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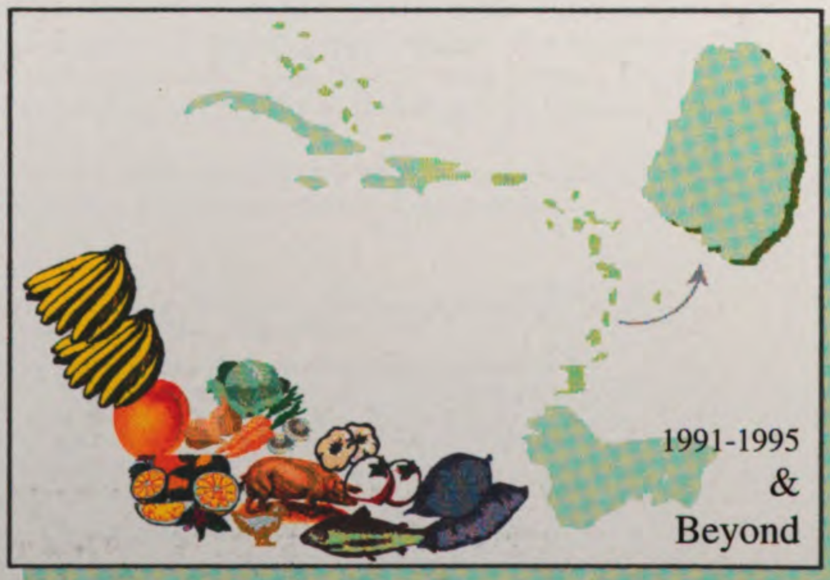
IICA
Caribbean Regional Centre

Agriculture in St. Vincent & the Grenadines



Preface

Mindful of its technical cooperation responsibilities, IICA identified the critical need for improved information on the agricultural sector of member countries to assist them to more rapidly integrate with the global marketplace. The identification of the challenges and opportunities for the agri-food sector of constituent member countries, along with the development of a compendium of the best available comparative statistics for agriculture, was identified as a starting point.

Carlos E. Aquino G.
Director General, IICA

Information on the agricultural sector in St.Vincent and the Grenadines is relatively weak, both in terms of data collection and analysis systems. While some information, albeit imprecise, does exist, it is often spread over a range of national, regional and international publications and databases, which, in many instances, are of limited circulation and accessibility. Much remains to be done in terms of maintaining a comprehensive agricultural sector information base.

This working document represents one in a series of 13 working documents prepared for the IICA Caribbean member states, compiled for the specific purpose of preparing the document titled "*Performance and Prospects for Caribbean Agriculture*'. The preparation of this working document constitutes another step towards the goal of improving access to information on the agricultural sector.

This working document was the result of a collaborative effort of Ms. Diana Francis of the IICA Caribbean Regional Centre (CaRC), Mr. Godwin Daniel, Coordinator of the IICA Technical Cooperation Agency (TCA) in St.Vincent and the Grenadines, Mr. Clive Bishop and Mr. Wilfred Ollivere. The information and analysis are based on statistics and descriptive information extracted from various national sources, as well as from reports generated by regional and international counterpart institutions. It is anticipated that the information will be useful, not only to individuals and institutions working in agricultural development in St.Vincent & the Grenadines, but also to other parties interested in information on the agricultural sector in general.

The guidance of Dr. Patrick Antoine Head, Socioeconomic Policy, Trade and Investment Programme in the preparation of this working document is acknowledged. This report would not have been possible without the full commitment of the IICA Director General, Carlos E. Aquino G. and the Caribbean Regional Centre (CaRC) Director, H. Arlington D. Chesney.

This exercise will be undertaken every two years. We welcome comments aimed at improving subsequent reports. All errors and omissions are the responsibility of the authors.

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Socioeconomic Policy, Trade and Investment Programme

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Country Profile

St. Vincent and the Grenadines (the latter which comprise a chain of seven small islands and cays between St Vincent and Grenada) form part of the Windward Islands group of the Eastern Caribbean islands. Total land area is 150 sq mi. (388 sq km) of which St.Vincent is 133 sq.mi. The islands experience a tropical climate with annual mean temperatures of 26°C. Rainfall, which is highest between May to November, varies from 70-90 inches in the coastal area to 260-275 inches in the mountainous interior. In 1995, St.Vincent & the Grenadines were affected by hurricane Iris.

Agricultural land and marine resources (fisheries and white sand beaches) are the main economically exploited natural resources. Total arable land is estimated at 29,694 acres (1985) i.e., 31% of total land area, comprising predominantly volcanic, well draining soils which are generally suitable for cultivation. Abundant surface water and rich forests, mainly on St.Vincent, also add to the natural resources of the islands.

The islands' populations are primarily of African descent and a lesser number of East Indian and European descent and indigenous Carib Indian (in St.Vincent mainly). The 1996, total population of 110,724 represented a 0.2% increase over 1995. A population density of 283 persons per sq.km., ranked St. Vincent & the Grenadines as the second most densely populated Windward Island. Approximately 75% of the population are scattered in small rural communities, including the Grenadines.

Annual growth in the St.Vincent and the Grenadines economy averaged 3.4% between 1991-1995. However, this growth was highly variable. Following the high growth rate of 6.5% in 1992, economic activity experienced a slowdown in 1993, led by declines banana production, and in 1994 due to slow growth in tourism. Though its share in total GDP is relatively small, the hotels and restaurants sector is considered to possess considerable growth potential. Real growth between 1991-1995 averaged 5% per annum. Growth in manufacturing, comprised mainly of beverage and food processing, milling and packaging was low, averaging 0.77% between 1991-1995.

The economic development strategy of the Government of St.Vincent and the Grenadines over the 1991-1995 period emphasised increasing output and improving productivity as priority objectives. Central to this policy were efforts at stimulating private sector-led growth, which were to be facilitated through the creation of an enabling macro-economic environment. Private sector investment in manufacturing and tourism was to be encouraged through the provision fiscal incentives and the establishment of appropriate infrastructure. St. Vincent & the Grenadines has pursued self-imposed adjustment in a gradual and continuous manner, thus far avoiding the economic hardships usually associated with IMF-imposed Structural Adjustment Programmes.

Slower than projected recovery in the banana industry and slow growth in agricultural diversification and tourism, resulted in a slowdown in growth in 1996. Despite the variable pattern of economic growth in the 1990s, public sector finances remained relatively stable. However, given the difficulties in obtaining loans at concessionary rates, public sector investment to stimulate the economy will depend more on strengthening of public finances. As grace periods for concessionary loans expire, external debt service is expected to increase, which will put additional pressures on public sector finances and the favourable growth rates of the early 1990s.

Table I ~ St.Vincent & the Grenadines

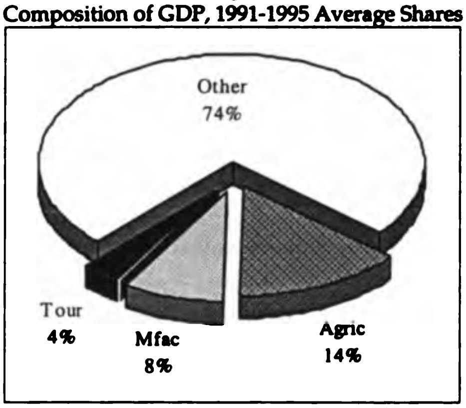
Key Economic Indicators EC$m	*1991*	*1992*	*1993*	*1994*	*1995*
EC-US Exchange	2.7	2.7	2.7	2.7	2.7
GDP (1977)	191.5	204.0	206.6	204.2	219.3
Agriculture	30.7	33.2	29.4	21.5	29.5
Manufacturing	15.8	18.4	17.6	17.6	17.1
Tourism	6.6	26.0	28.5	7.3	8.00
Fiscal Overall Bal.	-7.73	-34.3	-37.1	-20.4	-10.7
Visible Trade Bal	-195.9	-145.8	-506.6	-214.7	-251.4
Ext. Debt, US$M	66.1	70.8	77.4	81.1.	

Source: CSO, Ministry of Finance

Socio-Economic Role

Agriculture has traditionally been a leading sector in the economy of St. Vincent and the Grenadines. Between 1991-1995, despite difficulties encountered in its leading industries, the sector maintained its position as an important generator of economic activity and foreign exchange. Between 1991-1995, the real contribution of the agricultural sector to GDP averaged 14.1%. This compared favourably with the real contribution of manufacturing and tourism which averaged 8% and 3.6%, respectively (Fig.1).

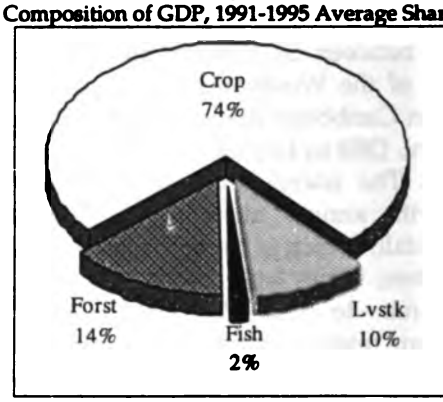
Fig.1
Composition of GDP, 1991-1995 Average Shares



Agricultural exports also generated the most significant foreign exchange earnings, averaging over 80% of total merchandise export earnings over the 1991-1995 period. Banana production was largely responsible for the relatively high share of agricultural exports in total merchandise export earnings.

As indicated in Figure 2, crop production dominated agricultural activity. Between 1991-1995, crop production accounted for 74% of gross agricultural output. Banana production alone, accounted for 10-15% of this share. However, the difficulties experienced in the banana industry resulted in a decline in the relative share of banana production in total crop production. As a result, the share of the crop sub-sector in total agricultural production declined, from 80% in 1991 to 74% in 1995.

Fig.2
Composition of GDP, 1991-1995 Average Shares



Crop and livestock production are of greater economic significance to St.Vincent. The arid conditions in the Grenadine islands place severe limitations on the range and extent of crop and livestock production activities. As a result, fisheries in the Grenadines have outpaced crop and livestock production. While the contribution of the fisheries sub-sector accounted for only 2% of gross agricultural output between 1991-1995, fisheries continued to be a very important source of livelihood in the Grenadines. Farming in the Grenadines was limited to corn, beans, pigeon peas and a select range of vegetable production. The bulk of food crop requirements are generally satisfied from St.Vincent and through imports. Within this context, crop production on the mainland (St. Vincent), assumes an even more significant economic role, in terms of the supply of food to its dependencies.

Over the 1991-1995 period, agriculture maintained its role as an important employer of labour in St. Vincent and the Grenadines. In 1985/86, the sector employed 23,000 permanent workers, representing 64% of the labour force and 21% of the total population. The corresponding figures for 1991 were 8,400 agricultural workers, representing 20% of the labour force and 7.8% of the population. Part of this apparent large decline in the agricultural labour force in 1991 may be attributed to the more restrictive definition of an agricultural worker used in the 1991 population census.

Organisational Characteristics
Inspite of its leading role in the economy, the organisation of activities and resource utilisation in the sector are unevenly distributed between the public and private sectors. Agricultural activity is largely public-sector driven, with the majority of the direct farming population reliant upon the subsidised services and facilities provided by the Government. The generally limited participation of the non-farm agri-business sector in agriculture has been quite noticeable. The private sector tends to be more involved in produce trading (dominated by the informal sector), input supply and food processing activities. Efforts by Government to transfer some of the state-provided services, such as, the provision of planting material and seedlings, have achieved very limited success.

Generally, activities in the agricultural sector are guided by policies which promote market-led production, and programmes aimed at broadening the agricultural production and export base. Between 1991-1995, among the specific policy objectives emphasised for the agricultural sector were the following:
- banana industry restructuring to improve efficiency and competitiveness;
- agricultural diversification;
- institutional reform, including land reform;
- infrastructural development; and
- expansion of fish and meat production to enhance food availability.

Greater emphasis was placed on accelerating agricultural diversification around banana production over the 1991-1995 period. In spite of the recent decline in the fortunes of the banana industry, it remained an important source of employment and income for many rural communities and the national economy.

The Ministry of Agriculture (MoA), through its specialised departments, is the primary institution responsible for implementing agricultural policy and spearheading the diversification process. The Agricultural Extension Service is central to this function. Over the years, the extension service has received considerable assistance in programme planning from the University of the West Indies (UWI) through its Caribbean Agricultural Extension Programme (CAEP). Other supportive specialised units include the Research & Development Division, established in 1991 following the merger of several units of the Ministry.
Agricultural development has also been facilitated through quasi-state Commodity Associations, which are the main mechanisms through which development of the traditional crops sub-sector is channeled. The St. Vincent Banana Growers Association (SVBGA) and the Arrowroot Industry Association supply a range of services to their members including credit, supply of inputs, extension and guaranteed prices and markets. Because of its direct links to the SVBGA and the Arrowroot Associations and the St.Vincent Marketing Corporation, Government retains some involvement in the marketing of fresh agricultural produce.

Apart from the MoA and Commodity Associations, development assistance to the sector, mainly financial and technical, was also obtained from regional and international organisations. The role of these institutions is particularly visible in the areas of research and development, integrated rural development programmes and in the provision of credit for agricultural development activities. Such credit is usually administered through the Development Corporation (DEVCO), which was established as the primary facility to administer concessionary financing for agricultural enterprises. In its development stages, DEVCO's main source of financing was the Caribbean Development Bank. Other avenues for accessing credit for agricultural enterprise development included the International Fund for Agricultural Development (IFAD), which generally provided loans through DECVO for small farm activities, and to a lesser extent, the National Development Foundation (NDF).

Socioeconomic Performance

During the 1991-1995 period, the agricultural sector experienced positive, albeit variable, real growth. Growth was recorded for only two years out of the five year period, 1992 and 1995 (Table 1). The contraction in gross agricultural output in the 1993-1994 period was generally associated with adverse weather conditions, which negatively impacted crop production, particularly banana. The impact of the decline in the banana industry was evidenced by a deceleration and eventual contraction in overall GDP over the same period. The relationship between the pattern of growth and decline in the agricultural sector and the economy is indicative of the continued importance.

Table 1

St.Vincent & the Grenadines Real Growth: Agriculture GDP (%)

@ 1977	1991	1992	1993	1994	1995
GDP	3.10	6.54	1.24	-1.17	7.40
Agriculture	-9.38	8.01	-11.45	-26.89	37.34
Crops	-12.31	8.89	-15.36	-36.87	54.00
Livestock	3.25	3.15	3.05	2.96	2.88
Fisheries	2.38	2.33	2.27	2.22	2.17
Forestry	5.54	5.86	6.12	934	5.78

Source: Statistical Unit, St. Vincent

Crop production experienced high annual variation, with a tendency towards decline. In fact, crop production was the only sub-sector which registered real declined in output over the period. Annual growth in fisheries averaged 6.5%, livestock, 2.3%, and forestry, 2.3% over the same period. Notwithstanding the relatively high growth in fisheries, this sub-sector remained small in comparison to crop production. Crop production, characterised by small, low technology, high costs and low productivity farm units, and constrained by inadequate infrastructure and support systems, experienced generally low levels of competitiveness.

The deterioration in the competitiveness of many of the agricultural sector enterprises was also a factor of high costs of labour. Labour difficulties were a direct reflection of the structural weakness in the economy. The disparities between agricultural and non-agricultural wages and employment benefits discourage labour away from the farm. The official minimum hourly wage rate for a farm worker is EC$3.00 (for a 6-hour day), lower than the rate offered in the construction and domestic sectors. Many farmers have been forced to offer between EC$6.00 to EC$8.00 per hour for a day comprising 3 to 4 hours. In addition, the land reform induced transformation of many of the agricultural labour force to landowners, exacerbated the labour problem. The creation of a large number of farmers/employers placed increasing demands on the already dwindling agricultural labour resources.

Increased competition from imports and loss of market share due to increased food production capabilities in traditional markets, have also eroded the viability of many small and medium sized production units. In spite of this, St.Vincent and the Grenadines continue to experience relatively high food self-sufficiency levels. The sector partially meets the food requirements of the tourist industry.

The fact that food imports continue to be a growing source of food supply is particularly disturbing, given the decline in the ratio of food exports to food imports. Prior to 1993, the level of banana export earnings exceeded the food import bill (excludes beverages & tobacco and oils & fats). In fact, banana exports were largely responsible for the maintenance of an agricultural trade surplus over the entire 1991-1995 period (Table2).

Table 2

St.Vincent & Grenadines, Agricultural Trade

EC$M	1991	1992	1993	1994	1995
Agri.Trade Balance	62.9	88.9	39.6	22.5	3.3
Agri. Imports of which:	87.8	90.9	91.2	79.0	81.6
Food & Live Animals	80.5	83.7	84.6	2.8	73.5
Beverages & Tobacco	7.0	6.6	5.9	5.6	7.2
Oils & Fats	0.3	0.4	0.6	0.5	0.8
Agri. Exports:	150.8	179.8	130.8	101.5	84.9
of which bananas	95.8	99.3	62.3	40.0	59.9

Source: St.Vincent & the Grenadines CSO.

Although it is unlikely that domestic production can totally replace imported food products, there does exists potential for increasing the share of domestic food supplies in total food consumption, particularly in the hospitality industry. This could be facilitated by mechanisms which foster greater integration among producers and consumers. Linkages with the manufacturing and tourism sectors were notably weak over the period. This weakness was directly related to the deficiencies in the food production and distribution system and insufficient attention to, and investment in, agro-industrial development.

These deficiencies encouraged an increased reliance on imports of food both for final consumption and as raw material for processing. Over the 1991-1995 period, expenditure on food imports averaged EC$79M annually. Of this total, 26% was spent on cereals and preparations and 22% on meats and preparations. It should be noted, that the high proportion of cereal imports was mainly due to its use as raw material for the agro-processing industry. The food import bill represented a relatively constant 24% of total merchandise imports (Table 2). Food imports, compared to beverages & tobacco and oils and fats imports, averaged a relatively constant 92% share over the 1991-1995 period.

Between 1991-1995, the rate of growth in agricultural export earnings declined by 11.7% per annum. This compared unfavourably with a much slower decline of 1.6% in the rate of expenditures on agri-food imports over the same period. The agricultural trade surplus fell substantially from $88.9 million in 1992, to $3.3 million in 1995. The substantial decline in export earnings in 1994 may have prompted restraint in the level of expenditure on food imports that year. Food import expenditures fell by 13% in 1994, led by a 78% reduction in animal feed imports and a 39% reduction in cereals and preparations imports. Reductions in the imports of raw materials may have exerted a positive effect on the overall trade balance. However, the impact on the agro-industrial sector was undoubtedly negative, since a reduced volume of raw material implied a lower level of output.

In spite of moderate growth rates in food imports, slow growth in agricultural exports will result in further deterioration in the agricultural trade balance. Continued declines in banana export volumes, coupled with falling export prices, adverse currency fluctuations, and increased access to imported food products as a result of trade liberalisation, combined to greatly affect total agricultural export earnings, and agricultural and total merchandise trade balances.

Given this situation, efforts were made during the 1991-1995 period to increase the domestic supply capabilities in order to reduce the reliance and expenditures on food imports. In this regard, Government policies encouraged expansion in existing crop varieties, introduction of new varieties and development of the livestock and fisheries sub-sectors.

Agricultural Diversification

Agricultural diversification in St. Vincent and the Grenadines revolved around banana diversification with the following general objectives of :

- promoting new income earning opportunities, thus impacting positively on employment, rural development and food security;
- expanding the export base, both in terms of volumes and product range to increase foreign exchange earnings from agriculture;
- enhancing the food production capabilities to ensure availability of domestic food supplies to meet the requirements of domestic and tourist consumers.

These objectives were to be facilitated through the introduction and/or expansion of non-traditional crops, including sweet potatoes, eddoes, carambola, pineapple, pawpaw, pepper, asparagus, table grape, and cut flowers. In this regard, Government provided the sector with a range of incentives to stimulate increased production of these target crops and small livestock. Crop diversification was also aimed at providing raw materials for agro-processing. The development of a vibrant agro-processing sctor was an integral part of agricultural sector development. Crops specifically targeted for their agro-industrial potential included lime, pepper, grapefruit, coconut, ginger and passion fruit. Agro-industrial development depended to a large extent on private sector participation. In this regard, incentives to encourage private sector investment in agro-processing included, support to research, the provision of extension services to cottage industries and the institution of regulatory measures aimed at quality control and standardisation of locally manufactured foods and beverages.

Implementation of agricultural diversification programmes remained the primary responsibility of the MoA. In addition to its routine work programme, the MoA developed specific high impact programmes in key areas. Support for programme implementation was provided by various institutions, including the Agricultural Rehabilitation and Development Project (ARDP) which undertook the land reform component, i.e., the divestment of state land to farmers and the development of the road infrastructure, DEVCO, which provided credit assistance to farmers, as well as the SVMC and OECS Agricultural Diversification Co-ordinating Unit (ADCU), which provided market advisory and promotions assistance. Technical assistance was also provided by IFAD, the NDF, CARDI, IICA, FMTC, CATM, NFU, and the Community Development Department.

Over the 1991-1995 period, total public sector investment in agriculture approximated $58 million, of which 61% was spent on developmental projects (capital expenditure, Table 3). As indicated, an estimated $6.8 million was spent within the ARDP, with expenditure on non-banana crop development, including arrowroot, floriculture and tree crop, approximating $4 million. Investment in feeder roads and other infrastructure constituted an important component of the agricultural development in general and diversification in particular. Government institutionalised its general rehabilitation and road maintenance programme with loans and grants from various sources including USAID/CDB, ROC, the EU and from its recurrent revenue.

Table 3

St.Vincent, Government Expenditure in Agriculture

EC$M	1991	1992	1993	1994	1995
Total Recurrent	247	274	285	264	281
MoA Total Budget	3.85	4.15	4.41	4.78	5.16
Agricultural Services:	2.71	3.0	2.9	3.1	3.3
Capital Expenditure[1]	3.45	5.50	4.71	17.64	4.24
Non-Banana Crop	1.14	1.15	0.21	0.78	0.74
ARDP	0.28	1.60	2.35	1.51	1.14
Banana Restructuring	-	-	-	2.77	1.42
Livestock	-	0.70	0.08	-	0.02
Fisheries	1.27	0.27	0.98	6.29	0.10
Feeder Roads	0.11	-	0.70	5.50	0.42

1: *includes land purchase, forestry and other infrastructure*

Source: St. Vincent & the Grenadines Estimates, 1991-1997

A total of $6.7 million was spent between 1991-1995 on feeder road construction and/or rehabilitation, in addition to an estimated $6 million spent to construct/rehabilitate 9.3 miles of feeder road between 1987-1989. Other investment in infrastructure included the construction of a container port at Campden Park (EC$ 21.4M), infrastructural improvements to the Union Island Airport (EC$12.3 M), the construction of the Bequia Airport (EC$60 M), the provision of a Cargo storage facility at the E.T. Joshua airport and the upgrading of jetties in the Grenadines. The construction of an abattoir and a meat and fish market, with financial assistance from the Government of Japan, also positively impacted livestock and fisheries development over the review period.

In spite of the ongoing public sector investment, albeit at variable annual levels, progress in agricultural diversification was not impressive. The impact of the diversification programme on overall agricultural development between 1990-1995 was reported to be negligible.[1] Areas of success have been limited, and included an overall increase in cultivated acreage of some root crops and vegetables (Table 4) and an 80% success rate in the Land Reform component. This component was funded by the Government, the CDB, the

1 "Review of the Agricultural Diversification Programme in St.Vincent and the Grenadines, 1990-1995" prepared for the Government of St.Vincent and the Grenadines by IICA and the UWI.

EU, the World Bank, Denmark and Japan at a cost of almost EC$50M. Limited expansion in non-traditional crop acreage, (table grapes, orchids, asparagus and cut flowers) was recorded.

Table 4:
Crop Acreage 1993 - 1995

Crop (acres)	1993	1994	1995
Cabbage	9	30	43
Carrot	6	67	108
Cassava	7	25	25
Cucumber	6	30	26
Dasheen	59	187	237
Eddo	98	459	N/A
Sweet Potato	62	58	226
Tannia	22	85	118
Tomato	15	40	33

Source: Ministry of Agriculture and Labour

A review of the 1991-1995 Agricultural Diversification Programme of St.Vincent and the Grenadines, in 1996, concluded that the objectives of agricultural diversification had not been realised. The review pointed to institutional, technological and marketing deficiencies as the main constraints. Among the institutional deficiencies included, the ineffectiveness of existing arrangements for policy formulation and implementation, the weakness of programme planning, co-ordination, implementation and monitoring and the inability of the MoA to co-ordinate critical aspects of the programme, such as, marketing, credit and extension services.

The review also pointed to a lack of operating specifics, production targets and export and foreign exchange earning objectives in the planning and implementation of agricultural diversification programmes. The wide range of crops for attention, and the apparent absence of appropriate selection criteria were inherent constraints to the effectiveness of the programme. The continued dominance of banana production within the farming system and the perceived lack of profitability of non-banana crops also acted as a disincentive for farmers to diversify.

Inadequate marketing infrastructure and facilities for non-traditional agricultural production were identified as major constraint to the agricultural diversification programme in particular and agricultural development in general. Apart from the Bananas and Arrowroot marketing Associations, the marketing of agricultural commodities has been conducted almost exclusively by private enterprise. This is particularly true for non-traditional crops which do not benefit from an established and organised marketing infrastructure and guaranteed market. There exists several traders competing for limited supplies.

Recent progress at agricultural trade liberalisation created a high level of market uncertainty among producers. This in turn, affected the production and export of all crops. In recognition of the importance of providing adequate market facilities, attempts were made to develop national capabilities in the areas of market investigation and intelligence, market and information services and market promotion and penetration. Among the main responsible agencies was the Ministry of Trade (MoT), which coordinates trade promotion activities in St.Vincent and the Grenadines. The MoTs activities were supported by the Caribbean Export Development Agency and the OECS ADCU Tropical Produce Support Project (TROPRO), which provided assistance to member countries in marketing and trade promotion in the sub-region.

However, in spite of efforts at the national and regional levels, there has been little success in obtaining and maintaining a foothold in non-traditional markets. This does not, however, suggest that the demand for products of St.Vincent and the Grenadines does not exist. On the contrary, various reports indicate that while market demand for such produce does exist, the European, North American and the French Caribbean markets are quite competitive and demand high quality. Moreover, the transportation costs are high. It was thus recommended, that in consideration of these factors, emphasis should be placed on the promotion of high-value crops for these target markets. Specifically, crops such as ginger, mango, avocado, breadfruit and plantain.

While agricultural diversification remains a high priority, the design and manner of implementing such programmes require urgent attention if success is to be achieved. A new Plan of Action for Agricultural Diversification and Development for the 1997 - 2001 attempted to address much of the shortcomings of the previous 1991-1995 programme.

Commodity and Sub-Sector Performance

❑ *Banana*

For the past 30 years, banana has been the dominant crop in St. Vincent and the Grenadines. During the 1991-1995 period, banana export earnings averaged a large, but declining share of total agri-commodity exports. This share moved from 66% of total agri-export earnings in 1991, to a low of 39% in 1994, before recovering to 47% in 1995. The dominance of banana in total agri-commodity exports was clearly visible. Any instability in banana export exerted a significant downward pressure on agricultural export earnings and the merchandise trade balance.

Since 1990, there was a shift in the structure of the banana production base. In 1990, 20% of the farmers accounted for 80% of total production. This share increased to 21% in 1993 and 22% in 1994. By 1995, approximately 37.7% of producers accounted for 80% of production. This change may be partially the result of Government's land redistribution programme which gave more small farmers access to land. However, while an increase in the production base implied an increase in overall output, given the small size and wide dispersion of these production units, the nature of the expansion also had adverse implications for the maintenance of an efficient grower support system as well as for fruit quality management system.

St.Vincent and the Grenadines is second to St.Lucia in terms of Windward islands banana production and exports. In spite of the temporary setbacks caused by the occasional drought (1987), and hurricanes and tropical storms in the pre-1990 period, the short gestation period of the banana plant facilitated rapid recovery of the industry. Following the record production levels of 82,753 tons in 1990, there was a 21% decline in output in 1991 occasioned by a prolonged dry spell, wind damage, poor plant nutrition and sub-standard Leaf Spot control measures. Widespread anxiety among banana farmers, regarding the establishment of the EEC Common Market in 1992, also contributed to the slowdown in the rate of output in the industry. Production declined gradually from 1991, falling to a record low of 31,222 tons in 1994 (Table 3). Banana export earnings fell from $99.8 million in 1991 to $60 million in 1995.

Table 3

Banana Export Production & Exports

	Production	Exports	
	mt	mt.	EC$'000
1991	65,496.61	64,235	95,802.1
1992	77,788,22	76,095	99,277.1
1993	59,271.58	58,667	62,289.2
1994	31,221.73	30,933	40,049.9
.1995	50,411.00	50,013	59,928.7
1996	na	44,802	53,543.5

Source: SVBGA Annual Reports

The year 1994 was particularly challenging for the St.Vincent and the Grenadines banana industry. Heightened market uncertainty and a severe drought (which lasted for the first half of the year) contributed to a 47% decline in output that year. Approaching year end, the sudden and sharp reductions in farm incomes led to an escalation in loan defaults in the three main commercial banks, from 8% to 23%. During this critical period, the SVBGA provided growers with income support at a rate of 2.87 cents per pound (for labour costs). This income support programme was facilitated by a Government-guaranteed overdraft.

An unexpected crisis in the form of Geest's decision to divest its banana assets, and the possibility of acquisition of these assets by a competing Latin American interest (Naboa) added further anxiety to the already unstable conditions in the banana industry. This potentially disastrous situation was averted when the Windward islands governments, through the establishment of the Windward Islands Banana Development Exporting Company (WIBDECO)), entered into a joint venture agreement with Fyffes (an Irish company involved in the marketing of bananas) for the purchase of Geest's assets.

By 1996, the situation in the banana industry had not improved. Production and exports continued to decline. Deregulation of the European banana market and the 1997 WTO Panel decision that the EU Banana Import regime ran counter to the principles of free trade were the key factors influencing the performance of the banana industry in the post-1997 period. Liberalisation in the EEC market and the WTO decision have already had adverse impacts on banana prices, which in turn, discouraged many banana farmers. Increased input prices and the need to strictly adhere to fruit quality specifications, falling prices, and the continued inability of the SVBGA to adequately provide services and inputs, as well as to provide price supports have resulted in a loss of confidence in the industry and a subsequent decline in tree and crop husbandry. This has further exacerbated fruit quality problems and an erosion of the market competitiveness of Windward islands banana exports.

❑ *Arrowroot*

Arrowroot is cultivated primarily for the production of starch, which is both exported and used domestically. Arrowroot is produced on small farms in the North East of St. Vincent. St. Vincent and the Grenadines is well renowned for its arrowroot starch. Up to World War II, the country was the world's largest producer of arrowroot starch. The introduction of less expense starches, however, created acceptable substitutes resulting in a decline in the demand for the arrowroot starch from the early 1980s. Dwindling markets in the late eighties and early nineties forced the Association to accumulate high stock levels thus adversely affecting the industry's financial viability.

Within recent times, the market situation improved sufficiently to enable the Association to gradually reduce its inventory and to undertake production expansion. In spite of the availability of relatively cheaper market substitutes and generally lower prices, the production of arrowroot starch recorded significant growth between 1991-1995, of approximately 23% per annum (Table 4).

Table 4
Arrowroot Production & Exports

	Production mt.*	Exports, EC$'000
1991	63	250
1992	73	344
1993	67	347
1994	115	539
1995	128	563

*starch equivalent weight of arrowroot production
Source: Statistical Unit, StVincent

The average production level, however, was greatly reduced in the 1991-1995 period, to an average of 89 tons per annum, compared to an average annual production of 230.2 tons between 1985-1989. The post-1993 recovery in the production of arrowroot starch may be attributed to an increase in market demand which continued up to 1996. In order to take advantage of the favourable market situation, the Association continued its expansion programme. Improvement in factory facilities also featured prominently in this industry expansion process.

❑ *Coconut*

Coconut production formed the base for one of St.Vincent and the Grenadines long-standing agro-industrial industries - oil and fats extraction and processing. Since the mid-1980s, however, the viability of the oils and fats industry has been greatly reduced due to significant reductions in the demand for coconut-based products in response to competition of "healthier" substitute. Falling prices for coconut oil induced declines in tree maintenance and copra production. Increased fragmentation of the large coconut estates and the debilitating effects of the spider mite and red ring diseases, were also serious constraints to the industry's recovery. Consequently, between 1991-1995, St.Vincent's sole factory operated below capacity, with output levels insufficient to maintain operations. As indicated in Table 5, the industry's capacity to supply the regional market was severely impaired. Exports of coconut by-products, including coconut meat, were virtually insignificant between 1991-1995. This reinforced the conclusion of the general demise in the coconut industry in St. Vincent & the Grenadines. The inability to contain rising production costs of coconut oil derivatives also hampered the industry's recovery process.

Table 5:
Coconut & Products Production and Exports

	Oil produced (Gallons)	Crude Oil Exports (45 gal drums)	Coconut Oil Exports, EC$'000
1991	na	244	317
1992	na	106	104
1993	na	139	7
1994	65,749	0	24
1995	65,301	0	-
1996	62,053	0	-

Sources: Arnos Vale Oil Industries; MoA Statistical Unit

❑ *Fruit and Vegetables*

The production of a diverse range of fruits, including citrus, mango, avocado, passion fruit, tamdew melons, paw paw and Hawaiian ginger, was central to the agricultural diversification programme. Experimental acreage of table grapes, passion fruit and asparagus was established. However, as previously stated, the agricultural diversification programme achieved limited success in terms of expanding the production of non-traditional fruits. Total citrus acreage (grapefruit, lemon and orange) was estimated at less than 150 acres.

Table 6 indicates the very limited quantities of non-traditional fruits exports to regional markets. As indicated, fresh vegetable exports though relatively low, declined sharply after 1993. In addition to lower output levels, the loss of market share for food crops (mainly Trinidad and Tobago), was a significant factor contributing to the decline.

Table 6
St.Vincent, Non-Banana Vegetables & Fruits Exports

Export EC$'000 (f.o.b)	1991	1992	1993	1994
Total, *of which*	18,938	30,010	19,413	10,257
Veg. fresh/chilled	10,156	13,358	8,880	4,247
Veg & Roots, presv'd	24	43	14	171
Fruits & nuts	7,177	16,222	10,107	5,490
Fruit presv'd & prep.	1,581	587	412	349

Source: Statistical Unit, Central Planning Division.

The bulk of vegetable production, including carrots, tomatoes, cucumbers, hot and sweet peppers, cabbage and onions, is consumed domestically. Vegetables are produced on relatively small plots, mainly on the Leeward (western) side of the island. Vegetable production faced intense competition from imported vegetables, thus discouraging investment in acreage expansion and in the utilsation of improved production techniques. Although attempts have been made to introduce greenhouse vegetable production, adoption of the technology progressed slowly due to the high establishment costs and strict adherence to scientific methods. A few enterprising farmers have, however, experienced some success in increasing greenhouse vegetable production.

❑ *Food Crops*

The fertile valleys of St. Vincent are very conducive to root crop production, and the country is the most productive producer of yam, sweet potato and dasheen in the Eastern Caribbean. Food crop farmers utilise a variety of cropping systems, - pure stand, crop rotation or inter-cropping around banana. Plantain and ginger, in particular, are important in the food crop system and to domestic food supplies and agricultural export earnings.

Plantain and root crops constituted the main exports in the fresh fruit category. They have traditionally found ready markets in Trinidad and Tobago, Barbados, the Virgin Islands and in Europe and the United States. The production of these food crops has, however, declined in recent years (Table 7). This situation may be partially attributed to the decline in demand from the main market, Trinidad and Tobago, since the mid-1980s. However, the significant reduction in output of this sub-sector in 1994 may be attributable to the severe drought which occurred in the first half of the year. During that period, rainfall averaged only 56.8 inches, 29 inches below the previous six-year average. The impact of the drought was also evidenced in dasheen and eddo production, which declined by 59%, sweet potato by 31% and yam by 8%. Prior to the loss of market share in Trinidad and

Tobago, food crop exports were important in contributing to the diversity of the agri-food export base. Compared to banana, the contribution of these commodities to export value is, however, small.

Table 7
Estimated Production of Selected Food Crops

Production, mt Exports EC$'000	1991	1992	1993	1994	1995
Production					
Sweet Potato	2,513	1,706	2,958	2,030	1,810
Yam	2,634	2,147	1,037	952	855
Tannia	668	577	338	270	415
Dasheen/Eddo	4,991	5,240	6,252	2,591	4.588
Root Crop					
Exports	10,021	13,197	8,761	4,135	6,395
Ginger					
production	859	834	799	489	540
exports	811	1,100	684	239	619
Plantain					
production	1,465	1,339	1,679	1,603	1,966
exports	922	1,191	1,170	656	1,206

Source: Statistical Unit, Central Planning Division

Livestock

Most farmers, including the landless class, rear livestock based on relatively rudimentary husbandry techniques. Approximately 50% of small stock - sheep, goats, pigs and poultry, are reared for domestic use. The main source of animal feed is local fodder and crop surpluses and residue.

Poultry and eggs are produced using intensive methods and improved feed concentrate. As a result, local egg production has made significant strides and St. Vincent and the Grenadines are relatively self-sufficient in table eggs. Cattle (for beef and to a much lesser extent, dairy), sheep, goats, poultry and pigs contribute somewhat, to meat availability. The 1985/86 census reported a cattle population of 3,385 heads, 5,877 sheep, 4,467 goats, 1,224 pigs and 30,299 poultry. An indication of the animals slaughtered in Kingstown, the capital, is provided in Table 8. The data, however, represent approximately 60% of total animals slaughtered, since unrecorded weekend slaughter of animals occurs in all rural communities.

The Diamond Dairy was established as the main vehicle for developing the local dairy industry. The Diamond Dairy is a joint venture among the Government (60%), the Caribbean Development Bank (33%) and private sector (7%). The company was granted the rights as sole importer of milk and certain milk products. However, the company experienced severe difficulties in maintaining the economic viability of its dairy farm operations. The UHT factory, with a capacity of 800 gallons per hour, remained virtually unutilised for fresh milk processing. As a result, the Diamond Dairy essentially become a wholesale distributor of imported milk and juice. Consequently, the local dairy industry remained undeveloped.

Table 8
Livestock Slaughtered - Kingstown Market

	Dressed Bulls & Cows' lbs	Dressed Pigs, lbs	Sheep	Goats
1991	231,556	87,697	1,001	247
1992	225,931	94,687	1,057	222
1993	196,602	86,795	862	256
1994	156,112	74,041	736	171
1995	170,620	56,723	477	139

Source: Statistical Unit, Central Planning Division

Fisheries

Fishing is quite commonplace in most coastal towns and villages, particularly in the Grenadine islands. Catches, which exceed the demands of the local fishing communities, are sold in other communities. In Kingstown, catches are landed at the relatively new Kingstown Fish Market where both wholesaling and retailing (Table 9). The data indicate a general decline in the volume of fish landed at the Kingstown market, by 46% in 1995 from 1991. This was reflective more of a greater distribution of fish sales in the various landing sites located island-wide than of an actual decline in fishing activity.

Table 9
Fish Landing in Kingstown and Export

	1991	1992	1993	1994	1995
Landings					
lbs	921,922	675,117	773,559	845,044	494,624
EC$'000	2,970.8	2,284.2	2,604.3	2,837.1	1,776.6
Exports					
EC$'000	236.9	366.1	972.6	82.2	na

Source; Statistical Unit. CPD.

Fishing in the Grenadines is perhaps the second most important economic activity after tourism. Some fishing infrastructure, including cold storage and ice making facilities, rain water reservoirs and jetties have been established throughout the islands. Approximately 650,000 lbs of fish were landed in the Grenadines in 1995, with an estimated 60% exported directly through trading vessels, 10% sold in the Kingstown market, and the balance consumed in the Grenadines. The fishing industry maintains close linkages with the tourist establishments on the islands.

The positive impact of infrastructural development in the fisheries sub-sector was borne out in trade data which indicated that the category fish, crustacean and molluscs was the only agri-food export commodities recording strong growth of 67% per annum between 1991-1993 (Table 9). The year 1993 represented the maximum export earnings from fish exports over the 1991-1994 period. Export earnings from fish declining by 20% in 1994.

Agro-Processed Products
Agro-industry remains relatively under-developed in St.Vincent and the Grenadines. The traditional arrowroot and coconut oil processing industries have declined significantly and the establishment of new agro-processing enterprises has been limited to a few small and medium enterprises which produce jams, jellies, sauces, seasonings and fruit juices. The relatively large agro-processing company, East Caribbean Group of Companies (ECCB), relies exclusively on imports of wheat, rice, corn and soya bean meal flour, rice and animal feed production.

As indicated, the local processing segment of the Diamond Dairy experienced a slowdown in activity associated with lack of profitability of its farm operations. The smaller food processing industries continued to be more resilient. The experiences of fruit processing enterprises in St.Vincent and the Grenadines indicated pointed to low productivity levels, high cost of investment, inadequate management and technical capabilities, and supply capability deficiencies in terms of sufficient and consistent volumes of competitively price local raw materials.

Constraints to Agriculture
Inspite of its declining fortunes, agriculture continues to be a high priority sector. However, the various efforts at expanding the production base, improving productivity and increasing the market prospects for a wide range of agricultural commodities have yielded limited success. Agriculture in St.Vincent and the Grenadines has become a slow-growth sector and during the first half of the 1990s, the sector's capacity to contribute to national economic development continued to decline. This decline derived from a host of constraining factors, some of which were outside the control of the government and farming community of many Caribbean countries.

The range of constraints and deficiencies to the development of the agri-food sector in the Caribbean, which are also applicable to St. Kitts & Nevis may be summarised as follows:

Low Productivity Levels

- physical (geological) limitations, including hilly terrain, which minimizes the adoption of cost-effective mechanisation, unsuitable soils, soil degradation and water availability and management problems, which adversely impact on yields and productivity;
- pests and diseases of economic significance, exacerbated by the inadequate quarantine capabilities;
- small domestic and regional markets;
- low levels of human capital and inadequate application of improved technologies;
- lack of a commercial orientation in farming and propensity to produce for "protected" markets, resulting in slow progress in agricultural diversification programmes and difficulty in competing in both domestic and export markets;
- inadequate storage, marketing and transportation facilities and services to facilitate and stimulate trade in agricultural commodities.

Institutional & Structural Deficiencies

- weak macro-economic framework, which constrains the development of enabling economic environment for investment in agriculture and the creation of inter-sectoral linkages with tourism and agro-industry;

- weak institutional capacity of Ministries of Agriculture, resulting in inadequate policy analysis formulation and poor planning, evaluation and implementation of appropriate agriculture sector and rural development initiatives;
- the dependence on public-sector resources, which are inadequate to meet the demands of improved facilities, post-harvest and marketing infrastructure, training, research and other essential services;
- undeveloped domestic capital market and low propensity to invest in agriculture due to the sector's comparatively high risks and absence of risk-mitigating facilities such as insurance, market guarantees and compensation;
- an aging farm population, lack of labour for agriculture and poor skills of the agricultural labour force;
- undeveloped information systems which constrain the effectiveness of sector planning, produce marketing and trade.

While the above constraints are certainly not exhaustive, they capture the general constraints which are fairly common across all Caribbean countries, such as, low productivity levels and lack of domestic private sector investment. Low productivity and declining competitiveness is manifested in the inability to contain production costs, to effectively prevent and control pest and disease problems and to maintain acceptable levels of fruit quality. These problems are common to most agricultural production enterprises, including livestock production. The persistence of these problems in the 1990s are symptomatic of the low uptake of scientific and technological innovations in the sector.

Access to financial resources for agricultural enterprise development and for input purchases is often identified as a critical impediment to the sector's development. The financial constraints to agricultural sector development became more acute in the post-1990 period. Increased difficulties in attracting concessionary financing resulted in overall reduction in public sector investment in agriculture. Within this investment resources shortfall, private sector investment in agriculture remained low over the 1991-1995 period (Table 10). The inflexible nature of commercial bank lending for agricultural enterprises has made access to this source prohibitive to many small farmers. As a result, the share of commercial credit allocated to agricultural enterprises has been low, less than 10% of the total commercial bank loan portfolio.

Table 10
Agriculture's Share in Total Commercial Credit

	1991	1992	1993	1994	1995
Total EC$M	301	325	344	374	439
Agriculture (%)	6.2	8.4	9.8	11.2	4.2

Source: Ministry of Finance, St. Vincent.

The growing incidence of praedial larceny, particularly of fruits and vegetables is another important constraint to agricultural development. This problem which has reached critical proportions, discouraged many farmers from undertaking much needed investment to expand production of fruits and food crops. The possibility of sustaining heavy losses with little or no compensation is a serious impediment to agricultural production.

Deficiencies at the domestic level constrain the sector from adjusting to external shocks which exert significant influences on agriculture. The industry has already been affected by global recession and waning demand. Export agriculture, particularly bananas, has had to contend with periodic depreciation in the exchange rate between the Pound Sterling and the US dollar. The agricultural sector also has to contend with the changing rules of international agricultural trade. These developments highlight the need to urgently address the domestic deficiencies if agricultural industries are to remain viable in the post-1997 period. Agriculture is no longer a protected industry and the intensification of competition both in the domestic market from imports, and in the export market pose serious challenges for the agricultural sector in St. Vincent and the Grenadines.

International Environment
Towards the year 2000, world agriculture will be increasingly influenced by an acceleration in the pace of globalisation and trade liberalisation. Trade is identified as the driver of this emerging environment. The dynamics of the globalisation and liberalisation have also been extended to agricultural trade, which, prior to 1994, was very heavily regulated by regional, hemispheric and international agreements. The most significant of these was the 1986-1994 Uruguay Round of negotiations on trade liberalisation.

These negotiations included for the first time, reducing the distortions in trade in agricultural products. These distortions resulted from government intervention and support for agriculture. The establishment of the World Trade Organisation in January 1995 thus marked the end of an era of protection the agricultural sector. The main WTO Agreements which impact the agricultural sector are summarized below. While developed countries were given a maximum period of six years for implementing commitments (i.e., 1995-2000), developing countries were allowed a period of ten years (i.e., from 1995 - 2004).[2]

- Agreement on Agriculture: 3 Commitments
  Market Access commitments require the conversion of all non-tariff border measures (import quotas), to tariffs which provide the same protection (process called tariffication). Tariffication is to be followed by a reduction in all tariffs by 24%. Provision is also made for the institution of a minimum-access tariff quota, initially set at 3% in 1995, to increase to 5% by 2004.

  Countries are, however allowed to include special arrangements in their minimum access commitment and to allocate their minimum access to exporters with special arrangements, such as with the EU and sugar. Special safeguard provisions were also included for tariffied products that will allow additional duties to be applied in cases where shipments priced in domestic currencies fall below a certain trigger or in the case of import surges. This introduces, at least, the possibility of new protective measures being used in agriculture which may represent a weakness of the agreement.

  Domestic Support commitments require reductions in the level of expenditures on domestic agricultural support measures which distort genuine trade (called amber box aggregate measures of support (AMS)), by 13.3% between 1995-2004. AMS include acreage payments, certain subsidised loan programmes, input subsidies and price supports.

  Export Subsidies commitments require reductions in the value of direct export subsidies by 21% and in the volume of subsidised exports by 14% between 1995-2004. Developing countries are exempted from commitments on marketing of agricultural exports or internal transport subsidies.

- Sanitary & Phytosanitary (SPS) Agreement
  This agreement covers food safety and animal, plant and health regulations. The agreement stipulates that the use of these measures should only be in instances where human, animal or plant life or health is threatened. Although negotiations towards the development of a globally accepted code of standards are still ongoing, Caribbean countries are encouraged to base their national SPS measures on international standards, guidelines and recommendations; higher standards may only be imposed if there is scientific justification.

- Ministerial Decisions
  The Decisions on Measures Concerning the possible Negative Effects of the Reform Programme on LDCs and NFIDC seek to ensure that these countries are not

[2] "The Trading System After the Uruguay Round" John Whalley and Colleen Hamilton, Institute for International Economics, Washington DC, July 1996.

disadvantaged in terms of higher food prices. The provision of food aid and basic food stuffs provided in full grant form constitutes the key elements of these Decisions.

The basic objective of agricultural trade liberalisation is to reduce the level of protection which imposed constraints to other potential suppliers of the specific agricultural commodities. The agreements may negatively affect some participants in agricultural trade, particularly the least efficient producers. However, for most, tariff reductions and the elimination of quantitative restrictions may impact positively on their production costs, particularly as the cost of imported inputs are reduced. While lower costs of imported inputs is one element in enhancing commodity competitiveness, other factors, such as increased productivity, improved fruit quality and improved commodity marketing are equally important in producing a cost and quality competitive commodity.

International - Domestic Economy Link

The Government of St.Vincent & the Grenadines is a signatory of the WTO and by virtue of its membership, committed to implementing these reforms within the 10-year period. The WTO also specifies that all commitments are to be included in the country's schedules of agricultural concessions and commitments. The pace of implementation of WTO commitments has progressed rather slowly in St.Vincent & the Grenadines, as in the other Eastern Caribbean countries. This is partially due to the reluctance in fully adopting trade liberalisation as a macro-economic objective. Much of this reluctance is related to its inability to compete against imports and the implications which this lack of competitiveness will have for employment, national income and economic growth. In implementing WTO commitments, LDCs will require assistance in developing the legal framework and in undertaking reciprocal trade responsibilities.

In addition to the slow pace of implementation of the WTO 1994 Agreements, St.Vincent and the Grenadines must now prepare for the Mini-WTO Agriculture negotiations, which are due to begin in 1999. It is very likely that this Round will place additional pressure in the EU to further liberalise its internal agricultural policy. The EU and the ACP are currently engaged in discussions towards the development of a post-Lomé IV arrangement and preparations are also underway for the review of the EU's Common Agriculture Policy (CAP). It is expected that these the outcome of negotiations will impact on the EU's ACP trade preference regime and on the special commodity protocols in particular (including banana).

Although St.Vincent & the Grenadines is a relatively minor player in international trade generally, and agricultural trade in particular, these global developments will have profound impacts on the country's agricultural sector and economy. Agricultural trade liberalisation will be accompanied by changing patterns of production, food sourcing, preparation, distribution and consumption.

Commodity Market Trends[3]

Exports play an important role in St.Vincent & the Grenadine's agriculture sector. Of priority concern, therefore, are the dominant international trends for the major export commodities and the implications for the prospects for primary exports. These trends reflect the changes in the global context particularly over the last 15 years.

- **Banana:**

Banana continues to be a leading consumer fresh fruit choice as evidenced by an increase in per capita banana imports over the last 10 years. However, production capacity has increased, particularly in the Latin American countries. Barring the adverse impacts of unfavourable weather conditions on the major production zones, supply will continue to outpace demand. Prices in general, will fall. Another factor which will definitely lead to lower banana export prices is the ongoing

[3] Information for the main export crops extracted from the USDA's "Situation and Outlook Forum'96 Proceedings", February, 1996 and 1997; CARICOM's "Marketing Developments Relating to the Major Commodities" March 1997; Caribbean Basin Regional Profile 1998 Report.

processes of global agricultural trade liberalisation. The WTO 1997 ruling against the continuation of the EU's banana trade regime in its present form is one benchmark in the quest to liberalise agricultural trade. For the Windward islands, this decision means an acceleration of the UK banana market liberalisation in advance of the guaranteed market protection to the year 2000.

Caribbean banana producing countries maintain that the loss of market preferences will result in high loss in market share, effectively resulting in severe and rapid economic recession. While the outlook for the St.Vincent and the Grenadines banana industry is tied into that of Windward Islands Banana Industry, the future of the country's industry is also conditioned upon the ability to compete in a more liberalised market. The historical record of the industry indicates that this will be a very difficult task. Over the 1991-1995 period, the banana industry has consistently failed to meet its UK export quota of approximately 80,000 tons, a situation which is similar in the other Windward Islands banana producers. This resulted in new and increased quota arrangements from the EU to Latin American banana exporters in the post-1995 period. The tight market situation in the UK is expected to intensify in the post-WTO ruling period as the market adjusts to the demands of trade liberalisation and to the WTO guidelines for a reconfiguration of the EU banana regime.

The prospects for banana exports therefore depend on the ability of the industry to reduce production and marketing costs and improve fruit quality, factors which will at least ensure the maintenance of current market share in the short-run, and increase market share in the long-run. Achievement of these objectives is being facilitated by the adjustment and debt relief assistance from the EU and other international donors. In mid-1997, the EU allocated US$165 million to assist banana-producing countries in the region.

Important elements of this programme included the establishment of a core group of efficient banana growers, who would be able to compete in liberalised markets by the year 2000 and provisions to assist displaced farmers to find alternatives means of income. The acquisition and adaptation of technologies for the production of a wide range of by-products such as banana purees, juices, chips and fibre products, will also provide a much needed boost to the agro-industrial sector, economic diversification as well as enhance the welfare situation of the banana-dependent communities.

- **Coconut:**

Demand for coconut-oil food products has declined significantly due to the association as a health risk. Healthier vegetable-oil substitutes, such as soya oil and corn oil, have already gained a significant foothold in the international and regional market, including St.Vincent and the Grenadines domestic market.

While the prospects for the coconut oil industry in general do not appear favourable, that for the industry in St.Vincent and the Grenadines appear to be less favourable than that of the other Caribbean producers. While regional and extra-regional demand for refined coconut oil does exist, the current and projected low level of prices offered for the product acts as a disincentive to coconut production for oil extraction. In addition, most coconut plantations are extremely old, with trees plagued by disease arising from years of neglect. Factory viability hinges on the availability of relatively inexpensive copra in quantities sufficient to meet the operations at full capacity, and/or the access to similarly inexpensive bulk crude coconut oil, either sourced regionally or from outside the region. Even if inexpensive raw material was available in sufficient volumes, a major hurdle to the marketing of coconut oil by-products is the much advertised health risk aspect of coconut oil by-products.

Given the increased health awareness among the world's population, a shift in product line towards non-food by-products, such as cosmetics, soaps, animal feed, and other alternative and non-traditional uses, etc, may be required.

Non-Traditional Fruits

The fresh fruit market is considered to be well supplied by low-cost producers, particularly those in Latin America. While demand for less mainstream fruits, such as mango, golden apple, tamarind, paw paw and soursop etc, exists, penetrating the US market in particular, has been difficult due to rigid health and sanitation requirements as well as in the trend towards multiples and supermarkets which demand range, volume, regularity and product-related services. In addition, in spite of the apparent high demand for these commodities in developed markets, the low production volumes (due both to low acreages and damage to fruit from pests and diseases), relatively high cost of fruit and inadequate marketing and air shipment facilities continue to be major limitations to the development of a vibrant trade in non-traditional fresh fruits. It is observed, that there exists a greater demand in developed countries for fruit products, such as pulps, juices and purees, than for fresh fruit. In this regard, opportunities exist for agro-processed exports.

Domestic Food Production

St. Vincent and the Grenadines production capacity of roots and tubers, particularly yams and plantain, is sufficient to meet domestic requirements as well as the regional market. In addition, increased capacity is being developed for the more common vegetables such as tomatoes, carrots and lettuce, using greenhouse technology. Although the adoption of this technology is slow, it is anticipated that improvements, in terms of use of local material in greenhouse construction, will reduce investment costs, stimulate increased utilisation of the technology and lead to expanded vegetable production.

There is also scope for increasing domestic production of legumes, grains, mainly corn, livestock and fish. The reorganisation of production patterns, such as the systematic use of crop rotation, the development of appropriate inter-cropping systems which maximises output of all crops within the mix, and the use of irrigation for out-of-season production, will contribute to expanded output and ensure year-round supplies of high quality produce at reasonable prices.

Similar efforts in the livestock and fish industry development, based on an assessment of the viability of domestic meat production, will also benefit the non-crop agricultural sector. Full self-sufficiency in meat and fish production is a very ambitious objective. However, the development of the livestock industry along commercial lines, utilising largely local feeds and material for animal housing will enhance the competitiveness of sustainability of livestock rearing.

Agro-Industry

The development of food processing capabilities to increase shelf life, enhance convenience and reduce waste from rejected fruit has emerged as an important driver of increased production and exports of agricultural products. This is particularly critical given the reduction of trade barriers to imported food products, both fresh and processed. In their present form, primary food products will find it difficult to compete with processed and semi-processed imported foods. With the exception of the organic fruit and vegetable market segment which has recorded significant growth in this decade, the demand for processed fruit and vegetable products has grown more rapidly than that of fresh fruit in particular. Growth in the demand for fruit products, such as segments, pulps, juices and purees, in developed countries offer opportunities for efficient agro-processors.

Agro-processing will not only add-value to agricultural output, but will also stimulate production. In the first instance, such industries should concentrate on the processing of fruits which are in abundant supply but for which export markets have either stagnated or declined, such as banana and root crops. Enterprises such as the plantain and banana chip manufacturing undertaken at the cottage level should be strengthened and expanded to include other foods and fruits. The consolidation of this base, the expansion of product lines and strict attention to product quality and marketing will facilitate development of this sub-sector.

Guidelines for Policy Formulation

In spite of its declining share in GDP, the agricultural sector remains important to rural and national development. However the sector's ability to contribute to economic growth has been eroded by low productivity in traditional industries and the limited success at agricultural diversification. Against this background, all actors in the sector are challenged to develop WTO-consistent mechanisms to increase productivity and competitiveness in the sector.

Competitiveness in agriculture can be viewed as a dynamic economic concept inherent to globalisation, that takes into account the need to adjust to the macroeconomic environment, adapt to the astonishing pace of technological innovation and be flexible in terms of the requirements of sustainable and equitable development.

AGRIFORUM - Towards an Agenda for Agriculture in the Americas, DIREXCOM, IICA Headquarters, Costa Rica, August, 1997.

The challenge continues to be one of sustaining efficient traditional crop production while expanding into a more flexible, diverse agriculture. Policy makers are thus faced with the twin tasks of increasing productivity and competitiveness within a free trade environment while simultaneously keeping the adjustment costs relatively small so as to minimise the negative impact on resource constrained groups. This can only be achieved through an appropriate mix of enabling policies, technological research and development, investment and continuous human resource development.

Policy decision making for Caribbean Agriculture should place priority on the following considerations in the design of an agricultural development strategy.

- An Enabling Policy Environment which combines new public policy for rural areas with current macro-economic policy to enhance competitiveness. This should include policies which ensure rational spending of public resources on direct works that support the market rather than replace it. This strongly suggests an increased role of the private sector in all dimensions of the agricultural sector.

- Dynamic and Flexible Support Institutions through the transformation of the institutional framework. Institutional evolution should be characterised by reform and development of specialist institutions and an integrated and dynamic public and private sector partnership with the capacity to capitalise on strategic and tactical alliances for developing the sector.

  This implies the extension of institutional capabilities which enables the development of mechanisms to secure access for local output to mainstream food distribution centres, which consolidates linkages with the hospitality sector, which provides quality-enhancing marketing services (eg. grading and packaging) and adequate extension and research services for product development.

- Technology Generation based on innovations for improved efficiency. Given the human and financial resource constraints, it may be more feasible for St. Vincent to actively support the establishment and effective operation of a regional or sub-regional research centre for technology generation and transfer. A strong research and technological base is a pre-requisite for achieving and maintaining competitiveness and sustainability of the agricultural sector.

- Human Resource Development and the continuous development of the knowledge base will become a fundamental factor of production Attention must be placed on the provision of high quality and timely education, which takes into account production and social requirements of the sector. Training and investment in human resources, particularly in the rural areas are inextricably linked to the sector modernisation process, competitiveness and equity.

Additional Statistics

Table 1: Origin of Gross Domestic Product, St.Vincent and the Grenadines

EC$ Millions @ 1977 prices	1991	1992	1993	1994	1995p
Primary Sector:					
Agriculture	30.72	33.18	29.38	21.48	29.50
Crops	*24.51*	*26.69*	*22.59*	*14.26*	*21.96*
Livestock	*2.54*	*2.62*	*2.70*	*2.78*	*2.86*
Forestry	*0.43*	*0.44*	*0.45*	*0.46*	*0.47*
Fishing	*3.24*	*3.43*	*3.64*	*3.98*	*4.21*
Mining & Quarrying	0.56	0.61	0.73	0.78	0.82
Secondary Sector:					
Manufacturing:	15.84	18.37	17.64	17.64	17.11
Construction	20.93	22.67	24.48	25.90	27.39
Services Sector:					
Utilities - Electricity & Water	7.08	7.67	8.16	8.53	8.87
Transport & Communications	53.26	54.18	54.57	54.76	57.60
Wholesale & Retail Trade	24.07	26.02	28.49	30.78	32.78
Restaurants and Hotels	6.63	7.07	7.52	7.29	8.00
Financial Institutions	6.68	6.72	6.73	6.86	6.93
Real Estate & Housing	5.24	5.31	5.38	5.45	5.52
Government	22.11	23.82	25.14	26.40	26.53
Other	3.80	3.85	3.90	3.95	4.00
Less Imputed Service Charge	5.40	5.43	5.54	5.65	5.77
Gross Domestic Product at Factor Prices	191.52	204.04	206.58	204.17	219.28

Source: St. Vincent & the Grenadines Statistics Office.

Table 2: Summary Central Government Fiscal Operations, St.Vincent and the Grenadines

EC $ Millions Fiscal Year ending June 30th	1991	1992	1993	1994	1995
Central Government Current Account:					
Current Revenue	159.9	166.8	175.6	185.8	194.8
Current Expenditure	139.9	158.6	160.3	171.1	187.6
Current Account Balance	20.0	8.2	15.3	14.7	7.2
Capital Revenue	16.5	14.8	1.4	6.3	4.6
Capital Expenditure	44.2	57.3	53.8	41.4	22.5
Overall Balance	-7.7	-34.3	-37.1	-20.4	-10.7

Source: Ministry of Finance & Planning, St.Vincent & the Grenadines

Table 3: Distribution of Commercial Bank Credit , St.Vincent and the Grenadines

EC $ Millions, End of Period	1991	1992	1993	1994	1995p
Total Commercial Bank	301.04	325.4	344.7	374.4	439.9
Agriculture & Fisheries	*18.7*	*27.2*	*33.9*	*41.9*	*18.6*
Manufacturing	39.2	37.9	30.2	41.9	53.5
Distributive Trades	44.3	44.6	55.3	50.4	28.4
Tourism	8.3	7.3	8.9	18.3	15.0
Transport	17.7	15.8	13.1	12.6	2.8
Public Utilities	4.3	4.0	3.7	4.7	23.6
Construction	17.4	27.7	21.1	15.9	58.5
Government	20.6	18.3	24.7	29.9	3.3
Entertainment & Catering	1.5	3.9	2.2	2.0	16.0
Personal & Home Construction	62.6	85.6	85.4	92.4	127.9
Other	45.3	43.7	53.2	63.2	56.2

Sources: Ministry of Finance Economic Research and Policy Unit

Table 4: Composition of Merchandise Exports and Imports, St.Vincent and the Grenadines

EC $ '000	1991	1992	1993	1994	1995p
Domestic Exports (f.o.b):	175,679	203,058	146,010	124,499	104,760
0 Food &Live Animals	*148,922*	*176,439*	*127.372*	*98,414*	*86,201*
1 Beverages & Tobacco	*1,745*	*3,264*	*3.438*	*3,074*	*2,379*
2 Crude Material	122	128	523	517	266
3 Minerals Fuels	0	0	0	0	0
4 Animal & Vegetable Fats & Oils	*319*	*108*	*16*	*32*	*4*
5 Chemicals	1,677	757	743	1,032	1,175
6 Manufactured Goods	9,101	7,612	4,745	6,528	7,514
7 Machinery, Transport, etc	3,783	3,659	3,183	7,362	1,453
8 Misc, Manufactured Goods	10,009	11,090	5,990	7,407	9,368
9 Misc. Transactions	1	1	0	133	0
Re-Exports	5,540	7,795	10,104	11,487	10,490
Imports (c.i.f):	377,147	356,627	362,719	350,709	366,660
0 Food &Live Animals	*80,532*	*83,743*	*84,695*	*72,885*	*73,552*
1 Beverages & Tobacco	*7,085*	*6,674*	*5,929*	*5,662*	*7,255*
2 Crude Material	10,668	12,579	12,232	12,536	10,378
3 Minerals Fuels	32,798	27,528	21,175	21,964	21,934
4 Animal & Vegetable Fats & Oils	*374*	*485*	*613*	*514*	*806*
5 Chemicals	44,185	44,895	42,994	38,841	50,519
6 Manufactured Goods	82,992	77,827	92,780	88,656	86,035
7 Machinery, Transport, etc	81,878	64,259	65,756	72,336	64,483
8 Misc, Manufactured Goods	36,593	38,624	36,531	37,352	51,467
9 Misc. Transactions	42	13	14	3	231

Sources: St.Vincent and the Grenadines Statistics Office, Central Planning Unit

Table 5: Direction of Trade in Percent of Total, St.Vincent and the Grenadines

Trade Shares	1991	1992	1993	1994	1995[1]
Domestic Exports f.o.b	181,222	212,963	156,021	135,986	115,249
UK	54%	41%	41%	31%	26%
US	5%	4%	7%	9%	13%
Canada	0%	0%	0%	0%	0%
CARICOM Countries	41%	41%	46%	55%	64%
Other	2%	13%	6^	4%	2%
Total Imports c.i.f	377,091	360,649	362,715	350,710	366,659
UK	13%	17%	12%	13%	13%
US	34%	36%	36%	35%	36%
Canada	3%	3%	3%	2%	3%
Netherlands & Possessions	1%	1%	1%	1%	2%
Japan	2%	2%	3%	3%	2%
West Germany	2%	2%	2%	1%	2%
CARICOM Countries	24%	26%	24%	26%	28%
Other	21%	13%	19%	17%	14%

1 - The St. Vincent Statistical unit acknowledged that this export value was understated.
Sources: St.Vincent and the Grenadines Statistics Office

Table 6: Food Export and Imports by Main Commodity Groups, St.Vincent and the Grenadines EC $ '000

Food Exports	1991	1992	1993	1994
Total 0	148,922	176,439	127,372	98,414
00 Live Animals	7,100	176	3	4
01 Meat & Preparations	0	0	0	0
02 Eggs & Dairy Products	2,236	42	69	19
03 Fish, Crustaceans & preparation	237	366	973	782
04 Cereal & preparations	27,170	37,692	38,424	39,789
05 Vegetables	114,284	129,838	81,424	52,215
06 Sugar, Sugar Preparations, Honey	0	0	0	5
07 Coffee, Tea, Cocoa, Spices	1,144	1,340	745	328
08 Animal Feed Stuffs	6,056	7,119	5,605	5,228
09 Misc. Edibles	22	41	37	45
Total 1	1,745	3,264	3,438	3,074
11 Beverages	1,623	3,204	3,357	3,074
12 Tobacco	123	60	81	0
Total 4	319	107	16	32
41 Animal Fats & Oils	1	2	8	4
42 Fixed Vegetable Oils & Fats	316	104	7	24
43 Animal & Vegetable Oils & Fats nes	2	1	1	4
Food Imports				
Total 0	80,532	83,743	84,675	72,885
00 Live Animals	214	322	282	367
01 Meat & Preparations	17,873	17,417	18,178	18,772
02 Eggs & Dairy Products	6,840	7,693	7,468	7,022
03 Fish, Crustaceans & preparation	2,261	2,420	2,112	2,288
04 Cereal & preparations	28,296	30,759	34,166	21,642
05 Vegetables & Fruits	6,304	5,672	5,084	4,715
06 Sugar, Sugar Preparations, Honey	7,495	7,719	5,029	7,060
07 Coffee, Tea, Cocoa, Spices	1,580	2,075	1,770	1,713
08 Animal Feed Stuffs	493	808	817	182
09 Misc. Edibles	9,175	8,857	9,786	9,222
Total 1	7,085	6,674	5,928	5,622
11 Beverages	6,127	5,677	4,929	4,734
12 Tobacco	958	996	999	888
Total 4	374	484	613	514
41 Animal Fats & Oils	100	111	63	30
42 Fixed Vegetable Oils & Fats	224	307	507	445
43 Animal & Vegetable Oils & Fats nes	50	66	43	39

Source: St.Vincent and the Grenadines Statistics Office

Table 7: Selected Agricultural Commodity Exports St.Vincent and the Grenadines

EC$'000 f.o.b	1991	1992	1993	1994	1995
Rice	7,550	15,815	14,691	16,308	17,358
Bananas	99,662	112,270	69,450	14,145	29,093
Arrowroot	250	344	347	539	563
Coconut Oil	317	104	7	0	0
Coconut meat	20	16	3	7	0
Coconuts	728	859	490	313	680
Sweet Potato	3,489	4,867	3,294	1,159	1,441
Nutmegs	283	200	45	57	56
Mace	43	27	10	7	25
Plantain	922	1,191	1,170	656	1,206
Eddoes & Dasheen	6,158	7,366	4,967	2,268	3,927
Yams	296	455	324	264	558
Tannias	78	509	176	144	469
Ginger	811	1,100	684	239	619
Tobacco	123	60	81	0	0
Flour	19,235	21,485	22,692	22,876	23,356

Sources: St.Vincent and the Grenadines Statistics Office

Table 8: Imports of Agricultural Chemicals, Equipment, Machinery and Other Agricultural Inputs, St.Vincent and the Grenadines

EC$'000	1991	1992	1993	1994	1995
Seeds, Fruits, spores for	-	-	-	-	596
sewing	2,680	3,432	10,635	8,287	
Insecticides	1,350	2,007	638		7,007
Fungicides	617	930	902	-	1,282
Herbicides					727
Fertiliser:					
Ammonium Nitrate	60	23	-	4,399	240
Ammonium Sulphate	12	899	-	-	
Chemical, Nitrogenous	950	81	482	-	13
Chemical Potassic	42	-	-	-	-
Chemical NPK Compound	3,374	7,526	5,083	3,749	5
Ammonia Based	1,574	21	482	-	325
Fertilisers nes	2,267	11	-	-	19
Small Implements	224	259,620	203	115	3
Agricultural Machinery & Parts	691	101	8,060	10,286	68,631
Tractors	272	208	-	-	-

Sources: St.Vincent and the Grenadines Statistics Office

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