach to mitigation and relief and consolidate national capacities for early warning systems and management of relief efforts in agriculture .*

3.9 Across the Caribbean region the absence of a policy environment that provides incentives for agricultural production and trade leaves the door open to a progressive marginalization of agricultural producers and exporters. This has implications for maintaining minimum levels of food security, for the availability of fresh and nutritious food and is at the origin of the growing and unsustainable extra regional food imports dependency. Food imports have increased in almost all countries in the region compared to the 90's, while food exports have shown a serious decline[2]. In St. Lucia for example food exports fell by 46% between 1990/92 and 2000/02 with an increase of over 70% in food imports. In Dominica, food exports fell more than 46% over the same period, while food imports rose by 20%.

B. Donors' Programmes and Contribution

3.10 International and bilateral aid flows to the Caribbean Region and in particular to the OECS states have been declining over the last few years (US$ 129 million in 1998 as against US$ 90 million in 2003[3]) indicating a much tighter financial resources environment and the need for a careful prioritization of public sector capital projects. Donors' programmes have been following the priorities of the regional agenda as agreed in the above policy statements and the Regional Integration and Development Strategy (RIDS) approved by a special meeting of CARIFORUM Ministers in April 2002. The focal sector for support by the EU the largest grant provider in the Caribbean, is Regional Integration which for the 2003-2007 period aims at rationalising and strengthening the institutional machinery, the development of the legal, regulatory and macroeconomic frameworks and of sectoral policies. Non focal sectors include activities in drugs control and disaster management. Structural funds under the SFA[4], facilitating the transition from preferential trading arrangements for bananas are particularly important for the Windward Islands.

1 A more elaborated matrix is attached to the proposal including: i)the establishment of an agricultural modernisation fund; ii)strengthening the legislative and regulatory trade framework; iii)strengthening the research and development capacity and training; iv)increased private sector involvement; v) incentives for land and water resources; vi) regional integrated and coordinated risk mitigation; vii)upgrading of freight and port infrastructure; viii)upgrade marketing infrastructure and services; ix) companion measures by the public sector to address the fragmented and unorganized private sector. The strategy does not refer to the traditional subsectors of sugar and banana (and rice) which are addressed through separate set of activities.

2 Source: FAO.

3 Source: Development Cooperation Directorate (DAC).

4 SFA, EU Special Framework for Assistance.

The indicative amount budgeted for the Regional Programme is € 57 million (US$ 71 million) not including SFA funding.

3.11 The CDB lending programme to the OECS countries includes infrastructure, agro-industries, education, health, disaster mitigation projects and assistance on technical and policy issues. The flagship programme for poverty reduction is the Basic Needs Trust Fund (BNTF) through which CDB provides resources to poor communities to improve access to basic public services enhance employment opportunities and reduce socioeconomic vulnerability. The fifth BNTF programme will provide about US$ 69 million in grant funds for social and economic infrastructure and poverty reduction with a maximum project size of about US$ 0.5 million[1]. CIDA is a major bilateral donor with a wide range of regional and sub regional programmes in capacity building, grassroots initiatives, agro-industrial development and trade issues[2]. It participates to the BNTF of the CDB with about US$ 24 million.

3.12 The World Bank funds a regional HIV/AIDS programme and offers sub regional support to the OECS aimed at vulnerability reduction in terms of natural disasters and capacity building. For the FY 02-06 period the main objective is to help reduce poverty in close collaboration with the countries, sub regional organizations and external partners The Bank also plays an important role as regional coordinator together with the CDB, of the Caribbean Group for Cooperation in Economic Development (CGCED).The IDB channels its funds for the OECS countries through the CDB. IFAD is funding a Rural Enterprises Development Project in Grenada. UNDP supports agriculture, social policy development, environmental baseline assessments and institutional capacity development. FAO is active in a number of projects including a US$ 5 million Food Security Project financed by an Italian Trust Fund to FAO.

3.13 In its regional assistance plan DFID supports improved economic and fiscal management and public service delivery within the framework of poverty strategies and works closely with CARICOM on trade competitiveness and the economic integration agenda. In the Windward Islands attention will be given to public sector reforms, economic management and education.

3.14 IICA has a series of programs most of them concentrated on support to Ministries of Agriculture on food safety and crop and animal health systems, information and communication, trade issues in agriculture, strategic planning for agricultural diversification, agribusiness development.

3.15 GEF is involved in all the OECS countries, with biodiversity, protected areas and sustainable livelihoods, climate change, capacity building, environmental management projects; the Caribbean Environment Health Institute (CEHI) is the executing agency for a GEF Integrated Watershed and Coastal Areas Management Project designed to enhance the capacity of

[1] Grant funding allocated as from December 2004 was US$ 2.9 million for Dominica, US$ 2.7 million for Grenada, US$1.8 million for St. Kitts and Nevis, US$ 4.5 million for St. Lucia and US$ 3.5 million for St. Vincent and the Grenadines. Most of the projects were for education facilities (38%), water supply systems (31%) and access (16%), the rest being subdivided between community markets, health and day care facilities.

[2] One of CIDA major programs is the Caribbean Regional Human Resource Development Program for Economic Competitiveness (CPEC) aiming at improving the base of skills needed for increased competitiveness by the private and public sectors. It concerns Institutional Strengthening, Capacity Development, Awareness Building and Education and Training. There are four priorities: Tourism, Financial Services, Agriculture and Construction. In Agriculture CPEC finances grants up to CD$ 100,000 (US $ 125,000) for agro-industries, handicrafts, marketing, packaging, post harvest support measures, food safety and quality. There is also a Canada Fund for Local Initiatives (CFLI) mechanism which provides funds to NGOs and Community based organizations for small projects (up to CDN$ 50,000 –US $ 62,500).

participating countries (13 Caribbean states) to plan and manage their aquatic resources and ecosystems on a sustainable basis.

3.16 USAID funds economic diversification, improved environmental management, HIV/AIDS and provides resources for the fourth CDB - BNTF. USAID in partnership with the PAHO/WHO, FAO, IICA, the OECS and CARICOM Secretariats has financed a Project ended in February 2005, for the "Modernization of the Legislative Framework for Food Safety, Animal Health and Quarantine and Plant Health" to strengthen the national OECS Food Safety Systems and support their trade and economic competitiveness[1].

C. Impact of Diversification Policies

3.17 Over the last century, traditional export crops have been the backbone of the agricultural sector of the OECS countries and a major source of foreign exchange, employment and social and economic stability. The adverse effects of the bananas and sugar crisis and its impact on economic growth, government finances, employment and poverty have obliged countries to look at response strategies based on adjustments in the agricultural sector that would: i) improve competitiveness by restructuring the export crops industry, reduce costs and increase productivity; ii) differentiate the product mix within the industry so as to add value to by products; and iii) diversify agriculture production into commodities for which OECS countries might have a competitive advantage. Several measures for recovery plans for the banana sector including steps for quality improvements as well as investigations on alternative markets for organic bananas have been carried out with donors' support. A Windward Island Action Plan for the restructuring of the Banana Industry was launched in 1999 by the Windward Islands Banana Associations.

3.18 Agricultural diversification programs have been carried out: (a) in Grenada in the mid 80s with assistance of a five years World Bank funded "Agricultural rehabilitation and Crop Diversification Project"; (b) in St. Lucia where the Government has privatized in 1998 the Banana Growers' Association, launched an Agriculture Diversification Strategy (2001-2005) to identify alternative sources of income generation, exploit niche markets for non-traditional products, increase private investment in the sub sector, strengthen the St. Lucia Agriculturist Association, create a Chamber of Agriculture and a National Agricultural Company[2]; and (c) in Dominica where the Dominica Export and Import Agency (DEXIA) has been entrusted with the development of fresh products trade, the Banana Marketing Company has been liquidated and the Bureau of Standards increased its role in agri-food trading. In Grenada the main document currently guiding agricultural policy is the draft "Sector Policy for Food Security and Poverty reduction 2003-2007". A new medium term strategy under preparation is moving emphasis away from primary production and export of primary products to that of processed products. Other countries have prepared similar strategic documents.

3.19 The focus on high value, niche commodities targeted at specific markets and the support given by Governments and donors to initiatives designed to exploit health, ethnic and tourist markets through product differentiation have led to the emergence of a relatively small number of progressive farmers interested in fresh fruits and vegetables production for the local tourist hotels market or for exports. Along the same lines there has been a substantial development of an agro processing sector largely comprised of a range of mostly small to medium size

[1] The major outputs of the project have been revised and modernized legislation on i) Food safety act, ii) Food safety regulations, iii) Animal act for biological residues regulations, iv) Pesticides control regulations, v) Environmental health services act, vi) Plant health act.

[2] The St. Lucia Agricultural Diversification Agency, a state owned company to promote investment in the agricultural sector with a budget of about EC$ 11.7 million (US$ 4.7 million) million contributed by EU-SFA funding.

companies preparing preserves, condiments, Caribbean food specialties and the like for the local, regional markets or eventually overseas markets. Available evidence indicates nevertheless that these enterprises although relatively important for the local economies are barely sustainable because of their small scale, dependence on erratic or unreliable supply of inputs, limited access to technology and technical expertise, low production efficiencies, high production and marketing costs, unreliable and high cost transportation and limited market penetration. The same studies indicate the need to address the above constraints on the basis of a regional perspective to have a minimum chance of success[1]. Diversification efforts into non-traditional commodities have been supported in various ways by Governments with the assistance of a number of externally financed projects[2].

3.20 Several studies have been made on the opportunities available for high value, niche commodities targeted at specific health, ethnic and tourist markets but there is very limited evidence permitting an assessment of overall volumes marketed or trends and potential for growth[3]. Food processors wishing to export to North America or to the EU must comply with strict hygienic requirements of food safety and quality standards. Very few of the food processing facilities qualify for these standards such as HACCP standards[4] and much remains to be done both at country and regional levels to develop an adequate network and infrastructure[5].

3.21 Additionally, notwithstanding the attention given to the problem and the progress made in legislation (para. 77) and the establishment of related infrastructure (national laboratories and regional bodies) much still remains to be done regarding issues of compliance of non-traditional products in terms of quality standards, food safety, certification of origin and approval of imports by major markets. These issues have significant implications for agricultural production in terms of traceability for use of pesticides and other agricultural chemicals, use of genetically modified seeds as well as for fresh produce packing and processing plants.

3.22 The ability of the non-traditional crops and agro industry producers to compete in the external markets depends *inter alia,* on the implementation of adequate marketing strategies and structures at national, sub-regional and regional levels. Institutions exist but there are indications that there is considerable duplication of efforts as well as poor coordination, limited public/private sector collaboration and little success in promoting strategic alliances.

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1 The Caribbean Agri-business Marketing Intelligence and Development (CAMID) network was established as the requisite mechanism to develop and implement the Agricultural Marketing and Information component of the Regional Transformation Programme. The network is made up of farmers, processors, domestic buyers, exporters and importers, NGOs, development agencies. CAMID has developed a Regional Integrated Marketing Strategy (RIMS) designed to increase information flows between sellers and buyers, facilitate exchanges and reduce transaction costs.

2 CDB has been actively financing agro processing industries including sugar in Antigua and St. Vincent, citrus packaging in Dominica, Cocoa fermentation in Grenada, Rum Distillation, Arrowroot processing, Meat Production and Processing and Milk Plant in St. Vincent, Fisheries Processing Plant in Antigua.

3 In the case of the regional market, trade in agricultural products has a long tradition. Weekly trips by traders (hucksters) are common between the islands selling fresh produce and in return purchasing various processed goods for resale in the domestic market. This intra regional trade creates no demand for sophisticated packaging or other post harvest processes.

4 Food companies have a legal obligation to apply the principles of HACCP (Hazard Analysis and Critical Control Points). HACCP is a method to be applied by companies to guarantee the safety of their products. HACCP principles and guidelines for its application are included in the CODEX ALIMENTARIUS of the FAO and WHO.

5 A regional agency, the Caribbean Agricultural Health and Food Safety Agency (CAHFSA) has recently been created to coordinate programs and issues relating to agricultural trade and strengthening food safety systems.

3.23 In summary, diversification led agricultural growth has not materialized neither there has been any noticeable response from farmers in terms of increased food crops production. Higher incomes in most countries and the development of the tourist sector have resulted in increased demand for high quality and processed foods by and large satisfied by extra regional imports. Except for Antigua and Barbuda food imports have been increasing by a minimum of 20% for Dominica[1] to more than 70% for St. Lucia over the ten years period 1990/92 – 2000/02[2]. Domestic production has been unable to respond to the demand in terms of volume and in terms of quality and to compete in terms of prices with cheaper imports advantaged by regular transport facilities.

3.24 As highlighted in the recent Paramaribo meeting of the CARICOM Heads of Government (para. 69) "the results (of significant efforts and financial resources over the past 20 years) have, by and large, not achieved the major objectives of reducing the regional food import bill, creating an attractive climate and enabling increased private and public sector investment and enhancing agri-business stakeholders' participation in domestic and export markets".

4. MAJOR BOTTLENECKS TO AGRICULTURAL GROWTH AND DEVELOPMENT

4.1 It has been mentioned that in the past decade considerable changes have taken place in the agricultural sector of most Caribbean countries. On the one hand preferential terms of trade of traditional exports have been reduced, on the other higher incomes and the development of the tourism sector have resulted in a strong demand for high quality and processed foods. A considerable proportion of this demand has been satisfied from extra regional imports and the sub-region as a whole has lost ground on its traditional agricultural exports without seizing opportunities in what might be non-traditional, more processed food or import substitutes.

4.2 Evidence collected in the analysis of the case studies on rural development initiatives carried out by the private sector confirms the existence of a number of bottlenecks at policy, technical and institutional level which if removed could greatly contribute to improve the incentive framework for OECS agriculture. Most critical aspects are summarized below. Details are found in Annexes 1 to 6.

A. Production, Post Harvest and Agro -Processing

4.3 The small and fragmented nature of most farm units appears as a constraint to investment in agricultural production at farm level. Farmers are generally old, and agricultural work is not appealing to the young generation[3] with construction, industries and the tourism sector offering higher wages than working in farms. There is a pervasive problem of predial larceny which is a major deterrent to farming as thieves have been known to remove a full crop overnight and farmers cannot afford 24 hours security unless they have a large area under production.

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1 The agricultural diversification programme initiated in Dominica since the mid 1980s also with the assistance of a WB funded Agricultural rehabilitation and Crop Diversification Project, has not created the desired impact. The programme has been plagued with problems related to both production and marketing and agro-industrial activities have remained stagnant.

2 Source: FAOSTAT.

3 It is argued that business-like-ran/capital-intensive agricultural activities could perhaps be more attractive to young people to be involved with.

4.4 Availability of labour for agriculture, its high cost and generally low productivity are important constraints to the development of a modern, competitive and efficient agricultural sector.

The Labour Issue

The production levels of Sea Island cotton, a particularly high quality and highly demanded type of cotton traditionally produced in Antigua, have declined significantly. In the 1950's there were approximately 5,000 acres of Sea Island cotton planted in Antigua. Today only about 200 acres remain, with most of the output being sold to Japan. The main constraint and reason for the demise of Sea Island cotton production has been insufficient availability/high cost of farm labour. Most farmers are old (i.e. 45 years of age or older), and agricultural work does not seem to be attractive to younger people, when compared to other sectors. Immigrants now harvest most of the cotton. The cost of farm labour is approximately US $20-30 per day, depending on the task.

4.5 In St. Kitts, sugarcane production and sugar manufacturing has been in the total control of government. There is very little non-sugar agriculture and small farmers lack the ability and the resources to deal on their own, without government or other external assistance, with the evolving conditions and changing demands of highly dynamic markets like those catering to the tourism sector. Small farmers may be currently perceived as a social welfare case rather than a productive/commercial sector of the economy. This may not be true however in the case of commercial larger scale ventures where farmers have adequate technical assistance and a remunerative and stable market for their produce.

A Role for Commercial Ventures

There is one example of a larger (200 acres) commercial operation – Montpellier Farms – in Antigua, which produces vegetables largely for export to the United Kingdom and the United States. It is a foreign owned business which was granted a long-term lease on the land and duty free concessions by the Government. It is a highly technical and capital intensive operation using the latest farming technology (controlled environment, drip irrigation…) and equipment. It even has its own desalination plant to overcome water availability constraints. The existence of such an enterprise may suggest that capital intensive operations may be financially viable and competitive on the international market.

4.6 In most countries agricultural production is predominantly a multi cropping system which makes difficult the introduction of new technologies if the cropping pattern is not radically changed. This requires new investments which need to be closely accompanied by **the availability of appropriate technologies**. This is particularly evident when after hurricanes or other natural disasters; the rehabilitation process is to be assisted by meaningful policies and services with a medium to long term vision of the role of agriculture based on comparative advantages in value added products. There are cases where propagation material is not sufficiently available to satisfy the needs of the farmers wanting to replant their fields and this leads to severe time delays and may causes food security problems. Direct importation of seedlings by farmers is sometimes prohibitively expensive.

4.7 Local agro-industry is constrained by the insufficient and/or **unreliable supply of raw materials, the high cost of packaging supplies which are almost all imported and high utility rates**. Some sub-sectors like the banana industry have been granted import-duty concessions. In other cases such as the packing materials imported by the hucksters and agro-processors, import duties have to be paid for equipment and materials. Most agro-processors are cottage type operations that cannot independently afford the investment required to improve/expand their operations. Most production is planned according to special demand of target dates during the year (December holidays, Carnival).

Cyclical Production Pattern

Demand for food products in Antigua fluctuates to a large extent according to the cycle of tourist arrivals. During the high tourist season demand for certain food products (e.g. eggs) increases, and it decreases during the low tourist season. When perishable products with longer production cycles do not have suitable storage options and alternative market outlets, such as exports or agro industry, producers are forced to programme their production in terms of lowest level of demand during the year. As a result of this, even when products are produced locally they are not sufficient to meet the demand during the high tourist season and are thus still imported.

B. Support Services and Infrastructure

4.8 **Public sector institutions** and the various **cooperative associations** responsible for bananas, cocoa, nutmeg and other industrial crops were set up during an historical period dominated by export crops, when agriculture was the mainstay of the economy. They had main responsibility for ensuring a guaranteed outlet for the main products at reasonable prices and maximise revenues to government from export taxes. During time these associations had become subject to political pressure and had lost efficiency and effectiveness in providing services to growers at a competitive cost. Some of them have been restructured and privatized but still may lack the flexibility and institutional capacity to service the needs of a modern, rapidly changing, high technology agriculture.

4.9 The absence of **farmers' organisations, whether public or private,** makes it very difficult to mobilize local stakeholders to surmount problems within the community. There is also a lack of community spirit in some villages which prevents the poor from addressing problems collectively. The **educational systems** are not geared to upgrading the existing workforce to respond quickly to changes in trade and technological requirements. The incremental supply of skilled and educated human resources is inadequate for attracting any potential new investors looking for sources of cheaper skilled labour.

4.10 The **institutional arrangements for dealing with production, post harvest and processing services** and facilities are inadequate and do not respond to the potential needs of the sector. In particular they do not appear adequate to take into account the inter-sectorial linkages (environment, natural resources management, tourism) that are characteristic of the small island economy. A too high degree of government influence remains with respect to issues that affect the agricultural/rural sector. For instance in the market for land, the marketing of agricultural products, the importing of agricultural inputs.

4.11 There is poor **information** gathering and analysis both for planning and for more practical farm level use. The database on non-traditional crops is deficient and unreliable and very little is known about acreage under cultivation, costs of production, optimum production mix, marketing margins, product flow and seasonality.

4.12 Access to information and availability of up-to-date **technical knowledge** concerning most appropriate technologies at the level of crop production, post harvest, agro processing, quality standards, sourcing of appropriate equipment and marketing is reported as one of the main constraints to modernization of the production systems and to the uptake of new technologies. It acts as a strong disincentive to perspective investors in the development of new farm enterprises or agro processing industries.

Extension Systems and Information and Communication Technology (ICT)[1]

The evolution of the extension systems in the OECS can be divided into three periods: the first during the plantation agriculture up to the 60s; the second in the period of small scale subsistence/commercial farmers after the 70s; and the third with the emergence of small-scale commercial farmers. During the plantation period, Research and Extension needs were addressed by Commodities Associations, Ministries through the public sector extension systems and the University of the West Indies (UWI) through its Regional Research Center and national desks. In the early 70s with the changes taking place in plantation agriculture and small farmers taking over production for exports, Communications Units were set up in the Ministries and Commodity Associations. UWI organised training courses for extension agents who generally adopted demonstration and group meetings approach to extension. With commercial small scale farmers, extension organisations have developed demand driven and participatory extension also with the assistance of farmers associations.[2] *In the 90s the Continuing Education Programme in Agricultural Technology (CEPAT) of the UWI began its outreach programme targeting farmers and extension officers. CEPAT, the Caribbean Agricultural and Development Institute (CARDI), IICA have all got into ICT offering courses and workshops to Ministries of Agriculture on web based connections to access information. Such approach however has not proved easy to develop because of the low level of literacy of end users and limited access to means of communication in certain rural areas. There is the need of a policy framework for the introduction of ICT technologies to address issues of resources to maintain the ICT systems, how farmers would access ICT, the upward and downward generation of information, the coordination needed for an information clearing network*

4.13 The potential influence of appropriate forms of ICT dissemination of information for improved practices and management strategies in a timely way can be a determinant of whether new investment in the productive sectors in the rural areas will be able to remain competitive and sustainable[3].

4.14 **Inter-island transport** and boat connections are difficult and complicate export arrangements. There is lack of appropriate vessel capacity, particularly for perishable products, and routes and routes schedules for efficient inter-island trade. Inadequate shipping arrangements are a major constraint to broadening market options for agricultural products especially for those countries like Dominica that have a history and comparative advantages for exports of fresh produce.

4.15 **Access to natural resources and infrastructure support services** remains a binding constraint in rural areas. Access to and management of water, including potable water, poor transportation systems and communication links, lack of access to information and inadequate electricity supplies limit possibilities for non-agricultural activities in certain communities. Weak social infrastructure (e.g. day-care and pre-school facilities) prevents poorer family members, in particular women, from participation in the labour market and in training.

4.16 The **continued seasonal dependence on irrigation water** remains one of the most critical constraints preventing farmers and rural entrepreneurs from establishing a more dynamic system of production and marketing. For some islands in particular (Antigua), water availability during the dry season is a major technical constraint to crop and livestock production. A significant portion of the water used for agriculture during the dry season is desalinated water mainly for the use of human consumption.

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1 Source: D. Campbell – Paper presented at the Wageningen ICT observatory for ACP Agricultural Development, September 2003.

2 Agency for Rural Transformation in Grenada (ART), National Farmers Union (NFU) and Windward Farmers Association (WINFA) in St. Vincent, National Farmers Association (NFA) in St. Lucia, National Farmers Union (NFU) in Dominica.

3 Actually the OECS Secretariat has embarked on the Telecommunications Reform and Modernization Project to address the number of deficiencies that were identified in the ICT in the sub-region. An Eastern Caribbean Telecommunication Authority (ECTEL) offers a platform for information services.

4.17 The **land tenure pattern** has its origin in the legacy of the colonial system where the majority of the land was owned by a few landowners who used it for plantation crops, mainly sugar cane and later bananas. Food crops were and continue to be mostly cultivated on often marginal lands and in the case of countries with rugged topography on sometimes steep hillsides. Generally these lands are difficult to manage and productivity is low.

4.18 "Insecure" land tenure limits the willingness of farmers to make longer term investments and their ability to access credit from commercial banks due to lack of collateral. Although there are established mechanisms to provide land to farmers on rent or lease, evidence from the case studies suggest that these may not be providing enough assurance to farmers for long term investments. In St. Kitts upon the foreseen end to the manufacturing of sugar in 2005, land use planning and land administration issues must come to the forefront of the government's agenda with respect to the agricultural/rural sector as most of the agricultural land in the island is government-owned and currently planted with sugarcane.

4.19 The land tenure systems and fragmentation and small farm size has an impact on environmental and land management practices. There is little institutional capacity to deal with **land resources management** on the basis of agreed land use and zoning plans and no major plans have been designed to deal with the problem of banana lands now left idle and which are not suitable for annual crops for their location on sloping lands or otherwise subject to erosion[1].

Issues on Land Management

"…food production by small farms on marginal lands and without the support structure afforded to export agriculture….small farmers developing a high degree of autonomy without proper regard for concerns regarding deforestation, erosion and soil conservation impacting negatively on the environmental basis …planting on steep hillsides.…expanding into forested areas contributing to soil erosion and land loss, reduced water flows and sedimentation…continued leaching of chemical fertilizers into rivers and streams…degradation of sensitive environmental areas….in situation of scarce resources (investment in agriculture has been marginal)… the focus on tourism has resulted in a general rise in the prices of all land….in several cases farmers with such (ridges and hilltops with panoramic landscapes) became real estate dealers and land is lost to agricultural production…in some of the countries, notably Grenada and St. Lucia prime agricultural land has been lost to roads, village expansion, manufacturing, housing and urban activities. At the same time cultivation takes place in unsuitable areas[2].

4.20 Land tenure issues have not been addressed sufficiently enough to enable a more commercial agriculture; for example in St Lucia a land policy has been drafted but never implemented; conversely land tenure campaigns such as "Land for the landless" have actually resulted in a major impediment to commercial agriculture because the productive land was split in even smaller parts. Land is kept by the older generations as security for retirement even if it is underutilized.

4.21 The agricultural sector lack attractiveness to the **younger generations** when alternative opportunities are available in the service or tourism sectors. The labour intensive small farming systems do not offer adequate economic incentives for young people and the overall social preference is for jobs outside agriculture. Farmers sending their children to school steer them away from becoming agro-entrepreneurs.

[1] In March 2001 the Eastern Caribbean States signed the "St. George's declaration" on environmental management by OECS members calling for a consolidated, legal institutional and regulatory framework for environmental management in the sub-region.

[2] Source: Dr. Winston Phillips: Agriculture, Tourism and Sustainable Development in Small Island States of the Caribbean.

4.22 Governments often subsidize the **agricultural inputs** which are used by farmers' associations (e.g. nutmeg associations). Very rarely individual farmers can benefit of the same facility. In any case Government involvement in the supply of subsidized imported inputs plays against the small or medium size retailers who are unable to compete and establish themselves on the market.

4.23 **Agro-tourism** has the potential to be developed in many locations in rural areas, as a strategic economic activity. However there are issues to be assessed and which concern the natural resource base of the small islands systems, its capacity to accommodate visitors at no cost to the ecosystems and mainly to the good agricultural lands and the national food security strategies.

4.24 St. Lucia for example is very optimistic in terms of its tourism potential; there are still many areas of the industry that are underdeveloped and significant potential untapped in niche markets such as health, sports, special events, heritage and eco-tourism. Building diversity requires an integrated approach in a small-island context with spatial, physical, human and financial resource limitations and there is a clear need for government to intermediate between public and private interests to prevent any negative impact to the resource base resulting from unregulated tourism growth, poor agricultural practices and inadequate waste water management.

5. COMPARATIVE ADVANTAGES AND POTENTIAL FOR AGRICULTURAL GROWTH

The Overall Framework

5.2 The agricultural sector has been of critical importance to the development of the OECS countries for its contribution to national income, employment, exports. It has entered in a crisis in most recent years because of factors affecting the international trade environment and of domestic policies which have not given priority to adjustments necessary to promote increased productivity of both traditional and non traditional agriculture. There are two dimensions of the problem. The international and regional trade dimension…

- *The process of trade liberalization and the WTO policy agenda which in the absence of any changes will modify the quota regime and preferential prices for a number of tropical crop exports - in the specific case bananas - as sugar is basically going out of production in St. Kitts and Nevis the only remaining OECS producer;*
- *The institutional and technical capacity of the OECS countries to adopt measures to cope with the increasing safety and quality requirements for products to be exported, especially with the introduction of the Hazard Analysis Critical Control Point (HACCP) programs and more recently with legislation on certification of origin[1]; and*

- *The effective implementation of the regional market and of the preferential arrangements that regional producers should enjoy by their participation in the CARICOM which is expected to be fully operational by end 2005.*

…which is outside the scope of this paper and the sub regional and national policies now under review by the OECS policy makers. The following sections of the report concentrate on this latter

[1] There are two CARICOM agencies one at early stage of development CROSQ (Caribbean regional Organization for Standards and Quality) and another one CAHFSA (Caribbean Agricultural Health and Food Safety Agency) already established that should be the core of CARICOM's policy on food quality and safety standards.

dimension, focussing on selected development experiences as a basis for identifying strategic priorities for OECS agricultural policy discussions.

Lessons from the Case Studies on Rural Investments

5.3 The particular features that characterize the investments made by private entrepreneurs and the type of projects which have been implemented may be useful to draw lessons[1] that could stimulate discussion on alternative agriculture/rural development strategies focussing on those specific sub-sectors where OECS agriculture may have a comparative advantage. The intention is to contribute to the ongoing debate on the future of agriculture in the sub-region and assist in drawing up some preliminary conclusions on the way forward. Details on each individual case are given in Annex 1-6.

A community based approach may be necessary to build up local capacity and in particular a trust relation between individuals and communities and service providers

5.4 Although there appears to be sometimes a cultural reluctance of farmers to organize in groups, there are indications that farmers may respond well to certain levels of organization as a mechanism for volume (and lower cost) input purchasing, technology transfer and sharing and product marketing. There are interesting examples of such initiatives working well and with good prospects for sustainability. Some of them and perhaps the most useful as replicable models are those involving alliances with hotels and the tourism trade like the St. Lucia experience with Sandals Resorts International (Eastern Caribbean), an example of the value of introducing producers/markets alliances in the rural environment:

Linking Agriculture to Tourism: Sandals Hotels Experience

The agricultural programme was initiated by Sandals Resort International (SRI) in 2002. The objective was to forge a greater alliance with the agricultural sector and local farmers (avoiding the middle men) to create a win-win situation both for the Sandals cooperation's as well as for the St. Lucian economy. Three Sandals Resorts, including Sandals Regency, Sandals Halcyon and Sandals Grande started to purchase agricultural produce from the local market instead of importing fresh fruits and vegetables. These crops are mostly, water melons, squash zucchini, cantaloupe, honeydew, green bell peppers, cilantro, parsley, pineapple and tomatoes (cherry and bulk). At project start, in 2002, Sandals hired an Agricultural Officer, who was working at that time for the Ministry of Agriculture. Interested farmers were screened and trained on the quality requirement of the Sandals chain. Farmers who were able to match the criteria were registered and could immediately or after a short transition period provide agricultural produce to Sandals resorts. One of the most important criteria is the "traceability"[2] of produce. In the beginning, there were already over 30 registered suppliers as qualified farmers of which almost 15 farmers were immediately providing commodities on a regular basis; within a very short time, the Sandals chain could build up a pool of reliable farmers providing fruits and vegetables on a regular basis. To date, of the approximately 120 registered farmers, 70% are women; Sandals also works with 2 cooperatives; both cooperatives were very efficient in purchasing goods from smaller scale farmers and selling them in bulk to SRI. Over the last 6 months, one cooperative, however, ceased its delivery due to internal management problems. According to data collected by the Ministry of Agriculture total value of purchases in 2003 was EC $1.3 million (US$ 0.5 million) for about 350 tons of agricultural produce.

5.5 Other examples of successful farmers' associations with hotels can be found in St. Kitts (Marriot Resort) and Nevis (Four Seasons Resort). Both initiatives have been heavily supported from the very beginning by CARDI and the Ministry of Agriculture and the Caribbean

[1] It is not pretended that the case studies would be necessarily representative of the majority of situations in the Islands nor that in the medium term these latter would not encounter problems of sustainability or else. The case studies are conversely representative of particular situations where local investors have been able to exploit emerging market opportunities.

[2] Traceability means the commodity can be followed from the producer to the final consumer.

Agricultural and Rural Development Advisory and Training Service (CARDATS) project; in particular, in terms of financial management, cold storage, marketing, and also, by restricting imports of certain vegetable products in selected occasions.

Producers' Groups in St. Kitts

The business relationship between the Four Seasons Resort and a group of vegetable growers dates back to eight months before the opening of the Resort, when an Officer from the Caribbean Agricultural Rural Development Advisory and Training Service (CARDATS) and the Chief Extension Officer of the Division of Agriculture, met with the Resort's manager to explore the possibilities of the hotel buying local produce.
After the initial discussions with the hotel's management team, a Task Force that included the Chief Extension Officer, the Small Farm Equipment Manager, two Extension Officers and a Representative of the Farmers and the CARDATS County Officer, who coordinated it, was established. The main responsibilities of the Task Force were to: (i) increase vegetable production; (ii) plan and organize vegetable production to avoid supply gluts or supply deficiencies; (iii) facilitate the dialogue between the Resort, the Task Force and the farmers; (iv) ensure that seeds and seedlings were readily available to farmers; (v) transfer technical information on production to the farmers; and (vi) consolidate a crop forecasting approach to regulate the importation of vegetables.
After several meetings between the Task Force and the farmers to discuss crop scheduling and production technology, a planting schedule was defined, target quantities were established and farmers with preferences for particular crops were assigned planting dates and acreages. From the range of products demanded by the hotel, six vegetables were selected for production by the farmers, mainly based on their abilities and knowledge to produce these crops. The selected products were: tomatoes, sweet pepper, watermelon, cantaloupe, cucumber and lettuce. That list of products is now much more extensive.

5.6 Alliances between hotels and farmers' cooperatives with professional paid management have had a relative degree of success as in St. Lucia, with a vegetables and fruit marketing and input supply cooperative, in St. Kitts with the Beekeepers Cooperative Society and in Dominica with the Essential Oil and Spices Cooperative Society (DEOSCoop) established in 1968.

DEOSCoop

The DEOSCoop is basically a marketing organization. Members have an approximate 300 acres of land planted with bay trees with average farm size of about 1 acre. DEOSCoop buys bay oil from its members and takes care of its marketing. In addition it also provides paid distillation services to members that do not have their own distillation equipment. Members are paid for their bay oil upon *delivery throughout the year and then paid a bonus at the end of the year. The DEOSCoop also provides advanced payments to members to finance their harvest. Funds retained by the DEOSCoop are also used to provide other services, such as purchasing school textbooks for the members' children, donations upon the death of a family member, etc.*

5.7 On the other side of the scale and not necessarily on the same tune there are examples of private sector associations that seem to be working well with no support from the Government or private sector. One of these is the Dominica Hucksters Association who is involved in the marketing of non-traditional products mainly in the regional market. Membership has ranged from 400 to 200 and has declined due to tighter supply and availability of the produce. The Association was formed in 1995 and members are involved in a two-way trade exporting produce and importing a range of food and non-food items with regional markets such as St. Maarten, Martinique and Guadeloupe.

The Dominica Hucksters Association

Hucksters place orders with local farmers on a Friday for delivery the following week. These orders will identify the product to be procured, the price to be paid and the volumes to be collected. Prices are negotiated between the individual huckster and the farmer and vary with conditions in the regional market. In general, each huckster has a well-defined clientele with whom he/she trades and maintains informal "contracts" with these suppliers. Hucksters in many cases obtain credit (of up to 1 week) from farmers but cash transactions are also undertaken. Hucksters do not, except in special circumstances, harvest the produce purchased but they do provide their own transportation from the farm gate, particularly when supplies are tight. Produce is transported from the farm gate to the home of the hucksters or to the Huckster's Association buildings in Portsmouth or Roseau where the produce is graded and packed. Produce is subsequently moved by truck to shipping points in Roseau, Portsmouth and Ansedemas. Phytosanitary certificates are also issued at these export positions.
Hucksters arrange their own overseas transportation and many have ongoing business relationships with the captains of specific vessels and may be able to negotiate transportation on credit. The Dominica Hucksters Association has a number of agents in the regional markets that facilitate the clearance of produce at the destination port. Title changes to the shipping agents once the produce is loaded onto the vessel. In most cases the Hucksters accompany their produce on the vessel to the destination market.

Successful Initiatives Respond to Clear and Well Defined Market Opportunities

5.8 There are clear market opportunities with respect to demand for agricultural products by the tourism sector and more specifically for locally produced fruits and vegetables. There appears to be a good market for fish products and for fresh meat for the local population. Local fresh products seem to be generally preferred to the imported product, both by restaurants and hotels and the local population, even if sometimes (but not necessarily) they are more expensive and difficult to obtain.

5.9 In fisheries good examples exist for mixed forms of fisheries exploitation with chartering boats for tourism (Antigua) and there could possibly be more local investors interested if there were some more facilities available in terms of specialized training, availability of dedicated credit lines for purchase of boats and equipment. There is demand from hotels for fresh fish products during the tourist season but there is concern that unregulated fishing activities may harm the sustainability of commercial fishing over the medium-long term.

5.10 In Antigua there are examples of poultry/mixed farms/aquaculture operations. Some of them have doubtful economic viability (poultry, mixed farms) with possibilities for expansion limited by availability of land, high cost of water, high operating costs. Aquaculture seems to have some potential as there is growing demand for aquaculture fish (e.g.Tilapia) mainly from hotels and restaurants. There is to be more supportive policies for start up business including access to financing, facilities to import equipment and raw materials.

5.11 Progressive young farmers have invested in vegetable production farms with commercial orientation and there are plans for expanding activities with new product lines for deep frozen vegetables for the OECS market. In these cases there appears to be the need for better management training, technical information on processing, quality standards, packaging, and business contacts with import/export companies.

5.12 Organic products seem to offer good opportunities for profitable investments if the appropriate technology and project size are identified. In Grenada, a company for organic chocolate production has started the business by first identifying its own requirements in terms of appropriate equipment and then on this basis, developing a custom made set of small scale

chocolate making machines using cheap material and second hand equipment (see also para. 125). About 80% of the chocolate is sold on the local market mostly through supermarkets. It can also be purchased through the internet and through salesmen in the USA and UK.

The Grenada Chocolate Company

The Grenada Chocolate Company Ltd. was founded in 1999, producing high quality organic dark chocolate. The company has its own organic 100 acre cocoa farm, which assures them a level of production security, at every activity involved in the production of the chocolate, from the planting and growing of the cocoa trees to the processing of the fine dark chocolate is performed by the company. The cocoa beans are grown on a 100% natural base without the use of any chemical pesticides, herbicides or fertilizers and have been certified organic. All products and certified according to the USDA-NOP[1] rules. The company is run as a cooperative, which includes the founding members. All employees are paid on a similar salary level and have shares in the company. All inputs used for the production come from Grenada, except the organic sugar which comes from Uruguay. Since 1999, the following product lines have been established: Organic Chocolate bars, Sweety Pods Organic Chocolate pieces in the shape of cocoa pods, Smilo Organic Cocoa Tea (cocoa powder), chocolate ice-creams, 100% pure Organic Cocoa Butter which is mostly used as a skin lotion[2].

5.13 Always in Grenada another producer specialized in organic fruits, vegetables and fruit juices claims that there are good opportunities for expanding business provided quality is maintained to acceptable standards, and that he could increase substantially his sales to local hotels and exports to the US, Bahamas, the Cayman Islands and Trinidad if he had more fruit available. In St. Vincent a farm specialized in Natural Products works with approximately 100 farmers employing four staff in the processing plant. Changes in the lifestyle of participating farmers have been observed with most of them benefiting from a more regular and higher income due to a secure market outlet.

The Ministries of Agriculture have played an important role in assisting small producer groups to identify, develop and manage "successful' commercial initiatives, as well as to provide them with some ad hoc fiscal or other type of concessions. External technical assistance has played a key role in most cases.

5.14 For new ventures, the support from the Ministry of Agriculture in terms of access to land, structured promotion efforts, publicity campaigns, trade shows is of critical importance. It is also essential to bridge the communication gap between ministry, agro-processors, extension officers and farmers. An external influence (technical know-how or the exposure to a new idea by outside agencies, volunteers, individuals interested in the particular business that help in identifying a market opportunity) seem to be in most cases, the enabling factor for successful new investments. In a few cases, entrepreneurs did background searching on production methods and quality standards on internet. In other cases investors went through the intricacies of the trade by trial and error like the St. Kitts Beekepers Cooperative, the Giraudl Flower Group and the Benjo's Seamoss and Agro Processing Company in Dominica, the Noelville Nutmeg Oil Processing in Grenada and the Tropical Nature Products Company in St. Vincent.

The Importance of Good Infrastructure, Services and Availability of Skilled Labour Force

5.15 St. Lucia's leading revenue producers - agriculture, tourism and small scale manufacturing - benefited from Government investments in roads, communications, water supply, irrigation infrastructure (this latter the main problem of the flower growers in Dominica), sewerage and port facilities. Foreign investors have also been attracted by the availability of

[1] Organic Certification issued by the United States Department of Agriculture

[2] See para. 2.33 for prospects for cocoa production in Grenada.

skilled and educated work force. In many OECS states there are issues concerning lack of essential services (communication and transport, better access to water) that seem to be posing a problem any time private investment faces the need for expanding business and scaling up activities to an economic size. Assistance on quality standards and promotion of brand labels is essential. One of the major challenges in rural areas is the low level of education: with the introduction of new quality and safety standards, farmers face increasing problems in understanding the basic requirements they have to match.

Availability of equipment, inputs and supplies at a reasonable price, of appropriate technologies and know-how and credit facilities are essential prerequisites to promote investment in the rural areas.

5.16 Availability of inputs and supplies including packaging materials and utility rates (energy, transport costs) at reasonable prices or at least comparable to those of the competition abroad is an essential incentive to private sector investors[1]. Obtaining loans from banks may be sometimes too expensive for entrepreneurs wishing to start a new industry. There seems to be no common and transparent policy regarding import duties and taxation of supplies for agro-industrial use.

5.17 In a few cases one important factor for success has been the ability of the investor to adapt available technological processes to the level compatible with the size of the business. "*Available equipment for manufacturing high quality chocolate although not impossibly complicated was scaled for big companies but making production prohibitively expensive for developing countries. The same problems related to sourcing of appropriate technology and equipment has been highlighted in St. Vincent by a company producing bottled fresh water. There is a tendency for investors in agro-processing to purchase equipment not adapted to the scale of business in the islands and this leads to underutilization of machinery and high production costs".*

5.18 For potential investors identifying appropriate technologies and procuring the right equipment is a problem. In St. Vincent there are the CABA (Caribbean Agri-business Association) associated to the Caribbean Agribusiness Association and the SEDU (Small and Medium Enterprise Development Unit) supported by Government and EU funding[2] with responsibility for assisting new business or entrepreneurs. Still these types of agencies do not seem to be geared to providing the detailed technical know-how needed by many of the new entrepreneurs/producers wishing to start non-traditional agricultural or agro-processing ventures or improve post harvest processes.

5.19 The possibility of establishing national or sub-regional "incubators" for agro-processors developing product lines, quality standards, labelling and packaging with brand names and clustering of innovative activities could be an option which would require some more detailed investigations.

Agro-Tourism Still has Untapped Potential

5.20 A successful example of agro-tourism projects that integrate local history, culture, natural resources, traditions and local cuisine can be found in Grenada. The Belmont estate, originally a coffee, sugarcane, cocoa, nutmeg and cotton plantation is now managed by a team of

[1] The import costs of bottles are sometimes the main constraint for small scale producers lacking capital and storage space for large supplies.

[2] It has the objective to help to create a business like culture and train trainers in agribusiness and management skills.

professional people employing 70 staff members and working with 300-400 people including farmers supplying vegetables and various other products.

The Belmont Estate

Opened as an attraction in 2002, Belmont provides visitors with leisure, entertaining and educational opportunity to experience rural Grenadian lifestyle. The estate offers tours to its heritage museum and old cemetery, visits to the plantation, insights into the transformation of raw cocoa beans into chocolate, and traditional cultural activities. Before the hurricane Ivan struck the island in 2004, they had 13,000 visitors throughout the year, including local tourists as well as and cruise ship passengers for half-day or day tours. It had a restaurant for 150 people, a tropical garden with a rich tropical flora, including mahogany trees, tropical flowers, fruit and spice trees, ruins of a 18th century sugarcane mill, tools and artefacts. It organized cultural events: visitors are provided with an opportunity to experience some of Grenada's traditional culture - African drumming and dancing, stick fighting, traditional games. The museum seeks to preserve the history of Belmont Estate and Grenada. It shows artefacts, antiques, furniture, photographs, documents, payroll ledgers and tools. There is also a rich assortment of personal and family memorabilia of former owners.

Creating a suitable environment to investments in the rural sector is of key strategic importance

5.21 Farmers and mainly small production units, in an environment where there are no functioning producers' associations or cooperatives find it difficult to increase farm production and productivity unless their operations are expanded to a larger scale to justify new investments. Such developments involving the acquisition or renting of additional land for farming operations need to be compatible with land use and environmental criteria. Hence the priority for improving land tenure and land administration to facilitate access to land and for well designed land use and land zoning plans to ensure an efficient and transparent land allocation process and smooth procedures for farmers and investors wishing to establish or expand agribusiness and agricultural operations. The same holds true for any other land based business like tourist resorts, commercial ventures, housing and constructions.

5.22 Creating a proper climate for investing in agriculture needs a) attention to availability of adequate financing and credit facilities, b) the possibility to provide fiscal incentives and concessions, c) the availability of an educated and skilled labour force and most important d) adequate technical support to new initiatives. The case studies have also highlighted the importance of events as trade shows and fairs for the promotion of local agro-processing industries and product markets. There are examples of companies (see Noelville Ltd in Grenada) that have found market outlets or partners through participation in trade shows arranged sometimes with participation by external donor agencies. Public support can play a relevant role in fostering the emergence of private business to capitalise on such events and promote and advertise local products and brand names at regional and international level.

6. THE FUTURE FOR AGRICULTURE

6.1 The challenges facing the agriculture, livestock, fisheries, and agribusiness sector indicate the need to pursue strategies aiming at increasing competitiveness and export diversification. This involves improving production efficiencies, seeking higher added value, product and market diversification, and adherence to international quality and safety standards.

6.2 Prospects can be analysed on the basis of two main aspects. The first one to assess whether **there is still a role for the traditional export crops** in face of the competition on the external markets from more efficient producers; and the second one focussing on the **future of small farmers agriculture**, its place in the economy of the OECS countries, market prospects for

the so called non-traditional diversification crops and livestock products, linkages with other rural sector activities and prospects for adding value with agro-processing and other industrial processes.

Export Crops

6.3 With respect to the banana industry available studies and information indicate that banana production in the OECS states is not competitive with more efficient Latin America producers and with the majority of Western Africa countries. There are three possible outcomes:

- The first one under the tariff scenario considered by the EU Commission, where some of the most efficient producers in the Windward Islands and Dominica could survive if productivity could be increased through investments in infrastructure, land consolidation and restructuring of the Banana Growers Associations;
- The second one in the event that the above tariff scenario would not materialize, where only producers exploiting niche markets (fair trade, organic bananas) and meeting specifications including traceability requirements and environmental and sanitary standards would be able to remain competitive; and
- The third which would lead to a progressive marginalization of the industry up to the point where only a few producers would remain supplying the local market and few other buyers for the ethnic markets overseas.

6.4 The three scenarios could possibly merge but the result would be in any case that the banana industry as traditionally intended in the OECS countries would slowly disappear. A recent FAO study[1] notes that although an increasing number of Caribbean producers are turning to organic production and fair trade, prospects are all the same not favourable. The premiums received by organic farmers are falling, prices are converging to those of conventional bananas, and the high rate of growth of demand for fair trade bananas is weakening. Whether or not a zero tariff preference continues to be granted to ACP countries, and regardless of the magnitude of the non preferential tariff, the prospects in the medium term are for a reduction of the export price for Caribbean bananas. Therefore it is probable that no small-scale Caribbean farmer will be able to compete unless they receive subsidies, add value to the produce through organic agriculture and deliver top quality products.

6.5 Cocoa and nutmeg have been analysed by a recent FAO study[2]. For cocoa which is mainly produced in Grenada, conclusions indicate that notwithstanding that Grenada cocoa is able to command a 20% higher price than mainstream cocoa because of its particular flavour and the recent strategy to add value in country by manufacturing dark chocolate and by positioning its production as “fair trade and/or organic”, the scope for large scale expansion is likely to be limited as the product is relatively high cost and the size of the market for such products likely to be limited. There are also problems related to the organization of the sector which seems to limit the possibility of passing on to the producer the better prices that Grenada cocoa can fetch for its superior quality. In the case of nutmeg also mainly produced in Grenada, the increase in market prices and the anticipated short and medium term shortfall from Grenada may strengthen the competitive advantage of new entrants like India and Sri Lanka which are reportedly making significant investments in production and processing and have cheaper labour costs. Even for nutmeg it will be therefore important to add value to the nutmeg crop looking for derived products and/or niche markets to obtain better prices and remain in the market. A project for the rehabilitation and modernisation of the nutmeg industry has been identified[3] including replanting

[1] The World Banana Economy 1985-2002.
[2] Grenada, Rehabilitation of the Agricultural Sector, TCP/RLA/3012.
[3] FAO TCP/RLA/3012 Project Report o.c.

and improved processing. The modernisation of the GCNA[1] administrative structures, a review of its mandate, a rationalisation of staffing and financial restructuring would be essential components of the project.

6.6 In St. Kitts sugarcane and sugar production will very likely, be phased out after the upcoming 2005 harvest and the Government is carefully analysing what could be the main elements of a possible exit strategy. Options for leaving some sugarcane production for developing alternative sugarcane uses are also being considered.

Small Farmers

6.7 It has been mentioned that OECS agriculture is characterized by the following features:

- The contribution of agriculture to GDP is relatively small - from 3 to 10% with the exception of Dominica at 18%;
- The agricultural population is around 20% of the total and the trend is downwards;
- Agricultural exports as percentage of total exports are decreasing;
- Production of main food crops has remained stagnant and diversification efforts have not been successful;
- Farms are small and fragmented, farmers are old, the young generation is not interested by agricultural activities, agricultural labour is scarce, expensive and its productivity is low. Predial larceny is a problem; and
- There are differentiated markets for crops, livestock and fishery products: on the one side the demand for high quality products from the export and tourism markets satisfied mostly by imports and on the other, the demand by the local population for average standard foodstuffs which for the time being is by and large supplied by local products.

6.8 From the above it follows that should the trend of the main variables continue unchallenged, it is probable that in the medium term, agriculture might continue to loose ground both in terms of its participation to the economic value added, to employment generation and to exports and that increasing imports of foodstuffs will be required to satisfy not only the tourism trade but also demand by local population. This will have profound impacts on the social structures, on the economy, on the management of natural resources and on the food security of all the OECS countries.

6.9 Possible coping strategies have already been identified and discussed in a number of high level meetings of CARICOM and OECS countries representatives as reported earlier in this text. Additional remarks can nevertheless be made based on some observations drawn from the case studies. A few premises:

- The uncertainties regarding arrangements for the traditional export markets and falling prices have not only resulted in the progressive declining production of most of the export crops but have also undermined the confidence of farmers in agriculture as a profitable business and a means to ensure livelihood and a future for the farm family. The disaffection of the young generation for farming is a reflection of all this.
- Although there is a high percentage of unemployed people, few of them are disposed to go back to agriculture which can only offer lower salaries than competing jobs in construction, industries, the tourism and informal sectors.
- The increasingly stringent marketing standards and buyers' quality and volume requirements for the local and export markets require capacities at public and private

[1] Grenada Cooperative Nutmeg Association.

sector levels that have yet to be developed. The private sector characterized by the small size of the farm units, irregular and small volumes of agricultural products for sale and the low level of education of farmers finds it extremely difficult to enter these markets at competitive levels.

- The agricultural sector of the OECS countries continues to be important but will nevertheless be limited both in absolute and relative terms because of the small and vulnerable characteristics of the countries, their limited natural resource base and limited possibilities to achieve substantial economies of scale in the production of any given commodity for the export market.

6.10 The above premises suggest that for small farmers agriculture to have a role in the OECS countries, attention should be given to those structural reforms that could facilitate the emergence of new forms of agricultural exploitations which would be linked to markets in productive alliances, would be able to offer producers some guarantees of remunerative price levels, and would be able to pay to workers salaries which could offer an incentive for labour to go back to agriculture. At small farmers' level, agriculture should be seen in a multifunctional context with progressive farmers educated to invest in new opportunities, interested in sound land management as a way to maintain property values, the production of good quality foodstuffs for the domestic market, agro-tourism, niche products for export and the tourist trade, on farm processed products and other agricultural related business.

6.11 The case studies analysed indicate that transformation of the OECS agriculture could be facilitated by focussing attention on:

- Promoting **a community/farmers' groups based approach** to agricultural development to build up local capacity, integrate farms into production chains and increase the scale of operations to levels compatible with perspective volume of sales and future demand. This implies promoting producer associations and/or cooperatives and **productive alliances with hotels** (see the Sandals experience), **supermarkets and buyers overseas** as a fundamental premise to any development and then work with the farmers groups for extension, technology transfer and improved post harvest and marketing mechanisms.

- Evidence shows that there exist progressive farmers and entrepreneurs who responding to market opportunities, are able to build successful farming or agro-processing ventures. Most of these have been entering new markets by a trial-and-error process for the lack of supporting structure and technological know how. The importance of **identifying new formulas for providing adequate information and technological support to progressive farmers and entrepreneurs** has been underlined in a number of instances but so far little success has been achieved for the difficulty of reaching a sporadic and scattered demand with cost effective and sustainable institutional mechanisms. Still attempts should perhaps be pursued by strengthening ongoing efforts trough new approaches to ICT networks and accompanying these with adequate local support.

- The various departments of the Ministries of Agriculture have played a key supporting role in **assisting small producers groups to identify, develop and manage commercial initiatives** including providing fiscal and other types of concessions. It is nevertheless debatable whether public institutions should be involved in such detailed management of private sector business or whether this kind of support should better be left to private or para-statal agencies with functions similar to those of the St. Lucia Agricultural Diversification Agency, modified as needed. Public support of **structured promotion efforts, publicity campaigns, trade shows** appears conversely of major importance.

- Public intervention in providing **adequate infrastructure and services** in the rural areas is a precondition to mobilize private sector interest in investing in agricultural development. This includes **communications and transport, access to irrigation and potable water supplies, electricity, agricultural information systems, agricultural insurance, the setting up of a simple and operational system for food quality and safety controls** but it also includes attention in providing better **education facilities** in the rural areas with particular regard to **agricultural schools** with adequately revised curricula.

- In line with the above, **the work programmes of the Ministries of Agriculture should be reviewed so as to increase their effectiveness in delivering services** (extension, research…), to focus on land policies and zoning and on strengthening farmers' associations or groups or cooperatives in view of attaining economies of scale and sponsoring production alliances with hotels, supermarkets and agro processors.

- Land issues are important. In several cases access to land has been reported to involve a cumbersome and lengthy process. **Land zoning, improved land tenure systems, transparent land administration and accessibility to land** by farmers and entrepreneurs should be of particular concern to public authorities.

- The technical and economic feasibility to establish national or sub-regional **"incubators**" for agro-processors developing specific **adaptable technology**, **product lines**, **quality standards, labelling and packaging with brand names** and **clustering of specialized activities** should be the subject of closer investigations. There are problems of availability of proper equipment, input and supplies at a reasonable cost and of appropriate technologies that require priority attention at sub regional level.

- **The potential for agro-tourism is still to be adequately developed.** Perhaps experiences from overseas and especially Europe could be instrumental in identifying promising new opportunities by **linking agro tourism to marketing of local products, brand names.** The possibility to link to networks in Europe, of agro-tourism associated with local marketing of typical or ethnic products could be investigated.

The Way Forward

6.12 Historically, agriculture has been seen in the OECS countries as a means of production and its value assessed on the basis of the income which farmers could make from the exports of a few crops in protected markets. *The dependency on a few crops acting as a disincentive for any initiative involving the up-taking of more flexible cropping patterns, diversification and technological improvements.* This framework has changed and the value of agriculture and its role in the context of the future development of OECS countries needs to be viewed not only in terms of the contribution to GDP but also in terms of the externalities it can provide which include food security, environmental protection, sustainable exploitation of the tourist trade and related opportunities, community development and maintenance of the rural landscape and rural traditions, management of lands and watersheds.

6.13 Because of the limited resource basis and the number of constraints which have been mentioned earlier in this text, strong **OECS Governments support of the agricultural sector may therefore be justified not as much in terms of the possibilities of increased agricultural production which will hardly ever be competitive with imported products but mainly for its value in building up a minimum food security net and for the benefits that a multifunctional**

role of OECS agriculture can bring about in maintaining the vitality of rural communities (through maintenance of family farming, rural employment and cultural heritage), biological diversity, recreation and tourism, soil and water health, bio energy, food quality and safety, and animal welfare.

6.14 For this transition from a merely productive to a multifunctional role of agriculture to take place it has been suggested that proper attention by the public sector should be given to:

- **supportive policies:** i) **to create a proper incentive and regulatory framework** for the private sector to invest in agriculture and in other sectors of the economy which are important to agriculture development (e.g. shipping, transport**);** ii) to improve the **effectiveness of agricultural institutions;** and iii) to give priority to the necessary **infrastructure and services;** and

- improving the economic environment in which farmers operate through **capacity building, development of social capital, education, promotion of community approaches and farmers' associations with the market through productive alliances supported by efficient agricultural services.**

6.15 A model to transform the agricultural sector through the adoption of a **commercial and industry led approach** has already been indicated by the OECS Secretariat as one of the possible alternatives to follow. Developing this concept within the long term vision of a multifunctional role of the agricultural sector could contribute effectively to the design of appropriate strategies compatible with the resource basis, available opportunities and the limited agricultural sector comparative advantages.

Opportunities for Agricultural Sector Projects

6.16 The changes that have occurred in the agricultural sector of the OECS countries in the last two decades are characterized by the slow but constant decline of the "old" export crops agriculture and the gradual emergence of a "new" agriculture based on productive alliances with the tourist trade and/or on the production of niche products that add value to traditional crops typical of the islands' ecology.

6.17 **These pioneer initiatives deserve priority attention because they could justify innovative future programs** designed to accompany the transition to a multifunctional agriculture. At the level of each individual OECS country this attention could be translated into an operational action program implying:

i) for the " **Development of Productive Alliances**"

- First, more detailed investigations on the costs and benefits and the sustainability of existing experiences of productive alliances between farmers' groups and tourist hotels to identify the reasons for success and what have been the critical factors that should be retained as key ingredients to replicate these experiences;
- Second, assessment of the respective roles of the public sector (i.e. Ministries of Agriculture) and private business;
- Third, identification of producers' groups or of young farmers interested in joining such new ventures and of hotel or other tourist businesses (for example cruise ships and other tour operators) wishing to participate; and
- Fourth, identification of funding sources and preparation of feasibility studies for investment projects implementation.

ii) for "**Facilitating the establishment of new entrepreneurs and integrated agro-business ventures**"

- Discussions at regional, sub-regional and country level on a coherent and OECS shared, incentives framework with the objective of promoting emerging new agro-business enterprises that add value to traditional crops and exploit niche markets. This debate should result in the preparation of feasibility studies for investment projects at country level including both policy and technical proposals. These latter would include the necessary modifications to existing rules and regulations affecting the establishment of new businesses, access to land, services and infrastructure.
- In parallel to the preparation of the above feasibility studies there could be a reassessment at country level, of the activities of the Ministries of Agriculture to indicate how these latter could play a more effective role in promoting access to appropriate technologies by new entrepreneurs or young farmers. This reassessment should be accompanied and integrated by similar work at OECS level with the support of regional or sub regional technical bodies.

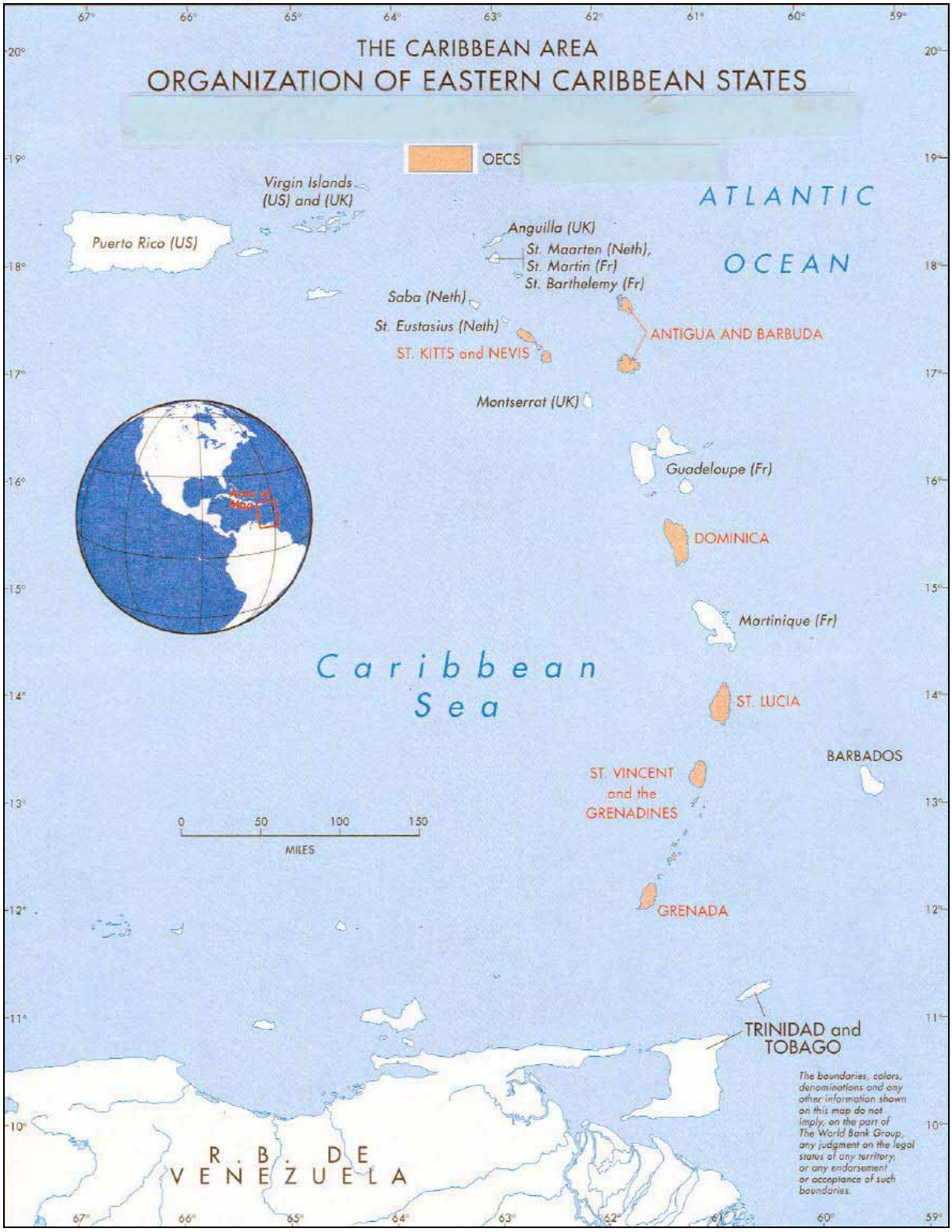
7. FOLLOW UP

7.1 The considerations outlined in the draft report are based on an extensive review of available information and policy statements on OECS agriculture and short visits to the OECS states to identify field experiences of interest to the design of future possible alternative agricultural development strategies.

7.2 The objective is to provide additional thoughts to the ongoing debate on the future of OECS agriculture and to the broader issue of regional strategies. Substantial additional work at field level and discussions at policy level would obviously be needed to translate the draft suggestions made into concrete operational recommendations.

7.3 There are a number of topics that for the limited time and resources available have not been sufficiently explored in terms of issues and potential and which may warrant additional investigations for their interest in the design of future comprehensive strategies. These include:

- An updating of the information on the volume, quality and value of food and services consumed by the tourist sector disaggregated in such a way to provide indications on actual possibilities for import substitution and markets of origin;
- An updating of educational data to show the difference between the various age groups and provide guidance as to eventual educational priorities and the possible target group;
- Financing of agricultural development and a critical analysis of availability of funding and credit terms and conditions. The role and potential for the utilisation of remittances from abroad for productive investments in the rural space;
- The potential for fisheries both marine and freshwater;
- The possibility of establishing appropriate contacts with agro-tourism networks in Europe sponsored by the European Union in the framework of the implementation of its rural development programs. These networks can provide useful indications on how to exploit synergies between various agro-tourism businesses, how to make use of available experiences and of high level technical assistance and of the advantages of clustering specific activities and of tourism related products for sale (for example handicrafts).


THE CARIBBEAN AREA
ORGANIZATION OF EASTERN CARIBBEAN STATES
OECS
ATLANTIC
OCEAN
Virgin Islands (US) and (UK)
Puerto Rico (US)
Anguilla (UK)
St. Maarten (Neth),
St. Martin (Fr)
St. Barthelemy (Fr)
Saba (Neth)
St. Eustasius (Neth)
ST. KITTS and NEVIS
ANTIGUA AND BARBUDA
Montserrat (UK)
Guadeloupe (Fr)
DOMINICA
Martinique (Fr)
Caribbean
Sea
ST. LUCIA
BARBADOS
ST. VINCENT
and the
GRENADINES
GRENADA
TRINIDAD and
TOBAGO
0 50 100 150
MILES
R. B. DE
VENEZUELA
The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.

ANNEX 1

THE FUTURE FOR AGRICULTURE IN THE OECS COUNTRIES

Case Studies on Rural Development Initiatives by the Private Sector

ST. LUCIA

A. Introduction

1. St. Lucia is the second largest of the Windward Islands, with an area of 616 km^2. The island has steep terrain especially in the interior. The estimated population, in 2003, was 160 000 inhabitants of which 69 % lived in rural districts. Population growth rated between 1.1% in 1995 and 0.9% in 2003.

2. **Climate**: The climate is tropical, moderated by northeast trade winds; Annual rainfall averages about 1 600 mm in the northern and southern extremities of the island to about 3 500 mm in the higher altitudes. The island experiences distinct rainy and dry seasons; the rainy season extends from June to December while February, March and April are the driest months.

3. **Water Resources**: The Island is subdivided into 37 water catchments or river basins from which flow a number of perennial streams. Though a hydrological network was installed in the mid-1980s, the water resources available from these surface sources have not been quantified. A review of the water sector and the current actors and roles in water management undertaken in April 2000, indicated an area of conflict inherent in the Act claiming to assess and manage the resources while simultaneously supervising the water and sewerage utility[1]. There is no articulated water policy and no regulations have been put in place.

4. **Economy:** St. Lucia is a lower-middle income country[2]. GNI per capita was US$4 050 in 2003. The economy, whilst stagnant in the early 1980's, grew by an average of 9% per annum between 1983 and 1993. It slowed over the period 1993-03, in view of the problems facing the banana industry at the time[3]. In 2003, GDP growth amounted to 1.7%. Earnings from agricultural exports have always been heavily dependent on banana exports. In 2003, the agricultural sector contributed 5.5%, the industry sector 18% and the service sector 76.6% to the GDP. Persistently high rates of unemployment of approximately 15-20% jointly with the further decline of the banana industry pose major social and political challenges. Higher technically qualified personnel are needed to fill many of the key positions within the manufacturing sector. Tourism is now the main source of foreign exchange: the tourist industry contributes approximately 13 % to GDP. Stopover tourist arrivals for January-September were up by 6% year on year in 2003[4]. The manufacturing sector, one of the most diverse in the OECS, includes food processing, beverages, paper products, clothing as well as assembly of electronics, and contributed 5% in 2003.

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1 The Water and Sewerage Act (1999) assigns responsibility for water resources management, allocation and planning to the National Water and Sewerage Commission.

2 According to World Bank Country Classification, 2004.

3 During that time St Lucia struggled with a EC$1 billion loss in domestic export revenue, which could be partly attributed to the unfavourable performance of the banana industry, considering that banana exports generally accounted for over sixty per cent (60%) of domestic export earnings

4 US Department of State, 2001.

5. **Trade:** St Lucia's main export partners are the United Kingdom, United States, Antigua and Barbuda, Dominica, and Grenada. In 2003, St. Lucia's exports valued US$ 62 million against US$ 392 million of imports. Exports products were mainly bananas, clothing, cocoa, vegetables, fruits, coconut oil. In 2000, banana export earnings constituted 91% of the total revenue generated from agricultural exports. However, earnings from both agricultural and banana exports started declining already in the mid 90s[1]. Main import commodities ranged from food, manufactured goods, machinery and transportation equipment, chemicals, and fuels. Main import partners were United States, Trinidad and Tobago, UK, and Venezuela (2003)[2]

6. **Agricultural Sector:** Agriculture's contribution to GDP which accounted for 15% in 1983 has decreased to 5.4 percent in 2003[3]. Despite the island's fertile, volcanic soils only about 30,000 ha of the total land area (61, 000 ha) is suitable for agriculture but due to mainly topographical constraints. The agricultural area brakes down into 7 000 ha annual crops, 19,000 ha permanent crops, and 2,000 hectare under permanent pastures. It is estimated that banana production occupies approximately 9,200 hectares, which represents 46% of the land used for agricultural purposes. The next most important crop is coconut with about 3,500 hectares[4]. Despite a decline of banana production by almost 50% in the last eight years, it remains the dominant crop on the agricultural landscape[5]. The future of the banana industry is likely to continue the downward trend, further affecting the exports and also employment in agriculture which now stands at about 22 %[6]. Small quantities of flowers and foliage are also exported.

7. The country's food import bill includes mainly meat and meat preparations, dairy products, cereals and cereal preparations, vegetables and fruits. Livestock products, which singly constitute the largest component of the country's food imports stand at approximately EC$72 million. Poultry products make up over 35 % of the total meat imports. Annual demand for poultry meat now equals almost 17 million pounds.

B. Case Studies

Choiseul Association of Craft & Heritage Tourism

8. Since 2002, Choiseul's artisans, owners and managers of heritage sites have joined together to form the Choiseul Association of Craft and Heritage Tourism (CATCH), in a formally registered non-profit organization which seeks to preserve, enhance, and promote indigenous skills and artistry and local nature heritage sites and activities. The initiative grew out of a "crafts fair".

[1] Moreover, agricultural and banana export in 2000 declined by twenty-seven per cent (27%) and thirty-one per cent (31%) respectively relative to the previous year. Over the review period, total domestic exports decreased from EC$2.1 billion in 1996 to EC$1.1 billion in 2005.
[2] World Fact Book, 2004.
[3] World Bank, "St Lucia at a Glance".
[4] FAO-Stat, 2002.
[5] Central Statistical Department. St. Lucia.
[6] World Fact Book, 2004.

Catch has 35 members who pay a membership fee of 50 EC$ a year. Most members are women. Revenues generated throughout the year are shared on an equal basis. In 2004, the revenue accounted to approximately EC$ 30,000.

9. Each sub-community produces its own traditional and/or innovative craft items, which are made from local materials such as *khus khus* grass, bamboo, wood and clay. Craft items are displayed for sale at the Choiseul Arts and Craft Centre in La Fargeu; Catch also produces for and sells directly to the hotel industry; to promote marketing and sales, the association published a catalogue showing the range of crafts items on sale.

10. Mrs. X, craftswomen of Catch reports that since she joined the association, her life has become much easier. While she had to sell her craft items herself on the market, she could now stay at home and produce larger amounts and better quality without loosing time.

11. Crafts men and women have expressed a need for capacity building to a) improve the quality and the presentation of their products, b) establish and maintain time/ delivery schedules c) estimate production costs, among others. As a tendency, hotels ask for specific products in larger quantities and with tight deadlines. Thus, often craftsmen and women struggle to deliver in due time at the requested quality. The time constraints impact negatively on the household level. During peak production, artisans have to produce 8 hours a day, in stead of 4 hours, which leaves not enough time for household duties and farming. One other major problem is that hotels only pay purchased craft items approximately after 30 days or even later. This results in a cash flow problem for the small-scale producers. Mr. Y, coordinator of the crafts association says that they are trying to negotiate a 5% upfront payment with the hotel industry.

12. In future, the association plans to a) set-up an office, b) produce additional public relations material and facilities (e g. a website, for direct marketing, brochures), c) develop new product items, d) improve the delivery rate to hotels, increase number of crafts-producer to cope with demand at peak times and e) export products to OECS and CARICOM markets, among other activities. However, the bottom-line for Catch to move forward is the commitment and engagement of the craft producers, and the support from the government institutions to provide seed-money and training opportunities for the artisans.

Bell-Vue Farmers Cooperative- Fresh Vegetables and Fruits

13. The Bell-Vue farmers' cooperative is situated in the South of St. Lucia, in Vieux Fort and it is one of the most successful and, in fact, functioning of the St. Lucian farmers' cooperatives. The cooperative started in the 1970s; in 1984 it opened a retail shop where gasoline, agricultural inputs, and spare parts, among others items were sold. By then, cooperative members recognized the benefit of working together and started marketing their crops through the cooperative. The revenues generated by the cooperative enabled them to buy a tractor and other equipment. In order to ensure efficient production and marketing of their crops, they hired a marketing officer, who would work 3 days a weeks. Production was improved through the introduction of a nursery and greenhouses. During 1990-2000, the Bell-Vue cooperative had a very difficult time because of mismanagement problems. According to Mr. X, the current manager in –charge-, the cooperative survived because of the support and the strong conviction of various cooperative members and a competent new manager.

14. To date, the cooperative has 145 members, of which 60-70 active; most of them are medium and small scale farmers (5-10 acres). The cooperative is run by a manager, a secretary, a treasurer, a retail shop keeper. The cooperative board consists of 7 farmers, and 1 agricultural officer.

15. The cooperative buys the agricultural produce at a price 25% less than the market price and keeps 5% of the revenues after selling the produce on the market. Bell-Vue cooperative has a storage room, some vehicles and agricultural machines. The Ministry of Agriculture provides support on a regular basis through the locally based extension workers. SIDA and US-AID sponsored 2 green houses.

16. Up to 75% of their produce is sold to hotels, which pay the best prices; the second selling option is either the supermarkets or the local markets and the last option is mostly the marketing board, paying the least attractive prices. Bell-Vue cooperative works closely with the Sandals Resort International chain as one of their major suppliers of fresh vegetables and fruits.

17. Mr. X indicates that the key factors for Bell-Vue's success, as compared to other farmers cooperatives in St. Lucia, is the paid management structure and that farmers have a vested interest in the cooperative by owning shares.

18. One of the major problems the cooperative is facing is the aging farmer generation and the lack of interest of persons, between 20 and 40 years, to get engaged into farming. What is missing to attract the younger and middle age people to agricultural activities? According to Mr. X, a modernized agricultural sector would be more attractive along with improved access to land, mechanized agriculture, new adapted varieties of vegetable seeds that matches the tastes and needs of the tourism sector, and improved linkages to domestic market outlets;

St. Lucia Heritage Tourism Program-Village-based Tourism in Anse la Raye[1]

19. The St. Lucia Heritage Tourism Program is an initiative of the Government of St. Lucia (GOSL), and is funded jointly by the GOSL, the European Commission (EC) and UNESCO. It was initiated in 1998, with a total budget of EC$ 5.8 million.

20. Building on the foundation of the community based vision for the development of the nature heritage/eco-tourism sector the program addresses the following objectives: (i) to develop the island's tourism product, thus enriching the visitor experience through the provision of unique, authentic and natural/cultural visitor activities (ii) to enhance St. Lucia's image in the market place as a .green destination, with a unique blend of attractions and types of accommodation; (iii) to diversify and decentralize the tourist product and benefits, resulting in integration of rural communities island-wide into the tourism industry, providing jobs, and a sense of participation in and ownership of the industry; (iv) to contribute to the sustainable management of the island's natural and cultural resources.

21. One very successful activity is the "Anse La Raye Sea Food Friday" and is promoted under program objective (iii). It is a weekly festival providing traditional food and drinks to visitors in a street fair ambiance with live music and/or entertainment and dance. Visitors get to experience a unique traditional St. Lucian fishing village "Anse La Raye". For residents the experience amounts to participation in the renewal of a tradition and a revival of

[1] Socio-economic impact assessment of the weekly anse la raye seafood festival. by Jennifer Wyatt and Sharmon Jules – St. Lucia heritage tourism programme**.**

culinary arts. The event is announced by radio, but "word-of-mouth propaganda" is, so far, the most successful way of spreading the word. Stay-over visitors are not yet specially targeted. Cruise ship visitors do not attend because the event starts in the evening and ends about 2 a.m. Yacht visitors attend sometimes. Currently, there is no statistical data on the number of persons coming to the event, nor the types and amounts of food products consumed; the event is managed by the Anse La Raye Seafood Friday Committee on behalf of 24 vendors who pay EC$30 per event to participate.

22. For visitors, there is no entrance fee. Income is derived from the sale of food, drinks, and craft items as gifts or souvenirs. Most of the business occurs around vendor stalls temporarily erected on the sidewalk or in the street. Bars and restaurants adjacent to the event or within the town also benefit. Starting capital of vendors was on average EC$ 8,000 to EC$ 10,000.

23. A recent evaluation identified the following characteristics: (a) 72% of the vendors are unskilled single females, average age of 35, with a primary school education, and were on the business for more than two years; (b) approximately 80% of the vendors indicated that they were dependant on the weekly activity as a primary source of income (61% of their households was under $1000 EC per month); (c) 94% of vendors indicated that they experienced an increase in income, 75% saying their net income increased by about $200 per week[1]. The spin-offs from the activity have also benefited many villagers indirectly. These spin-offs include the sale of agricultural products from farmers and fishermen and other condiments from local wholesalers.

24. The survey indicated seafood activities had links with other sectors within the community. 93% of vendors sourced their inputs from local fishermen, farmers and supermarkets. On average $350 per week was spent on food inputs and $400 on drinks. Vendors also sourced other services locally including casual labor and entertainment amounting on average per week to about $200 per vendor. Vendors also hire at least one helper to assist in the operations of their stall. The indirect economic impact of the weekly activity is quite evident.

25. According to the vendors, the following were their long-term objectives: a) ownership of property (65%); (b) Education of their children (18%); (c) loan repayments (12%); (d) health needs (5%);

26. A majority of vendors deposited their waste oil into the drains and they were not aware that this was an improper practice and leads to environmental problems. Most vendors however claim to dispose all of their food waste in the garbage bins provided. 50% of the vendors felt that the activity contributed to the increased noise level in the community. At least 95% of the vendors interviewed said they engaged in at least one food safety measure including protective clothing, proper garbage disposal and adequate food storage techniques. The survey identified a clear need to set-up additional waste management trainings with the respective vendors.

27. With respect to possible product enhancement, the vendors were asked to rate possible improvements on a scale of one to five (1 – 5, with 5 being the highest rank.); the outcomes were the following: quality of booth (3.6) toilets (3.4) parking (3.6); entertainment

[1] Since the majority of vendors admitted that their monthly gross income was under $1000, it seemed unlikely that vendors would be earning a net income of $200 per week. The disparity in figures can be attributed to the fact that the vendors were under-quoting their real income. There is a fear of revealing one's exact income figures, especially in rural areas, as many feel they will be used for tax purposes

(2.2); ambiance (2.8); advertisement (2.3); lighting (3.6); credit facilities (3.3). In addition, vendors made the following suggestions for improvement (a) greater police presence; (b) more entertainment; (c) improved advertising; (d) better access to water (e) standardized booths (f) training on specific needs.

28. The average international visitor to Anse La Raye spends US$73 per couple not including the tips given to service providers and this is usually spent between two booths. Visitors rate the following on a scale of 1 to 10 (10 being the highest rank): (a) friendliness of vendors 6.5; (b) service time 6.2; (c) vendor Appearance 6; (d) booth Appearance 6.3; (d) clean Area 6.5; (e) service time 6.2; The following were comments from visitors for the improvement of the event:1) village buildings should be painted; 2) bath rooms should be cleaner and gratis; 3) live entertainment and cultural performance is missing 4) improved local art and craft should be for sell; 5) more dancing space; 6) provide food and local drinks sampling;

29. National/local people spend a total EC$20 - $50 on a weekly basis at Anse La Raye. Locals[1] interviewed from the surrounding areas mentioned as main problems: (a) poor toilet facilities; (b) lack of local entertainment; (c) parking; (d) advertising. Local people proposed with respect to product enhancement: (a) there should be more cultural performances; (b) more seating facilities; (c) increased security; (d) more live entertainment (e) earlier start; (f) more community participation.

30. What are possible strategic actions to achieve sustainability and build economic competitiveness? Sustaining the popularity, success and benefits of the festival requires a better understanding of visitor demographics and tools to monitor levels of visitor satisfaction. The absence of mechanisms to estimate overall attendance of the festival and volume of food, beverage, souvenir or gift purchased means that economic impact is currently not being monitored. In addition, the promotion of tradition and culture should be continued, so as to maintain a festival brand that is easily distinguished from popular *block-o-ramas* where popular music and contemporary foods are major product ingredients.

31. Taking these and other factors into consideration, management must be improved with the following actions: establish (i) mechanism for regular monitoring of numbers and demographics[2] of visitors, number of sales; (ii) to undertake street signage and streetscape and waterfront improvements; (iii) build and sustain distinct cultural elements of the festival; (iii) document historic cultural practices (iv) repair the jetty to allow visitors reaching the town and/or the festival via boat. Given the number of excursion, day and term charter boats on St Lucia's West coast, a long-term strategy promoting Anse La Raye as day stop on the itineraries of pleasure boats could be explored.

32. In St. Lucia, after the "Anse La Reye festival has taken off, smaller and bigger towns started similar events on the island and also on neighboring islands. For example, on Fridays, a second fish festival takes place in Gros Islet, situated on the northern side of the island, which attracts local and younger people, instead of tourists; Further to that there is a "swine festival", where meat is prepared in a traditional way". On Saturday, there is another fish festival in Dennery Bay.

[1] 71% of the interviewed persons were male.

[2] Visitor segmentation by origin (hotel guests, yacht passengers, residents) and by age or occupation if possible would be useful to devising or adjusting marketing strategies and for monitoring economic impacts

Sandals Resorts International Eastern Caribbean- Linking Agriculture to Tourism

33. Sandals is a collection of 12 all-inclusive resorts along Caribbean's best beaches in St. Lucia, Antigua, the Bahamas, and Jamaica. All Sandals & Beaches Resorts have been awarded the coveted Green Globe Award for environmental stewardship. From recycling to conserving, ecological responsiveness is a Sandal's commitment. The chain adopted the internationally respected Green Globe Environmental Management System in 1998. In addition, Sandals Resorts International (SRI) manages one of the most comprehensive community outreach programs in the Caribbean. The group sponsors over 100 such projects in its host communities, spanning health, education, skills development, sports, and senior citizen welfare and conflict resolution.

34. An agricultural program was initiated by SRI in 2002. The objective was to forge a greater alliance with the agricultural sector and local farmers (avoiding the middle men) to create a win-win situation both for the Sandals cooperation's well as for the St. Lucian economy. Three Sandals Resorts, including Sandals Regency, Sandals Halcyon and Sandals Grande started to purchase agricultural produce from the local market instead of importing fresh fruits and vegetables. These crops are mostly, water melons, squash zucchini, cantaloupe, honeydew, green bell peppers, cilantro, parsley, pineapple and tomatoes (cherry and bulk).

35. At project start, in 2002, SRI hired Mr. X as an Agricultural Officer. At that time he was still working for the Ministry of Agriculture. With his support, interested farmers were screened and trained on the quality requirement of the Sandals chain. Farmers who were able to match the criteria were registered (with an identity number, and a list of commodities they produce) and could immediately or after a short transition period provide agricultural produce to Sandals resorts. One of the most important criteria is the "traceability"[1] of produce. In the beginning, there were already over thirty registered suppliers as qualified farmers of which almost 15 farmers were immediately providing commodities on a regular basis; Through Mr. X's trustworthy personality, within a very short time, the Sandals chain could build up a pool of reliable farmers, providing fruits and vegetables on a regular basis. To date, of the approximately 120 registered farmers, 70% are women; Sandals also works with 2 cooperatives; one is the Belle-Vue Farmers Cooperative and the other the Black Bay Small Farmers Cooperative; both cooperatives were very efficient in purchasing goods from smaller scale farmers and selling bulks to SRI. Over the last 6 months, the latter cooperative, however, ceased its delivery due to internal management problems. The St. Lucia Marketing Board was included in the list of suppliers but had difficulties to meet basic requirements such as a refrigerated vehicle for delivery of perishable commodities.

36. How does SRI purchase the agricultural produce from farmers? Mr. X handles the agricultural purchase on a weekly basis. He calls up the farmers, or the farmers call him to confirm the order. Throughout the week, farmers bring their goods directly to the delivery gate of the Sandals hotels. Mr. X manages the dataflow with a software based information system that connects his office with the kitchen and the storage facility; every time a farmer delivers goods the data is entered into the system; every time the kitchen is using vegetables and fruits, the amount will be weighted and deducted from the amount available in the storage facility. Sometimes, the kitchen chef orders additional produce on an ad-hoc basis. Mr. X then calls farmers to find out who can provide the required commodities. The informal farmer network, normally, allows identifying a farmer who can deliver within a reasonable time.

[1] Traceability means the commodity can be followed from the producer to the final consumer.

37. According to data collected by the Ministry of Agriculture a conservative estimate of over EC$ 2 million is spent by selected hotels in the purchase of the agricultural produce. During 2003, a total of 767,200 lbs of agricultural produce at the cost of EC$ 1,255,900 (crops) was purchased directly from farmers by SRI. The fruits and tree crops category accounted for 325,400 lbs at EC$ 37,700; traditional vegetables 171,900 at EC$ 389,000; roots and tuber crops 66,700 lbs at EC$ 138,000 and condiments at EC$ 52,000; expenditures for livestock products (suckling pigs and eggs) were in 2003 about EC$ 556,000.

Locally purchased produce by Sandals Resorts International in St Lucia in 2003

Produce	**2004 Demand/lb**		**TOTAL**
	Jan-Jun	**July-Dec**	
Tomatoes	31128	32851	63979
Cherry Tomatoes	1408	845	2253
Green Pepper	7813	6686	14499
Squash Zucchini	8778	1665	10443
Parsley	1651	633	2284
Cantaloupe	20067	13633	33700
Honey Dew	18362	6709	25071
Pine apple	30433	693	31126
Watermelon	26435	16744	43179
Total	**146075**	**80459**	**226534**

38. The SRI agricultural program has shown that enhancing the linkage between producers and buyers has stimulated an increase in the purchase of locally produced high quality foodstuffs: this has translated into i) a reduction in the outflow of foreign exchange; ii) increased market access and income for farmers; and iii) increase sales for input suppliers.

39. Recently, SRI organized jointly with MAFF and the Caribbean Agricultural Research Development Institute (CARDI), a training course on post-harvest handling of fruits, vegetables and root crops. Target groups were purchasing and receiving clerks, store room keepers, among others. The topics covered were: handling fruits, vegetables and root crops, climacteric and non-climacteric fruits, maturity indices, minimum standard requirement for hotels, packaging, storage and food safety issues.

40. The challenge for farmers is to meet the quality standards and requirements of the tourist industry. The Sandal's example confirms that there is a big potential for the country to increase its share of targeted agricultural products to the tourism sector, reducing the need for imported food. Some similar initiative has started, also in other OECS islands, but a more proactive dialogue needs to be established between farmers, hotels and restaurants and the Ministry of Agriculture to strengthen the linkage between farmers and the hotel/restaurant industry in order to include a larger number of farmers.

41. In conclusion, there has been a high level of sensitization within the farming community and the hotel and restaurant industry through the Sandal's initiative. This has encouraged other hotels to buy local agricultural commodities by other hotels and resorts.

Perineau's Export Company- Quality Fresh Products

42. Until 1994, Ms X worked as clerk for the Ministry of Agriculture in the rural service centre. Through this work she got involved in the IFAD financed Rural Enterprise Development Project. While working for the project, she received training in book-keeping, management and learned how to set-up an export business for agricultural products to Europe and North America. Mr. Y, used to be a small-scale banana farmer.

43. When banana prizes fell in the 1990s, Ms X and Mr. Y decided to start their own export company "Perinau's Export". In 1994, the company was officially registered and became member of the St. Lucian Export Association. Ms. X pays EC$ 50 membership fee a year for the association. Members are eligible to purchase vehicles and package boxes on a duty free basis. Ms. X explains that she and her husband share the work, between the two of them. She is the overall manager, and handles the correspondence with the major clients in Canada and the UK. The import companies make the purchase order via fax and /or e-mail. He took over the responsibility for the logistics and drives around the island to collect the products and bring them to the airport. The cost of the first vehicle which the company purchased was US$ 20,000. When discussing the transport constraints of the company with the clients, they offer her a loan without interest to purchase the vehicle. According to her, this offer was one of the major factors that made the company boost. The clients deduct an agreed amount every second week for the debt to be paid back. She comments that in difficult times her clients were even ready to deduct less of the debt, so she could better cope with the situation. With the support of her clients Mrs. X is able to pay back the loan taken for the car within a 3-4 years time window.

44. Mrs. X works approximately with 10 farmers and purchases mostly breadfruit, mango, avocado, peppers twice a week. She managed to build-up a trustworthy relationship with the farmers. This enables her to purchase good quality commodities on a regular basis. After purchasing the crops she cleans and packages them and makes them ready to be taken to the airport. She pays farmers directly in cash or with a check. She confirms that over-time she did build up a cash liquidity that allows her to pay off the farmers directly. Ms. X explains that she is bearing a high risk flying out the St. Lucian fruits and vegetables, since her company only receives the payment from the clients after the produces have arrived in Canada and the UK and quality was considered satisfactory. If the produce arrives at destination in unacceptable conditions she may have a loss of up to 80-100%. The import companies are paying the freight cost to Canada and the UK. For improving the Perinau's marketing strategy, she bought recently a digital camera for US$100 to take pictures of the fruits and vegetables she is selling, and to display them on the company's internet site, to be launched within short.

45. The major future challenges Mrs. X sees for the export business is to understand the implications of trade and non-trade barriers, quality improvements and standards, in particular EUROGAP. She highlights the importance to improve farmers' knowledge on the new standards and their implication for production patterns, to motivate them to diversify production, and to look for domestic or international niche markets; she thinks that governments should take a stronger lead in creating an enabling agro-business environment, which could allow farmers, export companies like Perinau and agro-processors to invest and develop to business with a sustainable future.

46. For her own business, Mrs. X plans to create labels for the fruit and vegetable boxes. She wants to promote her goods under a St. Lucian label that would not only promote her own business but St. Lucia products in general, providing a special flair and flavor, within the Eastern Caribbean Region.

Frootsy Food Ltd- Manufacturers of Jam, Jellies, Fruit Cheese and Condiments

47. Mr. X, founder and general manager of Frootsy Foods Ltd, is a home-based cottage industry which produces jams, jellies and spices. Before starting the company, the family of Mr. X was producing banana. As many other cottage industries in small island countries Frootsy Food Ltd faced a number of challenges for example access to start-up capital which is often above and beyond the means of the small business person. The small size of the islands makes even the smallest business initiative dependent upon a regional market to survive. Frootsy Foods Ltd, however, has proven to be quite resilient. In the beginning, Mr. X was producing small amounts of fruits and vegetables on family lands. He also built the factory within the family house. In the process, the family gradually moved into a new home. This helped keeping initial investment costs low. Capital to buy equipment was sourced partly from OECS grant funding and the National Research Development Fund (NRDF). IICA offered basic training courses. Recently, Mr. X invested in a cooling facility which allows more fruits and vegetables to be stored. As a result, a smother and more cost efficient production process is in place.

48. Mr. X explains that before he actually could go into production he had to do a lot of background studying and searching on production methods, quality standards etc. He obtained information material mostly on the internet. One crucial step for Mr. X was to attend a training session on fruit cheese production in Martinique which was supported through CARDI.

49. Mrs. Y, administrator of Frootsy Food International, indicates that the company currently employs 9 persons of whom 7 work in the production and 2 people in sales, and works with approximately 20 farmers on a regular basis. In addition, the company built-up a roster of farmers indicating the type of vegetables fruits and spices that could be purchased from them. Farmers get paid market prices as announced by the Marketing Board on a weekly basis.

50. Frootsy's strategy to be competitive on the market is to produce high quality products with all natural ingredients and without artificial flavors and to develop new types of product lines and packaging formats. For example recently, the company developed a gift package containing three different types of sauces kept together with a woven band and protected with a transparent plastic layer. Another example is that the company labels the products with a specific brand name such as "Sandals Hotels" upon request.

51. In March 2002, Frootsy Foods International became the recipient of expert assistance from a project involving Kraft Foods[1] and UN Volunteers that allowed the company to improve its manufacturing processes. Kraft has also supplied equipment, such as a new kettle, that has filled a critical need and helped boost production by 400 percent. The Kraft volunteers gave guidance on methods for improving efficiency in sourcing and obtaining raw materials, machinery and relevant information on pectin, sugar and glucose. As a result, Frootsy has been able to achieve marked improvement in the quality of their jams and jellies. There has been better human resource development, improved documentation and record keeping in processing procedures, and improved formula preparation and ingredient selection criteria.

[1] "By working with companies in developing countries, such as Frootsy Foods in St. Lucia, we're able to share some of our skills and experience to promote development," said John Ruff, Senior Vice President Global Quality and Scientific Affairs for Kraft. "At the same time, our employees have a unique opportunity to enhance their professional development and foster leadership skills through challenging situations in an unfamiliar culture."

52. In the near future, Frootsy Foods International will launch their website, and invest more in product improvement and development; one of their biggest constraints at the moment is the need for a larger building which also suits the HACCP criteria as precondition to export larger amount to the US and European market.

53. Mr. X suggests that there should be a newsletter issued by the Ministry of Agriculture with up-to date information tailored to the needs of small-scale entrepreneurs /agro-processors. The newsletter should entail information about; upcoming events, e.g. trade shows, relevant newspaper articles, trade statistics, prices, up-coming training courses, projects and programs, where and how to access small-funds, grants etc,.

Baron Foods International (BFI); Hot Sauces, Seasonings, etc

54. Mr. X, a Guyanese who migrated to St. Lucia many years ago started the Company Baron's Food International, in 1991, at the southern end of the island named Vieux Fort. Mr. Y his nephew, moved from Guyana to St. Lucia to help his uncle as his "right hand". He explained that Baron Foods International started business only with 13 staff and with a selection of only 6 sauces in a home made kitchen; all investments put into the business were coming out of private money, building up slowly the company. All products meet the rigorous Health & Safety Standards as set out by both the United Kingdom law and by the current European Union Food Regulations and are also in line with the FDA[1] approved and have passed European hygiene standards which make them highly competitive on a national, regional and international market. All products are based on 100% locally purchased pepper and other agricultural produce; Some spices, which do not grow in St Lucia are imported from Bangladesh, Germany, India, among others.

55. According to Mr. X, the company works with 15 small and medium-size farmers on a regular basis, partly through contract farming, and purchases approximately 500 pounds a week[2]. Currently, the processing plant is run on low capacity since the there is not enough hot pepper available on the market. The company employs 65 full time staff of which 44 persons work in the production.

56. Baron Food international sells 65% of their value-added produce to the local market, 20% to hotels, and 35 % in international markets. International marketing is facilitated through various website where products can be purchased on an individual or shopping basket basis. Payments are done through credit cards.

57. As for the hotel industry, BFI makes special arrangements to label their produce under the companies/ hotels name and trademark. For example: Sandal's hotel would offer their clients hot pepper sauce in the restaurant and in the gift shops with a "Sandals Resort International" label, but still indicating "produced by Barons Food International". Exporting products is difficult for BFI since freight costs are very high and make the final product quite expensive.

58. To date, Baron Food International includes over 150 products, comprising West Indian hot sauce, classic pepper sauce, cooking sauce, gravy browning, green seasoning, soy

[1] U.S. Food and Drug Administration; The FDA is responsible for protecting the public health by assuring the safety, efficacy, and security of human and veterinary drugs, biological products, medical devices, our nation's food supply, cosmetics, and products that emit radiation

[2] Within short Baron Food will have a new large scale suppler of hot pepper.

sauce, Worcestershire sauce, Chinese sauce, garlic/ onion sauce, passion fruit sauce, mango chutney, jerk seasoning, tamarind dip, tomato ketchup, bar-b-q sauce, essences, fruit concentrates, vinegar, spices (jars), Veda madras curry powder, baking powder, black pepper, spices (packets). BFI has won numerous international awards and recognition for outstanding quality. Between 1997 and 1999, BFI gained the 1st place of the Scovie Awards.

59. When being asked how BFI prepares for the opening of the CARICOM market Mr. X responds that the company will have to cut back on their production costs to become more competitive within the region. Part of this strategy is to open a sister plant in Trinidad and Tobago where input and labor costs are lower as compared to St. Lucia.

C. Main Issues and Conclusions

60. The following are the main issues extracted from the cases studied and described in section 2, as well as from the open interviews conducted during the fieldwork:

61. St. Lucia's economy depends primarily on revenue from banana production and tourism with some input from small-scale manufacturing. There are numerous small and medium-sized agricultural enterprises. The decline in earnings from the Banana industry has hurt the farming sector, small farmers in particular, and has had a ripple effect on other areas of the economy, inducing poverty beyond the agricultural sector.

62. In view of the European Union's announced phase-out of preferred access to its markets by Windward Island bananas by 2006, the Ministry of Agriculture, Fisheries and Forestry formulated an Agricultural Diversification Strategy in 2000, trying to promote diversification and new options for increasing revenues in the agricultural sector. A key component of the agricultural diversification strategy is to reduce the country's food import bill. However, diversification has to go according to “consumer preference and consumer perceptions; the economy needs to be diversified in a way that allows to generate economic opportunities.

63. Special effort is made to promote non-traditional crops—including their by-products— for both the local and export markets. For example, root crops like cassava and dasheen and other vegetables and fruits are put forward as commodities that can be developed in order to become more marketable for the local market, in particular for the hotel industry. Recently, St. Lucia added small computer driven information technology and financial services as development objectives.

64. St. Lucia's leading revenue producers--agriculture, tourism, and small-scale manufacturing--benefited from a focus on infrastructure improvements in roads, communications, water supply, sewerage, and port facilities. Foreign investors also have been attracted by the infrastructure improvements as well as by the educated and skilled work force and relatively stable political conditions. The largest investment is in a petroleum storage and transhipment terminal built by Hess Oil. The Caribbean Development Bank (CDB) funded and airport expansion project.

65. Poor access roads, lack of communications, lack of access to information absence of potable water, and inadequate electricity supplies limit possibilities for non-agricultural activities in certain communities. Weak social infrastructure, e.g. lack of day-care and pre-school facilities, prevent poorer family members, in particular women, from participation in the labour market and in training.

66. Land tenure issues have not been addressed sufficiently to enable a more commercial agriculture; a land policy has been drafted but never implemented; land tenure campaigns such as "Land for the landless" have been a major impediment to the commercial agriculture because the productive land was split in even smaller parts. Land is not yet classified according to its use (agricultural lands or for building purposes).

67. There is a tendency for the older generation to keep their lands as security for retirement even if the land is underutilized. The establishment of land banks may allow a greater flexibility for younger people and commercial farmers to access land for agricultural production.

68. The absence of local community organisations results in poor mobilisation of local effort to surmount problems within the community. There is also a lack of community spirit in some villages which prevents the poor from addressing problems collectively.

69. The educational systems of St. Lucia are not geared to upgrading the existing workforce to respond quickly to changes in trade and technological requirements. As such, the incremental supply of skilled and knowledge intensive human resources are inadequate to make St. Lucia attractive as a source of cheaper skilled labour.

70. The agricultural sector lack attractiveness to the younger generations, between 20-40 years of age, to get involved. Traditionally, the agricultural sector has always been regarded as one of the least developed and most backwards sectors. Farmers sending their children to school encouraged them to become doctors and lawyers instead of agro-entrepreneurs.

71. Governments subsidize the agricultural inputs which often benefits the associations (e.g. nutmeg associations), however, according to interviewees inputs are not given out to farmers at subsidized prices. At the same time by subsidizing inputs no small or medium size retailers is able to compete and establish itself on the market;

72. Agro-tourism has the potential to be developed in St Lucia, as a strategic economic activity in rural areas. As the activities are location based - rural/farm communities would benefit in many ways, for example, from investments in improved infrastructure, training, diversification of rural activities, and ultimately in a more equitable distribution of the benefits of rural resources.

73. St Lucia is very optimistic in terms of its tourism potential; there are still many areas of the industry that are underdeveloped. Within the next 2-5 years two new hotel complexes are planned. At the core of the industry, significant potential remains untapped in niche markets such as health, sports, special events, heritage and eco-tourism. Building diversity requires an integrated approach in a small-island context with spatial, physical, human and financial resource limitations. There is a clear need for the government to act as an intermediary between the hotel/ restaurant industries and other stakeholders

74, More examples like the Sandals Resorts International have to be promoted; at present the SRI, with the assistance of the European Union is implementing a agricultural program targeting farmers to be trained in farm management and production scheduling. The Ministry of Commerce has issued recently a decree to give preference to local production against imports. The Ministry of Agriculture is also currently working on an incentive regime for the agricultural sector.

75. The Ministry of Agriculture sees an urgent need to strengthen the institutional network in St. Lucia. The introduction of an Agricultural Chamber of Commerce would, according to the Permanent Secretary, allow a stronger separation between policy formulation and implementation.

76. The absence of an entrepreneurial approach will continue to be the key impeding factor for an integrated agricultural and sustainable development.

St. Lucia Data Profile[1]			
	1999	2002	2003
Population, total	153.7 thousand	159.1 thousand	160.6 thousand
Population growth (annual %)	1.1	0.7	0.9
Life expectancy (years)	71.3	73.7	74.0
Fertility rate (births per woman)	2.1	2.1	2.1
Infant mortality rate (per 1,000 live births)	..	..	16.0
Under 5 mortality rate (per 1,000 children)	..	..	18.0
Births attended by skilled health staff (% of total)	..	..	..
Child malnutrition, weight for age (% of under 5)	..	..	..
Child immunization, measles (% of under 12 mos)	95.0	98.0	90.0
Primary completion rate, total (% age group)	104.0	114.0	..
Primary completion rate, female (% age group)	103.0	111.0	..
Net primary enrollment (% relevant age group)	..	99.4	..
Net secondary enrollment (% relevant age group)	70.1	76.1	..
Surface area (sq. km)	620.0	620.0	620.0
Forests (1,000 sq. km)	..	..	..
Deforestation (avearge annual % 1990-2000)	..	..	..
CO2 emissions (metric tons per capita)	2.1	..	..
Access to improved water source (% of total pop.)	..	98.0	..
Access to improved sanitation (% of urban pop.)	..	89.0	..
GNI, Atlas method (current US$)	601.6 million	617.8 million	649.9 million
GNI per capita, Atlas method (current US$)	3,910.0	3,880.0	4,050.0
GDP (current $)	669.0 million	676.4 million	692.8 million
GDP growth (annual %)	2.9	2.2	1.7
GDP implicit price deflator (annual % growth)	1.7	1.2	0.7
Value added in agriculture (% of GDP)	7.5	6.4	5.4
Value added in industry (% of GDP)	20.1	18.5	18.0
Value added in services (% of GDP)	72.4	75.1	76.6
Exports of goods and services (% of GDP)	57.1	46.3	55.7
Imports of goods and services (% of GDP)	66.5	52.2	69.3
Gross capital formation (% of GDP)	27.7	22.8	28.8
Fixed lines and mobile telephones (per 1,000 people)	306.7	409.0	..
Telephone average cost of local call (US$ per three minutes)	..	0.1	..
Personal computers (per 1,000 people)	137.7	150.0	..
Internet users (per 1,000 people)	19.7	..	..
Paved roads (% of total)	5.2	..	..
Trade in goods as a share of GDP (%)	61.4	52.2	54.9
Trade in goods as a share of goods GDP (%)	187.9	171.8	192.6
High-technology exports (% of manufactured exports)	5.1	7.8	8.3
Foreign direct investment, net inflows in reporting country (current US$)	82.8 million	31.4 million	32.0 million
Present value of debt (current US$)	..	404.7 million	362.1 million
Total debt service (% of exports of goods and services)	5.2	7.9	8.7
Short-term debt outstanding (current US$)	55.3 million	204.2 million	133.3 million
Aid per capita (current US$)	166.8	210.6	92.3

[1] World Development Indicators database, April 2005.

ANNEX 2

THE FUTURE FOR AGRICULTURE IN THE OECS COUNTRIES

Case Studies on Rural Development Initiatives by the Private Sector

ST. VINCENT AND THE GRENADINES

A. Introduction

1. Saint Vincent and its associated islands of the northern Grenadines[1] are of volcanic origin with thickly wooded mountains[2]. The main island has a total land area of 390 km^2. The estimated population was 111.7 thousand inhabitants in 2003 with 42% living in the rural areas[3].

2. **Climate**: Saint Vincent lies in the path of the northeast trade winds and has a tropical climate. Rainfall and temperature vary with altitude. Average annual rainfall ranges from 1 500 mm on the coast to 3 800 mm in the central mountains. The temperature averages between 18 and 32C. Hurricanes occasionally hit the island. The dry season is from January to May. The rains start in June and continue from that time to the end of the year.

3. **Water Resources:** The total annual production from all currently used water resources is 9.95 million m3, with a storage capacity of about 5 million m3. All water production is targeted for human consumption, there being no water available from the system to support agricultural production. There is no official record of water use by sectors. Government institutions are estimated to use 1.6 million m3, unaccounted-for water is estimated at about 1.8 million m3, leakages 0.5 and domestic consumption at 5.3 million m3.

4. **Economy:** St Vincent and the Grenadines is a low-to-middle income country[4]. GNI per head was an estimated US$ 3,310 in 2003, the lowest in the OECS. The economy is vulnerable on account of its small economic base and its dependence on agriculture. In recent years economic growth has tended to fluctuate in line with developments in the banana sector. In 2003, agriculture contributed 9 % to GDP, industry 24% and services 67 %.[5]. Tropical storms wiped out substantial portions of crops in 1994, 1995, and 2002, and tourism in the Eastern Caribbean has suffered low arrivals following 11 September 2001. With an unemployment rate of 22%, St Vincent ranks second highest (Dominica is first) among OECS countries.

5. **Trade:** St Vincent and the Grenadines merchandise exports comprise largely agricultural products, including bananas (39%), tuber crops, and arrow starch. The value of exports in 2003 totaled US$ 39 million. Out of this figure banana export revenues declined from US$ 56.2 million in 1998 to US$ 38.9 million in 2002 following changes to the EU import regime.

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1 Historically, St Vincent and the Grenadines were disputed between France and the United Kingdom in the 18th century. St Vincent was ceded to the UK in 1783, autonomy given in 1969, and independence in 1979.

2 The highest peak is named ”la Soufriere”, which is an active volcano, being 1 234 m above sea level, and which is most vulnerable to hurricanes. The volcanic ash has produced a fertile soil.

3 World Bank data, 2003.

4 According to World Bank Country Classification, 2000.

5 According to World Bank data.

The island's main export partners are European Countries, with France being importing the major share followed by the United Kingdom,, Greece and Spain.. Main import partners are France, the United States,, Singapore, Trinidad and Tobago, Spain, and Italy. In 2003, a total amount of US$ 163 million was imported to St Vincent and the Grenadines. It is striking that for both main export and import partners other CARICOM countries, next to Trinidad and Tobago, are not explicitly mentioned.

6. **Agricultural Sector** The agriculture sector accounted for about 9% of the GDP in 2003 declining from 17.3 % and in 1983 and 15 % in 19931 as a result of the troubles of the banana industry. In 2003 the total cultivated area amounted to 14 000 ha, of which 5 000 ha under annual crops, 9000 ha under permanent crop, and 2000 ha under permanent pasture2. The soil on the main island, St Vincent, is generally fertile and rainfall is adequate for most tropical crops. St. Vincent is the world's main exporter of arrowroot. Flowers and foliage plants are also exported. Other fruits and vegetables, including plantain and sweet potato, are grown for local consumption and for export to Barbados, Trinidad and Tobago, and other regional markets. Livestock is raised on a small scale. There is some commercial fishing, which mainly supplies the local market.

B. Cases Studies

Vegetable Production "Agro-Supply"

7. Mr. X is a young agricultural entrepreneur in St. Vincent & the Grenadines. Before becoming an entrepreneur he worked during 10 years for an agricultural input supply company. When the company closed down in the 90s, he started producing vegetables in his backyard. At that time it was difficult to find alternative employment. His family was in the banana business. When labor costs got too expensive his father decided to reduce the area of planted banana.

8. For starting his vegetable production on a commercial basis, he took a loan amounting to US$ 9000 from the St. Vincent Development Bank (DEFCO) at an interest rate of 11% to build a greenhouse tunnel right behind his house. These types of tunnel green houses are very well adapted to the tropical conditions of the island. To date he manages 20 green house tunnels and some additional open air fields where he grows a range of different vegetables and fruits, including tomatoes, sweet peppers, cucumbers, cabbage, egg-plants, carrots, golden apples, plantains. Only for the first two greenhouses he had to take a commercial loan. The construction of the additional 18 greenhouses tunnels he managed to finance out of the revenues generated. Before shifting to vegetables the family employed 10/15 staff which reduced in 2004 to only 5/6 persons.

9. Mr. X is convinced about his commercial oriented production approach. During the interview he says: "Today you can see me sitting behind the computer with clean cloth and hands, and tomorrow I will be looking like a real farmer in old dirty cloth with dirty hands"; He operates his data from an office, where he has a computer, and a fax machine. He knows exactly his production costs and tries to negotiate the prices with his clients. He recently invested into a cooling facility. In the facility he stores his produce when the prices are low in order to sell them at

[1] World Bank.
[2] FAOSTAT.

higher prices as soon as the prices have increased. So far he sells 100% of his production on the local market (50% to hotels, 50% to supermarkets). In total, his yearly turn-over accounts for over EC$ 300,000- 400,000.

10. To prepare for the opening of the CARICOM market, he is currently trying to develop a new product line: “deep frozen vegetables”; In addition to his vegetables, he plans to buy a range of different vegetables from local farmers. His goal is to produce an attractive mix of frozen vegetables which could be prepared as a side dish to a main course. The entrepreneurial risk he has to take is to invest in a vegetable deep-freezing processing plant which would rely on a steady vegetable supply of the domestic market. To address this risk he plans to lease more land to secure a minimum level of production needed to make the production plant economically viable. The amount needed reaches beyond his current production volume of vegetables. However, leasing land will be a major challenge.

11. For him to realize his business idea he needs undertake a market study on the potentials of “deep-frozen” vegetables on the local and regional market. He says that in the OECS countries there needs to be a “business centre” which could provide management training, business plans, access to very specific technical information on processing procedures and quality standards, packaging material, business contacts of companies, etc.

Erica's Country-Style-Natural Products e.g. Hot Pepper Sauces, Spices, Gift Baskets, etc

12. Ms. X, founder and manager of Erica's Country-Style company, is one of few women in St. Vincent running her own business. In 1986 she graduated as Microbiologist from Centennial College in Toronto. Upon her return to St. Vincent, Ms. X began working with the Government’s Agro-Lab and at Diamond Diary as a Quality Control Officer. In 1987, she started her business as a small home based agro-processing company. No later than 1999, Ms. X received, as the first female of St. Vincent, the prestigious award for “Entrepreneur of the Year for Barbados and the OECS”.

13. Ms. X states that her main motivation to start the business was to promote the local economy and support people’s livelihoods in the rural area. All the products manufactured at Erica's Country-Style are completely natural and made from 100% locally grown raw materials; even the gift baskets are locally made. At the beginning she concentrated her production on dried sorrel leaves for drinks, hot pepper sauce, seasoning, purchased some basic machines with a micro-finance loan. She imports bottles and labels from Trinidad and Tobago. Throughout the years she invented new product lines like banana ketchup and mango salsa, etc, to be able to maximize the use of machines according to the different seasons. She works with approximately 100 farmers and employs 4 fixed term staff for the processing plant. She buys directly from farmers without engaging a middlemen; The prices she pays vary according to the market price; for example she pays EC$ 0.80 a pound on average for peppers; EC$ 0.90 a pound when peppers are scarce and EC$ 0.60 a pound when peppers are abundant on the market. Her local market share amounts up to 10-15% of the total domestic market, but the company also exports small amounts to the United States.

14. During the interview she shares that she could observe a change in the livelihoods of farmers she has been working with over the years. Most of the farmers benefit from a more regular

and higher income due to more secure market outlet. Some farmers had even more visible changes in their lifestyle, e.g. they could afford motor cycles or cars, others expanded their production area.

Mrs. X complains that St. Vincent lacks a consistent policy and incentive framework promoting small- and medium-scale industries. For example, she had to pay an interest rate of 11.5% for a loan from the St. Vincent Development Bank to purchase new equipment. This is hardly affordable for small and /or medium scale enterprises like her company, she says

15. Erica's Country Style sustainability strategy is to a) produce items with excellent local quality, b) invent new products and product lines. Currently, Ms X is working on developing tropical flavored ice cream.

16. She mentioned that last year the Ministry of Agriculture was running a "buy local campaign" which, however, only lasted one month. From her understanding government programme should run a promotion campaign throughout the year.

17. She emphasizes that "the communication gap" between the Ministry, agro-processors (like her), extension officers and farmers needs to be urgently addressed, otherwise it is very difficult to join efforts aiming at "modernizing and commercializing the agricultural sector in St. Vincent and the Grenadines".

18. She expresses discontents that national and regional trade discussions often take place without prior consultation of private sector persons. Even for the trade shows often politicians or people from the ministries are invited or go instead of the small and medium size companies wanting to display their products.

Mountain Top Springs- Bottling of Spring Water

19. Mr. X, is by training industrial plant engineer, and, in his early thirties, already director of Mountain Top Springs. He studied in the United States and came back to St Vincent to support his aging father jointly with his brother. In 1979, his father Mr. X bought 107 acres of agricultural land to plant bananas. The land, which was situated in a very hilly area, with a humid climate and little road access included a natural fresh water spring which he intended to use to irrigate his banana plants.

20. In the 1990s, when the banana prices declined, they needed to diversify their income and found out that the spring-water had, in fact, very good drinking water qualities. After having undertaken the necessary quality investigation, they started, in 1993, to source and bottle the "virgin" water with imported plastic bottles[1] and labels produced in Trinidad and Tobago. By that time, the company "Top Mountain Water" was accredited by the Export Development Unit and fulfilled the HACCP criteria[2]. Between 1995 and 1997 the Caribbean Development Bank (CDB)

[1] The imported bottles from Barbados were very expensive (1 EC$ each), due to spacious volume of empty bottles and high shipping costs.

[2] Food companies have a legal obligation to apply the principles of HACCP (Hazard analysis and critical control points). HACCP is a method to be applied by companies to guarantee the safety of their food products. This method is based on two important aspects: analysis of hazards (HA = hazard analysis) and

financed a study on the quality of the surface water, water treatment and the sealing of the natural spring. He says that without the financial support of CDB it would have been very difficult to move ahead.

21. Based on the outcome of the study, the company purchased a blow molding machine from China, in 1998, for approximately EC$ 15,000. The prices for the same equipment in Europe or the EU would have been 2/3 times higher. The start was difficult, and the machine had a rejection rate of 25% (1998-1999). Due to the technical expertise of Mr. X, the company could move ahead by changing some of the weaker machine parts with better quality spare parts from the United States. The up-graded blow molder could then produce a bottle at the price of EC$ 0.30-0.35, each. Over the years they also invested in a bottle filling line for approximately EC$ 25,000 and a label machine for EC$ 25, 000. These investments have lead to a productivity rate of 1800-2000 filled bottles a day. Mr. X is responsible to manage the production plant His brother, who worked before with the Johnny Walker Distilleries, is in charge of the distribution the bottles on the domestic market; The company's marketing outlet, so far, is mostly the domestic market, but, since 2002 the company started to export to neighboring Caribbean countries.

22. Mr. X comments that one of the major bottlenecks of the processing industry in St Vincent is the lack of technical knowledge in terms of sourcing appropriate equipment/ machines in terms of size, costs, production capacity, power demand, and error-proneness. He observes a tendency that large-scale industrial machines are purchased in the USA, instead of trying to find more appropriate machines and equipment pieces for example in Latin America. This leads to underutilization of machines and costly production lines and ultimately often to bankrupt companies and failures of projects.

23. To date, Top Mountain Spring works on the development of a new product item "bottled coconut water". The innovative character or the product will be that the coconut water can be preserved for a longer time then only 3-4 days in a cooled facility. This project is the joint venture project with the Ministry of Agriculture and FAO.

De Anjay- Tropical Nature Products LTD; Caribbean Fruit Wines

24. Mr. X is a former manager at the Central Water and Sewerage Authority (CWSA). He is also a passionate Caribbean fruit wine producer. In 1987, he started to investigate the area of wine production and got a loan from National Development Fund (NDF) to buy equipment; The investments undertaken were sourced 60% on loan basis and 40% generated out of his own capital; According to Mr. X the interest rates for the loan component were far to high and amount up to 12% a year.

25. After going through a long process of trial and error, he managed to produce a range of different wines based on variety of local fruits: e.g. Ginger wine, Sorrel wine, Javafruit wine, among others. He is very interested to grow locally endemic fruits (javaplant), which are very

determination of the points in the production process where these hazards are effectively controlled (CCP = Critical Control Points). HACCP principles and guidelines for its application are included in the CODEX ALIMENTARIUS of the FAO and WHO.

difficult to get on the local market (very labor extensive and easily perishable) of which he can make his best wine. Over 3-4 years he tried to lease government land with no success.

26. The company produces in Campden Park and industrial estate in the outskirts of Kingston, and leases an industrial government building. The monthly rent amounts to EC$ 3000. The building houses 9 big aluminum silos, filled with wine, and a huge pile of boxes with empty bottles. A labeling machine is ready to stick labels on bottles. Mr. X says that everything is ready for filling the wine into bottles. However, he hesitates doing the last production step due to the lack of an established market outlet in the region, mainly with the tourism industry, including the cruise ship industry. In terms of the domestic market, he says, there is very limited market potential since local people produce their own house wines and would not spend money on a commercially produced expensive fruit wine. He attended various trade shows in order to promote the wines. He even produced a TV spot for the cost of EC$ 20,000. He emphasized that, if St. Vincent wanted to get a higher visibility for its products throughout the region, there needs to be a more consistent promotion effort from the side of the government, instead of leaving the regional marketing to the individual capacity of the private sector entities.

C. Main Issues and Conclusions

27. The following are the main issues and conclusions extracted from the cases studied and described in section 2, as well as from the open interviews conducted during the fieldwork.

28. The decline in the agricultural sector contribution to GDP was closely linked to a decline in the performance of the banana industry. Since 1993, the banana industry has struggled to adjust to ever changing market conditions in Europe, including more stringent quality standards, greater competition and lower prices.

29. St. Vincent's struggles with its very limited existing research and technology development in terms of improvement and local adaptation of seeds, propagation of good quality planting material (including fruit trees); innovations are missing in terms of small-scale and medium size tools and machinery to facilitate agricultural production in the hilly areas.

30. The following constraints were identified during the formulation of the "Agricultural Diversification Program"[1]

- Unsustainable environmental management and land use practices: managing land resources is crucial since most farmers operate on slopes that are likely to erode when badly managed. Farmers often use toxic agro-pesticides in an in-appropriate way and therewith;
- Inadequate infrastructure and credit systems for sustained production in non-banana agriculture;

[1] Financed through the European Commission STABEX FUND 1996/1997 with a portfolio of Euro 1,8 million to be spent until 2008.

- Inadequate marketing infrastructure for agricultural products;
- Inadequate legislation and institutional arrangements for the integrated development o the agricultural sector;
- Low level of technical capacity for farmers, farm workers and other entrepreneurs;
- Limited value addition in the agricultural sector;
- Weak community linkages to support the agricultural industry: In SVG, farmers operate on a very small-scale and often at uneconomic production level in a very individualistic way. Drawing on past experiences on the islands, it shows that communities and farmers could achieve more through organized groups and collective actions. Linkages between farmers and other community interests, such as health care, cooperatives, financial institutions and education programs are often weak, poorly developed or just non-existent;
- Weak technical assistance to farmers cooperatives;[1]
- Lack of investment in agriculture.

Conclusions

- A community-based approach must be established to build-up local capacity, and in particular a trust relation between individuals and communities and service providers;
- Available baseline studies and surveys are outdated and must urgently be updated. Systematic data management is poor throughout the ministries;
- The institutional and legislative framework need to be reviewed aiming at fostering commercialization of the agricultural sector and rural industry.
- One of the major challenges in the rural areas is the low level of education. More than 15% of the students have a minimum level of education (primary schools). With the introduction of new standards like EUROGAP, Fairtrade, etc, farmers face increasing challenges to understand the basic requirements they have to match. Training on agriculture and agribusiness has to start at primary school level (building-up entrepreneurs);
- Public servants run, next to their jobs, private sector entities. Having access to information and land it is attractive to them to run a parallel business which may, in addition, provide security of income for the families.

The Way Forward?

- Need for public awareness campaign to promote a paradigm shift from a “traditional” farmer to “modernized” agro-entrepreneur, who is able to sustain his/her livelihood out of agricultural/up-stream/ downstream activities;
- establish national (regional) “Incubator” for Agro-processors (developing product lines, quality assessment, packaging) clustering of innovators to support and to reduce inputs/ production costs;
- Establish incentives regime for the manufacturing sector;
- Develop innovative private/ public business models (cooperatives linking to markets-individuals;
- Develop payable small-scale agricultural/agri-business insurances.

[1] In 2004 the Langley Park Irrigation Project was developed as part of the St Vincent Banana Growers Association Recovery Plan.

St. Vincent and the Grenadines Data Profile[1]			
	1999	2002	2003
Population, total	111.7 thousand	109.2 thousand	109.2 thousand
Population growth (annual %)	-0.1	0.1	0.0
Life expectancy (years)	..	72.9	72.9
Fertility rate (births per woman)	..	2.1	2.1
Infant mortality rate (per 1,000 live births)	..	..	23.0
Under 5 mortality rate (per 1,000 children)	..	..	27.0
Births attended by skilled health staff (% of total)	99.3	..	..
Child malnutrition, weight for age (% of under 5)	..	..	..
Child immunization, measles (% of under 12 mos)	87.0	99.0	94.0
Primary completion rate, total (% age group)	..	78.0	..
Primary completion rate, female (% age group)	..	83.0	..
Net primary enrollment (% relevant age group)	89.0	90.0	..
Net secondary enrollment (% relevant age group)	44.5	57.7	..
Surface area (sq. km)	390.0	390.0	390.0
Forests (1,000 sq. km)	..	..	..
Deforestation (avearge annual % 1990-2000)	..	..	..
CO2 emissions (metric tons per capita)	1.4	..	..
GNI, Atlas method (current US$)	301.6 million	329.7 million	361.2 million
GNI per capita, Atlas method (current US$)	2,700.0	3,020.0	3,310.0
GDP (current $)	330.4 million	361.1 million	371.5 million
GDP growth (annual %)	3.0	1.1	4.0
GDP implicit price deflator (annual % growth)	0.8	3.1	-1.1
Value added in agriculture (% of GDP)	10.5	10.3	8.7
Value added in industry (% of GDP)	25.3	25.1	24.4
Value added in services (% of GDP)	64.2	64.6	66.9
Exports of goods and services (% of GDP)	53.0	49.2	47.4
Imports of goods and services (% of GDP)	73.8	60.3	64.9
Gross capital formation (% of GDP)	34.6	29.9	33.7
Revenue, excluding grants (% of GDP)	..	..	..
Fixed lines and mobile telephones (per 1,000 people)	221.4	318.8	..
Telephone average cost of local call (US$ per three minutes)	0.1	..	..
Personal computers (per 1,000 people)	97.2	119.7	..
Internet users (per 1,000 people)	26.5	..	..
Paved roads (% of total)	65.0	70.0	..
Trade in goods as a share of GDP (%)	75.7	58.7	64.1
Trade in goods as a share of goods GDP (%)	183.8	142.0	173.3
High-technology exports (% of manufactured exports)	..	0.0	..
Foreign direct investment, net inflows in reporting country (current US$)	56.1 million	32.5 million	37.7 million
Present value of debt (current US$)	..	169.0 million	192.1 million
Total debt service (% of exports of goods and services)	8.1	7.3	..
Short-term debt outstanding (current US$)	31.9 million	32.4 million	33.5 million
Aid per capita (current US$)	146.2	43.9	58.0

[1] World Development Indicators database, April 2005.

ANNEX 3

THE FUTURE FOR AGRICULTURE IN THE OECS COUNTRIES

Case Studies on Rural Development Initiatives by the Private Sector

GRENADA

A. Introduction

1. Grenada is a tri-island volcanic state with a rugged topography. Grenada is its largest island with 311 km2, and two much smaller islands Carriacou (34 km2) and Petit Martinique (3.2 km2). The population is over 100,000 of which 61% are classified as rural. In the period 1990-1997 an average annual growth rate of 0.9% was registered in the overall population.

2. **Climate:** Grenada's climate can be classified as semi-tropical with a marked dry season from January to May and a wet season running from June to December. Spatial variations in annual rainfall range from about 1 500 mm to more than 5,000 mm, with an average totaling 2,350 mm. Grenada's is situated in the southern end of the hurricane belt, which makes it highly vulnerable to natural disasters. The most frequent ones are those related to hurricanes and flooding[1].

3. **Water Resources:** Water resources originate mainly from a system of permanent streams and rivers but there is some groundwater available from the limestone areas along the northwest coast. The entire population (rural and urban) has access to the domestic water supply. About 80 percent of the island is connected to the public water supply, 7 percent to standpipes while the remainder is supplied from rain water catchments. However, there is very little available from that supply that can be diverted to agriculture.

4. **Economy:** Grenada is classified as an upper-middle-income country[2], with a GNI per head of about US$ 3,710 in 2003. Before the hurricane stroke the island in 1994, the agricultural sector contributed, in 2003, 10 %, the industry sector 23% and services sector up to 70% to GDP. Unemployment amounted up to 12.2% in 2001[3]. The OECS Secretariat assessed the damages caused by the Hurricane Ivan at a cost of reconstruction of US$815m, equivalent to two years of GDP. Around 90% of buildings were severely damaged or destroyed, and 30% or 10,000 houses will need to be rebuilt, while the rest will require extensive repairs.

5. **Trade:** Grenada's main export partners are the United States, Germany, the Netherlands, OECS countries, and Trinidad and Tobago. Main import partners are the United States, Trinidad and Tobago, the United Kingdom, and Japan. In 2003, total export amounted to US$ 64.3 million against US$ 209 million of imports. The most important products for export are bananas, cocoa, nutmeg, fruit and vegetables, clothing, mace. Grenada's main imports are food, manufactured goods, machinery, chemicals, and fuel.

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1 In the recent years, the island has suffered major damage from storm surge flooding caused by Hurricane Lenny (in 1999) and Hurricane Ivan (in 2004). The latter severely affected agricultural resources. Crop damage was nearly 100 percent for banana and sugar cane, while nutmeg and other spice production infrastructure was seriously affected and killed 28 people

2 According to World Bank country Classification, 2002.

3 Economic Intelligence Unit, 2004.

6. **The Agricultural Sector** In 2003 agriculture's share in the island's GDP was 10 %, showing a decline from 10.4% in 1996 and 17.5% in 1981. Of the total land area some 2200 ha are in annual crops and 12,000 ha under permanent crops. Main crops are bananas, cocoa, nutmeg, mace, citrus, avocados, root crops, sugarcane, corn, vegetables. Soils are reasonably fertile and well-drained. Average farm size is less than 1 acre. It is estimated that there are 14,000 holdings. Fish exports are important. Small farmers produce a wide variety of fruit and vegetable crops and some livestock products. Nutmeg and mace are the major exports: before the hurricane Ivan Grenada was the world's second-largest producer of these crops after Indonesia, supplying one-quarter of world demand. Rising prices and volumes saw an increase of more than 400% in export earnings from these products in the last decade. There is a small manufacturing sector, comprising food-processing, beverages, garments and electronics assembly industries.

B. Case Studies

Noelville Ltd. "Botanic Gardens of Bathazar and Tropical Herbs"

7. Mr. X is a nutmeg producer who owns 80 acres of land with approximately 50 nutmeg trees. He suffered sever damages of his nutmeg trees during the hurricane Ivan in 2004. In addition to the nutmeg, he produces *heliconias* (tropical flower), ginger roots, medicinal herbal teas, lemon grass tea, lemon grass seasoning and *noni* juice (traditional health drink).

8. Mr. X is one of some 10,000 registered nutmeg farmers on the island equivalent to about 10% of the population. Mr. X became an innovator in 1993, when he started to produce nutmeg oil, and developed through a cumbersome trial and error process his main sales product a "pain relieving nutmeg spray". Currently he is trying to patent the spray in the USA and in Europe.

9. His main motivation to get into developing innovative and value-added products was the simple fact that farming became physically very challenging due to his increasing age. When realizing this, he explained, he started reading about and investigating the traditional use of Grenadian endemic plants and herbs and how to develop them into marketable products.

10. Noeville Ltd employs currently eight fix term staff. During peak production time Mr. X hires additional 10-12 persons and thus reaches a production level up to approximately 2000 bottles a day, and 15,000 bottles of nutmeg spray a week. The plastic bottles and labels are purchased in large amounts in Trinidad and Tobago at a much cheaper price. They are stored and used according to demand of production. Mr. X commented that the import costs of bottles (1 EC$ per piece) are often the main constraint for small-scale producers lacking capital and storage facilities for large amounts. All products have a natural base and originate from Grenada except, the coconut oil which is imported St. Lucia. His yearly turnover amounts approximately up to US$ 50,000 a year.

11. Mr. X participated in various trade shows to market his product in the CARICOM region and abroad. The costs of his participation were partly financed by the Government through a European Union funded program, and partly by himself. He confirms that his participation in the trade shows have been essential to establish essential business contacts. Before the hurricane struck the island, he had arranged a contract with a Taiwanese buyer for 100,000 bottles of

nutmeg spray. However, it will take some time until his company will have recovered from the damages caused by the hurricane in summer 2004.

12. According to Mr. X, the main constraint of his company is to mechanize the production system. Many other small enterprises share this problem. He needs to invest into an automatic bottle filling system replacing his manual bottle filling system, in order to increase economies of scale and to reduce the product price. However, the interest rate on loans for the manufacturing sector amounting between, 11.5-13% a year is too high for him to take up the credit. The second major constraint is to obtain a finished product registration valid for USA and/or the European market which is a very costly and time-consuming undertaking.

13. His strategy to make his company financially sustainable is to consistently develop new products or product varieties and discover new product ideas when traveling. His principle is to learn from competitors and to build on the natural richness of Grenada's endemic medical plants.

The Grenada Chocolate Company "Organic Dark Chocolate produced with Solar Power"

14. The young entrepreneurs, Mr. X and Mr. Y, both 33, started research on chocolate making in 1998, inspired by their dream to start a small-scale chocolate cooperative in Grenada, where Mr. X had found a second home. The Grenada Chocolate factory is one of the only small-scale chocolate-makers, producing fine chocolate in the same country where the cocoa grows. Mr. X stresses that the company's philosophy is "that the cocoa farmers should benefit as much as the chocolate-makers". The Company achieves that goal by increasing the immediate value of the farmers' cocoa beans with country level production.

15. Mr. X calls himself as a "drop-out from university" where he used to study industrial engineering, but left to become entrepreneur. When visiting U.S. chocolate factories, it became clear that the available equipment for manufacturing quality eating chocolate, although not impossibly complicated, was scaled for huge companies, making production prohibitively expensive for developing countries. In 1999, they managed to build a set of small-scale chocolate making machines. Mr. X and Mr. Y built their own roaster and grinder conch, tempering box and chocolate press in the US where they had access to cheap construction material. In addition, they bought an antique mixing machine in New York. When everything was constructed and the machines were proved to be working, they were shipped via truck and boat to Grenada.

16. The Grenada Chocolate Company Ltd. was founded in 1999, producing high quality organic dark chocolate. The company has its own organic 100 acre cocoa farm, which is part of Belmont Estate located one mile away from the factory. This assures them a level of minimum supply of cocoa beans. All activities from the planting and growing of the cocoa trees to the processing of the fine dark chocolate are performed by the company. The cocoa beans are grown on a 100% natural base without the use of any chemical pesticides, herbicides or fertilizers and have been certified organic according to the USDA and EU standards.

17. The company is run as a cooperative, which includes three founding members. Mr. X claims that profitability isn't the main focus of the company, but fairness. "Our vision is to create an appropriate technology chocolate factory, pay farmers a non- exploitive price for their beans", Mr. X said during the interview. Seven more persons are employed, two persons for choosing and

cleaning the chocolate beans, three persons for producing chocolate, and two persons for packaging. All employees are paid at a similar salary level and have shares in the company. Solar panels produce the necessary electricity to run the machines and air conditioners.

18. All inputs used for the production come from Grenada, except the organic sugar which comes from Uruguay. Since 1999, the following product lines have been established: 1) Organic Chocolate bars (4 oz) available individually as well as in gift boxes of five bars; 2) Sweety Pods Organic Chocolate pieces in the shape of cocoa pods, individually wrapped in fancy foil; 3) Smilo Organic Cocoa Tea (cocoa powder in 1 oz. and 4 oz. packets to make hot-chocolate), chocolate ice-cream, baking, 100% pure Organic Cocoa Butter, mostly used as a skin lotion, but also as an ingredient in desserts and for cooking;

19. According to Mr. X, the cocoa produced by the factory is uniquely rich and flavorful because of the particular attention given to production and relatively low-pressure cocoa butter press. In total, 80 pounds of cacao are processed a day for a weekly production of 14 000 bars. According to Mr. X this quantity amounts to only 50% of the potential production capacity (equivalent to three working days a week). The factory has a limited production capacity because of its small-scale and second, because of the monopoly of the GCA[1] to buy cacao from farmers. The chocolate company is not allowed to purchase additional cacao beans directly from farmers producing organic cacao. Mr. X indicates that in order to address the problem of under-production, they are planning to buy or lease land to increase the availability of raw material (cocoa bean) the factory urgently needs to increase production. So far, these are still future plans; because land is expensive, and difficult to access.

20. Approximately, 80% of the chocolate produce is sold on the local market, mostly through supermarkets. The chocolate can also be purchased through the internet and through salesmen in the USA and the UK. All investments made were taken out of private funds and donations; Profits are generally reinvested in the company.

21. Regarding future projects, Mr. X states that the company is constructing a larger version of the home-made cocoa butter press which will allow them to make much more cocoa powder for drinking and baking. Mr. X indicates that the company has assembled and is testing a set of machines in Oregon, USA for that purpose. When the process is developed to satisfaction they will bring the equipment back to Grenada. In future they plan to produce top-notch dark chocolate as well as cocoa powder. Mr. X aspires that the government would increase the support to cocoa farmers reforming the monopoly of the cacao market. In addition, Mr. X states that help is needed to improve seedlings and support farmers to get into certified organic cacao production. Mr. X expressed his hope to convert a good percentage of Grenada's cocoa beans to higher valuable products, helping to boost the local economy.

[1] The cocoa industry is organized in a similar way to the nutmeg industry in that it is operated by the Grenada Cocoa Association (GCA). The GCA is run by a General Manager who reports to a Board of nine members, of whom six are growers, and the other three are nominated by the Government. The GCA has a monopoly on the export of fermented beans, which it sells mainly to a Swedish broker. The GCA has three tree seedling nurseries and operates a number of buying centers where growers deposit their beans. It also operates a central store and warehouse in St Georges from where it exports the crop

Belmont Estate: Agro-tourism "It's Traditional Rural Life at its Best"

22. Ms. X is a young manager running Belmont Estate, through Nyack & Company, as an agro-tourism family project that integrates local history, culture, traditions and local cuisine into the settings of a 17th century old fully functioning 400 acre cocoa and nutmeg plantation. Opened as an attraction in 2002, Belmont provides visitors with leisure and entertaining and educational opportunities to experience rural Grenadian lifestyle. The estate offers tours to its heritage museum, cocoa fermentary, historic sugar cane garden and old cemetery. Plantation dining, traditional cultural activities, farm animals and a gift shop also form part of the project. Before the hurricane Ivan struck the island, they had 13000 visitors throughout the year, including local tourists as well as and cruise ship passengers for half-day or day tours.

23. Belmont Estate is situated in the parish of St. Patrick. Dating back to the late 1600s and early 1700s, Belmont Estate was owned by the Bernego family of France. Following the cession of the island by the French to the British in 1763, the estate became the property of various owners. The estate remained in the hands of a Scottish Family, named Houston, for more than 170 years. In 1944, the Nyacks purchased the estate as the first Grenadian of Indian descent to own an estate on the island. They made Belmont Estate their home and operated the plantation. After some time, the Nyacks owned six of the most productive estates on the island and employed more than a thousand persons. Throughout its history, Belmont has played a major role in Grenada's agricultural economy. In the late 1600s and early 1700s, it was one of the 81 plantations established on the island with coffee being its major produce. Sugarcane was introduced as the main crop later in the 1700s; cotton was also a major crop of the estate, being later replaced with cocoa, nutmegs in the 1800s and bananas coming later. The estate is still a major producer of cocoa and nutmegs for export.

24. Nowadays, the Belmont estate is run by a young team consisting of a) a business manager, b) a farm manager, c) a operation manager, d) an accountant and one general manager; In total Belmont Estate employees 70 staff members and Mrs. Nyack states that Belmont Estate has had a socio-economic impact working with 300 to 400 persons at the household level including farmers from which they buy vegetables. Ms. X shared that persons working for Belmont estate did not become rich but managed to improve their houses; some bought cars and improved their livelihoods considerably.

25. Since 2002, Nyack & Company, managing Belmont Estate, were aiming at moving from the traditional nutmeg and cacao sector to a more diversified portfolio with the following activities: 1) restaurant: initially, a small restaurant was opened for only 30 people which was expanded to 150 people over the years; the restaurant offers local culinary delights featuring traditional fish, chicken and beef or mutton dishes; fresh local vegetables; rice and savories and salads. (2) weddings: Belmont Estate is organizing intimate weddings in its sugarcane garden; (3) cultural Events: visitors are provided with an opportunity to experience some of Grenada's traditional culture - African drumming and dancing, stick fighting, traditional games; (4) tropical Garden: the sugarcane garden and a rich tropical flora, including mahogany trees, tropical flowers, fruit and spice trees, ruins of a 18th century sugarcane mill, tools and artifacts; (5) museum: The museum seeks to preserve the history of Belmont Estate and Grenada. It shows artifacts, antiques, furniture, photographs, documents, payroll ledgers and tools. There is also a rich assortment of personal and family memorabilia of former owners, and of important historical events in Grenada.

(6) Fermentary: Belmont estate also allows an insight into the transformation of raw cocoa beans into a delicate product that is used for making chocolate;

26. Beyond, Mrs. X explains that Belmont has taken on the role of facilitating social and educational programs aimed at staff and members of the community development. This includes a summer school, kite flying competition and health fair, as well as, participation in the local chamber of commerce cricket competition, etc. A non-profit organization, Belmont Estate Heritage Foundation, was recently formed to promote and preserve the island's heritage. The establishment of a community library and introduction of a mentorship and adopt-a-child program will soon be introduced.

27. Due to the heavy damages caused by the Hurricane Ivan, Belmont estate needed extensive rehabilitation work. All investments in the rebuilding of the estate were taken out of private funds. Ms. X annotated that the company did not get access to any of the public funds for the reconstruction, despite the extensive community outreach program and the large number of employed community members.

LaSagesse Farms- Specialized in Organic Fruits, Vegetables and Fruit Juices

28. Mr. X is a retiree who previously worked as physicians at a research institute in the United States. In 2002, he returned to Grenada and bought 20 acres of land which are mainly planted with fruit orchards (passion fruits, West-Indian cherries, mango etc). He returned to his country with the motivation to set-up a juice producing plant. His overall goal was to provide, through his juice producing company, economic opportunities to people in the rural areas in Grenada.

29. Mr. X started the juice factory in 2002 with an investment of EC$ 7 million, of which EC$ 2 million was private capital and EC$ 5 million was a loan from the National Development Bank at an interest rate of 11.5%. He complains that the bank did not offer a lower interest rate to the manufacturing sector. To date, the company struggles severely to pay the debt service. and at the same time service the relatively high overhead costs (because of utility bills, including electricity and high salaries). Before the hurricane he says, the company generated EC$ 73000 net revenues, and had approximately EC$ 121,000 costs entailing EC$ 31, 000 salaries, ES$ 45, 000 depths services, EC$ 45,000 overhead costs for utilities.

30. Currently, the company's major constraint is the replacement of one piece in the automatic filling machine at a cost of EC$ 200,000. The company employs 8 fix term staff, but hires additional persons upon demand. He works with 20 local farmers (contract arrangement) but buys in total from 65 farmers; he buys at a cheaper price than on the fresh fruit market but on a regular basis and in bulk. This is why farmers prefer to sell to him despite the cheaper price.

31. Before the Hurricane struck the island, the factory was running only 4 h a day leaving scope to increase productivity. At that time the company had a market share of 30% for fruit juice, and could have easily reached 50%, if more fruit had been available on the domestic market. The company's largest outlet is the supermarkets with 50% of total sales followed by restaurants and smaller shops. Hotels in Grenada mostly import fruit juice from the USA. Mr. X also exports small quantities of juice to the Bahamas, Caiman Islands, and Trinidad.

32. After having arranged the replacement of the equipment piece, he plans to import pulp from neighboring countries to increase juice production and run his machines at full capacity. In Grenada it is very difficult at the moment to purchase citrus fruits since most trees have been destroyed by the hurricane in the summer 2004. He is of the strong opinion that the Ministry of Agriculture should be promoting in a much more consistent way the propagating and the replanting of fruit orchards throughout the country. Mr. X further complains that access to land is very difficult. For him to reduce risk of production means that he has to plant a certain amount of fruit trees to ensure a minimum amount of raw material for the juice production.

C. Main Issues and Conclusions

33. The following are the main issues and conclusions extracted from the cases studied described in section 2 as well as from the open interviews conducted during the fieldwork:

34. The agricultural sector, once Grenada's main foreign exchange earner, is in decline. Throughout the last decade Government has not be giving enough attention to the agricultural sector in terms of promoting agriculture, up- or downstream industries and introducing fiscal incentives. Not many young people are interested in remaining or in becoming involved in farming; thus, the knowledge of traditional farming techniques and natural resources management are being lost. In Grenada, agricultural production is predominantly a multi-cropping system, which makes the application of improved technologies difficult.

35. According to the interviewees, the impact of the decline of the banana industry was not so severe felt in Grenada, as in other OECS countries. Most farmers already started to diversify agricultural production systems long before the hurricane stuck the island.

36. The challenges the sector is facing are enormous and require new policies and strategies if agriculture is to play a meaningful role in the future development of Grenada. Throughout the country's rebuilding process policies and strategy must be adapted and coherent not only with existing WTO/EU agreements, but with the physical, social and economic changes brought upon by the destruction of the hurricane.

37. In other words, the modernisation and commercialisation of the agricultural sector is of paramount importance and must be based on Grenada's comparative advantage in value added products. As a prerequisite to this strategy ministries will have to increase the productivity and efficiency of agricultural production to ensuring a competitive agricultural sector and its modernisation.

Specific Problems Affecting the Modernization of the Agricultural Sector

The agriculture sector has been declining as a result of the following:

- Small, uneconomic farm sizes;
- Declining agricultural productivity;
- Lack of international competitiveness and an absence of value added to maximize income;

- Difficulty in obtaining productive labour/ agricultural workers because of low wages[1];
- Declining availability of land for agricultural development;
- Aging population with low educational levels;
- Low usage of modern technologies in the production process;
- Low levels of investment capital;
- Land Tenure: No land use policy or zoning of agricultural lands and land for housing and constructions;
- Irrigation is not well developed in Grenada. Small areas of vegetables are coming increasingly under irrigation having access to river/stream water which, in most cases, is available throughout the year;
- Credit, although technically available, does not reach small-farmers. The small size of the loans and lack of collateral often act as disincentives for the borrowing institutions;
- Propagation material is not sufficiently available to satisfy the need of farmers wanting to replant their field after the hurricane. This lead to a severe time delays of the replanting and potentially will cause food security problems. Farmers started importing seedlings (vegetables and trees) but prices are very expensive;

Additionally, the growth in the sector is constrained by a number of institutional factors including the following:

- Weak institutional framework and inadequate support services;
- The absence of adequate and appropriate information to support planning and policy decisions;
- Lack of adequate incentives for agriculture entrepreneurs;
- Lack of group/ cooperatives (individualistic farming approach);
- Lack of coordination among local, regional and international institutions resulting in a duplication of activities;
- Weak communities and poor social cohesion.

Possible intervention strategies

- To establish a non traditional tree crop (fruits) sector capable of supplying raw materials to industries, and to the local and regional markets;
- To establish a modern livestock sector that will provide quality meat to the local market;
- To establish a modern fishing sector through productivity and management of the fish resources;
- To improve the food security status nationally;
- To enhance the capacity of staff to provide a more effective service to the agricultural sector;
- To upgrade all agricultural infrastructure such as nurseries, farm roads, irrigation systems;

[1] After the hurricane hit the island, government set up a rural development program to get people involved into restarting agricultural production and clearing the fields paying agricultural workers EC$ 45 a day which equals a day wage of construction workers; Most people picking up the program were women.

- Increase household food security and smallholders' income, by encouraging small vegetable farmers to adopt improved technologies and by promoting improved post-harvest handling;
- Promote innovations in the area of food industry and agro-processing and value-adding; For example:

  a) Fruits juices, fruit tins (e.g. fruit salads for hotels), dried fruits;
  b) Spice industry; e.g. Ginger, vanilla for export to Europe and USA;
  c) Natural based cosmetics,
  d) Pharmaceutical products/ herbal plants (crude and processed as tea etc.);

- Provide fiscal incentives for small and medium size companies in pioneer status ("infant industries" (e.g. tax holidays);
- Strengthen linkage between agricultural sector and hotel/restaurant industry.

Grenada Data Profile[1]			
	1999	**2002**	**2003**
Population growth (annual %)	0.6	0.9	1.1
Life expectancy (years)	..	73.0	73.1
Fertility rate (births per woman)	..	3.0	3.0
Infant mortality rate (per 1,000 live births)	..	..	18.0
Under 5 mortality rate (per 1,000 children)	..	..	23.0
Births attended by skilled health staff (% of total)	99.0	..	..
Child immunization, measles (% of under 12 mos)	94.0	96.0	99.0
Primary completion rate, total (% age group)	..	..	..
Primary completion rate, female (% age group)	..	..	..
Net primary enrollment (% relevant age group)	..	..	..
Surface area (sq. km)	340.0	340.0	340.0
Forests (1,000 sq. km)	..	..	..
Deforestation (avearge annual % 1990-2000)	..	..	..
CO2 emissions (metric tons per capita)	2.1	..	..
Access to improved water source (% of total pop.)	..	95.0	..
Access to improved sanitation (% of urban pop.)	..	96.0	..
GNI, Atlas method (current US$)	338.8 million	354.4 million	387.8 million
GNI per capita, Atlas method (current US$)	3,360.0	3,420.0	3,710.0
GDP (current $)	377.6 million	414.1 million	439.3 million
GDP growth (annual %)	10.1	-1.1	5.8
GDP implicit price deflator (annual % growth)	0.6	2.8	3.5
Value added in agriculture (% of GDP)	8.1	7.5	..
Value added in industry (% of GDP)	22.6	22.6	..
Value added in services (% of GDP)	69.4	69.8	..
Exports of goods and services (% of GDP)	59.0	47.4	..
Imports of goods and services (% of GDP)	66.8	57.2	..
Gross capital formation (% of GDP)	..	..	..
Revenue, excluding grants (% of GDP)	..	..	..
Fixed lines and mobile telephones (per 1,000 people)	336.7	387.7	666.7
Telephone average cost of local call (US$ per three minutes)	0.0	0.1	0.1
Personal computers (per 1,000 people)	117.8	132.1	..
Internet users (per 1,000 people)	26.8	141.5	169.0
Paved roads (% of total)	61.3	..	..
Trade in goods as a share of GDP (%)	63.0	57.2	64.2
Trade in goods as a share of goods GDP (%)	166.5	160.1	161.9
High-technology exports (% of manufactured exports)	0.1	8.3	1.0
Foreign direct investment, net inflows in reporting country (current US$)	41.6 million	57.6 million	0.0
Present value of debt (current US$)	..	296.8 million	349.0 million
Total debt service (% of exports of goods and services)	5.3	15.9	18.0
Short-term debt outstanding (current US$)	23.7 million	71.9 million	72.5 million
Aid per capita (current US$)	102.6	93.9	111.9

[1] World Development Indicators database, April 2005.

ANNEX 4

THE FUTURE FOR AGRICULTURE IN THE OECS COUNTRIES

Case Studies on Rural Development Initiatives by the Private Sector

DOMINICA

A. Introduction

1. Dominica lies between the French Caribbean islands[1]. The island is of volcanic formation[2] and entails a total land area of 750 $km^{2.}$ Dominica's population amounts approximately 71,000 inhabitants of which 28% lives in the rural areas. The rate of population growth stagnates between 0 and 0.2%. Dominica declared its independence from Great Britain in 1978, and has ever since been a member of the Commonwealth. Some 3,000 Carib Indians still living on Dominica are the only pre-Columbian population remaining in the Eastern Caribbean.

2. **Climate:** Dominica has a mild climate, particularly during the cool months from December to March. Summer temperatures reach an average of 32°C; winter temperatures are not much lower, the average high being anywhere from 29 to 30°C. The dry season is from February to May, and the rainy season is from June to October, the most likely period for hurricanes. Rainfall varies, being especially heavy in the mountainous interior. Average annual coastal rainfall varies from 1,500 to 3,700 mm, but in the mountains average rainfall can reach a maximum of 6,350 mm.

3. **Water Resources:** The total annual production from all currently used water sources is estimated at 16.6 million m^3. Only 40% of the consumers are metered and no accurate figure exists for actual usage. It is estimated that an additional 4.1 million m^3 are needed to serve the whole population adequately. No assessment has been made yet on water needs for commercial and/or industrial uses.

4. **Economy**: Dominica belongs to the upper middle low-income countries[3]. GNI per head increased from US$ 2,910 in 1995 to US$ 3.330 in 2003[4]. The Dominican economy suffered a negative annual growth GDP (-0.6%) in 2003. With 13% unemployment Dominica ranks highest throughout OECS countries. This high number is a result of the decline of the banana sector, where the number of growers dropped from 6,675 in 1990 to 1,057 in 2003. Government (18%), the wholesale and retail trade (11%), and other services (23%) are other important job-generating sectors. Hotels and restaurants employed only relatively small share (3%) of the workforce in 2002. In 2003, the government began a comprehensive restructuring of the economy - including elimination of price controls, privatization of the state banana company, and tax increases - to address Dominica's economic crisis and to meet IMF targets. In order to diversify the island's production base the government is attempting to develop an offshore financial sector and is planning to construct an oil refinery on the eastern part of the island.

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1. Guadalupe and Mari-Galante to the North and Martinique to the South.
2. The highest points are Mount Diablotin (1 447 m) and Mount Trois Pitons (1,424 m).
3. According to the World Bank country classification 2004.
4. Worldbank Data "Dominica at a glance", 2004.

5. **Trade:** Dominican merchandise exports comprise largely bananas, soap products, and fruits and vegetables. In 2003, the value of exports totaled US $40 million and the value of imports totaled US$ 111.5 million. With respect to recent trends in agricultural exports, both banana and non-banana exports declined in terms of volume during the 1993-2002 period. In terms of value, however, non-banana exports experienced a significant increment, from EC$ 14.7 million in 1993 to EC$ 31.5 million in 2000, but declined to EC$ 19.5 million in 2002. Dominica's main export partners are CARICOM member countries, the United Kingdom and the United States, whilst its main import partners are the United States, CARICOM countries and the United Kingdom, the Netherlands and Canada, in order of importance.

6. **The Agricultural Sector:** The islands contribution to the GDP declined from around 38% in the late 1970's to 17.6% in 2003. Out of the total land area, 75,000 ha only 22,000 ha can be used for agriculture, including 5,000 ha of arable land, 15,000 ha of permanent crops and 2000 ha of permanent pastures. Although mountainous[1], Dominica is endowed with fertile soils, level ground for crop production is rare and largely confined to river flood plains and coastal strips with much of the arable and tree crop area located on steeply sloping ground. Agriculture is centred on and around the banana industry, although increasing attention is being given to non-traditional agricultural crops such as plantain, coconut oil, oranges, mangoes and root crops. The country's forestry and fishery potential seem not to be fully exploited. The average farm in Dominica is very labor intensive. There is little development of mechanization and although there are frequent problems with soil moisture levels, especially in the coastal regions, there is no significant irrigation. Management capacity at the farm level is often low. The drastic decline of in value added of the agricultural sector, in particular the banana industry, results, of the dismantling of preferential arrangements granted by the European Union, has had a significant impact on the country's overall economic performance, as it has a relatively high multiplier effect. For instance, around 80% of growers employ additional labour for harvesting activities, normally once every other week.

7. To a limited extent, agricultural diversification has already started with increased production of other crops such as grapefruits, oranges, plantains and yams. The marketing aspect for these products, however, remains a significant challenge. The Ministry of Agriculture and the Environment has secured approximately EC $12 million of funding from the European Union (STABEX 96/97 and Special Framework Agreement 99 and 2001) to implement an Agricultural Diversification Program.

[1] The surface area has a slope of less than 5%, 13% of the area is between 5% and 30% slope and the remainder is steeper than 30%.

B. Case Studies

The Dominica Hucksters Association

9. The Dominica Huckster's Association (DHA) is an organized group of "hucksters"[1] who are involved in the marketing of non-traditional products, mainly in the regional market. Membership has ranged from 400-200, and has declined due to tighter supply availabilities of produce. The Association provides, for an initial fee of $55 and annual renewal fees of $30, a range of services to its members. These services include assistance in the completion of transportation documents (these have an additional cost of EC$ 5-10/document), loans (up to EC $4,000), export boxes, life insurance and tax preparation services. The association also facilitates the acquisition of visas to Guadeloupe (one of the principal markets for members). The Association was started in 1995. Hucksters are involved in two-way trade, exporting to regional markets such as St. Maarten, Martinique and Guadeloupe and returning to Dominica with a range of food and non-food items for sale in the local market.

10. Hucksters place orders with local farmers on a Friday for delivery the following week. These orders will identify the product to be procured, the price to be paid and the volumes to be collected. Prices are negotiated between the individual huckster and the farmer and vary with conditions in the regional market. In general, each huckster has a well-defined clientele with whom he/she trades and maintains informal "contracts" with these suppliers. Hucksters in many cases obtain credit (of up to 1 week) from farmers but cash transactions are also undertaken. Hucksters do not, except in special circumstances, harvest the produce purchased but they do provide their own transportation from the farm gate, particularly when supplies are tight. Produce is transported from the farm gate to the home of the hucksters or to the Huckster's Association buildings in Portsmouth or Roseau where the produce is graded and packed. Produce is subsequently moved by truck to shipping points in Roseau, Portsmouth and Ansedemas. Phytosanitary certificates are also issued at these export positions.

11. Generally, on Monday mornings, hucksters contact the Association's office to obtain shipping documents. Roughly 60% of the produce handled by hucksters is shipped to Guadeloupe, with 20% shipped to St. Maarten and 5% to Martinique and 5% to Antigua. Shipments to Guadeloupe are primarily grapefruit, plantains, dasheen, yams and cut flowers. The principal commodities going into the St. Maarten market are grapefruit, plantains, dasheen, yams and bananas. In the case of Antigua and Martinique the range of products is the same as to St. Maarten but volumes are substantially lower. Hucksters arrange their own overseas transportation and many have ongoing business relationships with the captains of specific vessels and may be able to negotiate transportation on credit. The Dominica Hucksters Association has a number of agents in the regional markets that facilitate the clearance of produce at the destination port. Title changes to the shipping agents once the produce is loaded onto the vessel. In most cases the hucksters accompany their produce on the vessel to the destination market.

[1] Hucksters are informal traders who purchase produce for sale in the regional markets. Agricultural produce handled by hucksters include plantain, dasheen, tannia, yams, bananas, hot peppers, cabbage, pumpkins, sweet potatoes, cucumbers and avocadoes.

12. Hucksters are only authorized to sell their produce to wholesalers in the regional markets. The primary buyers are supermarkets, hotels, prisons and schools. Prices and volumes are negotiated between the hucksters and buyers prior to the shipment of produce from Dominica and profit margins on sales are in the region of 22-31%. The buyers in Guadeloupe, their main market, largely set the base prices at which Hucksters sell their produce.

13. Amongst the main constraints cited by Hucksters is the poor intra-island shipping infrastructure. Boats are old, many are old fishing boats, with no refrigeration and thus not suitable for shipping perishable agricultural products. Boats are privately owned. Rates are negotiated with boat owners and can start at around EC $4/box for Guadeloupe/Martinique. Factors other than distance that have an influence on boat charges are fuel price and port charges.

14. It is argued that there are not sufficient volumes of produce for exports to justify investment in ships and direct and established routes, but also it is argued that there are not sufficient volumes for export because there are not adequate and sufficient ships and routes. In a similar situation, but with respect to air-cargo, the former Export Development and Agricultural Diversification Unit of the OECS Secretariat reached an agreement with an Amerijet by which they would buy the empty cargo space of the airline as to reduce their risk of flying back with empty cargo space. The experiment was successful as, after a transition period, hot peppers started to be produced for export and to fill-in the empty cargo space. Due to this experiment, Dominica became one of the first countries in the Caribbean to start exporting fresh hot peppers to the United States. Until today, Amerijet flies to Dominica and carries fresh produce for sale in the United States.

15. Hucksters do not share some of the privileges that have been traditionally extended to the banana producers, for instance in terms of duty free importation of supplies and equipment. The relatively low Government support they have received through the years, and the nature of their work, always working in response to changing market needs, may explain their successes. Hucksters are one of the few links in Dominica's agricultural distribution chain that have worked in a competitive environment.

The Giraudl Flower Group

16. The Giraudl Flower group is a group of 16 women that produce and market cut flowers in Dominica. They are located in the Giraudl area in the outskirts of Roseau at an approximate altitude of 800 meters above sea level.

17. The Group came together in 1984, as a result of the negative economic impacts of the, then initiating, downfall in the banana sub-sector. Most heads of household were banana producers and when they had to leave banana production, their income levels suffered substantially. This resulted in the sudden reliance of families on the income generated by other activities, mainly those carried out by the women, such as the production and sale of cut flowers and vegetables. This also provided the additional incentive for the households to invest and expand these activities.

18. The members of the Group produce and market their own cut flowers individually. Some of the varieties of flowers they produce include: Anthuriums, Ginger Lilies, Heliconias,

Dalias, etc. Most of the flowers are sold in flower arrangements that are made and sold by each producer. They sell mainly on Saturdays in the open market, to hotels, funeral homes, or directly to private customers upon request. As a group they focus on mutual support for bulk purchasing of seeds and other inputs to reduce costs, on knowledge sharing, and to identify and secure funding from possible donors.

19. Amongst the main constraints to flower production is the availability of water during the dryer months of the year, as they do not have irrigation and thus rely on rainwater. They also have problems with access to specialized technical assistance in floriculture, as it is not an area supported by the local extension service. Much of their technical advancement has resulted from trial and error, which has been expensive and lengthy. At some point they were able to obtain technical assistance on green house production from a gender project sponsored by the Canadian cooperation (CIDA).

20. Every year the Group organizes a Flower Show, which has become a much-anticipated event in Dominica and neighboring islands. The Show is normally held in a school in Roseau, and has served as an important outlet for sales, but mainly for promotion. The Group has recently purchased 2.6 acres of land near Giraudl, where they plan to build appropriate infrastructure to hold the annual show. For this, they plan to hire the services of a landscaper architect. In this site they are also planning to develop agro-tourism services. The funds for the purchasing the land were borrowed from a local bank, with the members putting down the required collateral.

Parry W. Bellot & Company Limited (Bello)

21. Parry W. Bellot & Company Limited is the largest agro-industrial enterprise in Dominica. Its origins go back to 1944. It is located in Castle Comfort, not too far from Roseau, conveniently located near the port facilities. The company's processed products, which are sold under the Bello brand, include fruit drinks, hot sauces, jams and jellies, coffee and other hot beverages, etc. The company's main markets are the United Kingdom, the United States and other Caribbean countries. It exports around 80 percent of its production. The processing infrastructure of Bello is currently operating at around 40% capacity. It generates full time employment for 50 people. The company's annual sales are in excess of US$ 2,000.000.

22. Bello was in the past an important buyer of local agricultural products for industrialization. Their original strategy was set out to take advantage of ample supplies of good quality local products. Today, despite the fact that local produce is still preferred to imported products, as it is deemed of higher quality, Bello sources most of its raw materials from abroad. They buy directly mainly from large producers from Latin America.

23. The price that Bello can pay for local produce in order to be able to compete in the marketplace is often rejected by local farmers. For instance, Bello claims to be able to purchase up to 1 million pounds of hot peppers per year at EC $0.60 per pound. At this price, however, it appears that only a few producers are willing to produce and sell to Bello. As a point of reference, peppers for fresh export, demanded in much smaller quantities, are purchased at around EC $0.90 per pound.

24. At some point Bello attempted to establish a contractual arrangement with local producers. As part of the contractual agreement the company advanced the farmers EC $5,000/acre, but apparently the attempt failed, as some producers did not use the funds towards farming, others sold their produce to higher paying buyers, and in some cases Bello could not even recuperate the advance made.

25. Packaging materials (bottles, labels, etc.) are not produced locally and thus all have to be imported, and duties have to be paid. This represents a very high cost to the operation. According to the company's management packaging materials can represent up to 60% of the total product cost. As a result of the high cost of imported packaging materials the company is currently considering manufacturing their own polyethylene bottles. This however, can only be used for certain products and markets. Inputs and raw materials are normally paid upon delivery while payment for Bello's merchandise usually takes between 60-120 days. This creates liquidity problems to the operation.

26. Other important cost items are utilities. The company considers local utility rates to be high. There are no special utilities rates for manufacturing in Dominica. Among their main cited constraints is transport, largely with respect to its high cost, limited established routes, and inconsistency of the service. With respect to transport costs, for instance, the rate for a reefer container to the UK or the US can range from US $5,000-$7,000, while a non-refrigerated container from US $1,500-$2,000.

27. Bello's management argues that the survival of the company can be explained largely by its ability to change with market conditions.

Dominica Essential Oil and Spices Cooperative Society Limited

28. The West Indian Bay tree (*Pimenta racemosa*) is a sturdy evergreen shrub or tree of the Myrtle family. Whole or ground bay leaves are used in local cuisine, and to aromatize Bay Rum[1] and other toiletries. Internationally, bay oil is primarily used in the manufacturing of perfumes and cosmetics (similarly to other essential oils such as vetiver, pachouly, citronella and musk oil). Most perfume and cosmetic fragrances in the world are produced using a combination of these oils.

29. The Bay tree grows throughout Dominica but production and distilleries are concentrated in the south east of the island, and especially in the villages of Petite Savanne and Delices. There is an eighty or ninety year old history of Bay tree use in Dominica. At first, bay leaves would be bagged and shipped to England. A major innovation was later introduced when the bay oil was extracted through distillation by boiling chopped bay leaves under pressure.

30. Dominica is the world's largest supplier of bay oil with 70-75% market share. Other important origins include Indonesia, Puerto Rico and Trinidad and Tobago. World demand for this type of product, however, is relatively small. Current world demand is around 90 barrels of 54 gallons each.

[1] A popular face lotion for men made from a combination of bay oil, citrus and spice oils, alcohol, and water

31. The Dominica Essential Oil and Spices Cooperative Society Limited (DEOSCoop) was established as such in 1968. Its origins date back to 1964 when a group of about 20 bay oil producers started a "shipping club", by which members would select one of their own to do business on behalf of the rest. The DEOSCoop's membership is currently in excess of 560 members. It is considered to be the only functional agricultural Cooperative in Dominica, and one of the few in the OECS.

32. Members have an approximate 300 acres on land planted with bay trees. Normally members do not production units of more than 1 acre.

33. The DEOSCoop is basically a marketing organization. It buys bay oil from its members and takes care of its marketing. In addition it also provides paid distillation services to members that do not have their own distillation equipment. Members are paid for their bay oil upon delivery throughout the year and then paid a bonus at the end of the year. The DEOSCoop also provides advanced payments to members to finance their harvest. Funds retained by the DEOSCoop also are used to provide other services, such as purchasing school textbooks for the members' children, donations upon the death of a family member, etc.

34. The prices paid to farmers are set with respect to world market prices for bay oil. Current prices paid to farmers are around EC$ 50 per pound. Current import prices in the United States, their main market, range from US$ 22-25 per pound (CIF). There is approximately 450 pounds of oil per 54-gallon barrel.

35. DEOSCoop has not been able to sell all their supplies. It currently holds bay oil stocks of 90 barrels, or the equivalent to one year's world demand.

36. An important weakness of the DEOSCoop is its high reliance on one single product. The outlook for bay oil demand is uncertain as some health related claims have affected sales recently. The DEOSCoop is exploring venturing into processing other essential oils, such as geranium, sweet basil, ylang-ylang, etc. It is also considering venturing into the production of herbal teas. So far their main constraint to diversify is access to land and investment capital

37. Amongst the cooperative's main constraints is the access to financing to renew their processing equipment and installations. The equipment they currently require costs approximately US$ 150,000. The Tropical Products Institute of the UK donated the Cooperative's current distillation equipment during the 1970's.

38. The DEOSCoop distils bay oil three times a year and runs the plant for two moths at time. Their main cost items are labour and fuel/electricity.

39. The harvest of the bay leaves is labour intensive. It takes approximately 10 person days to harvest one acre. Labour rates for this type of work are EC $30-40 per day.

40. According to its management, the Cooperative has worked and survived because since its beginning it was ran transparently and was able to gain the trust of its members. The Cooperative has received relatively little government support or concessions, which has force

them to seek ways to compete in a relatively open market. This may also help to explain its relative success.

Benjo's Seamoss and Agro Processing Company Ltd.

41. Benjo's Seamoss and Agro Processing Company Ltd. is a manufacturer of seamoss (*Agar sp.*) based drinks. The idea for the enterprise dates back to when the founder and Managing Director of the company was attending university and studying fisheries in Canada. He selected seamoss as a topic for a commercial marine product project he had to develop as a requirement for his studies. Upon returning to his native Dominica he decided to implement the project he had developed in Canada.

42. The manufacturing plant of the Company is located strategically near port facilities in Canfield. It rents a 6,000 square foot warehouse from the AID bank at EC $6,000 per month. The investment capital required to start the company was obtained through a loan from the AID Bank at an interest rate of 12%, with a three months grace period and a 5-year repayment period. The estimated total value of mounting an operation of this sort today is of EC $2,000,000.

43. The products produced by company are well liked/regarded in the market. They are considered a "healthier" alternative to soft drinks and other beverages. The main market for the company's product line is St. Croix (U.S. Virgin Islands). Other important markets for the company are St. Maarten, St. Kitts and Nevis, St. Thomas (U.S. Virgin Islands) and Anguila.

44. The company started sourcing its seamoss locally, but eventually had to search for lower cost suppliers. Currently it sources most of its raw material from other countries in the region, paying around EC $3.00 per pound of dry seamoss. According to the company, they have been quoted up to EC $80 per pound for locally produced seamoss.

45. The company started in 1994. One of the main challenges they faced was to develop the right product formula. Several consultants were hired and many trials made before they were able to reach an appropriate and consistent product formula. Other challenge for the starting entrepreneurs was to learn how to run a business; as a result, the Managing Director of the Company, and his wife, the Deputy Managing Director, studied business administration in Dominica during the first years of operation.

46. The currently the plant can process up to 112 cartons per day. Each carton contains 24 bottles of 300 ml each; a carton sells at wholesale for EC $65.00. The production cost of each carton is EC$51.00. Each bottle retails for approximately EC $3.75. The company's sales for 2004 totalled approximately EC $1.3 million. The company currently employs 20 people full time. The company's main constraint for expansion is access to credit and high costs.

47. As other agro-industrial enterprises in Dominica, this company faces cash-flow/liquidity constrains, as it has to pay upon delivery for its raw materials and inputs, and has to wait for around 30 days to collect payment for its sales.

48. Packaging materials, for which they have to pay import duties, are a significant cost. Utilities and labor costs are also considered high. There are no special utilities rates for manufacturers in Dominica.

49. High costs in Dominica have forced the company to develop an exit strategy to relocate its production facilities. According to the company's management if costs keep going up they will have to move the facilities to another country, which they have already identified.

C. Main Issues and Conclusion

50. The following are the main issues and conclusions extracted from the cases studied and described in section 2, as well as from the open interviews conducted during the fieldwork:

Main Issues

- The size and importance of the banana sector to the economy has declined significantly, and will probably continue to do so as it becomes increasingly exposed to open market forces. Other agricultural activities are mainly carried out individually and do not have the sophisticated marketing infrastructure and organizational arrangements that the banana sector had developed through the years.

- There appears to be a strong cultural resistance for small farmers or agro industrial entrepreneurs to associate and work together. There is very limited history of functioning cooperatives in the agricultural sector.

- The mountainous topography, the fragmented nature of production units and the individualistic nature of farmers are among the constraints facing agriculture, in terms of its ability to reach economies of scale and the level of competitiveness required to compete in the international market.

- Specialized technical services for non-traditional agricultural activities are lacking, insufficient, or not available in a sustained manner.

- The availability of farm labour is low and its cost is high. Farmers are generally older, and agricultural work is not appealing to younger generations. It is argued that business-like-ran/capital-intensive agricultural activities would be more attractive.

- Local agro-industry is constrained by the insufficient supply of raw materials, and the high cost of packaging materials (e.g. bottles, labels, etc.), which are almost all imported. Some sub-sectors, such as the banana industry, have been granted import-duty concessions. In other cases, such as the packing materials imported by the Hucksters, import duties have to be paid for equipment and materials.

- The cost of utilities is high and there is not a preferential rate for manufacturing (agro-industry).

- As in the rest of OECS countries, there is lack of appropriate vessels, particularly for perishable products, and routes and route-schedules, for efficient intra-island trade. This is a major constraint to broadening market options for agricultural products. The arguments are that there is not adequate shipping because there is no production to ship, but also that there is no production to ship because there are no adequate shipping arrangements. This is a much more important constraint to Dominica with respect to other OECS countries, given its history of regional exports of fresh produce.

- Due to the small size of the economy, the institutional model/arrangements in place to deal with agricultural issues or issues having an indirect effect in the agricultural sector may need to be evaluated, and if necessary revised, to take into account its linkages to other sectors (e.g. environment, tourism, etc.).

Conclusions

- Although there appears to be a cultural reluctance of farmers to organize in groups, there are some indications that farmers may respond well to certain level of organization as a mechanism for technology transfer and sharing and product marketing.

- Given the nature and extent of the support provided to farmers by the Ministry of Agriculture, the efficiency (cost/benefit) and the sustainability of the model of assistance being used may need to be reviewed.

- Although there has been focus on tourism and agriculture as sources of potential economic growth, there is need to increase policy coordination among these and other sectors. The Government's role and institutional structure may need to be reviewed and in some instances revised. A more integrated/multi-sectoral institutional approach may prove to be more adequate.

- Policies and incentives to promote the competitiveness of the (non-banana) agricultural sector need to be implemented.

Dominica Data Profile[1]			
Click on the indicator to view a definition	**1999**	**2002**	**2003**
Population, total	71,530.0	71,079.0	71,212.8
Population growth (annual %)	-0.4	0.0	0.2
Life expectancy (years)	..	76.6	76.7
Fertility rate (births per woman)	..	1.9	1.9
Infant mortality rate (per 1,000 live births)	..	..	12.0
Under 5 mortality rate (per 1,000 children)	..	..	14.0
Births attended by skilled health staff (% of total)	99.9	..	..
Child immunization, measles (% of under 12 mos)	99.0	98.0	99.0
Primary completion rate, total (% age group)	..	91.0	..
Primary completion rate, female (% age group)	..	90.0	..
Net primary enrollment (% relevant age group)	..	81.3	..
Net secondary enrollment (% relevant age group)	..	91.1	..
Surface area (sq. km)	750.0	750.0	750.0
Deforestation (avearge annual % 1990-2000)	..	..	..
CO2 emissions (metric tons per capita)	1.1	..	..
Access to improved water source (% of total pop.)	..	97.0	..
Access to improved sanitation (% of urban pop.)	..	86.0	..
GNI, Atlas method (current US$)	233.4 million	227.2 million	237.1 million
GNI per capita, Atlas method (current US$)	3,260.0	3,200.0	3,330.0
GDP (current $)	267.6 million	252.0 million	259.1 million
GDP growth (annual %)	0.7	-5.2	-0.6
GDP implicit price deflator (annual % growth)	2.5	0.8	1.8
Value added in agriculture (% of GDP)	18.7	18.6	..
Value added in industry (% of GDP)	22.4	21.0	..
Value added in services (% of GDP)	58.9	60.4	..
Exports of goods and services (% of GDP)	57.9	54.4	53.8
Imports of goods and services (% of GDP)	68.2	62.3	61.5
Gross capital formation (% of GDP)	25.1	10.7	..
Fixed lines and mobile telephones (per 1,000 people)	289.3	423.9	..
Telephone average cost of local call (US$ per three minutes)	..	0.1	..
Personal computers (per 1,000 people)	65.4	89.7	..
Internet users (per 1,000 people)	26.1	160.3	..
Paved roads (% of total)	50.4	..	..
Trade in goods as a share of GDP (%)	72.9	62.3	63.7
Trade in goods as a share of goods GDP (%)	169.0	149.5	145.6
High-technology exports (% of manufactured exports)	4.4	7.7	7.2
Foreign direct investment, net inflows in reporting country (current US$)	18.0 million	11.4 million	0.0
Present value of debt (current US$)	..	189.8 million	283.8 million
Total debt service (% of exports of goods and services)	6.8	9.7	14.6
Short-term debt outstanding (current US$)	18.8 million	25.6 million	73.4 million
Aid per capita (current US$)	137.7	420.9	153.5

[1] World Development Indicators database, April 2005.

ANNEX 5

THE FUTURE FOR AGRICULTURE IN THE OECS COUNTRIES

Case Studies on Rural Development Initiatives by the Private Sector

ANTIGUA AND BARBUDA

A. Introduction

1. The twin island state of Antigua and Barbuda is situated in the north-eastern part of the Leeward Islands. There are three main agro-ecological zones in Antigua[1], Barbuda by contrast is coralline and flat. Total land area is 440 km^2, Antigua being the larger island with an area of 280 km^2 and Barbuda having an area of 160 km^2. Antigua and Barbuda's population was 78,580 in 2003, with 62% living in the rural areas. Population growth stagnated in the last decade.

2. **Climate:** Antigua enjoys a semi-arid, tropical climate with an average annual rainfall range of 1 070 - 1 140 mm, unevenly distributed with peaks during the months of October to December and extended periods of drought during March to June. Barbuda is drier with average annual rainfall ranging between 760 - 990 mm; Droughts occur every five to ten years. When several low-rainfall years occur consecutively, the country faces critical water shortages. During 1983-84, water had to be imported from other countries.

3. **Water Resources:** The total average rainfall for both islands is estimated at 453 million m^3/ year. There are no perennial water sources in the country. At present, the country's agricultural and municipal (domestic and commercial) water demands are being met by two desalination plants (total capacity of 3.3 million m^3/ year); three surface dams, numerous small ponds and 5 well fields (total capacity 2.8 millions of m^3/year). Individual residences have cisterns, which provide part, or all of the household water needs. The amount of water collected through this method is not known. Water for Barbuda is supplied from a single well that serves Codrington where most of the population lives. The groundwater is generally saline with the notable exception of Palmetto Sands, a 600 ha area of beach sands on the south-western shore.

4. **Economy:** Antigua and Barbuda are upper-middle income countries[2]. GNI per capita increased from US$ 7,250 in 1995 to 9,160 in 2003[3]. Production is focused on a narrow range of goods and services, most of which are exported. GDP grew with an annual average of 3.2 % in 2003. Official figures state an unemployment rate of 7%[4]. Traditionally the economy was highly dependent on the cultivation of sugar and cotton. The agricultural sector contributed

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1 In Antigua, the three main agro-ecological zones are: a) the North-Eastern Limestone Formation, the Central Plains (mixed volcanic and sedimentary/mudstone together with alluvial area) and the Volcanic Region. The highest peak in Antigua is Boggy Park (403 m).

2 According to World Bank country classification, 2000.

3 World Bank "Antigua and Barbuda at a Glance".

4 Economic Intelligence Unit, 2004.

approximately 3.8%, industry 21.7% and services 74.6%[1]. Gross domestic investment is approximately 43% of GDP and general government consumption about 23.4 % of GDP.

5. **Trade:** The country's main export trading partners are Germany, United Kingdom, United States and OECS and CARICOM. Export products are: petroleum products, manufactures, machinery and transport equipment, food and live animals, and other; Main import partners are United Stats, South Korea, Singapore, Poland, Germany, United Kingdom, Netherlands Antilles. The local brewery produces a variety of products that are sold on the local and regional markets. In 2002, the total value of exports was US$ 39 million, while the total value of agricultural imports was US$ 336 million.

6. **The Agricultural Sector:** The agricultural sector's contribution to GDP (in constant prices) declined from 8% in 1980 to 3.8% in 2002. Main crops planted are cotton, fruits, vegetables, bananas, coconuts, cucumbers, mangoes, sugarcane; livestock. Due to low rainfall, conditions for non-irrigated agricultural production in Antigua and Barbuda are generally marginal. Traditionally, for over 300 years, sugar was the main agricultural commodity produced. Cotton was introduced at the beginning of this century. The climate, lack of irrigation systems, falling prices, led to a continuous decline in sugar and cotton production. By the mid 1960s the sugar industry was officially closed. The Government attempted unsuccessfully to revive the sugar industry in the late 1970s and early 1980s. Cotton growing has continued on a much-reduced scale[2].

7. Livestock[3] since the closure of the sugar industry in the 1980's has traditionally occupied the largest share of agricultural production, followed by fishing and crops. Fishing has been the only area in which some increase was registered. Most of the food products, consumed locally, are imported.

B. Case Studies

Fisherman: I

8. Mr. X is a full-time fisherman, albeit an atypical one. Mr. X is a university graduate and was formerly an executive of a bank in Antigua. In 1984, he retired from his previous occupation and purchased a 40-foot boat. He docks his boat and works out of the English Harbour.

9. Mr. X trolls for pelagic fish, which he sells in the local market, mainly to hotels that pay EC $8-9 per pound, and also charters his boat to tourists at US$ 100 per hour (US$ 600 for 8

[1] World Bank data, 2002.

[2] From 1952 to 1962, for example, the acreage used for cotton decreased from over 5,000 acres to under 1,000 acres.

[3] Following the downfall of sugar and cotton industry, the livestock industry, especially the rearing of cattle, expanded onto released lands. Cattle owners with no land of their own used much of these lands as unimproved pasture. Herders who owned property fenced their land and used it for controlled grazing. Conditions for rearing cattle are good in Antigua. Traditionally, cattle and small ruminants are reared for meat. There is little or no dairying.

hours). Approximately half of his income is derived from chartering the boat and the other half from the sale of fish.

10. There are about 1,200 registered fishermen in Antigua and Barbuda. According to Mr. X there are only 4 or 5 fishermen that fish by trolling. Most fishermen catch their fish with traps. The main constraints to Mr. X's activities, as identified by him, are the lack of specialized training, and the lack availability for financing at "better conditions". The only financing available for operations like his is from commercial banks at prime rate +1%.

11. The cost of fuel and docking charges are the most important recurrent costs for his operation. He is currently considering in expanding his operation by acquiring another boat. He is thinking about purchasing a smaller and faster boat that could allow him to reach remote areas faster.

Fisherman: II

12. Mr. Y is one of the few fishermen in Antigua that trolls for pelagic fish. However, he also traps for lobster, reef fish and snappers. In addition, he buys, processes, and re-sells fish caught by other fishermen. Mr. Y's operation consists mainly of a 30-foot boat and a small processing facility with an excellent logistical location near the English Harbour.

13. He derives approximately half of his income from the pelagic fish and the other half from the sale of the reef fish, lobster and snapper. He sells mainly to hotels with which he has developed a stable business relationship. He claims to sell all the fish easily. When demand is lower, mainly during the tourist off-season, he freezes the fish but sells it within a 3-week period. Hotels use the reef fish mainly for their staff whereas guests normally consume the pelagic fish.

14. He catches about 10,000 pounds of pelagic fish, 4,000-5,000 pounds of reef fish and about 7,000 pound of lobster per month. He buys lobster for EC $12 per pound and sells it to hotels for EC $15 per pound. In the case of fish he buys at EC $7 per pound and sells it at EC $10 per pound.

15. The costs of traps are high, at approximately EC $600 each. Often they get lost and have to be replaced every 10 months. The higher recurrent cost for trolling is fuel and therefore trapping has higher costs than trolling.

16. According to Mr. Y, fish stock has gone down significantly in last 10 years. By his own appreciation he would catch more fish 15 years ago with 50 traps than today with 200 traps. He expressed serious concerns about the sustainability of commercial fishing. According to him the government does not regulate and control fishing activities sufficiently, and most fishermen do not report about a decline of fish stocks to avoid government regulation that may harm their short-term income potential.

National Poultry Farms

17. The National Poultry Farm is an egg production operation located in eastern Antigua in an area called Sanderson. The Farm was established in 1985 by an Italian investor. Later, a

feedstuff supplier, part of the East Caribbean Group of Companies (ECGC) from St. Vincent, acquired a significant share of the farm. Subsequently, in 1995 the current owners acquired the operation.

18. This farm is the largest egg-producing farm in Antigua. There are a total of 18 commercial egg-producing operations. Start-up cost for commercial egg production operation is high for local agricultural investors, which limits entry into the market and thus competition. Since the establishment of the farm, there has not been any significant foreign investment in the sector.

19. The Farm has an installed capacity for 29,000 layers, but is currently operating at about half of its capacity (2 out of 4 lines). Each line houses 7,300 birds. The installations are up for renovation in 2006. They plan to renovate one line at a time.

20. The farm currently produces about 600 cases of eggs (360 eggs per case) per month. At some point the farm supplied approximately 55% of the demand for eggs in Antigua, currently it supplies between 33-40%. The farm employs 7 full time labourers.

21. If at full capacity, the farm could sell all its eggs during the high tourist season, but not during the off-season. Keeping the production volumes to a level not requiring storing the eggs was cited as a key element for the success of the operation. This is mainly due to the high cost of refrigerated storage.

22. Demand for eggs peaks during the December to April period, coinciding with the northern hemisphere winter season and the high tourist season and three particular festivities (i.e. Christmas, Carnival and Easter). Some imported eggs are required during this period to satisfy demand. Deficient shipping options were cited as a major constraint to inter-island trade, and thus for the possibility to expand the market and the operation. Cruise ships are seen as a potential market for growth, but it appears to be a difficult market to enter.

23. The farm imports its pullets from the United States but it is considering sourcing them in the future from Jamaica to reduce costs. The imported pullets represent a significant cost to the operation. The economic life of each hen is 60 weeks but, because of the difficulty to time and coordinate the sale of the old hens and the importation of the replacement stock, the farm has had to keep the hens for up to 80 weeks. After their useful life the birds are sold gradually in about a 2 months period. Each bird is sold for EC$ 1.00 each, mainly to individuals who buy them at farm gate. There are no meat-processing facilities in Antigua that have a demand for the old hens.

24. The cost of feed, packaging and the amortization of the birds, represent around two thirds of the price for eggs according to the farm's management. These items are usually paid in advance when purchased. Eggs, on the other hand, are not usually paid upon delivery. For instance the hotel sector usually pays after 30 days. Hotels usually pay better prices for eggs, but are highly sensitive to quality. Supermarkets are usually given quantity discounts, and thus the price is relatively lower. However, they pay faster.

25. Because of cash-flow constraints an appropriate market outlet mix is important. The farm tries not to sell more than 20% of its production to the hotel sector. About 60% of the

production is sold to major supermarkets and distributors, and the balance is sold at farm gate, to brokers and to individual retailers.

26. The financing for purchasing the new flock at replacement time is obtained from a commercial bank (at prime rate + 1%). The Antigua & Barbuda Development Bank has not offered financing options to this operation.

27. Eggs are sold by sizes: small, medium, large and extra-large. Large eggs are preferred and represent around 80% of production. Coloured eggs have higher demand, and thus prices, than white eggs. The reference prices for eggs are EC$ 180 per case for brown shell eggs, and EC$ 170 per case for white shell eggs.

28. The farm's infrastructure is suited to accommodate birds that produce white-shell eggs, which tend to be smaller and have higher productivity than brown-shell producing hens. The farm's average sale price for the various sizes is around EC$ 168 per case. Extra large and large eggs sell for more than EC$ 170 per case. Major wholesalers are given a quantity discount of 10 % and two of the main supermarkets a 5 percent discount. The retail price for white shell eggs is approximately EC$ 6.60 per dozen.

29. All imported inputs used by the operation, including the birds (even the dead ones), have to pay a Customs Service Tax of 10% CIF. When the current owners purchased the farm in 1995 this tax used to be 2.5% instead. The cost of feed is approximately EC$ 28 per 50-pound bag. Volume purchasing through the Poultry Marketing Association has lowered this cost to EC$ 25 per bag.

30. One of the factors cited as key to their success is a business attitude/entrepreneurial spirit.

Livestock Estate (Production Operation)

31. This livestock operation is an enterprise owned by and managed on a part-time basis by Mr. X, who derives most of his income from other sources.

32. This is one of the largest cattle operations in Antigua. There are only 4 or 5 other farms of this magnitude. The land (300 acres) is privately owned, which is not very common in Antigua. It currently holds 100 head of beef cattle and 500 head of sheep. The farm sells its livestock at farm gate. One year old steers are sold at EC$ 800 each and sheep at EC$ 5.00 per pound (live weight). According to Mr. X, the operation is not profitable when accounting for the opportunity cost of his time. He is currently planning to diversify the farm-generate income by incorporating agro-tourism services targeted at cruise ships arrivals.

33. The main technical constraint to livestock production cited by Mr. X is the limited availability of water, and as a result lack of animal feed, during the dry season. Investment in feed storage facilities, and equipment to cut and bale grass is usually required, and this usually limits the size of the operations.

34. In Mr. X's opinion, within the next fifty years, there will not be any significant agriculture left in Antigua and Barbuda.

Vegetable Farmer

35. Mr. Y is a vegetable producer who farms 30 acres of land in Antigua. His 30 acres are divided into three different non-adjacent properties. He rents the land from the government on a year-by-year basis. In Antigua the government land is rented to producers through the Extension Division of the Ministry of Agriculture at EC$ 10 per acre, per year, and through the Antigua Development Corporation at EC$ 30 per acre per year.

36. Mr. Y produces mainly vegetables, using drip irrigation technology, and some fruit (citrus, mangoes and guava). He also has 40 head of sheep and 6 sows. He employs from 3 (currently) to 8 farm labourers. He sells his produce on the open market. The animals are sold alive.

37. The main technical constraints to agricultural production in Antigua cited by Mr. Y are the lack of available land and/or water. He has invested to secure water access and in a rudimentary storage and packinghouse. He claims, however, to need access to more land to financially justify these and further investments required to improve his operation. Investments in smaller plots of land are not financially feasible.

38. Mr. Y invested in building 50 million gallons dam to hold irrigation water. As this reservoir is not solely on his property he does not have exclusive rights. He claims that the actual cost of building the dam of this size is approximately EC$ 2,000,000, but that he was able to spend less than that. He made this investment hoping that by showing his commitment to agricultural production he could be adjudicated more land. He states that he could and would like to farm up to 50 acres, and thus has been requesting more land from the government, but yet without a response.

39. Mr. Y expressed his desire to consider agro-tourism activities as an income generating and diversification alternative. However, so far, he has not concrete plans to move ahead.

Antigua Tilapia Aquaculture Farms Ltd.

40. The idea for this venture started when Dr. X, an Antiguan Business Administration Professor, was exposed to Tilapia farming at the University of the Virgin Islands where she used to teach. When Dr. X retired from teaching she returned to her home country Antigua. There she assessed the market potential for fresh farmed-fish, identified a clear market opportunity and decided to get into Tilapia production on her own.

41. Dr X rented 5 acres of land from the government for which she is requesting a long-term lease. In 2003, she started preparing it and setting up the required infrastructure. She started fish farming in March of 2004.

42. Dr. X invested EC$ 40,000 on a 50,000-gallons tank, where she planted 6,500 fingerlings. She has had only one complete harvest. As she works on her own, her capacity to process and market the fish is rather limited (approximately 50 pounds per day), so it took her 5 months to harvest, process and sell her first Tilapia fish.

43. In terms of technical assistance, she contracted a consultant from the U.S. Virgin Islands. The consultant visited her in six different occasions for about 3 days each time. The consultant was paid US$ 500 for transportation and lodging, and fees of US$ 500 per day.

44. The operation's main recurrent costs include, the cost of the fingerlings, which were imported from the US Virgin Islands at US $0.10 each, the cost of feed, palletized complete nutritional feed imported from the United States or Trinidad, which is approximately EC$ 6,000 per cycle, for 6,500 fish, and the cost of water, which is EC$ 28 per 1,000 gallons. In addition to the 50,000 gallons to fill the tank she required some 1,500 gallons for making up losses.

45. For the second production year she plans to use the 50,000-gallon tank to grow fingerlings that she would buy to sell at 3 months of age to other entrepreneurs that have expressed interest in Tilapia farming. She also plans to buy three 13,000-gallons over-the-ground (swimming) pools to raise her own Tilapia to market age, instead of a single larger tank. This would lower the investment costs and allow her to harvest fish three times per year, and eliminate altogether the periods in between cycles where she would not have fish for sale.

46. The cost for these smaller pools is approximately US$ 4,000. She would also need three aerators at US$ 880 each, three pumps at US$ 360 each and one clarifier at US$ 1,500. All this new investment totals roughly US$ 10,000. When including some funds for working capital she estimates that the required capital would be about EC$ 50,000.

47. The operation's main market outlet is currently the restaurant trade that caters to the local population. Restaurants usually demand fish of around 1 pound to cook whole, while hotels tend to prefer fish of 1 ½- 2 pounds or more, for fish fillet. It takes the fish approximately 6 months to reach 1 pound, and 9 months to reach between 1½ pounds.

48. Currently restaurants have bought all the fish that Dr. X has been able to supply. So far, she has been reluctant to establish a commercial relationship with hotels due to the relatively small volume of fish that she can currently supply. She has plans to eventually purchase processing equipment to overcome processing capacity constraints.

49. Dr. X sells her fish scaled and gutted for EC$ 8.00 per pound, which is below the regular market price for fresh fish, normally around EC$ 10.00 per pound. She is paid immediately and sometimes even in advance. Dr. X considers the demand potential for Tilapia, and perhaps other fish varieties, which she is considering to farm, to be large and unmet, and that is why she is promoting Tilapia farming in Antigua. She has already interested three other investors that will be starting Tilapia farming in 2005. Her plans include eventually forming a purchasing cooperative to reduce input costs.

50. Dr. X cited access to financing as one of her main constraints. Although she has some government guarantees, access to financing from local banks has been a major constraint to her because of her lack of sufficient collateral. Insufficient assistance to starting small businesses was also mentioned as a constraint.

C. Main Issues and Conclusions

51. The following are the main issues and conclusions from the cases studied and described in section 2, as well as from the open interviews conducted during the fieldwork.

Main Issues

- Water availability during the dry season is a major technical constrain to crop and livestock production. A significant portion of the water used for agriculture during the dry season is desalinated water mainly aimed at meeting human consumption needs. Thus, agriculture is competing directly with human consumption needs, as far as demand for water is concerned. The cost of potable water was quoted to be between EC$ 22-28 per 1,000 gallons.

- "Insecure" land tenure may be limiting the willingness of farmers to make longer-term investments, and their ability to access credit for commercial banks due to lack of collateral. Although there are established mechanisms to provide land to farmers on rent or lease, evidence collected from the interviews suggests that these may not be providing enough assurance to farmers in order to consider longer-term investments. Also, commercial banks are not providing loans to agricultural projects when the land is not privately owned and used as collateral. Most of the agricultural land in Antigua is government owned.

- The interviews suggested that demand for land by farmers may not be currently satisfied through the policies and mechanisms in place.

- The relatively small and fragmented nature of most farm units appears as a constraint to investments in agricultural production at the farm level. With few exceptions, production units are small, and thus not normally able to reach the economies-of-scale and the resulting productivity levels that would financially justify the investments. There is at least one example of a larger (200 acres) commercial operation, Montpellier Farms, which produces vegetables largely for export to the United Kingdom and the United States. It is a foreign owned business, which was granted a long-term lease on the land and duty free concessions by the government. It is a highly technique and capital intensive operation using the latest farming technology (e.g. controlled environment, drip irrigation, etc.) and equipment. It even has its own desalination plant to overcome water availability constraints. Although the management of this operation was not available for interview, and thus detailed information on the operation was not available, the mere existence of such an enterprise may suggest that capital-intensive agricultural operations with market could be competitive in the international market.

- Availability of labour for agriculture is an important constraint to the agricultural sector. For instance, the production levels of Sea Island cotton, a particularly high quality and highly demanded type of cotton traditionally produced in Antigua, have declined significantly. In the 1950's there were approximately 5,000 acres of Sea Island cotton planted in Antigua. Today only about 200 acres remain, with most of the output being sold to Japan. The main constraint and reason for the demise of Sea Island cotton production has been insufficient availability/high cost of farm labour. Most farmers are older (i.e. 45 years of age or older), and agricultural work does not seem to be attractive to younger people, when compared to other sectors. Immigrants now harvest most of the cotton. The cost of farm labour is approximately US$ 20-30 per day, depending on the task.

- Local agro-industry is constrained by the insufficient supply of raw materials, and the high cost of packaging materials (e.g. bottles, labels, etc.), which are almost all imported. Most agro processors are small (cottage type) operations, which cannot independently afford the investments required to improve/expand their operations. Most production is planned according to target dates throughout the year (December Holidays, Carnival, etc.).

- As per the interviews there appears to be a strong cultural resistance for small farmers or agro industrial entrepreneurs to associate and work together. There is no history of functioning cooperatives in the agricultural sector.

- Demand for food products in Antigua fluctuates to a large extent according to the cycle of tourist arrivals. During the high tourist season demand for certain food products (e.g. eggs) increases, and it decreases during the low tourist season. When perishable products with longer production cycles do not have suitable storage options and alternative market outlets, such as exports or agro industry, producers are forced to programme their production in terms of lowest level of demand during the year. As a result of this, even when products are produced locally they are not sufficient to meet the demand during the high tourist season and are thus still imported.

- As in the rest of OECS countries, there is lack of appropriate vessels, particularly for perishable products, and routes and route-schedules, for efficient intra-island trade. This is a major constraint to broadening market options for agricultural products. The arguments are that there is not adequate shipping because there is no production to ship, but also that there is no production to ship because there are no adequate shipping arrangements.

- The availability of farm labour is low and its cost is high. Farmers are generally older, and agricultural work is not appealing to younger generations. It is argued that business-like-ran/capital-intensive agricultural activities would be more attractive.

- Inputs for agricultural production and packaging materials for agro industrial products, is high mainly as a result of the small volumes that are demanded and the high cost of

transport. Although agricultural inputs are imported free of duty, they have to pay a 10% customs tax.

Conclusions

- Land use planning and land administration policies and issues need to be reviewed and revised to enhance the market for land. Currently, demand for land for agriculture and other activities may not be satisfied, "insecure" land tenure arrangements may be a constraint to entice farmers to invest, and to be able to accesses formal credit. Smaller production units, in an environment where there are no functioning producer associations/cooperatives, could be an additional constraint to increase farm productivity, mainly as many of the required investments would not be financially justifiable for smaller outputs.

- An external influence, whether technical know-how, the exposure to a new idea that helps identify a market opportunity, foreign capital investment, etc., seem to be enabling factors for "successful" initiatives. On the negative side there appears to be a perception that foreign investment is related to corruption.

- Entrepreneurship is not a common trait in the agricultural sector, perhaps due historical mono-cropping situations where the processing and the marketing was centralized by government or parastatal institutions, and to the absence of competitive forces in largely protected markets.

- If the development of agricultural production and agro industries is considered to be a priority for the country, relevant national policies, for instance with respect to land administration, water resources, financing/credit, fiscal incentives/concessions, etc., may need to be reviewed and when necessary revised. It is perceived that there is not sufficient policy alignment to provide the necessary environment for agriculture/agro industry to develop and be competitive.

Antigua and Barbuda Data Profile[1]			
	1999	2002	2003
Population, total	70,860.0	76,485.0	78,580.0
Population growth (annual %)	1.4	1.0	2.7
Life expectancy (years)	..	75.3	75.4
Fertility rate (births per woman)	..	1.7	1.7
Infant mortality rate (per 1,000 live births)	..	..	11.0
Under 5 mortality rate (per 1,000 children)	..	..	12.0
Births attended by skilled health staff (% of total)	..	..	..
Child malnutrition, weight for age (% of under 5)	..	..	..
Child immunization, measles (% of under 12 mos)	99.0	99.0	99.0
Surface area (sq. km)	440.0	440.0	440.0
Forests (1,000 sq. km)	..	..	..
Deforestation (avearge annual % 1990-2000)	..	..	..
CO2 emissions (metric tons per capita)	4.9	..	..
Access to improved water source (% of total pop.)	..	91.0	..
Access to improved sanitation (% of urban pop.)	..	98.0	..
GNI, Atlas method (current US$)	590.5 million	670.9 million	719.5 million
GNI per capita, Atlas method (current US$)	8,330.0	8,770.0	9,160.0
GDP (current $)	651.9 million	721.0 million	756.7 million
GDP growth (annual %)	4.1	2.9	3.2
GDP implicit price deflator (annual % growth)	1.0	0.4	1.7
Value added in agriculture (% of GDP)	3.9	3.8	..
Value added in industry (% of GDP)	19.4	21.7	..
Value added in services (% of GDP)	76.7	74.6	..
Exports of goods and services (% of GDP)	73.0	60.5	..
Imports of goods and services (% of GDP)	81.3	68.4	..
Gross capital formation (% of GDP)	29.9	29.8	..
Fixed lines and mobile telephones (per 1,000 people)	602.4	977.6	..
Telephone average cost of local call (US$ per three minutes)	0.1	..	..
Internet users (per 1,000 people)	53.5	128.2	..
Aircraft departures	68,200.0	63,400.0	67,200.0
Trade in goods as a share of GDP (%)	69.3	57.4	43.0
Trade in goods as a share of goods GDP (%)	249.8	188.8	..
High-technology exports (% of manufactured exports)	0.8	..	..
Aid per capita (current US$)	151.6	182.5	64.1

[1] World Development Indicators database, April 2005.

Although diverse in terms of agricultural potential and prospects, the OECS countries are all suffering from a marked deterioration of the agricultural sector performance, problems in adjusting to trade liberalization, the severe competitive pressures from more efficient agricultural producers and a common search for appropriate agricultural sector policies that could provide an adequate response to overcome the current crisis.

The future of the agricultural sector of the OECS countries will be influenced by future developments at the global and regional scale and by the successful implementation at national level, of a series of structural improvements and reforms that would concur in creating an appropriate enabling environment for small farmers' led agricultural sector growth.

Priorities should be set on those areas where there are clear comparative advantages such as commercial and niche markets and on improving the economic environment in which farmers operate through capacity building, development of social capital, education, promotion of community approaches and supporting productive alliances.