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**St. Lucia
Agricultural
Sector
Assessment**

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CURRENCY EQUIVALENTS

Currency Unit: East Caribbean Dollar

In July 1976 the East Caribbean dollar was aligned with the U.S. dollar at the rate of:

U.S. \$1.00 = E.C. \$2.70

or

E.C. \$1.00 = U.S. \$0.37

ST. LUCIA--COUNTRY DATA

ST. LUCIA

<u>Area and population</u>				
Area	238 sq. miles (616 sq. kilometers)			
Population (end-1981 proj.)	122 thousand			
Annual rate of population increase (1976-81)	1.5 per cent			
<u>GDP (proj. 1981)</u>	SDR 111.0 million			
<u>GDP per capita 1981</u>	SDR 910			
<u>Origin of GDP (proj. 1981)</u>				
	(per cent)			
Agriculture and fishing	17			
Manufacturing	7			
Construction	15			
Government	13			
Other	52			
<u>Ratios to GDP (proj. 1981)</u>				
Exports of goods and nonfactor services	59.4			
Imports of goods and nonfactor services	111.2			
Central government revenues (fiscal year from April 1)	30.4			
Central government expenditures (fiscal year from April 1)	37.3			
External public and government-guaranteed debt (end of year)	13.7			
Gross domestic savings	5.2			
Gross investment	57.0			
Money and quasi-money (end of September)	57.2			
<u>Annual changes in selected economic indicators</u>				
	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>Est.</u>
		(per cent)		<u>1981</u>
Real GDP per capita	11.7	3.6	-5.9	1.6
Real GDP (at factor cost)	13.5	4.4	-4.5	3.2
GDP at current prices	23.3	16.8	13.0	14.8
Domestic expenditure				
(at current prices)	32.1	15.4	14.9	23.3
Investment	(68.5)	(-3.4)	(17.8)	(19.6)
Consumption	(12.2)	(30.9)	(13.1)	(25.6)
GDP deflator	10.8	9.5	19.2	14.1
Consumer prices (annual averages)	10.9	9.4	19.6	15.5
Central government revenues (fiscal year from April 1)	10.9	38.3	5.9	3.5
Central government expenditures (fiscal year from April 1)	12.6	36.9	22.6	8.0
Money and quasi-money <u>1/</u>	17.7	22.1	11.6	9.3 <u>3/</u>
Money	(2.2)	(51.8)	(11.0)	(-1.8) <u>3/</u>
Quasi-money	(23.4)	(12.9)	(11.8)	(16.1) <u>3/</u>
Commercial bank net domestic assets <u>2/</u>	27.5	12.8	16.6	22.6 <u>3/</u>
Credit to Central Government (net) <u>2/</u>	(-3.4)	(3.9)	(-0.4)	(3.9) <u>3/</u>
Credit to private sector <u>2/</u>	(23.7)	(16.4)	(23.9)	(16.4) <u>3/</u>
Merchandise exports				
(f.o.b., in U.S. dollars)	18.6	18.7	44.7	-12.2
Merchandise imports				
(c.i.f., in U.S. dollars)	39.6	22.2	22.3	11.6
Travel receipts (gross, in U.S. dollars)	55.6	20.6	17.1	-10.5

ST. LUCIA--COUNTRY DATA (Continued)

<u>Central government finances (fiscal year from April 1)</u>	<u>1973</u>	<u>1979</u>	<u>1980</u>	<u>Proj. 1981</u>
	<u>(millions of East Caribbean dollars)</u>			
Revenue	63.8	88.2	93.4	96.7
Expenditure	67.5	92.4	113.3	122.3
Current account surplus or deficit (-)	7.0	2.1	1.0	-13.0
Overall surplus or deficit (-)	-3.7	-4.2	-19.9	-25.6
External financing (net)	6.9	2.1	10.3	16.5
Internal financing (net) and residual	-3.2	2.1	9.6	9.1
<u>Balance of payments</u>	<u>(millions of U.S. dollars)</u>			
Merchandise exports (f.o.b.)	26.8	31.8	46.0	40.4
Merchandise imports (c.i.f.)	-82.8	-101.2	-123.8	-138.1
Travel (net)	22.4	29.2	32.7	28.8
Other services and transfers (net)	10.1	12.3	11.8	17.3
Balance on current and transfer accounts	-23.5	-27.9	-33.3	-51.6
Official capital (net)	2.7	3.0	1.6	2.6
Private capital (net) and errors and omissions	20.0	23.8	23.3	44.8
SDR allocation	--	--	0.5	0.5
Change in official net reserves (increase -)	0.8	1.1	2.9	3.7
<u>IMF data (as of November 30, 1981)</u>				
Article VIII status				
Intervention currency and rate	U.S. dollar at EC\$2.70 per US\$			
Quota	SDR 5.4 million			
Cumulative purchases	SDR 5.2 million			
Reserve tranche	SDR 0.7 million			
Regular purchases	SDR 1.8 million			
Compensatory financing facility purchases	SDR 2.7 million			
Cumulative repurchases	--			
Fund holdings of East Caribbean dollars				
under tranche policy	125.0 per cent of quota			
Total Fund holdings of East Caribbean dollars	175.0 per cent of quota			
Special Drawing Rights Department				
Cumulative SDR allocation	SDR 0.74 million			
Net acquisition or utilization (-) of SDRs	-SDR 0.51 million			
Holdings of SDRs	30.9 per cent of allocation			
Share of profits from gold sales	None			

1/ Includes deposits of rest of public sector (excluding the Central Government).

2/ In relation to liabilities to the private sector at beginning of period.

3/ Year ended September 1981.

ST. LUCIA: MAJOR ON-GOING PROJECTS AND SOURCES OF FINANCING
(US\$ '000)

	Total Cost	External Financing Amount	Source	Counterpart Financing Amount	%	Recurrent Costs 1982/83 - 85/86
<u>Directly Productive Projects</u>						
Crop Diversification	224	224	UK	-	-	-
Tree Crop Expansion Project I	241	241	UK	-	-	-
WINBAN (Inputs)	400	400	UK	-	-	-
Roseau Resettlement I	6,741	4,370	EDF, GEEST	2,371	35	-
Coconut Rehabilitation	704	704	UK	-	-	-
Agricultural Production Credit	397	397	CDB	-	-	-
Land Transformation - T.A.	296	196	OAS	270	34	-
Inventory of Forest Resources - T.A.	208	208	CIDA	-	-	-
Industrial Estate	742	667	CDB	75	10	-
Small Industry Credit	205	205	CDB	-	-	-
Livestock Project II	1,430	1,430	FAO, EDF, Unknown	-	-	-
Agricultural & Industrial Credits	2,857	2,000	CDB	857	30	-
Dennery Agricultural Development II	5,000	3,400	CDB, Unknown	1,600	32	-
Export and Tourism Promotion	167	167	EDF	-	-	-
Land and Water Use	279	279	EDF	-	-	-
<u>Economic Infrastructure</u>						
Feeder Roads	3,843	3,658	CDB, EDF	185	5	540
Delcer Irrigation	232	232	EDF	-	-	-
Inout Storage Warehouse	400	400	UK	-	-	-
Marketing Board Improvement	106	93	UK	13	12	43
Hewanorra Airport	1,593	1,000	CDB	593	37	-
Barre de l'Isle Road Reinstatement	611	611	UK	-	-	90
Rural Water Supply II	1,667	1,540	CDB	127	8	130
Electricity Development	10,560	8,448	CDB, Unknown	2,112	20	-
Hewanorra Navigation Equipment	89	89	UK	-	-	-
<u>Other Projects</u>						
Primary School (Extension & Rehabilitation) BHN	1,003	954	USAID	49	5	-
School Rehabilitation	6,333	6,333	HESS	-	-	-
BHN Health Projects	110	110	USAID	-	-	-
Police Training Center - La Toc	56	56	UK	-	-	-
Mortgage Financing	1,574	850	CDB	724	46	-
Student Loans	443	443	CDB	-	-	-
Training and Technical Assistance	352	352	EDF	-	-	-
Wind-powered Chillroom	48	48	CDB	-	-	-

ST. LUCIA: MAJOR NEW PROJECTS AND SOURCES OF FINANCING
(US\$ '000)

	Total Cost	External Financing		Counterpart Financing		Recurrent Costs 1982/83 - 85/86
		Amount	Source	Amount	%	
<u>Directly Productive Projects</u>						
Tree Crop Rehabilitation	2,111	1,729	UK, Unknown	382	18	-
Sugar Development	3,000	2,000	Unknown	1,000	33	-
Fishing Boat Development Project	400	300	EDF	100	33	-
Castries Fisheries Complex	3,500	3,250	CIDA	250	7	-
Rehabilitation of Forestry Sector	1,000	750	Unknown	250	25	-
Land Transformation and Cadastral Survey	1,481	1,000	Unknown	481	32	-
Agro-Industry Promotion	1,000	800	CDB, Unknown	200	20	-
Development of Tourist Attractions	1,250	1,000	Unknown	250	20	-
Coconut Rehabilitation Program	1,304	978	UK, Unknown	326	25	-
Agricultural Production and Marketing Project	5,400	5,100	IFAD, CDB, Unknown	300	6	-
Holiday Village I	2,800	2,500	CDB	300	11	-
Point Seraphin Tourist Facility I	1,480	1,200	CDB, Unknown	280	19	-
Industrial Estates V & VI	2,140	1,530	CDB, Unknown	610	29	-
Development of Vieux Fort Port Industrial Zone	2,000	1,800	CDB, Unknown	200	10	-
Fisheries Infrastructure Development	1,250	1,000	Unknown	250	20	-
<u>Economic Infrastructure</u>						
Feeder Roads IV & V	7,000	5,000	CDB, Unknown	2,000	29	-
Road Surfacing	3,098	2,445	Venezuela	653	21	-
East Coast Road Strengthening	1,000	500	UK, Unknown	500	50	13
Hewanorra Airport Expansion I	9,300	6,045	CDB, CIDA, Unknown	3,255	35	-
Improvement & Rehabilitation of Vigie Airport	1,167	900	CIDA, Unknown	267	23	-
Vieux Fort Port Development & Rehabilitation	1,000	500	CDB, Unknown	500	50	-
Development of Soufriere Port	600	400	Unknown	200	33	-
Development of Castries Port	2,111	2,111	CDB, Unknown	-	-	-
Rural Electrification II	1,000	800	CDB, Unknown	200	20	-
Geothermal Energy Development I & II	10,850	10,600	EIB, Unknown	250	2	-
Rural and Urban Water Development & Distribution	3,000	2,500	Unknown	500	17	-
Roseau Dam	15,000	12,000	CIDA, CDB, UK, Unknown	3,000	20	-
West Coast Road Construction	10,000	9,000	Unknown	1,000	10	-
<u>Other Projects</u>						
Windward Island Agricultural College	1,252	1,000	EDF	252	20	-
Island-wide Sewerage System	3,370	2,700	CDB, UK, Unknown	670	20	-
School Building Program	15,000	11,500	Unknown	3,500	23	-
Island-wide Solid Waste Disposal	1,000	800	Unknown	200	20	-
Expansion & Renovation of Victoria Hospital	1,945	1,165	Unknown	780	40	-
Health Center Development Program	700	600	Unknown	100	14	-
Housing Rehabilitation and Development	7,000	3,500	UNDP, US, UK, EDF, I-T, Venezuela	3,500	50	-
Establishment of Regional Hotel School	445	200	EDF	245	55	-
Cultural Infrastructure Development I & II	3,000	1,800	Unknown	1,200	40	-
Tertiary Education Development I, II & III	1,000	700	Unknown	300	30	-
Mortgage Finance III	3,500	1,800	CDB	1,700	49	-

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EXECUTIVE SUMMARY

GENERAL BACKGROUND

Since the mid-1970s, agricultural exports, tourism, and more recently, the manufacturing sector have contributed to economic growth in St. Lucia. Although agriculture has declined in importance, it remains a major productive sector, contributing 12-18 percent of the gross domestic product over the past decade. Growth in other sectors and a series of droughts and hurricanes have caused agricultural output to fluctuate. Yet agricultural products, particularly bananas and refined and unrefined coconut oil, make up a major share of total domestic export earnings. Only in 1980 did agricultural exports fall below 50 percent of total domestic exports because of hurricane damage.

While domestic export earnings remain steady, or show only a slight increase, food imports are increasing rapidly and currently stand at approximately 20 percent of total imports. The agricultural sector is the major employer on the island, with 44 percent of the population earning income from it in 1980.

Funds budgeted for agriculture in fiscal year 1982-83 represent an increase of 38 percent over the previous year. In relative terms, however, the share allocated to agriculture is still small, at 6.7 percent of the national budget.

St. Lucia's total land area of 238 sq miles supports a population estimated at 122,000 in 1981. Almost 45 percent of the total population lives in the capital, Castries. Net migration from the island is occurring, and there is also movement from the rural areas to the urban centers. The average age of heads of farm households is 47 years, and rising. This means that a relatively small number of producers are supporting a large, rapidly increasing, youthful population.

St. Lucia is mountainous, with a number of short rivers leading to fertile alluvial valleys. Yet only a small proportion of the land (4.4 percent) is suitable for cultivation. The climate is tropical with a bimodal rainy season. Tropical storms and hurricanes are common and act as a constraint to agricultural development.

Agricultural production is also limited by the traditional system of land tenure and distribution. Of the approximately 10,500 farm holdings, about 92 percent are smaller than 10 acres, and these small holdings account for 24 percent of the total land area. In contrast, about 0.6 percent of the holdings are 100 acres or more, but these account for nearly 52 percent of the total land area. Farmers with less than 10 acres account for more than 50 percent of the production of most crops.

Importers and exporters of agricultural commodities as well as legally titled and registered landowners (primarily medium- and large-scale) can obtain credit from the banking sector. Smallholders, however, are often unable to obtain credit. The Extension Service of the Ministry of Agriculture (MOA) is understaffed and poorly trained, and its agents rarely contact smallholders. The Windward Islands Banana Growers' Association (WINBAN) also provides extension services, but only to banana growers. On-island training in agriculture takes place at the Union Experimental Station, but the facilities are inadequate. Research in bananas is carried out by WINBAN. The Caribbean Agricultural Research and Development Institute, financed by the U.S. Agency for International Development, is carrying out research on smallholder farming systems. The MOA attempts some smallholder research activities, but low levels of funding have thus far led to uneven results.

Bananas are the island's major crop, although production has declined in the past decade as a result of droughts and low producer prices. Current cost of production is estimated at EC\$0.20 - 0.24 per pound, but the farmer receives only EC\$0.12 - 0.20. Present yield levels are only one quarter to one-third of those achieved in other banana-producing countries.

The primary outlet for bananas is the United Kingdom, which offers a protected market for approximately 60,000 tons of St. Lucia's production under preferential trade terms specified by the Lome Convention. An efficient system is in place linking the St. Lucia Banana Growers' Association, the Geest Industries shipping line, and a wholesale and retail network in the United Kingdom. But subsidization of the banana industry is a serious disincentive to its long-term development and to its competitive position in the world market. Furthermore, these subsidies are an obstacle to meaningful crop diversification.

Coconuts are second in importance to bananas as an export crop. In 1980, however, Hurricane Allen caused a fall in production equal to one-third of the amount in previous years. The Coconut Growers Association purchases copra from its members for resale to Copra Manufacturers Ltd., which processes it into oil for sale domestically or within the region. Coconut oil is also sold under concessionary terms, in this case provided by the Agricultural Marketing Protocol of the Caribbean Economic Community. The oil is sold, primarily to Jamaica, at twice the world market price.

Yams, dasheen, sweet potatoes, and tannia are widely grown on small farms. They are frequently interplanted with bananas or coconuts. Livestock production is relatively insignificant and is dispersed throughout the island. Although the marketing system for the export crops, bananas and coconuts, is well developed, the

system for handling perishable products for domestic consumption or for regional trade is poorly organized and does not provide sufficient incentives for consistent profit-oriented production.

At present, the MOA is carrying out few planning and project identification activities. The agricultural data base is poorly organized and does not provide planners with adequate tools for decision making.

CONSTRAINTS TO COMMERCIAL AGRICULTURAL DEVELOPMENT

Two groups of constraints to agricultural development can be identified: one group affects the performance of the economy as a whole, while the second is specific to the agricultural sector. In the first group, the two broad economic problems of the island are:

- The Scale of Operations. The small size of the island results in economic reliance on the import-export sector rather than on the domestic sector. Yet such reliance thrusts St. Lucia into depending on the large-scale world economy. This situation leads to considerations of supply and demand, regional coordination, and the low level of government resources relative to the country's requirements; and
- The Lack of Competitive Advantage. As a result of its small size, St. Lucia exhibits few examples of price competitiveness. This situation stems from policies of subsidies, protected markets and concessionary pricing, fixed exchange rates, and relatively high wage rates.

In the second group, there are constraints to agricultural development that are symptomatic of the larger economic situation.

- Marketing. The inability to market its agricultural produce successfully is St. Lucia's most critical problem in the area of agricultural development. Although outlets for bananas and coconut oil are currently available

through concessionary, protected mechanisms, it is unlikely that these markets will continue through the long term. The marketing of other agricultural produce is irregular and chaotic. As a result, farmers are skeptical of and unresponsive to market signals. Farmers distrust the marketing system and often refuse to produce for it.

- Land Tenure. Several teams representing international development organizations identified land tenure and its related problems as the most critical constraint to agricultural development. Field interviews with people knowledgeable about the island's agriculture confirmed this. Nevertheless, several other experts thought that although land tenure might have been a problem in the past, it was not a problem now. The debate distinguishes between small, medium, and large land owners. For medium- and large-scale farmers with adequate resources, land tenure is not a problem. For the small-scale farmer, however, problems of family ownership and parcel fragmentation dating back to the Napoleonic Code prevent them from obtaining credit or otherwise investing in the land they are farming.
- Sector Planning and Evaluation. Most sector planning and evaluation activities are carried out by the Ministry of Finance and Planning (MOFP) as part of annual budget preparation. MOA's involvement in planning is limited to annual budgetary requests that serve as input to the MOFP's national planning exercise. The absence of a capacity for longer-term planning impedes MOA's performance.
- Agricultural Technology. Most of the technology required to improve the agriculture of St. Lucia already exists. The main technological challenge lies in transferring available production innovations to farmers in a cost-effective manner.
- Limited Resource Base. St. Lucia's agricultural productivity is constrained by the limited natural resource endowment of the island. Its relatively small and mountainous land area restricts the agricultural options potentially available.
- Agricultural Support Services. As a result of the other constraints, the MOA's support services such as extension, research, training, and plant protection are inadequate. Other agencies' support functions, such as road construction and provision of agricultural credit, are also inadequate.

AN AGRICULTURAL STRATEGY FOR ST. LUCIA

Despite these severe constraints, St. Lucia benefits from valuable water resources; a favorable climate; a national forest preserve; a well-developed infrastructure that includes roads, deep-water ports, and airports; and marketing facilities for bananas. St. Lucia also has a number of well-established cooperatives and associations for farmers. Its tourist trade could provide a ready market, in hotels and restaurants, for agricultural products. These advantages should be exploited. To take advantage of existing opportunities and to create a dynamic, productive agriculture, the following strategy options are proposed.

- Sectoral Planning and Evaluation Assistance, as a discrete one-year activity and prerequisite to the other production/marketing-related programs.
- A Market-Oriented Assistance Program, including a strong planning component for direct, immediate implementation.

Sectoral Planning and Assistance

The first option takes into account the fact that St. Lucia's agricultural problems have evolved over many years as the result of complex and interrelated factors. These factors are not quickly understood, nor can easy, readily apparent solutions be found for the sectoral constraints that have resulted.

The objective is to understand the workings of the sector sufficiently to be able to plan projects with some reasonable chance of success. A number of donor-assisted projects have failed, and this is due, in no small part, to inadequate planning. This inadequacy undermines every effort to develop the agricultural sector. A sectoral planning and evaluation assistance project, to improve the MOA's capabilities for the effective, rational use of available resources and donor assistance, would be a first step toward sustainable agricultural development.

Market-Oriented Assistance Program

The second option follows from the identification of marketing as a critical constraint to agricultural development. Because of unanswered questions about the entire agricultural production and marketing network, success of this option is far from assured. But with reasonably good planning and participation of both private and public sector entities, it has the potential for a relatively quick impact on commercial agriculture.

The market-oriented approach would contain several inter-related activities aimed at removing or alleviating the major constraints. Its long-term objective can be stated as follows:

- To increase the incomes and living standards of St. Lucia's farm families by improving their productive efficiency and capacity on the farm through an expansion of the market demand for, and profitability of, the country's agricultural products.

Under this broad objective, there would be several intermediate goals:

- To promote and expand export trade within and outside the region by encouraging economies of scale in the production and marketing of agricultural products;
- To increase the market competitiveness of St. Lucia's commodities by reducing production costs and developing increased product differentiation;
- To substitute an increasing proportion of locally produced agricultural commodities for imported ones;
- To increase agricultural diversification and reduce dependence on only a single crop or a few crops;
- To increase the involvement of private businesses in the development of St. Lucia's agriculture; and
- To improve the capability of the MOA to plan and monitor effective short- and long-range agricultural development programs.

To achieve these objectives, a private (or joint government/private sector) company is proposed that would be organized in association with a farmer's organization. This company, provisionally named WINPAK, would engage in active market research and development locally, within the region, in the United Kingdom, and in the United States. A management contract might be awarded to a suitable company now operating in the region. The phased approach recommended for the establishment and growth of WINPAK would include:

- Organization of an agricultural producers' association to become part of the marketing company;
- Identification of other joint-venture partners and development of the necessary articles of incorporation and execution of all required legal arrangements;
- Initial market research and market development activities to identify the commodities with best market potential;
- Initiation of contract-growing arrangements for the products identified above;
- Identification by researchers, and extension to farmers by WINPAK's extension service, of the most appropriate and efficient agricultural production technologies for the commodities listed as having the highest income-producing potential; and
- Introduction of input supply and credit activities to improve or expand the company's operations.

Land Tenure

The potential impact of either option depends on progress in resolving the issue of land tenure and the related problems. This is of critical importance to programs aimed at diversification and expansion of market opportunities for crops other than banana. Land tenure reform would be an important step toward the following objectives:

- Maximizing the productive use of available land by encouraging and facilitating improved titling and registration procedures, a more fluid and efficient land market, and appropriate land taxation policies;

- Enhancing the economic viability of small-scale farming by encouraging capital investment for productive purposes based on secure land titles; and
- Increasing rural employment opportunities and stemming rural to urban migration of the younger population by making agriculture a profitable economic alternative.

A suggested program for achieving these objectives, which should be carefully coordinated with either of the strategy options proposed above, would include:

- The establishment of an agricultural land development authority to develop programs of land utilization that should form an integral part of a national strategy of land distribution and land use;
- The establishment of a land bank to provide funds for surveying, registering and titling of lands with unclear titles, investing in productive infrastructure on lands already having title, and the individual purchasing of family-sized farms or the group purchase of estates for subdivision; and
- The establishment of a cadastral survey tied to land tax based on the productive potential of agricultural lands.

CHAPTER ONE
REVIEW OF THE AGRICULTURAL SECTOR

THE DOMESTIC ECONOMY AND AGRICULTURE

Since the mid-1970s, economic growth in St. Lucia has resulted from agricultural exports, tourism, and more recently, development of the manufacturing sector. Real gross domestic product (GDP) grew at an annual rate of nearly 11 percent between 1976 and 1978, but dropped to about 4 percent in 1979, mainly because of reduced construction and manufacturing. Extremely serious damage to agriculture and tourism by Hurricane Allen in 1980, plus political instability at the time, led to a 4.5 percent negative growth rate. The economy grew about 3 percent in 1981 because of significant recovery of agriculture and expansion of the manufacturing sector (see Table 1).

Agriculture traditionally has been the dominant sector of the St. Lucian economy. In the early 1970s, however, with gradual emergence of small-scale industries and tourism, agriculture's relative importance declined. Serious damage to standing crops and agricultural infrastructure by hurricanes as well as unusually dry weather in recent years have contributed to this trend.

Despite its decline in relative importance, agriculture remains a major productive sector. Agricultural output contributed about 17 percent of GDP in 1981, up from about 13 percent in 1980, reflecting the success of the government's efforts to rehabilitate banana, coconut, and cocoa production, areas badly damaged by Hurricane Allen. For the relative importance of the various sectors of the economy, see Table 2.

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Table 1: Selected GDP Indicators (1977-1981)

	1977	1978	1979	1980	1981
	(EC\$ millions)				
Real GDP at factor cost (77 prices)	156.9	178.1	186.0	177.7	183.3
GDP deflator (index 1977=100)	100.0	110.8	121.3	144.6	165.0
GDP at current market prices	189.0	233.0	272.2	307.5	352.9
	(Annual percentage change)				
Real GDP (1977 prices)	5.9	13.5	4.4	-4.5	3.2
GDP deflator (1977=100)	9.4	10.8	9.5	19.2	14.1
GDP at current market prices	19.2	23.3	16.8	13.0	14.8

Source: World Bank Report No. 3828-SLU, April 1982.

Table 2: Sectoral Origin of GDP; 1977-1981

(As a percent of GDP at factor cost)					
	1977	1978	1979	1980	1981
Agriculture, fisheries, forestry	13.4	14.5	14.0	12.8	16.8
Construction	10.9	16.4	13.1	15.1	15.0
Wholesale and Retail Trade	14.7	14.0	14.6	15.3	14.8
Banking, Insurance, Real-estate	14.1	12.4	13.0	13.9	13.7
Government Services	16.7	14.1	15.2	14.0	13.2
Manufacturing	8.0	8.0	6.7	7.3	7.4
Transport/Communications	7.8	6.4	6.7	6.8	6.4
Hotel/Restaurants	5.5	6.1	7.7	7.0	5.1
Other	8.9	8.1	9.0	7.8	7.6

Source: Ministry of Finance and Planning.

In spite of agriculture's recovery from the 1980 hurricane, the current account deficit of St. Lucia's balance of payments has increased dramatically over the last few years. In 1981 it reached a record level of some \$51.6 million, about 40 percent of GDP. According to the World Bank, this resulted from a rapid increase in imports associated with foreign investments (Hess Oil trans-shipment terminal), a slowdown in exports, and continuing trouble in the tourist industry (see Table 3).

Domestic export earnings increased at an average rate of 10.7 percent per year between 1977 and 1979 and grew by 20 percent to about \$34 million in 1980. In 1981, mainly because of the impact of Hurricane Allen, domestic exports declined about 2.5 percent to \$33 million.

Agricultural products make up a major share of total domestic export earnings, particularly bananas and refined and unrefined coconut oil. Only in 1980 did agricultural exports fall below 50 percent of total domestic exports because of the hurricane damage to the sector (see Table 4).

While domestic export earnings remain steady, or show only a slight increase, imports into St. Lucia are increasing rapidly. Imports rose at an average rate of about 27 percent per year between 1977 and 1980, and are estimated to have reached \$138 million in 1981. A major part of the import bill is for food products. For the relative value and importance of food imports compared to other, and total, imports see Table 5.

The agricultural sector is a major source of employment in St. Lucia. Data available for 1980 show that 44 percent of total employment was in agriculture and mining, while manufacturing accounted for 6 percent. Transport, communications, utilities, and other services provided 31 percent of total employment.

Table 3: Summary Balance of Payments

	(U.S. \$million)				
	1977	1978	1979	1980	1981
<u>Goods and services and transfers</u>	-11.4	-23.5	-27.9	-33.3	-51.6
Total exports, f.o.b.	22.6	26.8	31.8	46.0	40.4
Domestic exports	(20.6)	(24.8)	(27.9)	(33.7)	(32.8)
Re-exports	(2.0)	(2.0)	(3.9)	(12.3)	(7.6)
Imports, c.i.f.	-59.3	-82.8	-101.2	-123.8	-138.1
Of which: Hess Co.	(-12.0)	(-14.2)	(-19.0)	(-23.8)	(-29.1)
Services (net)	15.2	22.8	30.0	28.0	24.2
Transfers (net)	10.1	9.7	11.5	16.5	21.9
Of which: official	(2.5)	(2.0)	(3.7)	(5.4)	(7.0)
<u>Capital account</u>	16.7	27.3	30.4	35.8	45.8
Public borrowing (net)	1.9	2.7	3.0	1.6	2.6
Of which: central government	(0.8)	(1.4)	(--)	(2.4)	(1.9)
Commerical banks	1.8	4.0	1.4	3.3	1.6
Private direct investment	13.0	20.6	26.0	30.9	41.6
Of which: Hess Co.	(12.3)	(19.0)	(24.0)	(28.9)	(34.1)
<u>Errors and Omissions</u>	-5.2	-4.6	-3.6	-5.9	1.6
<u>SDR allocation</u>	--	--	--	0.5	0.5
<u>Overall deficit (-)</u>	0.1	-0.8	-1.1	-2.9	-3.7
<u>Financing</u>	-0.1	0.8	1.1	2.9	3.7
Net ECCA borrowing	--	0.7	1.2	0.7	--
Change in foreign assets (increase -)	-0.1	0.1	-0.1	-0.1	0.2
IMF borrowing	--	--	--	2.3	3.5

Source: Ministry of Finance; World Bank Report 1982.

Table 4: Agricultural Exports 1978 - 1981

(Value in US \$millions; volume as listed)

	1978	1979	1980	1981
Bananas				
Value	12.0	13.5	10.5	14.9
Volume (000 metric tons)	47.0	48.0	33.0	45.0
Coconut Oil (unrefined)				
Value	1.0	1.6	1.3	0.6
Volume (liters, millions)	1.6	2.4	1.6	1.1
Coconut Oil (refined)				
Value	1.0	1.0	1.7	1.7
Volume (liters, millions)	1.2	0.9	1.1	1.2
Fruits/Vegetables				
Value	0.4	0.5	0.4	0.3
Volume (000 metric tons)	2.4	2.0	1.5	0.9
Value Agricultural Expots	14.4	16.6	13.9	17.5
Value Total Domestic Exports	24.8	27.9	33.7	32.9
Agricultral as % of total	58.0	59.0	41.0	53.0
Bananas as % of total	48.0	48.0	31.0	45.0

Source: Adapted from Statistical Office Data.

Table 5: Merchandise Imports by End-Use, 1977-1981

	(US \$millions)				
	1977	1978	1979	1980	1981
Food	13.1	17.1	19.3	22.4	25.0
Fuels	4.7	5.4	10.0	12.4	13.8
Chemicals	6.3	6.9	8.6	10.8	12.0
Manufactured Goods	15.9	20.2	29.1	29.3	32.9
Machinery/Equipment	10.1	21.7	19.9	29.3	32.1
Miscellaneous	9.2	11.5	14.3	19.6	22.3
Total Imports, CIF	59.3	82.8	101.2	123.8	138.1
Food as % of Total Imports	22.0	21.0	19.0	18.0	18.0

Source: Adapted from Department of Statistics Data.

Unemployment is estimated at about 14 percent of the labor force, although reliable data are not available. The relative importance of agriculture as a source of employment is shown in Table 6.

Overall performance of the central government improved during the three fiscal years that ended in March 1980. Tax changes and restraints in expenditures resulted in moderate current account surpluses, and the overall deficit was held to an annual average of 1.5 percent of GDP. In fiscal year 1980/81, current revenue slowed to 10 percent while expenditures rose by 22 percent, resulting in elimination of the current accounts surplus and in an overall deficit of about 7 percent of GDP. The overall deficits were financed from foreign loans, and loans from the East Caribbean Currency Authority and from local commercial banks (see Table 7).

Total revenue in FY 1982/83 is estimated at EC\$145,700,000 and recurrent government expenditure at EC\$138,200,000. A partial breakdown of estimated recurrent expenditures is shown in Table 8.

Funds budgeted for agriculture in FY 1982/83 -- EC\$9.3 million -- represent an increase of some EC\$2.6 million (38 percent) over actual FY 1981/82 expenditures of EC\$6.9 million. In relative terms, however, agriculture, as well as other productive sectors such as trade, industry, and tourism, receives a small proportion of total available government revenues.

HUMAN AND NATURAL RESOURCES

Population

St. Lucia's total land area of 152,000 acres supports a population estimated at 122,000 in 1981. The average annual population growth rate has been close to 1.5 percent during the

Table 6: Labor Force and Employment

	CENSUS 1970	EST. 1975	EST. 1980	EST. 1981
	(in thousands)			
Total Population	99.8	111.8	120.2	122.0
Labor Force	30.3	34.0	36.5	37.2
Employed	26.1	29.2	31.4	31.8
Agricultural/mining	10.4	11.6	13.7	-
Manufacturing	2.1	2.3	1.9	-
Construction	0.2	3.4	2.3	-
Tourism	3.0	3.4	3.6	-
Other services	10.4	8.5	9.9	-
Unemployed	4.2	4.8	5.1	5.4
	(as percent of total population)			
Labor force	30.4	30.4	30.4	30.5
	(as percent of employed)			
Agriculture/mining	39.9	39.7	43.6	-
Manufacturing	8.1	7.9	6.1	-
Construction	0.8	11.6	7.3	-
Tourism	11.5	11.6	11.5	-
Other services	39.9	29.1	31.5	-
	(as percent of labor force)			
Unemployed*	13.9	14.1	14.0	14.5

Source: World Bank Report No. 3828-SLU, April 1982.

*These figures are considered minimums and apparently do not include the high proportion of unemployment among recent school leavers and graduates.

Table 7: Operations of the Consolidated Public Sector

	1977/78	1978/79	1979/80	1980/81	1981/82
	(EC\$ millions)				
<u>Total receipts</u>	<u>72.85</u>	<u>80.35</u>	<u>111.77</u>	<u>122.58</u>	<u>128.03</u>
Current receipts	66.81	74.65	100.82	114.05	122.18
Capital receipts	6.04	5.70	10.95	8.53	5.85
<u>Total expenditure</u>	<u>79.00</u>	<u>84.77</u>	<u>117.34</u>	<u>135.33</u>	<u>151.80</u>
Current expenditure	57.85	62.44	99.68	98.89	123.38
Capital expenditure	21.15	22.33	27.66	36.44	28.42
<u>Current account surplus or deficit (-)</u>	<u>8.96</u>	<u>12.21</u>	<u>11.14</u>	<u>15.16</u>	<u>-1.20</u>
<u>Overall deficit</u>	<u>-6.15</u>	<u>-4.42</u>	<u>-5.57</u>	<u>-12.75</u>	<u>-23.77</u>
<u>Financing</u>	<u>6.15</u>	<u>4.42</u>	<u>5.57</u>	<u>12.75</u>	<u>23.77</u>
Foreign financing (net)	4.23	6.01	7.78	2.84	11.47
Change in foreign assests (increase -)	-0.04	0.12	-1.80	-0.49	1.28
Net borrowing from ECCA ¹	0.94	2.85	3.85	9.45	9.95
Net borrowing from commerical banks	-0.77	-1.16	-2.79	2.65	-0.84
Other domestic (net)	1.79	-3.40	-1.47	-1.70	1.91
	(As percent of GDP)				
Total receipts	38.5	34.5	40.9	39.9	36.3
Total expenditure	41.8	37.8	43.1	44.0	43.0
Current account surplus or deficit (-)	4.7	5.2	4.0	4.9	-0.3
Overall deficit	-3.3	-3.3	-2.2	-4.1	-6.7

Source: World Bank Report No. 3828-SLU, April 1982.

Table 8: Estimated Recurrent Expenditures by Government Function,
FY 1982/83

<u>Department/Function</u>	<u>Amount (EC\$ millions)</u>	<u>% of Total</u>
Education	31.0	22.43
Health	19.9	14.44
Communications/Works	17.7	12.82
Prime Minister, etc.	16.2	11.71
Finance	15.6	11.31
Agriculture	9.3	6.71
Public Debt Servicing	9.0	6.51
Trade, Industry, Tourism	2.7	1.94
All Other	16.8	12.13
Total	138.2	100.00

Source: Adapted from 1982/83 Estimates of St. Lucia. Ministry of Finance, June 1982.

last 10 years. The capital, Castries, contains nearly 45 percent of the total population. Net migration from the island is occurring, and there is movement from the rural areas toward the three major urban areas: Castries, Vieux Fort, and Micoud.

Age distribution is particularly important: almost two-thirds of the nation's people are under 25 years of age (see Table 8 of the Annual Statistical Digest, 1980). Thus a relatively high proportion of the population is dependent on a small number of economically active people. At the same time, the average age of heads of farm households is rising and now stands at 47 years. So, a large rapidly increasing, youthful population -- apparently little interested in or attracted to farming -- is dependent on a small, older generation of farmers.

Agriculture is rated low as an occupational preference by young people in St. Lucia. They associate farming with hard, unrewarding work and tend to seek easier employment provided by the island's developing manufacturing and tourist industries. The unavailability of land and agricultural credit makes it extremely difficult for a young person to enter into farming even if he or she had the desire to do so. Apparently, many young people choose not to work at all. Others, attracted by the stir and lights of Castries, develop aspirations about employment that exclude consideration of agriculture. (Source: G. and R. Brana-Shute, The Unemployed of the Eastern Caribbean, 1980.)

The Role of Women

Females outnumber males in every age category over 10 years. Out of the estimated total population in 1980 of 120,300, females numbered 63,482 and males 56,818. Women apparently are more active job seekers in the age group between 15 and 21 than men, yet are placed less frequently. Female primary school leavers and graduates seek work in shops, the lower ranks of government,

service employment in the tourist industry, assembly and sewing plants, and farming. Estimates of female participation in agriculture from 1960 and 1979 indicate that the number of women employed in the agricultural labor force rose from about 29 to 47 percent. Nearly all other countries in the eastern Caribbean showed a decline in this same period.

Approximately 40 percent of the households in St. Lucia were headed by women in 1970, and it is estimated that this figure now approaches 50 percent. A large percentage (estimated at 37 percent in 1970) of these women are between 25 and 44 years of age, the childbearing and peak work years.

With economic slowdown, jobs of all kinds, and particularly the service and assembly work in which most women are employed, will become more difficult to find. More women are expected to turn to agriculture, not out of choice, but as a last resort. (Source: Adapted from census data and G. and R. Brana-Shute. The Unemployed of the Eastern Caribbean, 1980.)

Topography/Land Use

Physically, St. Lucia is mountainous, the land rising to steep-sided volcanic mountains whose elevations reach 3,000 ft. A number of short rivers intersect the sharply folded highlands, often opening to broad, fertile alluvial valleys where intensive cultivation is possible. Considered from the point of view of soils and land capability, however, a relatively small proportion of the land is suitable for cultivation. An estimated 4.4 percent of the total agricultural land is classified in Land Capability Classes I and II and is suitable (with only minor problems) for intensive cultivation (see Table 9).

Table 9: Land Capability Classes, St. Lucia

Land Capability Class	Most Intensive Use	Acres	% Total
I	Suitable for cultivation	4,200	2.8
II	Suitable for cultivation but with minor problems	2,100	1.4
III	Suitable for cultivation but with major problems	16,000	10.5
IV	Suitable for tree crops and pasture, marginal for cultivation	40,000	26.3
V	Unsuitable for cultivation but suitable for tree crops, grass, and forestation	46,800	30.7
VI	Unsuitable for cultivation	24,000	15.8
VII	Little or no agricultural use	19,220	12.6

Source: Soil and Land-Use Survey No. 20, St. Lucia.

Climate

St. Lucia's climate is characterized by a hot and dry season from about December to March and a rainy season from April to November. Annual rainfall varies with altitude from 60 to 150 or more inches per year in the mountains to less than 50 inches in the lower, far south and north of the island. Temperatures range from 70° F to 80° F, but can reach 90° F during the hottest part of the year. Although climatic conditions are favorable for agriculture, St. Lucia is in a zone where tropical storms and hurricanes are a constant threat, particularly in August and September of each year. Hurricane Allen, for example, seriously damaged the island's agriculture. Banana harvests had to be suspended for five months, heavy losses were experienced in the coconut industry, and buildings were damaged throughout the country. Complete recovery, of the lost coconut trees, for example, will take years.

Soils

St. Lucia has a large number of soils that vary widely in their degree of weathering, natural fertility, and resistance (or susceptibility) to erosion. Because of the mountainous terrain, the soils most suitable for agriculture are found in the river valleys. Traditionally, however, these areas have been in the hands of the larger estates and were used for sugar cane production until the 1960s, and for bananas, coconuts, and other crops since that time. The nation's small farmers were relegated to the hilly land where some well-drained clay and silty clay loams provide relatively good growing conditions. Many of the hill soils are not suitable for agriculture, particularly annual cropping, however, because of natural infertility or the extreme steepness of the land. Approximately 50 percent of the total land area is over 20 degrees in slope (see Table 10).

Table 10: Land Distribution by Slope

Slope (Degrees)	Land Area	
	Acres	Percent of Total Land Area
0-5	14,800	11
5-10	15,000	11
10-20	37,580	28
20-30	46,000	35
30 or more	19,800	15

Source: Soil and Land-Use Survey No. 20, St. Lucia, 1966.

Water

The supply and distribution of water have not kept pace with the expansion of the economy and population growth. Inadequate water continues to be a serious constraint to agricultural development. For example, only about 6 percent of St. Lucia's farms are irrigated, and these employ relatively primitive, non-technical systems (see Table 11).

In addition to a lack of tradition in using irrigation, farmers are discouraged from using river water because of the presence of the bilharzia organism. The government has recognized the importance of irrigation for accelerated development of the agricultural sector and has taken steps to investigate the availability of surface and sub-surface water for agricultural uses.

Forests

St. Lucia's forests have been exploited steadily since the first European settlements in the 1600s. At present, the forest reserve is confined to the more accessible central mountainous area of the island. Surveys and demarcation of additional forests (with Canadian International Development Agency (CIDA) assistance) are expected to bring the official forest reserve to approximately 16,000 acres, or some 10 percent of the total land area. Preservation and expansion of the forest cover is stated as a major goal of government because of the essential role of forests in maintaining ground-water supplies; in reducing erosion and siltation; and in providing timber, charcoal, and other forests products. At present, unauthorized cutting of trees and the shifting type cultivation practices in the forested areas, as well as questionable ownership of some forested lands, are a threat to long-term stability of the nation's natural resource base. Shortage of trained staff generally, and a trained corps of forest rangers in particular, are hampering efforts to reduce damage to the forests.

Table 11: Irrigation Holdings by Method Used and Size of Holdings

	(acres)			Total
	0-10	10-80	80+	
Total Number Holdings	10,115.0	276.0	45.0	10,436.0
Number Holdings Irrigating	606.0	24.0	9.0	639.0
Surface Flooding	23.8	4.1	-	22.5
Overhead Sprinkler	3.1	4.1	22.2	3.4
Hand Watering Only	21.1	41.7	11.1	21.8

Source: 1974 Census Data.

Land Distribution/Ownership

Besides the small land base, agricultural production is limited by the traditional system of land distribution and use that has developed in St. Lucia. Of the approximately 10,500 farm holdings, about 92 percent are less than 10 acres in size; these account for some 24 percent of the island's total agricultural land. At the other end of the scale, about 0.6 percent of the holdings have 100 acres or more but account for nearly 52 percent of the total agricultural land (see Table 12).

St. Lucia's antiquated land tenure system seriously compounds the problem, especially for the smallholder without adequate resources. Based on the Napoleonic Code, the system provides for land inheritance that leads to multiple ownership and the eventual fragmentation of the land into ever smaller parcels. Subdivided land normally carries no clear title to the inheritors and this, in addition to causing inefficient land use and extreme difficulties in land transactions, prevents owners or operators of such lands from receiving production credit. An estimated 64 percent of agricultural land in St. Lucia was reported to have multiple owners as recently as 1975. Although not necessarily a problem in regard to short-term crops, or for large- or medium-scale land holders, insecure title is a serious obstacle for the small-scale farmer to long-term investments in the land, such as soil conservation measures, planting, and maintenance of tree crops, drainage, or irrigation structures and fencing.

This situation is reported to be one of the most serious constraints to long-term agricultural development for the small farmer, and government is taking steps to address it. A pilot project of 1,500 acres involving 250 smallholders in the Morne Panache area is under way with assistance from the Organization of American States to survey the government land to be subdivided and to develop a system for land registration and distribution.

Table 12: Distribution of Land According to Size of Farm

Size of Farm (acres)	Number of Holdings	%	Acreage	%
Less than 1	4,730	45.3	1,733	2.4
1-4.99	3,825	36.7	8,471	11.8
5-9.99	1,082	10.4	7,068	9.8
10-24.99	475	4.6	6,396	8.0
25-49.99	199	1.9	6,298	8.7
50-99.99	58	0.6	4,282	5.9
100-199.99	19	0.2	2,690	3.7
200-499.99	26	0.2	8,160	11.3
500+	19	0.2	26,902	37.4
	<u>10,433</u>		<u>72,001</u>	

Source: Census, 1974.

A Land Reform Commission was established in 1979 to review the land tenure situation and to make recommendations. The commission's report has been published recently and contains recommendations in the areas of:

- Land titling and adjudication;
- Distribution of Crown Lands;
- Establishment of agricultural producer cooperatives;
- Consolidation of land holdings;
- Subsidized surveying services;
- Rural industrialization;
- Coordinated land-use planning; and
- Establishment of an Agricultural Land Development Authority (to implement the above).

(Source: Final Report, Land Reform Commission, November 1981. Nutrition.)

Food and nutrition surveys conducted in St. Lucia indicate that a number of people fail to receive recommended caloric energy and/or protein intake levels. In addition, infestations of intestinal worms and bilharzia, particularly in children, are reported to inhibit the body's utilization of food and retard growth. Because such a large proportion of the various foods consumed are purchased, inadequate nutrition is directly related to low incomes and purchasing power. A 1970 study reveals that 66 percent of the total food energy supplies, 100 percent of the cereals, and 80 percent of the meats were imported. Although the country has become self-sufficient in egg production and most pork products, the overall food import situation is little changed at present.

SECTOR SERVICES/ORGANIZATIONS

Marketing

The island's major crop, bananas, is marketed by the St. Lucia Banana Growers' Association and the Geest Industries shipping line to a wholesale and retail network in the United Kingdom. The Coconut Growers' Association purchases copra from its members for resale to Copra Manufacturers, Ltd. (CML), which processes the copra into oil for sale domestically or within the region. (The main buyer of CML's oil is Jamaica.) The St. Lucia Agriculturists Association has exclusive responsibility for the purchasing and export marketing of cocoa and spices.

While the marketing system for export crops -- bananas, coconut, and cocoa -- is well developed, the system for handling perishable products for domestic consumption or for regional trade is poorly organized. The St. Lucia Marketing Board, a government statutory body, is responsible for providing local and overseas markets for crops (mostly perishables) not covered by other statutory bodies, and for importing certain agricultural products needed to make up the shortfall between local production and demand. The board has serious difficulties in meeting these responsibilities, mainly because it is expected to serve as a buyer of last resort for all farmers, an impossibly heavy financial burden. This coupled with the board's lack of authority to import potentially profitable goods such as sugar or flour (as marketing boards in some Caribbean countries do), has doomed it to financial insolvency. Management problems, a constant shortage of finances, and inadequate transport and storage facilities exist as cause and effect in the Marketing Board's continuing stagnation.

The government is considering a number of options to attempt to improve the marketing functions that now are the responsibility of the board. Restructuring the Marketing Board, upgrading its

facilities, and possibly replacing the board by a farmer-controlled organization similar to those existing for bananas and coconuts are being discussed.

Hucksters are the traditional inter-island traders of fresh produce. A small number of hucksters, estimated at 30, trade more than 70 percent of the total volume of sales. Over the long run, the huckster trade is made profitable (unlike the Marketing Board), in spite of serious losses of perishables they handle (estimated between 25 and 45 percent) because of their inability to use export earnings to buy dry goods for resale that are not available on the local market. Their flexibility to adjust to changing demands of the marketplace, and the two-way trade, are the vital elements in their success.

Hucksters receive no special governmental assistance, and apparently they are not organized in any way. They do not act as a group to conduct market research, to develop and enforce better shipping arrangements, or to control the quality of the products they market. They have no central packing facility; they also lack information and legitimate banking instruments that could improve their efficiency.

Geest Industries, an export and shipping firm, is vital to St. Lucia's agricultural sector and to the economy in general as the buyer and shipper of bananas, and other minor products destined for the United Kingdom. The company provides a regular weekly shipping service, using modern refrigerated ships, between the Windward Islands and the United Kingdom.

Credit

Importers and exporters of agricultural commodities as well as legally titled and registered landowners can obtain credit from the St. Lucian branches of foreign-owned commercial banks as well as from a recently organized commercial bank, the St. Lucia National Commercial Bank.

For the smallholder farmers, however, a number of problems stand in the way of their being able to receive credit on a timely, efficient basis for purchase of inputs and services needed in the farming process. Lack of secure land title, lack of profitable technological packages, poor marketing, traditional ignorance about the use of credit as a tool to achieve increased production, and procedural difficulties associated with applying for, receiving, and repaying credit are all factors. Also, the actual shortage of funds specifically designated as production credit for small-scale farmers has prevented widespread use of credit throughout the country.

A survey of 10 percent (526) of St. Lucia's small-scale (25 acres or less) banana growers in late 1978 indicated that only about 25 percent of the farmers made use of agricultural credit. The main reasons for not applying for loans are listed in Table 13.

To provide smallholder farmers with credit, the St. Lucia Development Bank (SLDB) was established in early 1981. The SLDB inherited the credit portfolios of three previous institutions: the Agricultural and Industrial Bank, the Housing Development Bank, and the National Development Corporation. Some \$2.2 million were disbursed by these three institutions during a 10-year period, including 850 unsecured agricultural production loans. Because of the poor record of loan repayment, the Caribbean Development Bank (CDB) is assisting the SLDB to develop administrative systems and improved skills necessary to function efficiently in the future to make credit available to agriculture and industry. A further \$1.6 million is expected to be made available by the CDB to the bank for lending during the period 1982-1986. If the St. Lucia Small Farmers Agricultural Development Project, to be funded with joint assistance of the CDB and the International Fund for Agricultural Development, is

Table 13: Farmer's Reasons for Not Applying for Credit

Reason	% of Total Farmers Responding
Had no need for loans	29
Ignorance of lending procedures	23
Fear of inability to make payments	13
Lack of security	10
All other reasons	25

Source: B. Laville, Legal and Sociological Survey of Land Use and Tenure (St. Lucia Section), Winban, December 1978.

approved and becomes operational, an additional total agricultural credit line of \$714,500 for short- and medium-term credit will become available.

Extension/Agricultural Training

The Extension Service is headed by an officer-in-charge at the Castries headquarters and is staffed by six officers in each of the five agricultural districts. In addition, three extension officers are associated with the Black Bay Vegetable Production Project and three with the Tree Crops Diversification Project operating island-wide. Assuming 36 officers are actively involved with farmers, and using 10,500 as the total number of farm holdings, then a ratio of one extension officer to about 290 farmers exists. This appears to be a favorable ratio. However, because of the inaccessibility of many smallholder farmers, generally low incentives due to low wages, inadequate housing and transportation, lack of experience and teaching aids as well as assignment to non-extension tasks (surveys, data collecting), the actual number of farmers contacted in a planned, regular way by the extension service is far below this level.

In addition to the government extension officers responsible for crop production, the Livestock Division fields a few livestock extension officers. The Windward Islands Banana Growers Association (WINBAN) has its own field extension staff, and the SLDB employs a small number of field agents to assist with agricultural loan making and collecting. Apparently there are no extension officers working exclusively with a broad-based rural youth program, nor is there a home-economics extension program.

Entry-level staff for extension and other agricultural professions come from the Agricultural School at the Union Agricultural Station. Here a one-year certificate course and two-year diploma level course are offered. Basically the course

provides training for farm youths who either are expected to return to their parents farms after the one-year course or who go on to the second year program. Courses are taught by various Ministry of Agriculture (MOA) staff as extra assignments to their regular duties. The school is small, enrolling about 23 certificate and 13 diploma students at present. The facilities are rustic, but the school offers students opportunities to gain practical experience with crops and livestock at the Union Agricultural Station. A major problem is a lack of dormitory facilities, and many students must commute long distances to attend the classes. Plans exist for a new agricultural school to be built with European Development Fund (EDF) assistance on government land at Dennery. As reported, EDF funding is expected to provide the basic structures -- the physical plant -- for the school. Additional, as of yet unspecified, sources of funding will be required to furnish and stock the school for operation. All of this is expected to take a minimum of three years before the new school can begin training.

Higher learning for St. Lucian agriculturists is provided at the University of the West Indies, Trinidad, where a limited number of students can study to the B.S. level. The Jamaican School of Agriculture, which formerly provided degree-level programs in agriculture for some St. Lucian students, is now closed. A two-year program in livestock management is available to a limited number of students from St. Lucia in Guyana.

Research

Theoretically, the source of new or improved agricultural technology for the sector is to come from three institutions: the Ministry of Agriculture Research Division, WINBAN, and the Caribbean Agricultural research and Development Institute (CARDI).

The ministry's research program is modest by any standards and is centered at Union Station just outside Castries with a couple of smaller stations at other locations on the island. The work includes crop testing and improvement, crop protection, plant propagation, soil fertility, livestock improvement, and good technology and processing. Serious problems of financing for capital improvements and recurrent costs as well as a shortage of qualified technical staff and trained research officers exist throughout the ministry's research effort.

WINBAN established a research center in St. Lucia in the mid-1960s that has become the largest agricultural research unit in the eastern Caribbean. Quality research is conducted there on all aspects of banana production, including fruit quality, intercropping, and pest control. The center also provides training for banana extension officers for all the Windward Islands. WINBAN is funded by the four respective Windward Island banana growers associations and receives considerable assistance from foreign donors, especially in Canada and the United Kingdom.

CARDI is the regional agricultural research organization of the Caribbean Economic Community (CARICOM). It receives its financial support from these countries as well as from other organizations such as the EDF and the U.S. Agency for International Development (AID). The St. Lucia unit of CARDI was established in 1977 and has conducted some adaptive research on crop varieties and fertilizer use. The main focus at the moment is on developing adapted multiple-cropping systems for smallholders. Apparently no work has yet been done on completely integrated mixed cropping and livestock systems, but this type of adaptive research is said to be planned for the near future.

Although on the surface it appears there is a reasonably good research effort being made in St. Lucia, some questions remain as to how effectively the work is coordinated and ultimately how

beneficial it is for the country's mass of small farmers. There is no clear mechanism, for example, whereby the various researchers coordinate the research planning process (on an annual, or even longer-term basis). Also, the excellent facilities at WINBAN for soil and leaf analysis are apparently not used to any extent by CARDI or ministry researchers.

Thus research conducted by WINBAN on intercropping and using bananas as the base crop, CARDI's work on multiple-cropping systems, and the ministry's efforts to produce improved planting materials and encourage crop diversification, as well as mixed farming systems involving crops and livestock, have a great deal in common. Yet these do not seem to be planned and implemented in a coordinated, integrated fashion. The analysis of cost of production data and the setting of agricultural priorities on the basis of net returns and market potential are not well developed in St. Lucia at this time.

Producers' Organizations

St. Lucia has a number of agricultural and fisheries producer associations and cooperatives.

St. Lucia Agriculturists Association, Ltd.

This association is a limited liability company organized in 1950 to promote the production and marketing of agricultural products. It handles the purchase and marketing abroad of cocoa and spices and operates successfully as an importer and retailer of all types of agriculturally related inputs: agro-chemicals, equipment, machinery, tools, and building supplies. Membership in the association is about 1,200. Apparently the association is well managed and financially sound, although quite conservative in its business approach. Its principal activity is importing and retailing such items as hardware, paints, and building supplies. The association is basically not development oriented.

St. Lucia Banana Growers Association (SLBGA)

The SLBGA represents the nation's large number of banana growers and functions to improve the production, handling, and marketing of St. Lucia's banana crop. The association imports fertilizers and pesticides needed by banana growers. It organizes the harvesting, packing, and transporting of the fruit to the the dockside loading terminal for export to the United Kingdom. The SLBGA maintains detailed records of deliveries of bananas by the growers and makes the regular payments to farmers for fruit shipped. Membership is about 7,000. The association is suffering under a debt of some EC\$9.0 million, largely the result of losses (and lost revenue) due to Hurricane Allen, as well as poor financial management.

Windward Island Banana Growers Association

WINBAN assists the respective growers' associations on the islands of St. Lucia, Dominica, St. Vincent, and Grenada in the following ways:

- Co-ordinates shipping for the export of the islands' bananas to the United Kingdom;
- Organizes the marketing of the islands' bananas in the United Kingdom;
- Negotiates banana contracts with Geest;
- Undertakes bulk purchasing of inputs for the industry;
- Conducts research on all aspects of banana production and handling;
- Conducts research into food crop production, including banana intercropping, as part of the diversification policies of the islands' governments; and
- Represents the producers at international meetings.

WINBAN is a well-managed, relatively well-financed professional organization providing important services and support to the banana industry. It is an organization with significant potential to contribute actively to St. Lucia's (and the other Windward Islands') agricultural diversification and general development.

St. Lucia Coconut Growers Association

The association imports production supplies, advises members on improved coconut production practices, purchases copra from growers, and handles the financial and other arrangements with Copra Manufacturers Ltd., the firm that buys members' copra for processing into oil. Membership is about 3,000. The drop in income from copra production (from EC\$7.6 million in 1980 to some EC\$3.3 million in 1981 because of hurricane damage) has seriously affected the coconut industry and the association's ability to operate effectively on behalf of coconut growers.

The St. Lucia Pig Producers Cooperative

The cooperative supports its members (about 130) in the bulk purchasing of production supplies and feed and operates a cold-storage facility and marketing system for pork products.

The St. Lucia Egg Producers Cooperative

Operated in close coordination with the Pig Producers Cooperative, this group of about 60 members imports feed and supplies and undertakes cooperative marketing of eggs.

The St. Lucia Association of Farmers' Cooperatives (STAFCO)

STAFCO, an association of the pig and egg producers cooperatives, is involved in the importation of feeds for all members and represents the interests of its members in dealing with government on import restrictions and pricing policies. In large part because of the efforts of STAFCO, the country is now self sufficient in eggs and certain pork products.

Fisheries Cooperatives

A total of 10 fisheries cooperatives exist with a total membership of about 60 fishermen. The cooperatives assist members by importing improved fishing equipment and serve as a unifying body to represent their members' interests with the government.

Food Producers Association

This is a new association proposed by the MOA. Preliminary informational meetings are currently being held throughout the island to gain support for the organization. Its purpose will be to function as a supportive group to encourage increased crop diversification and expanded regional and extra regional sales of St. Lucia's food crops. It is thought that this organization will take over several of the activities of the Marketing Board.

PRODUCTION

Crops

The major crops grown on St. Lucia are bananas, coconuts, cocoa, fruits, and vegetables. Because of the unequal distribution of land, small-farm production is extremely important to the economy. For example, farmers with less than 10 acres (about

92 percent of the holdings) produce over 50 percent of most crops. In banana production, the most important single crop in the island's economy, smallholder farmers make up 92 percent of the total number of producers and contribute about 60 percent of total banana production.

Banana production has been on the decline since the early 1970s mainly because of droughts and low prices offered to growers relative to the increased costs for production inputs. (Current costs of production are estimated at between EC\$0.20-0.24 per pound while the farmer receives only EC\$0.12-0.20 per pound.)

Bananas provide the only cash income for a large number of small farmers, many of whom farm steep, infertile land; they are therefore an important factor in the economy of rural areas. Banana producers are members of the Banana Growers Association through which they receive technical assistance, inputs, and marketing services. The primary export market for bananas is the United Kingdom, which has a stabilized market demand of about 300,000 tons per year. About 130,000 tons traditionally have been supplied by the Windward Islands (and about 40 percent of this by St. Lucia) under preferential trade terms specified in the Lome Convention (see Table 14).

Since U.K. demand is not likely to continue over the long term, other markets must be found for St. Lucia's banana crop. However, this will be possible only if the bananas produced in St. Lucia can become price competitive on the world market. Present yield levels at something less than one-third to one-fourth those of other, efficient banana-producing countries clearly indicate the scope of the problem faced by St. Lucia's banana industry. In addition to low yields, there is a serious problem of fruit quality resulting in a high rejection rate of delivered bananas estimated at 30 to 40 percent. The recent introduction of field packing, however, is expected to reduce the rejection rate to about 5 percent.

Table 14: Banana Exports 1964-1981

Year	Weather	Exported (000 Metric Tons)	% of Total Windward Island Exports
1964	Normal	60.9	42
1965	Normal	80.5	44
1966	Normal	83.7	47
1967	Normal	69.1	41
1968	Normal	71.5	39
1969	Normal	84.8	43
1970	Drought	50.2	35
1971	Drought	45.0	36
1972	Drought	47.0	39
1973	Drought	35.2	37
1974	Drought	44.1	42
1975	Drought	31.6	35
1976	Normal	44.1	36
1977	Drought	40.3	36
1978	Normal	51.0	38
1979	Normal	59.0	47
1980	Hurricane	35.6	27
1981	Normal	56.7	44

Source: Annual Statistical Digest, 1979 and 1980; Banana Growers Association.

Because of the low yields and relatively high costs of inputs, profitability of bananas is marginal. Pricing of the crop at above world market prices (because of the Lome Convention), helps to sustain the banana industry. Subsidization of the banana industry, through an artificial pricing mechanism, can be viewed as a serious disincentive to long-term development of the industry and its competitive position in the world market, as well as an obstacle to meaningful crop diversification.

Coconut is second in importance to bananas as an export crop, but output was seriously reduced because of Hurricane Allen in 1980 when production fell from about 6,000 tons to 2,500 tons per year. Complete recovery is estimated to take five to eight years. Coconut production is further constrained by difficulties in obtaining labor for harvesting and drying, poor farm access roads, rat damage, and poor cultural practices. At present, income is derived almost exclusively from the copra (used for oil extraction), with no serious attempt to explore other by-product uses.

Cocoa, coffee, nutmeg, avocado, mango, and citrus are among the other tree crops grown. These are scattered throughout the country and are not grown in sufficient quantities or concentrations to provide adequate economies of scale in their harvesting, marketing, or processing. Mango, avocado, and citrus are receiving some attention from the MOA as part of a general crop diversification effort.

Yams, dasheen, sweet potato, and tannia are the staple foods of the island and are widely grown on small farms throughout the country. They are frequently interplanted with bananas or other crops. CARDI has undertaken some variety trials and other work has been done in the development of small-scale, inter-cropping systems including the use of these root crops. Still, yields are low and, in spite of past exports of tannia and dasheen to the

United Kingdom and to neighboring islands, the potential for improved production and marketing of these crops has not been fully explored.

Vegetable production has expanded since the late 1960s, but the problem of maintaining regular supplies and linking production to the export market and tourist trade remains unsolved. Competitive prices, dependability of supplies, and availability of a variety of good quality products (fruits and vegetables) are reported to be the main concerns of the hotel operators. They will buy local products, but these must meet their standards. Given the arrival of over 100,000 foreign visitors to St. Lucia in 1980, a significant opportunity seems to exist for the island's farmers to provide an increasing share of the products these tourists require.

Perennial spice crops do grow on the island, but a tradition of cultivation of these spices is not strongly developed. Nutmeg is grown on one estate and by a few other farmers. Cloves are cultivated in a few areas. Black pepper is raised as a backyard crop, and cinnamon is planted around homesteads as a windbreak. Vanilla and pimento (allspice) can be found in small amounts. The commercial value of these spices is reported to be insignificant.

Ginger is an important crop, however, and is raised as fresh ginger for export to the United Kingdom. Hot peppers are also grown for the local market and anticipated demand of 60 tons of fresh peppers per year for export and about 200 tons of dried hot peppers per year are predicted. At least two spice-processing firms exist on St. Lucia (Sari and Viking brands). Government policies do not specifically mention spices, but it is possible that spice production could become part of the diversification efforts now receiving support. Shortage of labor and generally poor agricultural infrastructure are reported to be the most serious constraints to the increase of spice production. These

crops, however, if encouraged as extensively grown additional crops by small farmers, can be important components of an agricultural development program. Cloves and cinnamon particularly, as well as ginger, turmeric, and hot pepper appear to offer the best opportunities for St. Lucia.

Livestock

Livestock is a small-scale industry on St. Lucia. Commercial livestock production contributes less than 2 percent to the GDP, the large number of very small land holdings generally serving as a constraint to commercial-type livestock operations. Cattle are normally reared under extensive mixed farming systems such as grazing under coconuts or in combination with bananas or other cultivated crops. Estimated livestock populations in St. Lucia are shown in Table 15.

The nation's economic situation would seem to favor livestock production aimed at achieving a greater degree of self-sufficiency in a number of animal products. Current demand for most meat and dairy products is met by imports. The Beausejour Livestock Development Project, assisted by the EDF, is a pilot project to increase local production of meat and milk. Because of serious problems, however, many related to the basic design of the facilities, it is having a limited impact on the industry. Pig production has expanded recently as has the production of eggs, thanks largely to the effective functioning of the Pig Producers Cooperative and the Egg Producers Cooperative (now associated in STAFCCO). The country is now reported to be self-sufficient in eggs and most fresh pork products.

Major animal health problems are endo- and ecto-parasites. A serious shortage of qualified veterinarians exists (there are only one government and one private veterinarian actively involved in animal health) as well as adequate animal health facilities.

Table 15: Estimated Livestock Population, 1979-1982

Year	Cattle	Sheep	Goats	Pigs	Poultry
1979	9,600	12,200	9,400	9,300	172,700
1980	10,000	12,700	9,700	9,700	189,000
1981	10,600	13,200	10,200	9,900	199,400
1982	11,100	13,700	10,600	10,500	209,400

Source: Agricultural Statistical Digest, January-December 1981.

Food-stuffs are generally not available locally, and protein supplements or commercially formulated animal feeds must be imported. The St. Lucia Flour Milling Company at Vieux Fort manufactured mixed animal feeds, but damage to the mill and to crops by Hurricane Allen resulted in its closing. Rejected bananas, coconut meal, and brewers grains are used as animal feeds when available.

Fisheries

Offshore fishing is conducted from some 600 small boats, mainly locally built canoes, operated by about 1,700 fisherman; most of them on a part-time basis. The peak fishing season is January to June, when migratory pelagic species (dolphin, tuna, and kingfish) move from north to south close to the island.

About 80 percent of landings are made on the leeward side of the island; Castries and Vieux Fort being the main ports. Between August and October porpoises are caught and provide a cheaper grade of meat popular with the rural people (see Table 16).

The Fisheries Division is small, having only two fisheries biologists (plus two provided by the Peace Corps) and four extension officers. Within the ministry, the Fisheries Division receives a relatively low priority and is allocated only about 6 percent of the annual operating budget.

Studies indicate good potential for development of the fisheries industry because the resource is essentially unexploited at present. Primitive fishing techniques and equipment and, more particularly, the lack of adequate cold-storage facilities and a good marketing system are reported to be the most serious constraints.

Table 16: Fish Landings, 1980 and 1981

	1980	1981
	(000 pounds)	
Tuna	433.0	474.0
Dolphin	491.0	481.0
King fish	260.0	207.0
Flying fish	540.0	295.0
Sharks/Black fish	42.0	45.0
Others	784.0	496.0
Total	2,550.0	1,998.0
Total Value (000 \$EC)	-----	4,996.1

Source: Agricultural Statistical Digest, January-December 1981.

Efforts are under way to improve the fisheries industry. A fisheries complex is being developed (with CIDA assistance) to assist fishermen with technical advice, gear, equipment, landing facilities, and marketing to increase the catch and improve the returns to individual fishermen. A boat development project is planned, with EDF assistance, to design and construct improved, fiberglass boats for offshore fishing. Fisheries cooperatives are being supported to help organize fishermen into an effective association for their own benefit and to act as a focal point for inputs and development of the industry.

Still, a number of problems remain. A shortage of trained manpower and poor landing and other facilities are serious constraints. Studies are needed to assess the fisheries resource to develop long-term policies and guidelines to provide maximum sustainable yields. The fisheries specialists themselves require a boat and proper equipment to conduct such studies. Also, some form of surveillance is needed to ensure that legal fishing techniques are being used and that fishermen from other islands (Martinique fishermen are evidently the most serious offenders) are not overly exploiting the local marine fisheries.

Aquaculture and the development of inland fisheries are minimal at present. A few ponds containing tilapia are established at the ministry's Union Station, but there is no serious attempt to introduce fish farming on any significant scale in the country.

AGRO-PROCESSING

Until 1975, agro-processing in St. Lucia was limited to the manufacture of oil, soap, and coconut meal by CML at a factory in Soufriere. Plant capacity increased until 1980 when, because of damage to the coconut industry by Hurricane Allen, production dropped sharply.

Coconut oil is essentially the only product of CML at present, with Jamaica purchasing some 80 percent of the oil produced. Because of shortages of foreign exchange in Jamaica, however, delayed payment for delivered oil is preventing the CML from paying promptly for copra. This has reduced the incentive for farmers to harvest and sell their copra to the Coconut Growers Association.

The coconut industry in St. Lucia is not efficiently organized to exploit fully the opportunities that exist. Copra for processing into oil is the only important coconut-related product. Products made from the fiber, including mats, rope, and twine, are not manufactured. Use of fiber dust for hardboard and the conversion of coconut shells into charcoal useful for filters are other possibilities not now being investigated. A number of such products could substitute for imported items and some appear to have potential for export to the region, the United States, or Europe.

In 1975 the government established a food-processing laboratory at the Union Agricultural Station. This facility was expected to conduct studies and develop methods for processing local agricultural products. There has been some success in processing fruits into beverages (passion fruit) and preserves (gooseberry and pineapple), and the unit is producing limited amounts of processed foods for marketing through a small number of retail outlets. The effectiveness of the laboratory is hampered by inadequate physical plant and equipment, lack of working capital, and a poorly defined set of management policies. The unit does not appear to have clear-cut priorities, nor does it have an active, market-oriented approach to development of the local food processing industry.

Agro-Industries Ltd., a private firm, opened a food processing plant in Beauchamp in 1980. The plant's capacity is

reported to be 1,500 tons of raw material per year. A number of products are produced, including canned akee, hot pepper sauce, mango chutney, and fruit beverages. Production is almost exclusively for export. It has been reported that canned akee, produced by the plant and sold to the United Kingdom and Canada, is banned from the U.S. market because of fear of food poisoning.

St. Lucia also has a small spice processing industry centered in two companies: Sari Industries at Anse La Raye and Viking Brand Products at Marisule. Black pepper, cloves, cinnamon, curry powder, and a few other spices and spice mixes are processed mainly for local and regional consumption by these two firms.

PROJECT IDENTIFICATION AND PLANNING

The Data Base

There is a significant amount of published statistical data available to project planners. Some of this data contains glaring inconsistencies and must be considered unreliable, however. The agricultural data base is the 1974/74 census, and the information should be updated. Currently published quarterly data on agriculture are spotty and not always relevant. The users of the agricultural data (the senior officers and planners) should clearly define their data requirements and meet regularly with field level data collectors to ensure that only useful, reasonably accurate information is included in the published statistical tables.

A regular, consistent system of collecting agricultural data is not in place. Bits and pieces of information are presented in various ministry publications, but generalized crop reviews, including a series of data on production, yields, costs of production, and prices for the major crops and livestock are also lacking.

In addition to the Quarterly Statistical Digest published by the MOA, the Government Statistical Office prepares and publishes the following statistical data:

- Annual Digest of Statistics;
- Quarterly Trade Report;
- Annual Trade Report;
- Monthly Index of Retail Prices;
- Preliminary Summary Report (Annual Trade);
- Volume and Value Indices of Trade; and
- Production (manufacturing) Statistics.

The Statistical Office is attempting to improve the quality and timeliness of these and all statistical publications. Data are being handled to permit computer storage, retrieval, and printout of the information collected.

Ministry of Agriculture Organization and Staffing

The MOA, (the official title is Ministry of Agriculture, Lands, Fisheries and Co-operatives), has broad responsibilities in the areas of agricultural services, lands, fisheries, and cooperatives. Organizationally, it is divided into a General Administration and four major departments and a large number of sections or functional units (see Table 17).

While the ministry has a broad responsibility in the sector, it is prevented from effectively performing its duties because of limited funds for developmental activities and serious shortages of experienced, highly motivated technicians and managers throughout the various divisions. A serious weakness of the ministry exists in planning. Well-conceived and documented

Table 17: Staffing and Budget of the Ministry of Agriculture (FY 1982/83)

Department/Section	Budget (000 EC\$)	Staff	
		Professional	Sub- Professional
General Administration	1,025.4	10	15
Agricultural Services	6,700.3		
Administration		4	1
Extension		55	2
Research/Training		22	8
Engineering		10	--
Livestock		10	--
Veterinary		11	1
Statistics		3	1
Land Reform		14	3
Forestry		21	3
Land and Surveys	614.2	26	3
Fisheries	555.5	8	3
Cooperatives	374.5	9	3
	<u>9,269.9*</u>	<u>203</u>	<u>28</u>

Source: FY 1982/83 Estimates of St. Lucia, Ministry of Finance.

* This figure represents 6.7 percent of the total FY 1982/83 recurrent budget.

medium- or long-range sector plans do not exist. Selection of priorities, out of the large number of possible activities the ministry can engage in, is not evident. Scarce personnel and funds are not focused on achievement of specific sector (and national) goals.

Training opportunities, to upgrade the present staff and to prepare young people for careers in modern, technically sophisticated agricultural production and marketing, are limited. The closing of the Jamaican School of Agriculture eliminated an important means to train senior agricultural staff. In-service training is poorly organized, particularly for inexperienced field-level staff.

Government Policies for the Agriculture Sector

In various public documents, the St. Lucian Government has set out broad guidelines and priorities for development of the agricultural sector. In general, the government affirms that agriculture is a major sector of the economy and states its belief in the need to increase farm production and productivity to attain the goal of improving the standards of living and quality of life of the rural population. Within this broad framework, current policies are to improve production of the traditional export crops, diversify agricultural production, provide improved rural sector services, and preserve the nation's natural resource base. Official strategies for the agricultural sector state that government will:

- Stimulate private sector agricultural production by providing incentives such as planting materials, inputs, and credit;
- Develop central farming and cooperative approaches on under-utilized lands;
- Re-introduce sugarcane production in the northern and southern districts;

- Increase the uses of coconut for copra, fiber, charcoal, and cooking gas production;
- Stimulate private-sector involvement in agro-industrial enterprises to make maximum use of the nation's exotic products;
- Collaborate with and assist the various agricultural producer associations to stabilize the agricultural sector;
- Utilize the services of the best available private-sector persons to develop an effective agricultural marketing system;
- Develop agricultural credit services;
- Increase and accelerate training for youth in crops, livestock, and marketing;
- Support integration of agricultural research through CARDI and in co-operation with WINBAN;
- Create an agricultural development corporation to supervise and manage such enterprises as model farms development, sugar production and coconut by-products;
- Accelerate soil and water conservation programs by forest replanting of built up sub-urban and denuded areas; and
- Promote restoration of banana crop insurance and seek insurance to cover agricultural production in general, preferably on a regional basis.

(Source: Rebuilding St. Lucia; UWP Manifesto, 1982.)

Although the above are the general goals and guidelines of the government, translating them into effective action programs has not been easy or successful to date. Financial and management constraints have, to a large extent, greatly inhibited development of the agricultural sector. Specific, quantifiably defined targets, related to the country's human and economic resources, are lacking throughout the sector. While goals are stated, a concerted effort to plan and implement comprehensively a sequential program to achieve these goals has not been made.

A number of foreign donors are contributing to agricultural development in St. Lucia. This assistance is important and yet, because of the failure to coordinate the efforts of government and the donor agencies, limited, sustainable development of the agricultural sector is not occurring.

With rapidly rising prices for almost all the goods the country now imports, and depressed prices for the limited number of products St. Lucia can sell regionally or on foreign markets, the nation faces difficult times. Because of its high dependence on both imports and exports, St. Lucia is extremely vulnerable to external economic forces over which it has little control. As a result, the social and economic fabric of the rural communities is weak and under increasing pressure. A serious effort is needed to plan and implement well-conceived development projects that can lead to reduced reliance on imports and a more diversified array of high quality export products, while preserving the nation's natural resources.

CHAPTER TWO
PRIMARY CONSTRAINTS TO
COMMERCIAL AGRICULTURAL DEVELOPMENT

INTRODUCTION

The agricultural sector of St. Lucia does not function in isolation from the rest of the economy; rather it is a critical component of it. A series of interrelated constraints has impact not only on the sector, but also on the economy as a whole. These constraints must be addressed before, or in conjunction with, the specific sector constraints, if agriculture is to have any hope of achieving its development goals.

HIGHER ORDER CONSTRAINTS

These constraints can be grouped into two broad categories: scale of operations and lack of a competitive advantage.

Scale of Operations

St. Lucia is a relatively small country of only 238 square miles and a work force of 37,000 persons. In agriculture, this translates into a sector base of 22,300 acres of land suitable for cultivation (even 16,000 acres of this are considered to be marginal and have major problems) with a work force of 13,700. Other statistics such as GDP, total value of exports, and annual budget levels all point out the small scale of operations in the country. This small size causes a reliance of the economy on its import/export sector as its 'engine of growth' rather than on its domestic sector. Yet this reliance is precisely the factor that thrusts St. Lucia into a dependency on its relationship with the large-scale world economy.

Demand and Supply Considerations

On the demand side, the small size of the country means that the internal market, from fertilizers to televisions, cannot take advantage of economies of scale available even to medium-sized countries. A reduced market also means that the necessary support services such as spare parts, maintenance, and dealer representation are non-existent or reduced to a minimum. To a lesser extent, this also means that the demand for any special type of product or input required by the specific conditions on the island often are unfulfilled.

On the supply side, the small size of the country means that applicable technologies dictated by the size of the marketplace are often not economically competitive with the larger-scale operations of other countries. In another vein, the smallness of supply means that the country, by virtue of its relatively small market share, must produce to the dictates of the world market rather than according to its own inherent abilities and desires. This also means that, as an economy dependent on world markets, it is subject to the wide fluctuations of those markets in both the prices of its goods and the value of its currency. (A recent example of this is a 20 percent reduction in the purchasing power of banana exports due to the loss of value of the British pound relative to the Eastern Caribbean dollar.)

Regional Coordination Considerations

In order to overcome the above constraint of size, one might advance some type of regional coordination policy between the various islands in an attempt to achieve certain economies of scale. Attempts at this, however, have generally not been successful due to such factors as nationalism, inter-island competition, poor communications, and inappropriate trade mechanisms. The CARICOM Agricultural Protocol, which seeks to

increase the regional trade based on specific comparative advantages of certain crops, simply has not led to a stimulation of the various countries' agricultural sectors as was hoped. (This perhaps has been due to the use of marketing boards as the facilitating mechanisms.)

Government Resource Considerations

The small size of the country also places extreme constraints on the ability of government to support development. Scarce government resources are an endemic problem throughout the Third World, but in the case of St. Lucia the problem is heightened. St. Lucia, with a population of about 122,000 inhabitants, would qualify as a small city or a large town in the United States or Great Britain. Nonetheless, the country must support a government bureaucracy roughly equivalent in terms of financial and human capital to that of developed countries. Not only must 122,000 people support an executive branch of government, with all of its ministries, embassies, and agencies, but a legislature and judiciary as well. This places heavy burdens on the limited available resources.

Lack of a Competitive Advantage

Following from its small size and the fact that the country's economy is closely tied to the import/export sector, St. Lucia's non-competitive position becomes apparent. The competitive nature of a country's exportable products is related to price, if the products are not differentiated, and to quality if they are differentiated (bananas being an example of the former, while handicrafts would presumably be an example of the latter). With few exceptions, St. Lucia exhibits few examples in either category. Since St. Lucia is predominantly agricultural in its exports, many of the cases stem from that sector. For example,

both table bananas and coconut oil are produced at twice the average world market price, and poultry and eggs cost 25 percent more to produce on St. Lucia than to import. The reasons for this include the issue of small size, as well as the following additional considerations.

Policies of Subsidies, Protected Markets, and Concessionary Pricing

From its colonial legacy, St. Lucia's economy over the last 200 years developed in response to Great Britain's need for a constant, dependable supply of tropical products such as exotic woods, cocoa, sugar, and more recently, bananas. While originally established as a profit-making enterprise, this trade gradually became unprofitable due to the emergence of other, more efficient producer countries that benefited from, and continue to benefit from, economies of scale and vastly lower wage rates. Regardless of the non-profitable nature of the trade, however, Great Britain still required these essential commodities from a guaranteed source. As part of the British Empire and later, the Commonwealth, the majority of the Caribbean islands required British manufactured goods that were traded for the raw agricultural products produced by the islands. As such, a non-competitive trade (in terms of the world market) began to develop based on the supply of strategic materials from the islands to Great Britain in exchange for manufactured goods. This non-profitable trade was tolerated, and indeed supported, by Britain to assure a constant supply of island-produced raw materials and a market for its manufactured goods.

As the world economy grew and the production of Caribbean agricultural products became even more inefficient, this trade policy evolved into an aid policy. Thus, the trade policy created a dependency that now must be supported through aid.

This 'trade through aid' policy has greatly affected the present day economy of St. Lucia by exacerbating its non-competitive position, especially in terms of agricultural commodities. Perhaps the clearest example of this is the case of the banana industry. St. Lucian, as well as all exported Windward Island bananas, enter a protected market and receive a guaranteed price (far higher than that of bananas available from Central America), as a result of the Lome Convention. In addition, and in the form of direct aid, the WINBAN (composed of associations in St. Lucia, St. Vincent, Dominica, and Grenada) receives yearly allotments of fertilizer from Britain for application on the banana plantings. (At present, industry-wide fertilizer requirements for the four islands are determined by WINBAN and allocated to the banana growers' association on each island. The fertilizer, received free of charge, is then sold by the associations to growers at full market value; the income used to subsidize the extension, quality control, and certain marketing activities of the associations). Essentially, this process means that the British housewife pays dearly for bananas -- more than the true market price for fruit, plus additional taxes that go to pay for the fertilizer.

This situation leads to repercussions in the rest of the agricultural sector because of the importance of bananas. Wage rates, land values, the price of certain inputs (since banana fertilizer is obtained in bulk quantities its price to farmers is lower than fertilizer potentially available for other crops), as well as a farmer's expectations of income from alternative crops he might grow are all greatly increased. This in turn makes alternatives to banana cultivation unattractive and equally non-competitive.

This practice of subsidization is a fairly common economic tool both on St. Lucia and in the Caribbean in general. At the regional level, the CARICOM Marketing Protocol establishes strict

marketing relationships between the various countries based on minimum purchase quotas and fixed prices. For example, Trinidad must purchase a minimum quantity of carrots from St. Vincent, although it can get far higher quality carrots from Florida at 25 percent less cost. Likewise, Jamaica must purchase all the coconut oil St. Lucia can supply, although the oil is priced at twice the world market price. These types of agreements, in the long term, inhibit the chances of the region becoming competitive on world markets.

On a national scale, subsidies are commonly used to protect local producers as well. Almost any producer of a given commodity may petition the government to place a ban on the importation of a competing product. Protective trade barriers appear to be established quite freely and further serve to increase inefficiencies and decrease competition. Likewise, many producers of goods and commodities are exempt from certain taxes, or can petition for tax-exempt status by using these same protectionist arguments.

Exchange Rate Considerations

Often, when countries such as St. Lucia face lagging exports and balance of payments deficits, they may resort to exchange rate manipulations that involve some form of devaluation. The theory behind this is that their exports will become cheaper and therefore increase, whereas the reverse will be true for the commodities which the country imports. This option, while potentially geared to make a country's export commodities more competitive (which St. Lucia urgently requires at present) is a tool not available to them. St. Lucia belongs to the Eastern Caribbean Currency Authority (EECA), which regulates the overall transactions of the Eastern Caribbean dollar common to eight countries of the region.

Since these countries are all governed by the same authority, as well as other trade regulations stemming from CARICOM membership, any changes in the exchange rate used by one country would also necessarily imply a change for all of the other member countries. Devaluation is therefore not seen as a practical method to improve St. Lucia's competitive position at this time.

In addition, devaluation at this time would not result in a net gain to the island's economy. In the case of St. Lucia's banana industry, which normally accounts for up to 50 percent of total exports, assigned market quotas under the Lome Convention are not currently being met. If the current excess demand and pricing structure are not enough to stimulate banana production, it is doubtful that increased demand at lower prices would do any better.

Wage Scale Considerations

According to economic theory, wage scales are supposed to reflect relative levels of labor productivity. Nevertheless, a strong case can be made that in St. Lucia they do not, at least compared with other countries. Such factors as strong labor unions, heavy reliance on overseas remittances, a desire to placate labor so as not to experience strife and thereby discourage tourism, plus an overriding welfare ethic all combine to push up wage scales beyond productivity levels. This in turn results in artificially higher production costs, which serve to make exported products even more uncompetitive.

These higher order constraints, to a large extent, have resulted in the specific agricultural sector constraints to be discussed below. In many respects these sectoral constraints should be seen as symptoms, or results, of the larger constraints. For the most part, they can be dealt with only through government

policy changes, and little, if any, donor assistance will be possible. The constraints outlined below, while being symptomatic in nature, are more appropriate for possible donor assistance.

SYMPTOMATIC CONSTRAINTS

The following constraints are presented in rank order in an attempt to identify their affect on agricultural development. This listing merely specifies the relative magnitude of the constraints rather than a recommended sequencing of assistance activities or priority ranking. If the agricultural sector of St. Lucia is to become a viable force in the island's growth, its problems must be dealt with in an integrated and systematic way. An attempt at pilot projects in unrelated specific areas will fail if the projects are not coordinated in an organized and consistent manner.

The Marketing Function

Marketing problems are most often mentioned, and mentioned first, in discussions with people knowledgeable about the agricultural sector. It is also the problem most directly affected by the constraints of smallness and uncompetitiveness described above. All agricultural commodities, including the major cash earners, bananas and coconuts, face great difficulties in the marketing process.

Bananas

At face value the marketing chain for bananas appears to operate efficiently: farmers are advised which days to bring their bananas to the boxing plants; the fruit is then moved quickly to the port facilities where it is placed aboard modern

refrigerated ships for transport to U.K. markets. Although St. Lucia presently cannot meet its banana quota under the Lome Convention (due mainly to droughts, hurricanes, and other production problems), which would seem to indicate the absence of a marketing problem, it exists in the form of the monopsony, which the agreement personifies. On the one hand, the problem is one of not being able to secure alternative markets due to uncompetitive prices, while on the other hand it is a problem of what would happen if the Lome Convention is suspended.

Coconuts

Similarly, coconuts appear to have an efficient marketing chain: through the Coconut Grower's Association to Copra Manufacturer's Ltd. and then to CARICOM member/purchasers, principally Jamaica, as oil. In addition, St. Lucia, as well as the rest of the coconut producers of CARICOM, can produce only 15-20 percent of the oil requirements established under the Agricultural Marketing Protocol (AMP). This seems to indicate that a substantial market exists, even at twice the world market price paid by the CARICOM purchasers. Nevertheless, there is a similar long-term problem of bananas in terms of alternative markets should the AMP eventually disintegrate, as well as the more immediate problems related to the fact that 80 percent of the coconut trade currently is with Jamaica. This means that not only is the oil paid for in Jamaican dollars, which can only be used to purchase Jamaican goods, but due to recent financial difficulties in that country, the turn-around time for payment is also now averaging 180 days. This last point has made it almost impossible for the Copra Manufacturer's Ltd. to pay farmers for their copra in any meaningful time frame.

Other Agricultural Commodities

Other agricultural commodities are marketed collectively through either private, often part-time, traders (hucksters) or through the Marketing Board. Both of these channels suffer from extreme marketing constraints. The huckster trade can be classified into two groups: those producers who also sell to the domestic market during slack periods, and traders who primarily accompany shipments of produce to Trinidad and Barbados where it is sold and consumer durables purchased with the receipts. Both of these groups suffer from similar problems: an apparent lack of organization; little or no infrastructure such as collection points, transportation services, and packaging or grading facilities; and an extremely high spoilage rate of 40-60 percent for many perishables.

The Marketing Board attempts to deal in all agricultural commodities other than bananas for export or coconuts. Its mandate is a difficult one. On the one hand, it must attempt to prevent gluts and shortages through either purchases from farmers or imports. Alternatively, it must attempt to support prices at a high level for farmer benefit while offering cheap food to urban consumers. As one might imagine, it is an almost impossible task to conduct this type of activity on a profitable basis. Adding to this already strained situation are the additional problems of under-trained and poorly skilled management and a deteriorating physical plant due to unprofitable operations.

The marketing boards, not only in St. Lucia, but the rest of the CARICOM countries as well, are also charged with increasing intra- and extra-regional agricultural trade. Nevertheless, for the most part, this export trade is instigated by supply considerations rather than by those of demand. In other words, a glut situation in a particular crop is found to exist and an external market is sought, rather than a market being identified first with production then being stimulated to supply it.

Some minimal amounts of 'exotica' are marketed through the board for shipment to the United Kingdom on the banana-carrying Geest boats. Nevertheless, this trade is very small, due to relatively low prices paid to farmers, and totally inadequate board facilities for the collection, grading, and packaging of produce.

Livestock

Due primarily to the reduced size and relative lack of importance of livestock in the sector, there is not a clearly defined marketing system at the domestic level, and virtually no livestock products are exported. While fresh pork, eggs, and fish are marketed through producer cooperatives, for the most part directly to the consumer, the marketing of other livestock products appears to be at the discretion of each individual farmer according to his or her cash flow needs. The one abattoir on the island is located in Castries. It is reported to be in a very poor state of repair.

An overall issue that affects the marketing of agricultural products in general is the severe shortage of market information at both the national and the regional levels. Expected production levels, and therefore the ability to predict local shortages and gluts, are totally lacking although the MOA has made provision for this type of activity in next year's budget. While the various marketing boards were originally chartered to collect and utilize this type of information (all boards have Telex machines for this purpose) at the regional level, this activity has simply not taken place. Many people concerned about agricultural development in St. Lucia are looking forward to initiation of operations by the Caribbean Agricultural Trading Company, which has been created to perform an important marketing function as part of its mandate to increase intra- and extra-regional trade.

A last point concerning the marketing function involves the responsiveness of farmers to price incentives and to the marketing system in general. Based on many readings and interviews, it appears that St. Lucian farmers are not responsive to price changes, in terms of either production or quality incentives. The reasons most commonly given for this are the ease of subsistence in a tropical paradise, overseas remittances, and the overall drudgery of agricultural labor. Nevertheless, based on interviews with producers and other individuals closely associated with farmers, the above analysis appears not to be true at all. The reasons for this difference of opinion appear to relate to the risk and lack of security of markets.

For example, those who say that the farmers are not responsive tend to use the experience of the Marketing Board as an example. However, when one realizes the extremely low opinion and level of trust that farmers hold for the Marketing Board, the example loses credibility. Frequently, in the past the board would publicly advertise a fixed price for a particular set of commodities. Farmers would then overrespond by offering unexpectedly large amounts of the commodities that the Marketing Board could not afford to purchase. The board would then be forced to either lower the prices or refuse to purchase any more of a given commodity. Once or twice, burned in this fashion, farmers have become reluctant to respond to promises or statements by the Marketing Board.

On the other hand, through its AID-financed Farming Systems Project, CARDI has been able to verify that, indeed, farmers are responsive to production and quality incentives based on price if the terms of trade are demonstrated to be constant and secure over the production and marketing cycle.

The Land Tenure Issue

Identified by the World Bank, the Organization of American States, and the Food and Agricultural Organization of the United Nations as the principal constraint to small-holder agricultural development, the issue of land tenure, and its related problems, have a legacy deep in the country's past. Based on the Napoleonic Code, the present land tenure system not only results in the extreme fragmentation of land parcels, but also establishes that upon the death of an owner, the land be held among the heirs in multiple ownership. Furthermore, the process that must be followed to obtain individual title over inherited land -- surveying, adjudication, and registration -- is often more expensive than the relative land value. Titling has, therefore, become an economic impossibility for many especially the smallholders.

The result of this outdated system is that over 60 percent of rural land occupants have either no title or unclear multiple title. This lack of clear title undermines any attempt at increasing agricultural productivity among small farmers by prohibiting the use of land as collateral for production loans, and by discouraging any other types of investment activities. Although, the St. Lucia Development Bank is currently hoping to establish a system of crop lien procedures to replace land titles as security, the problem will still continue to be a serious one.

Another parallel problem exists in that relatively large expanses of land are either Crown Lands belonging to the government, or are held either by absentee owners or for speculative purposes. Regardless of ownership, relatively large tracts of potentially productive land are left abandoned or used in ways that are under-productive. It appears, however, that the critical problem is not related to ownership, but rather to the lack of a fluid land market. Because of the relatively low profitability of

agriculture, plus possible fears of political uncertainty, many of the larger estate owners have expressed interest in selling their lands. Nevertheless, there appear to be no interested buyers with sufficient capital, except the government. People with available financial resources apparently have alternative investment opportunities that are more profitable than land investments. Meanwhile, small-scale producers have neither the financial means nor the access to credit to buy land when it becomes available.

In several cases, the government has attempted to purchase estates and operate them as state farms or resettlement projects, or a combination of both. These projects have not been totally successful because of shortages of working capital and lack of managerial ability as well as the generally unprofitable nature of agriculture. The Organization of American States recently has begun a pilot land surveying, consolidation, and titling project involving approximately 250 farm families on 1,500 acres of land. The project is funded only through the initial stages, however. Funds needed to complete the pilot project and to extend the methods developed to other parts of the country have not yet been secured.

A final issue involving these unproductive or under-productive lands is the fact that no effective system of land taxation currently exists. While a land tax based on the relationship between potential and actual productivity could be an important tool in encouraging more productive use of idle lands, it probably would require a complete cadastral survey (and therefore a land survey of almost the entire island), as well as a basic change in St. Lucia's tax collection process.

Sector Planning and Evaluation

Most agricultural sector planning and evaluation activities are carried out by the Ministry of Finance and Planning (MOFP) as

part of annual budget preparation. The minimal planning activity currently carried out by the MOA merely involves annual budgetary requests that become an input to the MOFP exercise.

All other sector planning functions -- overall strategy, donor participation in the development process, project design, and implementation activities -- either are left to donor agencies or are carried out informally by various MOA officials. Furthermore, the ongoing evaluation of sector activities -- the successes, weaknesses, and progress, as these relate to planning -- is not currently being addressed. As with sector planning, evaluation activities appear to be carried out by some donors, and even then, in a isolated, project-specific way. Evaluation is not used as a critical tool in effective sector planning.

The ministry recognizes the need for sector planning, as well as the role of evaluation in it, and has proposed the establishment of a planning and evaluation unit to begin activities during the early part of 1983. Nevertheless, no monies appear to have been set aside in the ministry's budget for this function.

Another related problem concerns the planning for, and integration of, donor activities in the sector. At present, it appears that the majority of donor-assisted projects are being planned and implemented in isolation. Furthermore, such projects appear to be the result of the donor's aspirations for the island rather than integrated components of an overall national or sector plan. To alleviate this problem, the MOFP will take the lead role in donor coordination and planning beginning next year. As proposed, all donor agencies will work through the MOFP, where their activities will be coordinated according to government priorities.

This proposal, while seemingly necessary, could lead to two difficulties. The first of these concerns the currently weak emphasis given to planning and evaluation within the MOA. If MOA planners are unable to articulate their precise needs and priorities to the MOFP in a clear, succinct, and policy-oriented manner, decision making could pass out of MOA's hands and donor support might not adequately reflect the ideas and experience of the MOA.

Another potential pitfall in the coordination of all donor activities by the MOFP is that it could 'close out' many attempts at local development through assistance by smaller, non-government-oriented donors. Many of the local organizations and groups working at the grassroots level are simply not experienced enough to formulate programs and activities that can be integrated into the overall governmental planning process; nor in many cases would they even have access to this process.

Agricultural Technology in Use

Production technology in use throughout St. Lucia is at a relatively simple, basic level. Fertilizer use is limited, particularly on the nation's small hillside farms, even for the most important crop, bananas. Little if any fertilizer is applied to the many food crops that are consumed on the farm or sold in local markets. The small amounts of fertilizer used is applied to the banana crop and can, at least to the extent that it is available and suitable, benefit the other crops often interplanted with bananas.

Much the same situation prevails regarding pesticides. Here again, pesticides may be used, but generally only on the banana crop. In many instances, farm chemicals are improperly used, and farmers depend too heavily on chemical treatments for plant pest

problems. Little attention is given to general pest control management, including such practices as field sanitation (cutting/burning), crop rotations, and use of resistant varieties.

Although organic matter is usually returned to the soil in areas where bananas are produced, a general appreciation of the importance of and need for organic matter in St. Lucia's naturally infertile hilly soils is not common. The use of animal manures, mulches, composts, and green manure crops to improve soil structure and water-holding capacity as well as soil fertility and nutrient balance, is poorly understood by most small farmers.

Improved, disease-resistant, and viable seed or planting materials, for the large number of vegetables crops that can be grown in St. Lucia, are not readily available to farmers. The quantity and quality of the food crops produced appear to be below their potential in this climate and on these soils.

Farming in St. Lucia is labor-intensive. Almost all farm operations are done by hand. Even the simplest improved hand tools and equipment such as seeders and cultivators are lacking. Few of the hill farmers own or have access to even small hand-operated tractors or tillers. Because of the toil involved in farming basic, improved agronomic practices such as weeding, mulching, thinning, mounding, applying manures or composts, and fertilizing are done poorly or not at all. Having an older, less vigorous group of small farmers who, in any case, have little faith that a reasonable market will exist for their products worsens the situation.

While small farmer technologies exist, incentives to innovation and adoption are missing. The driving force of self-interest that could spark farmers to improve their operations is not strongly felt. Too many difficulties, too many obstacles, too

much hard work and drudgery stand between where the average small-holder hill farmer is now and where he might be in terms of productivity and income.

Thus, while the technological state of the art on St. Lucia's smaller farms is under-developed -- and in many cases little more than at a subsistence level -- the research organizations have, and continue to develop improved technology packages that could under the right circumstances, make a difference in their incomes and living standards. WINBAN and CARDI are conducting adaptive research leading to a series of recommended improved farming systems. Their research officers are confident that improved yields and increased net incomes are possible from a growing list of appropriate, tested production systems.

Such farming systems, however, are not being adopted in any significant way by the nation's small farmers. This will continue to be the case until a rational, effective marketing system is in place, appropriate inputs are available, extension officers begin to provide accurate information and conduct educational programs, production credit is available on a timely and administratively simple basis, and labor-saving equipment and machinery can reduce some of the drudgery associated with farming.

Thus, the small farmers of St. Lucia are not unlike small-holders the world over: they are conservative for good reasons and will not change their behavior except, from their point of view, for similarly good reasons.

Limited Resource Base

A consistent, underlying constraint affecting St. Lucia's agricultural productivity is the limited natural resource endowment of the island. St. Lucia's small mountainous land area severely restricts the available agricultural options.

Intensive cropping on the large proportion of the steeply sloped hill farms, without costly soil conservation measures, is not possible in the long run. Additional loss of topsoil from the often already badly eroded hills where annual cropping is practiced will, in time, mean the end of any productive use of such lands.

In addition, the soils of the island, except for the small percentage that have developed from alluvial deposits in the valleys, are naturally infertile. They are, for the most part, low in the major elements (N,P,K,) as well as in any minor nutrients essential for good plant growth. Soil organic matter is low, or soon will be if the land is further intensively cropped, resulting in poor soil structure, low water-holding capacity, and a limited capability to hold plant nutrients in readily available forms.

Besides the limitations placed on agriculture by the topography and its soils, St. Lucia is located in a climatic zone where serious droughts, wind storms, and hurricanes can be expected. Loss of banana plants from wind damage is reported as a serious problem in certain areas. In recent years, a series of droughts and two devastating hurricanes among other reasons, have prevented agricultural output from rising above levels achieved in the 1960s.

St Lucia's forest lands are limited in extent. Pressure on existing forested lands from the rising population is serious, and an estimated 2.5 percent of the forest preserve is lost annually. Ideally, a much larger proportion of St. Lucia's land area would be devoted to forests. Yet, because of the needs to meet present requirements for food and farm income, coupled with the fact that lands best suited for intensive cultivation are under-utilized, people are forced to settle on lands that often should be forested.

The seas around St. Lucia are an important resource that could, according to ministry fisheries experts, provide a great deal more to the national economy. Still with limited knowledge of the sustained availability of marine species in the local waters, and the reported heavy commercial fishing by fishermen from neighboring islands in St. Lucia's waters, it cannot be assumed that the catch potentially available would alter the nation's basic economic situation.

St. Lucia's natural resource base places definite production limitations on the agricultural sector. Such limitations, coupled with the other constraints described in this document (problems related to marketing, land tenure, planning, and the levels of production technology in general use), clearly point to the need for careful yet effective use, as well as conservation, of the available resources. Because of the absolutely essential nature, and the scarcity of the nation's natural resources, it would seem logical that government would focus critical attention on ways to bring about effective, sustainable use of the resources. Intensive cultivation of high value crops on lands suited to this purpose, with less intensive tree- or field-cropping systems linked to livestock production on the steeper, shallower soils, seems appropriate, for example. Yet this kind of planning is not evident.

A full awareness of the absolute finiteness of the resource base, with an appreciation of the relationship between that finiteness and the steadily increasing population, does not appear to exist. Or such awareness is not held by a sufficient number of people and leaders to ensure its translation from an idea into a cogent national policy with appropriate action programs. In either case, very limited resources, in terms of quantity and quality, will continue to be a pervasive constraint to national development. The sooner this is understood and, more important, acted upon, the greater are the chances St. Lucia will be able to develop appropriate responses to its economic and social problems.

Agricultural Support Services

The discussion of support services has been left until last because it is an obvious result of the other constraints. The MOA's activities in extension, research, training, and plant protection, as well as other agencies' support functions, such as road construction and provision of agricultural credit, are inadequate for a number of reasons. The underlying causes of such inadequacies relate directly to the smallness and uncompetitiveness of the nation's economy and to problems associated with marketing, land tenure sector planning, natural resource endowment, and unavailability of cost-effective technology.

The concept suggested here is that if agriculture were profitable, adequate support services would, in fact, exist. Ministry services would be financed out of tax revenues received from either the domestic or the export trade, while other services would be provided by the private sector. In addition to such functions as research, training, and road building, and maintenance (whose impact might not immediately be perceived, and whose benefits are spread over time and a large segment of society), the government has taken on the responsibility for a large number of other services precisely because they are not profitable to the private sector.

While it is true that St. Lucia's agricultural support services are extremely weak and serve as an additional set of constraints to the development of the sector, they must be considered as effect and not as a cause of the sector's problems.

CHAPTER THREE

AN AGRICULTURAL SECTOR STRATEGY FOR ST. LUCIA

This chapter focuses on an agricultural sector strategy for St. Lucia and on two ways the strategy could be shaped. In addition, this chapter addresses the important issue of land tenure.

INTRODUCTION

While the constraints discussed above are serious, the situation in St. Lucia is far from desperate when compared with other developing countries. First, although limited, the land and soils of the island can, if used intensively, provide increased amounts of agricultural commodities for export and to substitute for presently imported products.

Valuable water resources, useful for domestic purposes, irrigation and livestock, are available. Irrigated production of high value cash crops, for example, could be an important addition to the nation's agricultural productivity. Also, in spite of wind storms and the threat of occasional hurricanes, the climate generally is favorable for production of a large variety of crops and livestock.

In addition, the nation's forest preserve, while under steadily increasing pressure from the rising population, at least does exist. It is established and serves now to protect important watersheds and fragile soils on steep areas of the country. In many developing countries, such basic resources are irretrievably degraded or do not exist at all.

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In other important ways, St. Lucia enjoys a combination of benefits and advantages not often found in the developing world. For example, the country has the basis of a relatively well-developed infrastructure of roads, deep-water ports, airports, and marketing facilities for bananas. Relatively efficient movement of agricultural products from the production areas to market towns or existing packing facilities is possible. For one thing, distances on St. Lucia are not excessive. Farm inputs and extension and credit services could be provided to large numbers of farmers with relative ease and at reasonable cost.

St. Lucia has a number of well-established farmers' cooperatives and associations serving the special needs of the different types of agricultural producers. The slow, frustrating work of organizing such groups has already been done. Also, such agencies as WINBAN and CARDI, and to a lesser extent the Ministry's Research Division, have the trained staff and facilities, and have been able to attract the necessary finances to conduct relevant adaptive research.

St. Lucia also has the institutional framework to provide credit and production inputs to its farm population. Also, mainly because of their experiences with banana growing, a number of the island's farmers at least have been exposed to modern agricultural practices.

St. Lucia enjoys another advantage over many other developing countries: the approximately 100,000 foreigners who visit annually. Farmers have the opportunity to provide some of the agricultural products required by the hotels and restaurants catering to these visitors.

Coupled with all of this, St. Lucia enjoys (at least for now) concessionary terms of trade with the United Kingdom, the major consumer of its principal product, bananas. At the same time, the country receives substantial amounts of foreign aid and technical assistance to help assist the development process.

Obviously, the above is not a comprehensive listing of the relatively positive aspects of St. Lucia's agriculture. Nor is it meant to diminish the seriousness of the problems that exist. The point here, however, is that some very important basic ingredients needed for productive agriculture already are in place. The advantages the nation enjoys need to be fully exploited.

To take advantage of the existing opportunities and to create a dynamic, productive agriculture, two strategy options are suggested:

- Sectoral Planning and Evaluation Assistance, as a discrete one-year activity and prerequisite to other, production/marketing related programs; or
- Market-Oriented Assistance Program, including a strong planning component for direct, immediate implementation.

The first option takes into account the fact that St. Lucia's agricultural problems have evolved over many years, as the result of a large number of complex and interrelated factors. These factors are not quickly understood, nor can easy, readily apparent solutions be found for the sectoral constraints that have resulted. While this approach might appear conservative, it is also rational.

The objective is not to find solutions to every problem. Instead, it is to understand the workings of the sector sufficiently to be able to plan projects with some reasonable chance of success. A number of donor-assisted projects have failed, and this is due, in no small part, to inadequate planning. This inadequacy undermines every effort to develop the agricultural sector. A sectoral planning and evaluation assistance project, to improve the MOA's capabilities to plan for the effective, rational use of available resources and donor assistance, would be a first step toward sustainable agricultural development.

The second option, a market-oriented developmental program, follows from the identification of marketing as a critical constraint to the sector's development. Here, because of a number of unanswered questions about the whole agricultural production and marketing network, more difficulties are faced and the chances of success reduced. This option can produce a relatively quick impact on the sector, with reasonably good planning and private and public sector support. Because of the inherent difficulties involved in establishing and operating an essentially new institutional mechanism to market St. Lucia's products, however, serious setbacks and difficulties can be expected.

SECTORAL PLANNING

Planning for agricultural development has been frequently little more than a generalized listing of broad objectives. Where it appears, specificity is related to, or more often the result of, interest of a foreign donor agency. Even here, however, where a donor is involved in a particular development activity, the relationship of that activity to a general, coordinated sectoral strategy is missing.

To understand the constraints affecting agriculture, and to draw from this understanding, a set of rational activities to address the constraints requires sound, basic planning and evaluation techniques. To develop a rational analysis of St. Lucia's complex agricultural sector and a specific, detailed program of assistance that will offer much hope of success, a more than cursory look at the sector will be needed.

It should also be pointed out that ongoing two-way evaluation activities are considered to be a major tool of any planning process. As such, procedures should be included that would allow for the continuous evaluation of specific projects and activities,

as well as overall programs and strategies. The data resulting from these ongoing evaluations would then be included as inputs into the planning process.

The approach recommended, therefore, is to provide assistance to the MOA to undertake the kind of in-depth sectoral planning and evaluation needed as a prerequisite for further developmental assistance to agriculture. This should include:

- Provision to the MOA of a senior, national agricultural planning specialist for at least one year;
- Funds for an additional twelve person months of technical assistance to provide for short-term consultancies of various specialists as required, i.e., information system design, natural resource planning, farmer organization methods, and financial planning and forecasting;
- Establishment within the MOA of a senior level planning and evaluation unit, reporting directly to the minister. The agricultural economist position included in the FY 1982/83 budget should be filled, and this officer serve as a counterpart to the technical adviser with the expectation to take over full responsibilities for ministry planning and evaluation, by the end of the technical assistance period;
- Funds for surveys, mapping, aerial photographs, and other planning materials and data needed to do meaningful sector planning;
- A strengthening of the agricultural data base to include levels and costs of production; yield data; marketing outlets locally, in the region, and abroad; resource availability and uses; labor and wage relationships to agricultural production; sector services; ministry staffing and capabilities; and private sector interests and capabilities; and
- The end product should be the establishment of an information system that will also for detailed planning and evaluation, leading to a sector analysis with a specific set of objectives and programs addressing the major identified constraints. Furthermore, this specific set of objectives and programs would be used to identify the requirements for the improved marketing strategy discussed below, as well as other potential areas for donor assistance.

A MARKET-ORIENTED SECTOR STRATEGY

Introduction

This strategy proposes to incorporate certain elements of the agricultural sector into a coordinated program to alleviate or remove the important constraints to agricultural development discussed earlier.

A principal component of this strategy is planning for effective short- and long-term use of all available resources to accomplish specific, high priority tasks. Basically the strategy is market-oriented. It attempts to improve the economic competitiveness and productive output of products that now have, or are deemed to have in the future, reasonably dependable markets: domestically, within the region, and abroad.

Increased and more efficient agricultural production for import substitution and export are basic to the concept. Also implied is the introduction of greater efficiencies and profitability all along the production-marketing chain from producer to ultimate consumer.

On-farm improvements in the selection and application of higher yielding, more cost effective methods developed as a result of clearly focused adaptive research is important. So also is the availability of necessary production inputs and the provision of extension services and credit.

Marketing, now the most serious symptomatic constraint to agricultural sector growth, is not to be slighted, as it appears to have been in the past. Rather it will receive highest priority. Profitable, efficient contract-growing, buying, handling, storage, and marketing of commodities will be

emphasized. To introduce discipline and efficiency into marketing, the government will have to step back from active involvement. Instead, it will take on the responsibilities of supporting and assisting the marketing function by sponsoring necessary legislation, establishing and enforcing compliance with product grades and standards, monitoring import levels, and attending to plant and animal quarantine matters.

The day-to-day tasks associated with establishing and operating an efficient marketing system should be the responsibility of the private sector. Marketing would be organized as a business enterprise rather than as a form of generalized social welfare. The profitability from the business-oriented marketing system will create the internal financing and provide the incentive for sustained growth of the sector.

Objectives

The strategy outlined above is designed as a direct response to the agricultural sector constraints discussed in the previous section. The basic approach involves a set of interrelated activities aimed at the removal or alleviation of the major constraints identified.

The main objective of the proposed market-oriented agricultural sector strategy is:

- To increase the incomes and living standards of St. Lucia's farm families by improving their productive efficiency and capacity on the farm through an expansion of the market demand for, and profitability of, the country's agricultural products.

Subordinate objectives are:

- To promote and expand export trade within and outside the region by encouraging economies of scale in the production and marketing of agricultural products;

- To increase market competitiveness of St. Lucia's commodities by reducing production costs and by developing increased product differentiation;
- To substitute an increasing proportion of locally produced agricultural commodities for presently imported ones;
- To increase agricultural diversification and reduce dependence on one or a few crops;
- To increase the involvement of private business people and firms in the development of St. Lucia's agriculture; and
- To improve the capability of the Ministry of Agriculture to plan and monitor effective short- and long-range agricultural development programs.

Suggested Program

Marketing

Marketing is one of the main constraints to development of the agricultural sector. To alleviate the problem, a private (or joint government and private sector) company organized in association with a farmer's organization is proposed. This company (the name WINPAK has been suggested) will engage in active market research and development: locally (the hotel/restaurant trade), in the region, the United Kingdom, and the United States. Unlike the present Marketing Board, it will be organized on a strictly commercial, profit-making basis. WINPAK will be formed as a joint-venture company with participation of farmers and private business people (Geest Industries, for example) as well as the huckster traders, to explore and exploit more fully the regional and extra-regional markets. A management contract, at least during the initial stages of operation, might be awarded to a suitable company now operating successfully in regional marketing (CATCO has been suggested.)

WINPAK will establish a marketing priority list, identifying the products (and estimated quantities and prices) by month or season that offer the best market opportunities. To begin to meet

these marketing opportunities, the company will contract with its farmer-members for the specific quantities of the various commodities to be delivered at certain times.

Ideally, at some point, WINPAK would be able to sell improved planting materials (perhaps contract grown for the company) or seeds as well as other inputs (at reduced prices because of bulk purchases by the company, and/or as a loan to be paid off upon delivery of the product).

The concept then, is to establish a commercially operated marketing company on St. Lucia, with the full participation of contract-grower members. This company would engage in the business of buying, preparing, storing, shipping, and marketing a selected number of commodities that appear (from market research and cost/return calculations) to offer the most favorable opportunities for economic returns to the grower and the company. Additional market research is needed before a specific group of products (and the time, or season, and quantity in which they will be needed on the various markets) can be identified as having the best marketability. For example, from available information and discussions with people knowledgeable of St. Lucia's agriculture, opportunities apparently exist to market increased amounts of mango, avocado, pineapple, ginger, hot peppers, cloves, cinnamon, turmeric, as well as a number of juices such as citrus, guava, and passion fruit, particularly to the local hotel trade.

A phased approach to the establishment and growth of the marketing firm (WINPAK) is recommended. A logical sequence of activities should include:

- Organization of an agricultural-producers' association to become part of the marketing company. (The MOA is presently attempting to organize such an association.);
- Identification of the other appropriate joint-venture partners and development of the necessary articles of incorporation and execution of all required legal arrangements;

- Initial market research and market development activities to identify the commodities (and the specifics of quality standards, quantity, prices, and timing) with best market potential;
- Initiation of contract-growing arrangements for the products identified above;
- Identification by researchers, and extension to farmers by WINPAK's extension service, of the most appropriate and efficient agricultural production technologies for the commodities listed as having the highest income-producing potential; and,
- Introduction of input supply and credit activities as necessary to improve or expand the company's operations. Until such time, these activities are to remain the responsibility of existing companies, associations, and banking institutions.

Agricultural Research

Agricultural research will be important to the long-range success of the program proposed. Using WINPAK's market information as a starting point, agricultural researchers would concentrate on a selected number of crops or farming systems and attempt to develop the most economically viable technologies for these.

The research must aim for the highest economic returns per unit of land and labor. To reduce labor costs and farm drudgery, appropriate tools, equipment, and machinery, as well as certain labor-saving cultural practices (mulching and minimum tillage) should be tested and demonstrated. Also, assistance should be provided to the MOA's Agricultural Engineering Division to investigate and begin to exploit the available water resources for increased crop irrigation. Low-cost methods to divert or pump from existing rivers as well as a means for government and farmers to share the costs for constructing small catchment-basins for domestic and irrigation uses should be explored.

Since it appears inevitable that one day St. Lucia, and probably the other Windward Islands, will no longer be able to benefit from the concessionary prices received for bananas, WINBAN, CARDI, and the MOA researchers should design a research strategy for diversification. This should be coordinated with, and become part of, the program outlined here.

The three research organizations cannot continue to function as distinct research bodies, unrelated to one another and divorced from any national sector strategy. The program proposed here can be the means for each research agency to re-assess its goals and should provide the central focus for a combining of the talents, facilities and efforts of the respective research groups. The National Research Council, now being proposed by the MOA, is a step in this direction.

Extension/Training

Strong linkages will be needed between the marketing system proposed here and the extension officers of the MOA and WINBAN. These field-level extension workers should be completely familiar with, and supportive of, the program. They would continue to demonstrate and teach improved agricultural practices to farmers, but with a clearer focus on those crops determined by WINPAK to justify priority emphasis. The whole idea would be to provide necessary support to the Extension Service in order for it to become an effective force in support of the marketing strategy suggested. Specific crop production targets and goals by district and by crop as well as the needed support and funds to conduct a broad-based extension/education program are needed. Such a program would include:

- Short-course, in-service training opportunities (in-country or abroad) for selected extension specialists and field officers;

- Organization of the extension service to permit regular contact of field officers with progressive farmers and farmer groups;
- A planned, focused program of result and method demonstrations throughout the production areas;
- Planned assistance to farmers and farmers' groups to help them develop improved farm plans and make effective use of inputs and credit;
- Development and daily use of extension officers' technical field manuals for all major crop and livestock enterprises;
- Production of an MOA agricultural newsletter, monthly or quarterly;
- Design, production, and distribution of a series of simple, illustrated farmer-oriented leaflets on the most important crops and livestock; and,
- Effective use of radio for informing farmers about marketing, prices, improved production practices, as well as social and rural events.

In addition to the above, WINPAK should, in time, be able to employ field agents of its own to improve the linkages between the grower-members and the company. Field agents will be assigned areas in which they will serve multiple functions. They will help organize their farmers into growers groups, explain and arrange the WINPAK-grower contacts, and help the MOA extension officers to organize training and demonstrations. They will explain the quality, grades, and standards system to apply; assure timely delivery of inputs; assist in making credit arrangements; and help to supervise production, packing, and pickup and delivery of produce.

These field agents would, in fact, be employed by farmers (who through their association will be part-owners of WINPAK). A suitable scale of commissions and incentive payments would be the major source of their earnings to encourage motivated, active commitment to the business.

In order to increase the availability, and increase the skill-levels, of agriculturists, assistance is recommended for the Agricultural Training Center at Union. There, the immediate need is for rehabilitation of the students' dormitory, including building repair and modification, and the provision of furnishings and cooking and dining facilities.

In addition, assistance is suggested for the proposed new agricultural school to be built at Dennery (by means of a government and EDF project). While present plans call for the physical construction of the school, help will be required to furnish and stock the school for operation.

The above assistance is particularly important now in view of the closing of the Jamaican School of Agriculture and the limited number of St. Lucia's students who can be accommodated by other agricultural training institutions in the region. There is a serious shortage of officers trained in modern agricultural production, marketing, planning, farm management, and economics. Such a shortage will affect the progress of the program proposed in this report as well as be a long-term constraint to agricultural development in general.

Credit

Production credit would be provided to contract growers through either the SLDB or WINPAK, using the MOA extension agents, WINPAK's field agents, and organized grower groups as channels. Because of the contractual arrangement between WINPAK and the grower, loans can be secured by a crop lien to be amortized at the time the crop is delivered. Eventually, when consideration is given to establishment of long-term tree crops such as mangos, other medium- or long-term credit arrangements can be developed. The strategy of concentrating on selected, marketable agricultural products, however, should be a guiding principal for small-farmer credit programs regardless of the institution utilized.

Planning

Central to all of the above is effective planning. A whole range of planning requirements are implied. For example:

- Planning for effective use of available lands -- land-use planning;
- Planning required to establish, organize, and operate WINPAK -- economic and financial analysis;
- Planning for effective support by the MOA (and the government, generally) for the various concepts outlined in this program, as well as overall sector development;
- Planning with extension, research, and credit agencies to assure their active support and participation in the program; and
- Planning by the government to assure coordinated donor agency support and assistance for the program and for the sector generally.

Without an institutionalized, effective planning system, the approach to agricultural sector development outlined here will not function. Because the present lack of rational planning for agriculture is a serious constraint to the sector's development, a first task is to establish within the MOA an effective, high level planning capability.

Agro-processing

Although not central to the program outlined above, some consideration should be given to improving and developing the agro-processing capabilities of St. Lucia.

A number of opportunities potentially exist for the production and marketing of processed tropical fruits and juices. For example, marketing of citrus, guava, and passion fruits and juices, as well as various jams and jellies to the hotels appears to be a possibility.

The agro-processing unit at Union Agricultural Station is doing some work on a few food products. However, because of the lack, among other things, of a commercial, profit-oriented approach to the business, the results are questionable. A significant private sector investment in better equipment, staff training, containers, and operating capital, to exploit the opportunities for locally processed products, is included in this program approach.

WINPAK could explore the expected demand for the various products that can be produced in St. Lucia. The local hotels and restaurants would be a good place to start. With some basic information about the potential market (locally, regionally, and abroad), a decision will be required as how best to produce to meet the identified markets: What products, in what form, and what size (large for local hotels?) and type containers? What are the estimated costs and returns? What product competition can be expected from other islands?

Eventually, WINPAK should be in a position to prepare sample batches of various products and perhaps even have the capacity to produce and pack larger marketable quantities of a selected few products lines. The MOA should get out of the food processing business entirely and concern itself with quality and health standards, monitoring of competitive imported products, and providing general support to agro-processing firms.

Private food and spice processors now operating in St. Lucia could benefit from WINPAK's market research and development activities. They should be able to export their products through WINPAK and receive technical and marketing guidance from it.

SUGGESTED TREATMENT OF THE LAND TENURE ISSUE

Introduction

While the issue of land tenure and its related problems of insecure title, parcel fragmentation and underproductive use is not an integral component of either of the above two suggested options, it is of critical importance to the future development of an agricultural sector independent of reliance on bananas. The ultimate course of action to relieve this constraint, however, will not be an easy one to identify and will require a substantial amount of research and planning. To this extent, a direct relationship between the planning activities suggested in options one and two and the proposed strategy to follow would exist.

Objectives

Since it does not appear that land tenure and its related issues are a primary concern for large- or even medium-sized farmers, the principal objectives of development activity in this area would be directed towards the smallholder sector and are stated as follows:

- To maximize the productive use of available agricultural land by encouraging and facilitating improved titling and registration procedures, a more fluid and efficient land market, and appropriate land taxation policies;
- To increase the economic viability of small-scale farming by encouraging capital investment for productive purposes based on secure land titles; and
- To increase rural employment opportunities and stem rural to urban migration of the younger population by making agriculture a profitable economic alternative.

Suggested Program

The Establishment of an Agricultural Land Development Authority

This authority, whose establishment was fully recommended by the Governor General's Land Reform Commission in its Final Report in 1981, would be a regulatory body that would "...develop programs of land utilization that should form an integral part of a national strategy of land distribution and land use." This report further goes on to recommend the development of a national plan for land use that should "...include the development and implementation of programs for small farm settlement and re-settlement of farm families, consolidation of holdings and the development of integrated rural development programs."

In order to carry out these recommended activities, certain changes in the legal framework concerning land tenure would have to take place. Presently, four proposed bills exist in draft form that are directed toward these changes:

- A Land Surveying Act, for the determination boundaries;
- A Land Registration Act, for the titling of lands;
- A Land Adjudication Act, for the resolution of disputes;
and
- A Small Tenancies Act, for the regulation of land rental.

The proposed authority then, would design and implement a National Agricultural Land Use Plan based on the productive potential and rational use of agricultural lands. It would additionally monitor the implemenetation of the four laws listed above, and supervise the establishment of a land bank, described below.

The Establishment of a Land Bank

It is well recognized that several of the problems related to the land tenure issue are directly related to scarce financial resources among the small farmer community. Often if a farmer has access to land he cannot afford the costs of surveying, registration and titling. Without title he likewise cannot obtain needed credit for agricultural inputs or infrastructural development.

In a related area, without financial resources, small farmers cannot enter into the meager land market that exists. In essence, while there are sellers of land, from small plots to large estates, there is no effective financial mechanism which would enable small farmers to buy it.

Given this situation, the establishment of a land bank is proposed whose goals would be to maximize the productive potential of agricultural land resources by providing credit to small farmers for three types of investment:

- The surveying, registration, and titling of lands with unclear title;
- The investment in productive infrastructure on lands already having title; and
- The individual purchase of family-sized farms, or the group purchase of estates for sub-division.

The terms and interest rates for these loans should be determined by the productive capacity of the lands involved and the crops proposed to be planted. The bank could be set-up as a separate "window" of the St. Lucia Development Bank, or as a separate entity. In either case its operations should be under the control and direction of the Agricultural Land Development

Authority. In the case of small parcels (less than 10 acres) the sale and purchase would be between the original and the new owner with the bank acting as the source of credit. In the case of larger plots, or estates, the bank would purchase the land and arrange for its sub-division, surveying, registration, and titling, and then resell the plots to individual small holders on a credit basis.

The Establishment of a Cadastral Survey

There currently appears to be no countrywide information base to carry out either land use planning or the institution of a land tax program. Without this information, any attempt to plan for the productive and efficient utilization of the country's land resources as proposed above for the Agricultural Land Development authority would be in vain. Likewise, without a cadastral survey the GOSL is also without the ability to promote the maximization of St. Lucia's agricultural production potential. Essentially without a cadastral survey, the most common tool of land use planning, a progressive land tax based on productive potential, is unavailable to national planners.

It is therefore recommended that the political and economic potential for an islandwide cadastral survey be studied, and if found to be feasible, carried out.

ANNEX A
INTERVIEWS CONDUCTED

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INTERVIEWS CONDUCTED

ST. LUCIAN GOVERNMENT

Hon. John M. Compton, Prime Minister
Hon. I d'Auvergne, Minister of Agriculture
David Demarque, Chief Agricultural Officer
Cosmos Richardson, Assistant Secretary of Agriculture
Ferdinand Henry, Secretary of State for Agriculture
Clarence Mitchell, Chief Research Officer, MOA
Martin Evans, Chemical Engineer, MOA
Julius Polis, Soils Chemist, MOA
Dunley August, Acting Plant Protection Officer, MOA
Colin Paul, Agronomist, MOA
Albert St Clair, Acting Principal, Agricultural Training
School
Cyril Mathews, Permanent Secretary for Agriculture
Gabriel Charles, Forestry Supervisor, MOA
Brian James, Senior Forestry Assistant, MOA
Paul Butler, Conservation Adviser
Keith Scotland, Chief Animal Health Officer, MOA
Refina Jean, Planning Officer, MOA
Albert Cumberbatch, Chief Extension Officer, MOA
Patrick Vincent, Chemical Engineer, MOA
Horace Walters, Chief Fisheries Officer, MOA
Peter Murray, Fisheries Biologist, MOA
Lawson Caulderon, General Manager, National Development
Corporation (NDC)
Desmond Destang, Agro/Industry Development Specialist, NDC
George Theophilus, Managing Director, SLDB
Hilary La Force, Farm Improvement Officer, SLDB
K. Dwight Venner, Director of Finance and Planning, Ministry
of Finance (MOF)

Ausbert d'Auvergne, Chief Economic Planner, MOF
Michael Toussaint, General Manager, St. Lucia Marketing Board
Merle Alexander, Head, National Statistics Office
Tally Mathews, Cartographer, Lands and Survey Office

DONOR AGENCIES

Maurice Carter, Regional Marketing Adviser, British
Development Division
Jan Vermeiren, Technical Adviser, Organization of American
States (OAS)
Loyd Strachen, Agricultural Economist, OAS
William Adler, Private Sector Promotion Advisor, AID
(PIDAP)
Terry Cross, Forestry Project Manager, Canadian International
Development Agency
Graham Luize, Manager, Livestock Development Project, EDF
Pho Ba Quan, Regional Director for the Caribbean,
International Finance Corporation
Peter Johnson, Latin American/Caribbean Action

REGIONAL AGENCIES

Trevor Lovell, Development and Trade Brokerage Manager, CATCO
Calixte George, Country Representative, CARDI
Joseph Edmunds, General Manager, WINBAN

PRIVATE SECTOR

Rene Raveneau, Manager/Secretary, St. Lucia Agriculturist
Association
Ornan Monplaisir, President, St. Lucia Chamber of Commerce
Niel Emunds, Manager, St. Lucia Coconut Growers Association
Harry Atkinson, Chairman, St. Lucia Banana Growers
Association, St. Lucia Copra Manufacturers Association

Michael Lansiquot, Manager, St. Lucia Banana Growers
Association

John Hailwood, Chariman, Geest industries (W.I.) Ltd.

Edward and Connie Zephrin, Owners Viking Brand Spices/Foods
Co.

Michael Gordon, Lawyer and Owner of The Voice

McDonald Dixon, General Manager, National Commercial Bank

Gavan Farley, Manager, Halcyon Beach Club Hotel

Christopher Mondesir, General Manager, St. Lucia Farmers
Cooperative (STAFCO)

Clive Harris, President, STAFCO

Ann Walters, General Manager, St. Lucia Pig Producers'
Co-operative

Robert Walters, Director, St. Lucia Pig Producers'
Co-operative

Leon Louis, Director, St. Lucia Egg Producers' Co-operative

Larry Leighton, Treasurer, St. Lucia Egg Producers
Co-operative

Jean Baptiste, Private Trader/Exporter

ANNEX B
REFERENCES

ANNEX B
REFERENCES

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