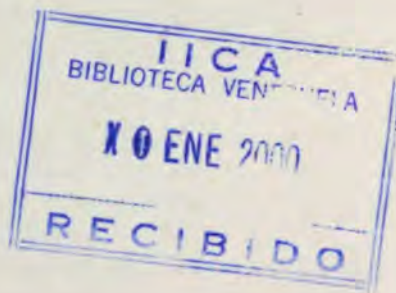


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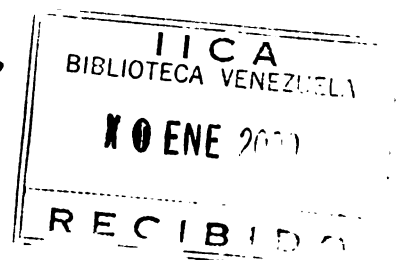
## Agriculture in Dominica



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## 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

The data collection and analytical information systems for the agricultural sector in Dominica is relatively weak. Information albeit imprecise, is often spread over a range of national, regional and international publications and databases, of limited circulation and accessibility. The completion of the 1995 Agricultural Census was a definite step towards the strengthening the information base. 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. Urban Martin, Coordinator of the IICA Technical Cooperation Agency (TCA) in Dominica, Mr. Clive Bishop and Mr. Raymond Austrie of the Economic Development Unit, Dominica, and the support of the staff of the Ministry of Agriculture, Dominica. 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 Dominica, 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.

Working Document, #3 of 13, December 1997  
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### Country Profile

The **Commonwealth of Dominica** is situated between Guadeloupe to the north and Martinique, to the south. Total land area is 750.6 sq. km. (290 sq. mi.), making Dominica the largest of the Windward islands sub-grouping. The climate is tropical maritime with temperatures averaging 27°C (80°F). During the wet season, rainfall averages 100-200 inches and landslides are a common hazard. Dominica is vulnerable to hurricanes and between 1979-1995, the country's social and economic infrastructure suffered severe damage from 13 hurricanes.

Arable land and forests estimated at 27.8% and 22.6%, respectively, of total land area, constitute the primary natural resources. An extensive network of surface and underground water also constitutes an important resource, particularly in respect of hydro-electric power generation. Since the early 1990s, increased attention was placed on the sustainable use of the marine resources, both in terms of fisheries and tourism development.

Dominica's inhabitants are primarily of African descent and indigenous Carib Indians with a lesser number of European descent. In 1996, total population was estimated at 73,500 persons with an approximate growth rate of 1.3% per annum. A population density of 94.8 persons per sq.km. makes Dominica the least densely populated Windward island. In 1995, approximately half of the population resided in urban areas, of which 21% resided in the south eastern capital of Roseau and 6% in the second town of Portsmouth on the north east coast.

During the first half of the 1990s, real growth averaged less than 2.5% per annum. Decline and stagnation characterised the major sectors, particularly agriculture and manufacturing, with tourism reporting positive, albeit variable

growth between 1991-1995. The lacklustre performance of agriculture was clearly reflected in the trade sub-sector. The difficulties experienced in the banana industry and negligible growth in non-traditional exports contributed to the deterioration in the visible trade balance in the post-1992 period. Against this backdrop of economic stagnation, macro-economic stability was maintained by fiscal reform, continued preferences on the export market and inflows of concessional aid.

In 1995, the focus of the newly-elected government was on achieving fiscal and economic reform aimed at correcting structural deficiencies and positioning the economy on a path of more balanced growth. At the beginning of 1996, this task was made more difficult by the worsening of the difficulties experienced in the banana industry. In the post-1996 period, the maintenance of short-run macro-economic stability will be conditioned on the quick recovery of the banana industry. However, as the decade progresses, Dominica's long-run prospects will be enhanced by more rapid progress in agricultural diversification and continued development in eco-tourism, industry and the financial services sectors. This is particularly critical given the worldwide reduction in aid flows and agricultural trade liberalisation.

Table 1- Dominica

Key Economic Indicators, EC\$m	1991	1992	1993	1994	1995
EC-US Exchange	2.7	2.7	2.7	2.7	2.7
GDP EC\$m (1990)	377.8	388.1	395.4	403.8	410.9
Agriculture	92.0	93.7	94.1	90.6	83.3
Banana	28.9	34.3	32.2	24.6	19.0
Manufacturing	27.5	29.6	30.0	27.2	27.2
Tourism	8.8	9.0	10.7	11.4	11.7
Fiscal Balance	-65.5	-27.4	-19.6	-34.4	-40.3
Visible Trade Bal	-149	-140	-124	-105	-241
B.O.P	12.1	6.7	-0.8	-16.1	14.5
Ext. Debt US\$m <sup>1</sup>	94.4	97.5	94.8	98.7	102.3

<sup>1</sup> outstanding year end debt  
Source: CSO, Ministry of Finance

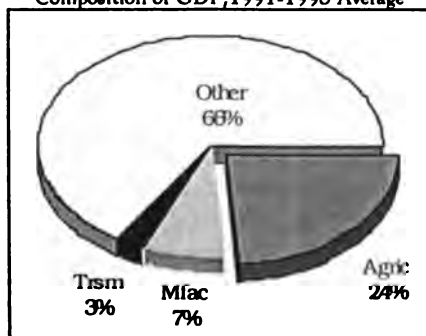
## Agriculture in Dominica ~ Sector Profile

### Socio-Economic Role

The agricultural sector plays a significant role in the rural and national economy. Its significance to the economic well being of Dominica is clearly reflected in national policy objectives which identify agriculture as a major vehicle towards the attainment of sustainable growth, economic diversification, reduction in unemployment levels, the restoration of macro-economic balance and stability and external credibility and competitiveness.

Throughout the first half of the 1990s, Dominica's economy continued to be driven by output from the agricultural sector. The share of gross agricultural output averaged 24% per annum, of real gross domestic product (GDP) between 1991-1995. Over the same period, the economic contribution of the manufacturing and tourism sectors remained well below that of agriculture, averaging 7% and roughly 3%, respectively, of GDP (Fig.1). In spite of government incentives and investment in manufacturing and tourism development, these sectors are yet to develop the productive capacity required to complement and/or match agriculture's contribution to the economy, in terms of national income, foreign exchange and employment generation.

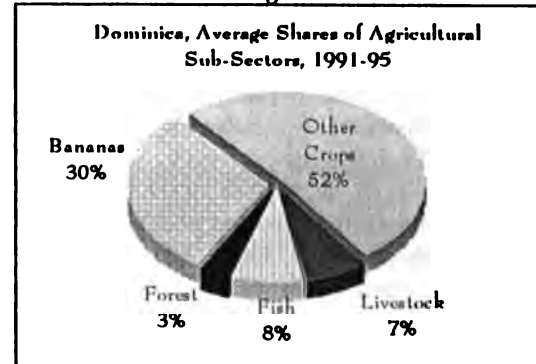
Fig. 1  
Composition of GDP, 1991-1995 Average



The economic importance of the agricultural sector derives in large measure, from activity in the crop sub-sector. This is because crop production is the primary foreign exchange earner in the sector. As seen in Fig.2., crop production accounts for 82% of all agricultural

activity in the sector, with banana production alone accounting for 30% of that total. The banana industry is estimated to employ over 5,000 active farmers in any one year, accounting for approximately 60% of the agricultural labour force.

Fig. 2



In terms of foreign exchange generation, the economic significance of the livestock, fisheries and forestry sub-sectors falls far below that of crop production. Output from the fisheries and livestock sub-sectors contribute significantly to the well-being of rural communities, estimated to house approximately 70% of Dominica's population. This contribution is in terms of the additional employment generated as well as in terms of representing a vital source of meat for home consumption.

The 1991 Population and Housing Census of Dominica classified close to 31% of the active labour force as engaged in agriculture, fishing, hunting and forestry. On one extreme, small producers constitute the foundation of food production in Dominica. At the other extreme are those farmers involved in the intensive cultivation of "export crops". According to the 1995 Agricultural Census, there was a total of 9,026 farm households in Dominica, operating farms averaging 5.7 acres in size, an increase of at least 1,000 more farms than reported in the 1961 Census. This increase in the number of small farmers may be directly linked to the land reform and redistribution policy of government, initiated in the mid-1980s.



### Organizational Characteristics

In spite 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 public-sector driven, with the majority of the direct farming population reliant on public-sector run facilities and services. There continues to be very limited active involvement of the private sector in policy formulation and provision of essential services.

The bulk of private sector involvement tends to be located in produce trading, dominated by the informal commercial sector and a limited number of agro-processing enterprises. Over the years, the government has encouraged increased private sector involvement in all aspects of the agri-food sector. To this end, government has designed a policy framework aimed at attracting such private sector investment. However, this strategy has achieved very limited success.

Development policies for agriculture continued to emphasise the increased efficiency in banana production simultaneous with the need to diversify the agricultural production base. Generally, strategies to achieve same have focused on:

- product and market diversification;
- export promotion;
- import substitution and/or replacement;
- promotion of agro-industry;
- adoption of productivity enhancing innovations;
- provision of production and marketing incentives;
- infrastructural development;
- institutional strengthening of the policy, planning capabilities and technical delivery systems;
- promotion of sustainable agriculture.

The Ministry of Agriculture (MOA) is the primary institution for implementing government agricultural policy. However, quasi-state agencies and national, regional and

international non-governmental organisations also play an important role. The collaboration of regional and international organisations is particularly visible in the areas of research and development and integrated rural development. The most important national non-governmental organisations are the producer and commodity associations, estimated to represent 90% of the farming community. Of these, the Dominica Banana Marketing Corporation (DBMC) is the most significant, and plays a direct role in the development of the banana industry. Membership in the DBMC is estimated at 8,000.

While there exist other commodity associations and/or other producer and marketing groups, such as Coconut Growers Association, the Essential Oil and Spices Cooperative and the Pig Producers Association, their impact on the development of the specific commodities is much less since most suffer from institutional deficiencies. In most cases, they function as a nerve centre through which external support (including financial and technical advice from government and non-governmental interests) is channeled.

Outside of government and NGOs, access to financial resources for agricultural enterprise development is available from the commercial banking system, the state-owned Agricultural-Industrial Development (AID) bank, the National Development Corporation (NDC), the National Development Foundation (NDF) and several credit unions which operate in rural communities. The AID bank was established to be the primary provider of credit to the agricultural sector in all its dimensions. Funds for this purpose are provided by the Caribbean Development Bank (CDB). The more financially viable farmers also access credit from the commercial banking system. The NDC caters largely to agro-industrial development.

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**Agriculture in Dominica ~ Performance Indicators, 1991-1995**


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**Overall Sector Performance**

During the 1991-1995 period, the agricultural sector remained the leading contributor to GDP. However, the relative strength of this contribution in the 1990s was much lower compared to the 1980s. Between 1991-1995, the rate of growth of gross agricultural output declined by approximately 4% per annum. This was largely a result of a 3.2% per annum decline in crop production. As shown in Table 1, with the exception of 1992, the level of activity in the banana sub-sector declined substantially, particularly between 1994 and 1995. Part of this accelerated decline in the banana industry over the last five years may be attributed to hurricane-damage to banana fields. This unfortunate situation was exacerbated by increased competition on the international market and falling prices.

*Table 1*  
Dominica, Sub-Sectoral Growth (%) of Agriculture  
@ 1990 prices

	1991	1992	1993	1994	1995 <sup>a</sup>
GDP	2.2	2.7	1.9	2.1	1.8
Agriculture	-0.6	1.9	0.4	-3.7	-8.1
Crops:	-1.1	1.7	-0.5	-5.7	-10.3
Bananas	-1.7	18.7	-6.1	-23.6	-22.8
Other crops	-0.7	-8.6	3.9	7.0	-4.0
Livestock	3.2	2.5	0.6	1.8	2.1
Fishing	0.7	0.9	11.8	11.4	0.5
Forestry	2.5	8.1	1.8	1.6	1.9

Source: CSO, Ministry of Finance.

Non-banana crop production also experienced variable annual growth, a performance which also contributed to the overall unfavourable situation in the agricultural sector. Inadequate infrastructure and support systems, low crop yields, high production costs, low technological application in production, harvesting, post-harvest and market presentation combined to hamper the market competitiveness of many of these non-banana commodities.

Fisheries, led by marine fisheries, was the only sub-sector reporting positive growth every year during the 1991-1995 period, experiencing a surge in activity between 1993/1994.

Livestock and forestry registered negligible change in the level of activity over the period. In fact, output of these two sub-sectors declined at the end of the period under review.

For livestock, this performance may be partially explained by the fact that generally, livestock farming continues to be undertaken on a small and subsistence level, with output geared for domestic consumption. Controlled animal rearing is confined to pig, poultry egg, and dairy cattle operations. For the forestry sector, much of its contribution is derived from several dozen small-scale "alaskan" and "chain-saw" mills and the one remaining commercial sawmill. All wood products are consumed locally as either timber for construction or wood for the manufacture of charcoal.

The lacklustre performance of the agricultural sector was a major contributor to the low annual growth in the overall economy throughout the 1991-1995 period. The difficulties in the banana industry, in particular, severely reduced national income and the welfare of banana-dependent rural communities. This impact was manifested in a reduction in government revenues from agriculture, both through taxes and export earnings, and in a reduction in farm incomes. Direct and indirect revenue from the agricultural sector constitutes an important source of government finances and between fiscal year (FY) 1986/87 and 1993/94, tax revenue accruing to the Government of Dominica from the banana industry (through the banana development levy) amounted to just over EC\$ 20 million. The financial difficulties experienced by the industry prompted government to suspend the levy in 1994, thereby removing an important source of revenue.

At the producer level, the viability of many small and medium sized farms has been threatened as a consequence of much reduced profit margins. This has adversely affected their ability to attract labour. The high wage rates demanded are prohibitive to many small

banana producers. Many farmers were confronted with demands for EC\$8.00 to EC\$10.00 per hour for a day of 3 or 4 hours, much higher than the prevailing official minimum rate for a farm worker, which is between EC\$3.00 -4.00 per hour, for a 6-hour day. The critical labour shortage in the banana industry, in particular and agriculture in general, existed alongside relatively high national un-employment levels. This situation is thus reflective of the low preference accorded to agricultural labour.

The impact on rural welfare as a result of declines in agriculture was manifested in a general slowdown in activity in these communities. Many of the small banana growers were marginalised out of the industry following industry restructuring. The continued displacement of a multitude of small farmers with little or no alternatives and prospects does not auger well for the already deteriorating social situation in Dominica, particularly rural poverty and unemployment.

The lack of dynamism in the banana industry highlights the lack of dynamism in the agricultural sector in general. This has adversely affected the capacity of the agricultural sector to generate and maintain backward and/or forward linkages, particularly with manufacturing and tourism. Among the factors identified as constraints to development of inter-sectoral linkages include the unreliability of domestic production (in terms of consistent quality and volume of output) and the relatively under-developed nature of the tourism industry. The relative focus on apparel, light industry and electronics manufacturing and the reliance on cruise-ship tourism did not favour or strengthen existing inter-sectoral linkages. The growing trend towards food imports both as final goods to feed the domestic and small, but growing, tourist population and for processing is evidence of this weak inter-sectoral link.

Although the rate of increase in food imports has been relatively moderate, growing at an annual rate of 5.8% between 1991-1995 (Table 2), the expenditure on food imports in the

1990s, was much higher than that in the 1980s. Food imports climbed from EC\$35M in 1980 to EC\$75M in the 1990s. By 1995, the level of expenditure on agri-food imports was EC\$83M, an increase from \$76M in 1991. The bulk of this expenditure was on meats and meat preparations, cereal and preparations, and egg/dairy products. Excluding beverage commodities (coffee, cocoa and spices) which had the lowest share of food imports (for human consumption), in value terms, fish and fresh fruit were among the lowest imported food items.

In the 1990s, Dominica continued to experience a relatively high level of sufficiency in fresh fruit, food crops and vegetables. The long tradition of food production in rural and to some extent, urban residential areas has enhanced the food self-sufficiency<sup>1</sup> status of the population and food security status of the country. However, an increasing amount was spent on imports of processed fruits and vegetables. This clearly points to a deficiency in the food-processing capacity in Dominica.

Table 2

Dominica, Agricultural Trade					
EC\$M	1991	1992	1993	1994	1995
Agri- Trade Balance	19.9	19.9	15.9	-2.7	-21.9
Agri- Imports	76.6	76.6	68.9	72.7	82.8
Food & live animals	55.1	54.9	48.5	52.5	61.2
Beverages & Tobacco	14.3	12.9	10.6	11.8	13.1
Oils and Fats	7.2	8.8	9.8	8.4	8.5
Agri- Exports	96.5	96.5	84.8	70.0	60.9
of which bananas	84.2	94.3	62.5	59.9	44.8
Agri/Total Imports %	25.9	26.9	28.8	32.0	26.1
Food import growth %	19.8	0.0	-10.0	5.4	13.9

Source: CSO, Dominica

Indications are that import growth will increase, particularly in terms of the range and diversity of semi-prepared and processed food commodities. This tendency towards imports partially accounts for the steady deterioration in the agri-food trade balance over the period. A more critical factor explaining the deteriorating trade balance is the performance of agricultural exports (Table 2). On average, agri-food exports constituted a high (70%) but

<sup>1</sup> Food self-sufficiency defined as the availability of sufficient food which ensures a good nutritional status of the population.

declining share of total merchandise exports during the 1991-1995 period. Between 1993-1994, agri-food export earnings declined by 18% per annum due mainly to reduction in export volumes, declining commodity prices and the loss of market share for major export commodities.

Prior to 1994, the high level of banana export earnings (98% share in agricultural export earnings only in 1992), virtually single-handedly ensured the maintenance of agricultural trade surpluses and moderated the size of the deficits on total merchandise trade. In fact, the banana export earnings were sufficient to cover food (defined as food and live animals) import expenditures between 1991-1994 and total expenditure on agricultural imports between 1991-1992 (Table 2).

Given the liberalisation of global agricultural trade, the difficulties experienced in the banana industry and the growing tendency towards food imports, further deterioration in the agricultural trade balance beyond 1995 is to be expected. In this context, it is imperative that the following issues be effectively addressed: that of reducing the expenditure on food imports through the strengthening of domestic food production capacity in all its dimensions and/or that of increasing the export value of non-banana agricultural commodities. These issues, particularly the latter, have been addressed in various degrees and urgency since the early-mid-1980s as part of a general programme of agricultural diversification.

#### Agricultural Diversification

From the early-1980s, programmes aimed at diversifying the production base and the search for alternative and new markets were implemented as a means of generating internal dynamism and improving the performance of the agricultural sector. Such programmes were designed to support the policy objectives of foreign exchange earnings/savings, income and employment generation and environmental preservation. Between 1988-

1995, approximately EC\$40M was spent directly on non-banana crop development programmes, with some EC\$57 million spent on supporting infrastructure and general agricultural development. These programmes were in addition to the annual public sector investment in agriculture, through the Ministry of Agriculture, averaging EC\$7 million between FY 1990/91 - 1995/96 (Table 3). The various diversification projects also benefited substantially from external financial support.

Table 3

Dominica, Government Expenditure in Agriculture, EC\$M						
Current Expenditure	90/91	91/92	92/93	93/94	94/95	95/96
Total MoA	6.36	7.00	7.00	7.14	7.97	8.07
Div. of Agriculture	2.76	3.04	3.11	3.13	3.51	3.61
Fisheries	0.29	0.33	0.33	0.37	0.49	0.45
Forestry and Lands	2.42	2.67	2.68	2.69	3.00	3.05
<b>Total Capital Expenditure by End Use 1989-1995</b>						<b>96.93</b>
Crop Development/Rehabilitation						40.36
Training, Lab, Nursery, Marketing Facilities						2.55
Integrated Rural and Land Settlement Projects						7.63
Institutional and Information Strengthening						0.86
Research and Pest & Disease Control						2.48
Agro-Industrial Development						1.21
Fisheries development						7.18
Forestry and National Development						8.12
Feeder Roads						26.54

Source: GOCD Annual Estimates

Diversification programmes were designed to either facilitate the improved production and marketing of traditional crops (such as citrus, coconut, coffee and cocoa, mango, avocado, bay, passionfruit, hot pepper and cut flowers), encourage the cultivation of non-traditional small volume, high value crops (such as ginger and spices), and promote agro-processing in order to increase value-added. However, the diversification experience in Dominica has been mixed. There has been limited success in terms of improved production of traditional crops and expanded cultivation of non-traditional crops. Notwithstanding the periodic occurrence of hurricanes and tropical storms, this limited success was manifested in the slow growth in output in the non-banana crop sub-sector in the 1990s. This was also reflected in the trade data which indicate similarly slow growth in non-banana exports over the 1991-1995 period. Non-banana

agriculture is yet to make any significant contribution to agricultural exports. The reasons for the limited success of diversification programmes tend to revolve around marketing.

Producers are of the view that the production base is already well diversified and that the sector's problems exist primarily as a result of the poor market development. Specifically, inadequate market intelligence and communication between buyers and sellers, poor development of physical market infrastructure and facilities and lack of aggressive market promotion for agricultural commodities. Exporters, on the other hand, bemoan the difficulties experienced in acquiring consistently high quality produce, in sufficient volumes, at competitive prices and on a regular basis. An adequate production base, both in terms of production volume and quality, is critical to the sustained development of the agricultural sector, particular in the post-1997 period. However, product and market development in order to expand the commodity range (both fresh and processed agricultural commodities) and destination of agricultural exports are equally important.

Two main agencies providing support in the area of fresh produce market development are the Dominica Export Import Agency (DEXIA) and the OECS Agricultural Diversification Coordination Unit (ADCU). DEXIA, established in 1986, was mandated to seek markets for high quality fresh agricultural and agro-processed items. The UK is a very important market to Dominica and while efforts were made at strengthening the marketing link for non-banana crops, similar attention was placed on the identification and penetration of new markets.

DEXIA's Market Support Services Department has been involved in market research and promotion of a diverse basket of locally produced goods at trade missions locally and regionally, including pumpkins, plantains, sweet potato, hot pepper, julie mangoes and anthuriums. Exporters have been provided with technical assistance on improving

marketing techniques and trade information on overseas markets. DEXIA has placed much emphasis on citrus, and engaged in direct exports of grapefruit to the UK between September-October annually as well as assumed the management of the Citrus Packing Plant. Market promotional activities are aimed at gaining acceptance of the fruit in the French West Indies, Barbados and Canadian markets. The agency has thus emerged as the major exporter of citrus to the UK and other regional markets. Cut flowers is another important commodity actively promoted by DEXIA, through trial shipments and the development of packaging for export to main market outlets of Guadeloupe, Canada and the US.

DEXIA's functions have been complemented and assisted by the ADCU, which concentrated on the development of special packaging for mango, breadfruit, plantain, sweet potato and yam in order to improve market acceptance. ADCU's OECS Diversification Programme also made provision for the improvement of storage facilities at major ports and succeeded in establishing additional storage and chilling facilities for fresh produce at Hewanorra International Airport in St. Lucia. Other regional institutions, such as the Caribbean Export Development Agency (CEDA), Eastern Caribbean States Export Development Agency (ECSEDA) and the USAID, also provided support to improve the marketability and market opportunities for Dominica's agricultural exports.

In spite of the above efforts towards agricultural development, there has been relatively little positive and sustained response from the major commodities, either in terms of significant increases in productive capacities, product development through processing and contribution to export earnings. The following section examines the production and trade performance of specific commodities and groups of commodities between 1991-1995.

## Commodity and Sub-sector Performance

### Banana

Since the early 1950s, banana has been the main economic activity in Dominica. Although the banana industry continues to retain its position as the leading contributor to economic growth, the industry has been in decline since the mid-1980s. This unfavourable situation continued into the 1990s, and was precipitated by damage to banana fields as a result of hurricanes and windstorms. However, the effects of hurricane damage is short-lived due to the relatively short gestation period of the banana plant and post-hurricane recovery is usually rapid. Thus, more serious factors other than the periodic hurricanes, were responsible for the precarious position of the industry in the 1990s.

Since its record export levels of 70,453 mt in 1988, banana production and exports have been declining by 7% per annum between 1991-1995, with an accelerated decline in the post-1993 period (Table 4). This pattern of growth and decline in the industry was attributable to managerial and institutional weaknesses, low productivity and high production costs, unfavourable foreign exchange fluctuations and increased competition from low-cost Latin American suppliers. Variable fruit quality was also a major factor in reducing the competitiveness of bananas on the UK Market.

Table 4

Dominica, Banana Production and Export (mt)					
'000s of units	1991	1992	1993	1994	1995
acres cultivated	11.0	11.6	10.4	10.5	9.5
Production (mt)	56.2	60.9	57.1	43.8	33.9
Exports ('mt)	55.3	58.0	55.5	42.9	32.7
Export (EC\$)	84,214	84,267	62,471	59,879	44,790

Source: DBMC Annual Reports

Fruit quality problems have always plagued the industry, in spite of periods of improvement brought about by intensive quality enhancement campaigns. In the 1990s, the industry experienced difficulties in consistently satisfying EU's Regulations and Quality specifications for export bananas. In 1994, the average quality ratings fell below that of the benchmark start-off point of the 1993 EU

Regime and continued to fall with each successive year to 1995.

Inconsistent fruit quality assumed even greater significance in the 1990s as the conditions on the UK market became unstable. This market instability was part of the EU market unification process, the withdrawal of Geest Industries from the Windward islands banana industry and agricultural trade liberalisation via the GATT'94 Agriculture Agreement. While Dominica had no influence the unification and liberalisation processes, the country, along with its Windward Islands partners, was able to avert a potential disaster of the acquisition of Geest's assets by a Latin American interest. Quick action in 1994, between the Windward Islands governments (via the Windward Islands Banana Development Exporting Company (WIBDECO)) and Fyffes (an Irish company involved in the marketing of bananas) led to joint venture ownership of Geest's Windward Islands banana assets.

In 1995, the 25% decline in output was caused by three hurricanes, all in the month of September and not largely associated with market and industry uncertainty. Assistance provided to farmers for rehabilitation in the aftermath of these hurricanes amounted to EC\$15M, of which 13% was distributed as income assistance to core farmers, 21% in the form of inputs with 54% representing insurance payments from Windward Islands Crop Insurance (WINCROP).

By 1996, the situation in the banana industry had improved slightly. Production recovered sufficiently to facilitate a 22% increase in export volumes. However, the depreciation in the Pound Sterling/EC dollar exchange coupled with the slight decline in the average price, resulted in a less than proportionate increase in export revenues. The continued deregulation of the EU banana market and the response of the Windward Islands banana industry to the 1997 decision of the WTO Panel that the EU Banana Market regime ran counter to the principles of free trade, will be a determining factor in the post-1996

performance of banana production and export. These external developments have already had an adverse impact on banana prices, which in turn, has acted as a disincentive to production.

### Citrus

Dominica is the largest producer of grapefruits and limes among the OECS countries. In fact, up to the late 1980s, citrus constituted the second largest fresh agricultural export. The level of citrus output during the first half of the 1990s varied from a low of approximately 17,000mt in 1993 to a high of 30,000mt in 1994 (Table 5). This pattern of growth and decline has characterised the industry since the early 1980s. The decline in the citrus industry during the 1980s was attributable to damage to trees during adverse weather conditions, slow pace of rehabilitation due to emphasis on banana industry recovery and increased competition in the citrus market which led to declining prices.

Table 5

Dominica, Citrus Production and Exports					
	1991	1992	1993	1994	1995
<b>production (mt)</b>					
Grapefruit	14,006	17,507	12,212	18,136	10,682
Lime	1,709	971	990	4,017	3,314
Orange	3,245	3,719	3,517	8,138	4,340
Mandarine	na	na	na	636	500
<b>Fresh Exports (mt)</b>					
Grapefruit	1,669	2,130	1,463	1,223	957
Lime	182	105	113	160	152
Orange	492	561	486	549	567
Mandarines	11	7	21	23	6
<b>Exports EC\$'000</b>					
Grapefruit	1,489	2,170	1,545	934	951
Lime	319	213	246	234	329
Orange	460	667	588	469	656
Mandarines	na	na	32	29	11

Source: CSO, Dominica

Grapefruit is used both in juice processing and as a fresh fruit export. The Dominica Agro-Industries (DAI, formerly the British-owned firm of L. Rose and Co. Ltd) is the major citrus juice processor. Prior to 1990, fresh citrus exports were undertaken by the Co-operative Citrus Growers Association (founded in 1954). Financial difficulties led to the liquidation of that company in 1990. Since then, the Citrus Packing Plant has been responsible for fresh fruit exports, mainly to the UK and Barbados

(fresh fruit) and CARICOM (Trinidad for juice concentrates).

The continued low citrus prices in the 1990s have also affected the financial viability of the Citrus Packing Plant and the DAI. Throughput into both companies continued to be low as a result of low prices offered to farmers. Both fresh fruit and single strength and concentrated juices, accounted for a relatively small share of citrus exports over the 1991-1995 period. While this may reflect a high level of domestic consumption, it also supports the observation that a large proportion of output was not harvested.

At the beginning of the period (1991/1992), efforts to contain the decline in the citrus industry included the market promotion activities undertaken by DEXIA and the DAI (specifically the agreement to sell concentrated juice to the Trinidad Cooperative Citrus Growers Association (CCGA), direct shipments to the UK through Geest and the market promotion programmes in Barbados). These efforts were instrumental in achieving a 25% increase in grapefruit production which in turn, contributed to a 17% increase in overall citrus production in 1992.

In spite of continued export promotion efforts for citrus in general and grapefruit in particular, production in the post-1992 period continued to be inconsistent. Technical assistance provided by the MoA's citrus rehabilitation programme, has not led to any significant changes in terms of the improved orchard maintenance, output and use of the citrus product as it relates to an increase in fresh fruit exports and juice production. Low prices and market uncertainty continued to be the main impediments to the revitalisation of the citrus industry.

### Oil-Based Crops

Coconut and bay leaf are the two commercially important oil-based crops in Dominica. Both crops form the foundation of the main agro-industrial enterprises in Dominica, the Dominica Coconut Products (DCP) 1965 Ltd. and Bello and Company Ltd. In the post-

hurricane David period, the recovery of coconut production in particular, was supported by the implementation of a series of CIDA-supported coconut rehabilitation and development projects between 1980-1991. In spite of the substantial investment made in coconut rehabilitation, particularly regarding controlling the coconut mite and bud rot diseases, falling copra prices and tree felling (during hurricanes and as a result of diseases) have restrained the recovery of the industry, particularly in the post 1993 period (Table 6).

Table 6  
Dominica, Oil Based Production and Export

	1991	1992	1993	1994	1995
<b>Production (mt)</b>					
Coconut	9,402	13,567	23,213	9,947	8,853
Bay leaf	34	42	46	17	16
<b>Exports' 000 units</b>					
<b>Coconuts:</b>					
fresh -mt	222.5	321.8	540.7	490.7	255.2
fresh - \$	182	286	469	424	221
Refined Oil \$	0	2	1,099	10	0
Bay Oil derivatives \$	1,848	2,366	2,513	1,312	1,699

Source: CSO Dominica

This depressed situation with the coconut industry in the 1990s also resulted, in large measure, from the change in consumption patterns away from coconut-oil based food products. This occurred as a result of an increase in health consciousness among consumers in the industrialised countries which led to the rapid acceptance and demand for substitute vegetable oil-based products. This shift in consumer preferences also led to an increased availability of these substitutes on the regional market and a corresponding reduction in demand for coconut-oil based food products. This was a major cause in the breakdown of the CARICOM Oils and Fats Agreement, which increased the difficulties of coconut oil marketing in the region.

Much of the crude and refined coconut oil is used by the DCP for the manufacture of food, cosmetic and household products, with the balance exported to regional markets, mainly Jamaica and Trinidad and Tobago. Table 6 shows that with the exception of 1993, exports of refined coconut oil were virtually insignificant between 1991-1995 with no

reports of crude oil exports during that same period. The decline in refined oil exports and the lack of crude oil exports in the 1990s may be explained by the low domestic supplies of copra for oil extraction, as indicated by low coconut output levels, the high production cost of coconut derivatives and the high exchange rates between Dominica and its principal importers which made the Dominican product relatively more expensive compared to non-indigenous oil imports. Exports of dry nuts have, however, increased slightly over the period and the tendency to export dry nuts via the huckster trade may be another explanation for the low availability of copra for oil extraction.

Although the scale and earnings of the bay leaf industry is much smaller than coconuts, it remains an important raw material to the major processor, Bello & Company Ltd. Bay leaf harvests recorded some growth between 1991-1993, before declining in 1994 and 1995. This decline may be attributable to the adverse weather conditions which resulted in severe loss of foliage and tree blow-downs. The bay tree is not cultivated, but is found growing in the cool and higher elevations of the country and susceptible to high winds. The estimated acreage of bay trees in 1995 was 449.4 acres. In spite of the increase in leaf harvest in 1993, the export value of bay derivatives (cosmetic and aromatic products of bay oil and bay rum) was 43% less than in 1992. In fact the volume of bay derivative exports in 1993 was 38.9 thousand kgs. In 1994 and 1995, the volume of bay derivative exports declined further by 38% in 1994 and 25% in 1995.

#### *Coffee and Cocoa*

In the pre-banana era, coffee and fine flavour cocoa beans were very important export commodities. With the emergence of banana production, these crops became of secondary importance and by the late 1970s, production levels had declined significantly. The continued decline in the 1980s was precipitated by damage to mature trees from hurricanes, pests and diseases, and low prices which led to abandonment of coffee and cocoa estates.



Coffee and cocoa production registered some improvements from the late-1980s. This recovery was facilitated by the implementation of externally-funded rehabilitation projects, such as the British Development Division (BDD) coffee project, which introduced and expanded acreage of higher yielding arabica coffee and the USAID-funded cocoa rehabilitation project which rehabilitated old orchards, established new plantings and ensured secure marketing arrangements for the export of dry cocoa beans to a Chicago-based chocolate firm, World Finest Chocolate (WFC) Inc. During the life of the coffee project, a total of 162 acres of arabica coffee was established, with output geared to the local firm of Bello & Company Ltd. By 1996, cocoa acreage was estimated at 376 acres.

In spite of these initiatives, production of coffee and cocoa was variable between 1991-1995, particularly so for coffee, production of which declined significantly in the post-1993 period (Table 7). This general decline in coffee and cocoa production may be attributable to low productivity due to pests and disease and high production costs (particularly harvesting labour) and low prices.

Table 7

Dominica, Coffee & Cocoa Production & Exports					
	1991	1992	1993	1994	1995
<b>Production (mt)</b>					
Coffee	204	204	340	50	41
Cocoa beans	77	86	107	82	95
<b>Exports EC\$'000</b>					
Coffee	na	na	58.4	46.4	48.5
Cocoa	na	115.0	209.4	107.2	71.3

Source: CSO Dominica

Given that cocoa and coffee production was secondary to bananas, the low prices offered act as disincentives to production. The sharp increase in cocoa production and exports in 1993 may be primarily attributable to the securing of a market contract with WFC Inc. in 1992. The declining trend in production and exports in the post-1994 period was a factor of low market prices, uncertainty of contractual arrangements with WFC Inc., as well as continual pest and disease problems. In spite of the relatively low exports of cocoa and coffee, a significant proportion of production is

used to satisfy domestic requirements for chocolate and coffee beverages.

#### Non-Traditional Fruits

Among the country's diverse fruit crop base, the most commercially important are mango, avocado, breadfruit and passionfruit. Acreage expansion of non-traditional fruits was encouraged by the MoA through the provision of various production incentives and market promotion. While mango, avocado and passionfruit are cultivated, breadfruit is harvested from trees growing island wide. In 1992, the total acreage of mango and avocado were estimated at 600 and 380 acres, respectively. In fact, some 450 acres of Julie mango were established through the BDD-funded Tree Crops Diversification project (1979-1992). While other mango varieties exist, such as Kidney, Tommy Atkins, Graham etc, production trials of these were not very successful, thus the emphasis remained on Julie mango for exports.

Production data indicate a highly variable output performance, with negligible average annual growth for mango (less than 1%) and a general decline in avocado production (by 14% per annum) over the 1991-1995 period (Table 8). This performance may be explained in part, by pest and disease problems (avocado die-back, anthracnose, and mango fruit fly) and hurricane damage.

Table 8

Dominica, Production and Export of Major Fruits					
Production (mt)	1991	1992	1993	1994	1995
Mango	1,861	1,410	2,171	1,633	1,633
Avocado	780	861	1,071	627	323
Passion fruit	298	334	382	190	122
Watermelon	145	180	189	156	156
<b>Exports, \$'000</b>					
Mango	na	na	400	381	636
Avocado	355	702	912	498	906
Passion fruit	na	na	29	34	34
Watermelon	na	na	36	20	35
Others	na	na	88	82	108

Others - breadfruit, paw paw, golden apples, sour sop,

Source: CSO, Dominica

The 1995 Agricultural Census estimated cultivated mango and avocado acreage to be 363 and 146, respectively. For mango, this does not compare favourably with the 1992 estimate

of 600 acres. The estimated 40% reduction in mango acreage may be partially attributable to controlled tree felling as a control measure for the fruit fly.

In spite of agronomic problems, such as pest and disease and low yields, the lack of rapid expansion in non-traditional fruit production was part of the general lack of success of agricultural diversification alluded to earlier. Low output levels resulted in similar low export volumes. Between 1993-1995, the combined value of mango and avocado exports averaged less than 2% of agri-food export earnings. The main export markets for Julie mango are the UK, the French and Dutch Caribbean and St. Kitts & Nevis. Due to the widespread existence of the fruit fly, mango exports to the US are prohibited for phytosanitary reasons.

Passion fruit is an important non-traditional fruit, both for the fresh fruit and processed market. Passion fruit has been cultivated in Dominica since the 1970s with most of the output sold to a sole local processor (Bello). In 1986, passion fruit production was encouraged by the establishment of Corona Ltd, a fruit pulping facility. However, the low annual volumes and higher prices on the fresh fruit market which led to defaults of supply contracts with the plant, led to the closure of Corona Ltd. in 1994. In spite of the vibrant domestic and regional markets, the level of passion fruit production remains low, as indicated by an average annual output of under 300 tons between 1991-1995. Between 1993-1995, total export earnings of passion fruit juice (mainly non-concentrated) was approximately \$554 thousand, with fresh fruit exports amounting to just under \$100 thousand over the same period.

#### Food Crops

In terms of export value, plantain may be considered the single largest non-banana export crop in Dominica, earning, on average, over \$3M annually between 1991-1995. Through the establishment of the Caribbean Agricultural Trading Company (CATCO) in

1986, the UK became the main market for plantain exports.

Between 1991-1994, the level of plantain production increased rapidly (Table 9), stimulated by the existence of steady market arrangements and high demand for the product. The reduction in output volumes in 1995, by 30% from 1994, was as a result of the demise in the operations of CATCO in late 1994. The negative effect of unstable and infrequent marketing arrangements were clearly reflected in the performance of plantain exports in the 1994-1995 period. However, there is a growing trend in the utilisation of plantains locally, for the production of plantain chips. To date, the bulk of these products are sold on the local market.

Table 9

Dominica, Other Important Export Commodities					
Production (mt)	1991	1992	1993	1994	1995
Plantain	6,203	6,637	8,097	21,940	15,358
Root crops <sup>1</sup>	23,911	22,807	27,303	16,891	14,818
Pumpkin	716	732	820	488	488
<b>Exports, \$'000</b>					
Plantain	2,097	3,220	4,643	3,019	2,835
Root crops <sup>1</sup>	2,187	2,728	4,306	2,709	3,624
Pumpkin	144	196	260	300	132

1. dasheen, tannia, yam, sweet potato and white potato  
Source: CSO, Dominica

Root crop production, mainly dasheen, tannia, yam, sweet potato and to a lesser extent, white potato, is an important contributor to domestic food production and income for the multitude of small inter-regional traders. Dasheen is more extensively cultivated and traded, with output volumes averaging 9,000 tons and export values over \$1M per year between 1991-1995. However, there was a downward trend in dasheen production and exports over the period, with output in 1995 some 45% less than what was produced in 1991. Similar declines were reported for tannia, yam and particularly, sweet potato production and exports by the end of 1995. In fact, a 45% and 14% decline in the export volume of tannia and yam, respectively, contributed to the 7% decline in the total value of root crop exports in 1994.

White potato production is a relatively more recent addition to the food sub-sector. Its introduction in the mid-to-late 1980s was justified on the basis of import replacement and food security. Expansion of white potato acreage was facilitated by the imports of seed potatoes. These imports increased from 10,000 kgs in 1994 to 30,120 kgs in 1995, leading to a total acreage of 71.3 acres in 1995. In spite of this improvement, Dominica continues to rely on import to satisfy a large proportion of white potatoes for year round consumption.

Pumpkin and ginger are also important food crops. Production data indicate slow growth in pumpkin production between 1991-1993, and declines in 1994 and 1995 to roughly half the level of output achieved in 1993. This production pattern negatively affected the small, but steady contribution of pumpkin to total agricultural exports. Regarding ginger, although production data were not available, the 1990s experienced an overall decline in production. This performance in the 1990s compared unfavourably with ginger production in the 1980s. From the mid-1980s, ginger production was promoted as a low-volume, high-value export crop. Its expansion was supported by the development of the Taiwanese-introduced ginger tech-pak and the implementation of an Integrated Rural Development Project (IRDP) which provided technical assistance, mechanised land preparation and market preparation facilities to ginger farmers.

In addition, solid arrangements with CATCO for ginger exports to Europe from 1987 onwards provided further stimulus to expand production. The annual value of ginger exports in the 1980s which averaged \$0.5M increased to just under \$2 M in 1993. However, in the post-1993 period, increased production and competition from lower-cost producers in Thailand and Indonesia led to declining prices. In addition to lower world prices, the demise of CATCO and the lack of alternatives to the European market were major factors constraining ginger production in the 1990s.

### Vegetables

In terms of cultivated acreage, cabbage (186), distantly followed by carrot (72), pepper (67), corn (32), cucumber (31) and tomato (26) were the more dominant vegetables cultivated in 1995. While the production data may be less than accurate, they may however provide an indication of the annual trend in cultivation of these short term crops (Table 10). The annual output volumes of cabbage and carrot appeared to be relatively stable, compared to pepper, production of which expanded significantly in the post-1994 period, and cucumber and tomato, production of which declined substantially in the post-1993 period. Hot pepper has been identified as a crop which possesses market potential both as a fresh and processed product. Hot and seasoning pepper are in high demand locally, regionally and extra-regionally.

Table 10

Dominica, Selected Vegetable Production, mt					
production	1991	1992	1993	1994	1995
Cabbage	595	595	612	1,103	915
Carrot	515	515	530	184	132
Pepper	28	0	19	227	144
Lettuce	154	154	158	69	59
Cucumber	1,965	1,179	1,179	27	22
Tomato	195	195	198	45	35

Source: CSO, Dominica

In spite of some improvements in vegetable production in Dominica, the bulk of this activity continues to be undertaken in open fields, under rain-fed conditions on small holdings. This partially explains the variable production levels from year to year. However, recent improvements, in terms of irrigated production, have yielded a noticeable impact on the year round availability of vegetables, particularly tomatoes.

### Cut Flowers

Cut flower production, based on pink and red local and hybrid anthurium varieties, red and pink ginger lilies, and to a lesser extent, heliconia, orchids and a range of foliage, features highly among the major non-banana exports. On the basis of favourable climate, Dominica is said to possess the potential for the development of commercial cut flower production. Two major initiatives in the early

1990s aimed at improving cut flower production were the establishment of a floriculture and hybrid anthurium tissue culture nursery and the importation of hybrid plantlets from the French territories. As a result of these initiatives, anthurium exports, mainly to Guadeloupe the US and other regional destinations increased appreciably during the first half of the 1990s. Export earnings from cut flowers averaged over \$300 thousand between 1991-1994, an increase from the 1988-1990 period average value of \$260 thousand (Table 11). Between 1991-1994, the primary producing areas of Dominica were severely affected by the anthurium blight disease, which necessitated the destruction of a significant proportion of the cultivated area.

Table 11

Dominica, Cut Flower Export Value					
	1991	1992	1993	1994	1995
Production mt	97	106	92	103	81
Export EC\$'000	331	348	327	316	na

Source: CSO, Dominica

#### Livestock Production

While livestock rearing has traditionally occupied an important position in the average farm household, activities continued to be largely subsistence with production mainly for home and community consumption. Local meat production is estimated to supply one-third of domestic meat requirements. The poultry egg and pig industries may be notable exceptions to this general characteristic of livestock production. Poultry egg and pig producers tend to be more commercially oriented. As a result, poultry eggs and fresh pork production are the leading livestock industries. Dominica experiences a relatively high self-sufficiency level in egg production and its capacity to produce a large proportion of fresh pork has been significantly strengthened. However, imports continue to be the major source of processed pork and other meat and dairy products.

It is estimated that the existing dairy, poultry meat and processed pork production capacity satisfies only 10% of domestic demand for these products. The slow growth in these livestock industries is associated with land

constraints for pasture, as well as the high initial and working capital costs of commercial livestock operations. This is because, the successful commercialisation of these operations requires high managerial and operational capabilities, and given the available technologies, has become dependent on costly imported inputs. This explains the very limited expansion in dairy and beef cattle, and poultry meat enterprises.

As a result of these constraints, livestock rearing in Dominica is based on an intensive animal husbandry for all stock, with the possible exception of goats. The 1995 Agricultural Census estimated the population of chicken for eggs, and pigs to be 66,522 and 3,858, respectively. Other stock population were estimated as 3,305 heads of cattle, 3,323 of sheep, 10,918 of goats and 2,308 rabbits. The relatively larger number reported for head of goats is reflective more of the fact that goats are reared very informally and allowed to multiply and graze freely. Activity in the livestock sub-sector has experienced some expansion in recent years. Table 12 provides a three-year moving production index for the livestock sub-sector in Dominica for the 1976-1994 period.

Table 12

Per Capita Livestock Production Index for Dominica	
Period Ending	Index
1976	50.02
1979	58.79
1982	64.48
1985	83.63
1988	99.18
1991	100.90
1994	105.66

Source: FAOSTAT Database

As indicated, the level of livestock production in 1994 was twice that which existed in 1976. However, the rate of growth in livestock production appeared to be much slower in the post-1988 period, than in the pre-1988 period. The development of the livestock sub-sector represented more than just an expansion in herd size. Noticeable improvements were achieved in terms of developing a commercial orientation of most livestock enterprises, particularly, so for pigs.

Greater emphasis was placed on development of the pig industry since pork was identified as a major imported meat product and Dominica was assessed as having the potential to rapidly increase local fresh pork. Pig production benefited from the financial and technical assistance from the French Government, including the introduction of improved breeding stock and pig breeding capabilities, animal housing, improved feeds and abattoir facilities. These efforts have thus contributed to the rapid growth in pork production over the last 10 years.

#### Fisheries

The fishing industry in Dominica comprises both mari- and aqua-culture and fresh water (lakes and rivers) fisheries. The main types of marine fish landed include dolphin, tuna and bonito and a variety of coastal pelagics. The relatively under-developed nature of deep sea fishing (deep sea resources comprise a deep slope of between ¼ and ½ mile wide) has given rise to a tendency to over-exploit the narrow coastal shelf (about ¼ mile wide). Aqua-culture is based on the production of prawn and tilapia in inland ponds, while small crayfish and small shrimp are seasonally caught in the rivers.

Over the last 10 years, developmental efforts in the fisheries sub-sector has led to improvements in fishing techniques, landing and storage infrastructure, gear and equipment, new and improved sea worthy vessels and fishermen skills and entrepreneurship. This has been facilitated by the improved access to credit for the purchase of gear and fishing boats. However, the progression of marine fisheries from artisanal into a commercial industry continues to be slow. It is estimated that annual catch is around 500 tons. As a result, local fish production remains incapable of satisfying the bulk of domestic demand. Most of the fish landed is consumed in the rural areas and in many instances, do not enter the formal distribution and marketing channels.

#### Agro-processing

The agro-industrial sector comprises lime and grapefruit juice processing and coconut oil extraction. These industries were established since the 1960s and mid-1970s. Hot pepper sauces, bay oil and an assortment of fruit jams and jellies, as well as tea, and spices are produced by cottage to medium sized enterprises. With the exception of soap production by the DCP, the 1990s did not represent a period of growth for agro-industry in general. This was particularly so for citrus processing which declined over the 1991-1995 period (Table 13). This decline was a continuation of the general trend in citrus juice production, led by grapefruit, which characterised the industry since the mid-1980s.

Table 13

Dominica, Main Agro-Based Exports					
EC\$'000	1991	1992	1993	1994	1995
Soap	28,256	29,760	26,839	33,343	na
Citrus Juice	382	90	160	122	106
Other Juices	na	na	365	318	362
Jams, Jellies	na	na	53	107	71
Pepper sauce	na	na	1,078	1,109	1,466
Spring Water	973	1,075	497	532	na

Source: CSO, Dominica

Growth in other juice processing, mainly tamarind and passionfruit, remained low, but relatively constant as indicated by the trend in export values. Pepper sauce exports appeared to have performed relatively well between 1991-1995. Quite the opposite for spring water, which was a recent, but short lived addition to the agro-industrial sector between 1991-1995. In the 1995/96 period, a new product, beer manufacturing was added to the Dominica agro-industrial sector. To date, this enterprise has performed relatively well and short-term prospects appear favourable.

#### Constraints of Agriculture

Given its role in national income generation, foreign exchange earnings and employment generation, agriculture continues to be a high priority sector. However, in spite of the various efforts at expanding the production base, improving productivity and increasing the market prospects for a wide range of agricultural commodities, agriculture in Dominica continues to be a very 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 Dominica, 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.

The financial limitations to agricultural sector development are becoming more acute in the post-1990 period due to increased difficulties experienced in attracting concessionary financing. 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. The share of AID Bank loans to agriculture was relatively higher. However, given the Bank's comparatively low total portfolio, the total, in value terms, was lower than that of the commercial banks.

Table 14

Primary Sources of Agricultural Credit, Dominica					
EC\$'000	1991	1992	1993	1994	1995
<b>Commercial Bank Credit</b>					
Total Credit	291.2	317.3	365.9	405.7	445.3
% to Agriculture	3.1	3.0	3.4	3.0	2.9
<b>AID Bank Credit</b>					
Total Loans	16.3	13.4	12.1	9.8	
% to Agriculture	30.2	36.9	25.8	17.6	

Source: International Monetary Fund Document, 1996

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 developments in the external environment 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 has to contend with the changing rules of international agricultural trade. The globalisation and trade liberalisation processes of the mid-1990s highlighted the need to urgently address the deficiencies at the domestic level if agricultural industries are to remain viable in the post-1996 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 Dominica.

## Agriculture in Dominica ~ Prospects

### 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).<sup>2</sup>

- **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.

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

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 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 Dominica 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 Dominica. 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, Dominica must now prepare for the next 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 Dominica 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<sup>3</sup>

Exports play an important role in Dominica'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 process 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.

Dominica has experienced difficulties in fulfilling its UK market quota of 71,000mt (from a total Windward Islands allocation of 294,00 mt). This is partially due to periodic reduction of the production base by hurricanes, as well as fruit rejected due to poor quality. Given the anticipated withdrawal of farmers from the industry prompted by the eventual loss of market protection, it is unlikely that the country will satisfy this quota in the near future. 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. Given this scenario, Dominica's prospects for the fresh fruit export segment of the banana industry hinges on its ability to accomplish two major things:

- substantially increase productivity, such as through the application of appropriate technologies (eg. irrigation to extend and regularise production, pest-resistant banana varieties), scientific advances in banana production, which will ensure reduction in unit costs of production;
- substantially improve fruit quality, mainly in terms of consistent fruit size and cosmetic appearance.

The industry therefore needs to re-evaluate its productive capacity and to put programmes in place to ensure that output levels are

<sup>3</sup> 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.

sustained. 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 alternative 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:**

The decline in the demand for processed coconut-oil food products (margarine, butter etc, cooking oil) which began in the 1980s is virtually irreversible. This is because of the rapid acceptance of substitute vegetable oils among a highly health-conscious population. As a result, demand for processed coconut food products will continue to be sluggish, a factor which will result in continued low prices for copra. Coconut production will be negatively affected, with increasing rates of neglect of coconut estates, incidence of disease, felling of trees and ultimately, an accelerated decline in the domestic production capacity of coconut-oil. The major processor, DCP, will be forced to rely on imported raw material, a situation which may be a more cost-effective option.

However, this projected decline in the coconut-oil industry should not sound the death knell for commercial coconut production in Dominica. The shift in consumer preference has not affected the cosmetic products (shampoos, soaps, body lotions etc) segment of the coconut industry. Although the cosmetic industry is highly competitive, its prospects continue to be favourable. There also exists great potential in

the development of bottled coconut water for a small, but rapidly growing domestic and regional market. It is doubtful that there will be any association to health risks which may adversely affect market acceptance of the product extra-regionally. The technology to produce the product is available and has been successfully tested in Dominica.

Other prospects for integrated coconut-based industries include the manufacture of coconut meal in animal feed industries and the production of fibre. These options may be more appropriate at the cottage industry level providing gainful employment in rural communities thus contributing to the development of the rural sector. It must be noted, however, that their establishment should be guided primarily on analysis which shows that such cottage industries are economically viable and sustainable. However, the general problem of lack of private sector investment in agriculture may constrain the establishment of a bottled coconut water processing facility as well as these cottage coconut producers.

#### □ **Bay Oil**

The prospects for bay oil production depend almost entirely on the continued viability of the BELLO company. In spite of the fact that these products are considered to be specialty products, it is anticipated that current market share for the product will be maintained. This will positively impact bay leaf harvestors and oil extraction units operating in specific localities of Dominica. However, in this new trade environment, emphasis needs to be placed on product development and aggressive marketing strategy to ensure long run market success. The industry's long run survival prospects will also be enhanced if equal attention is accorded to the managed cultivation of the bay tree. In this area, biotechnology could be very useful in the development of a higher yielding, shorter tree, which is less susceptible to high winds. In the event that the bay industry is considered as a growth area, then much thought will have to be given to this aspect of its development.

#### □ **Cocoa and Coffee**

Over the last 10 years, the trend in beverage crops, in particular, coffee, cocoa and tea, has been one of declining prices and generally stagnant demand in traditional markets for these commodities. In the absence of unanticipated shortfalls in world production due to the effects of natural disasters in main producing areas (such as the adverse weather conditions associated with the El Niño), the overall outlook for beverage crops is considered to be relatively flat.

There appears to be limited potential for raising international coffee prices and the trend is towards the consumption of milder Arabica coffees in major importing countries. Increasing concentration in the chocolate industry has also led to the production of more standardised and bulk products, for which fine flavour cocoa produced in the Caribbean, is an expensive input.

Dominica is a relatively small producer and exporter of cocoa and coffee compared to other regional countries and countries in Latin American and Sub-Saharan African. Export volumes of cocoa and coffee beans have been sporadic and stagnant. Exports of drinking coffee powder have also experienced slow growth. Domestic demand for locally-grown coffee and cocoa is not strong enough to sustain the industry. This is particularly true within this liberalised trade environment where competing products are allowed to enter unhindered. The survival of the coffee and cocoa industry in Dominica will depend critically on the ability to regularise production, both in terms of consistent and cost competitive volumes and quality of raw material for processing. Achieving this requires, in large measure, the control of pests and diseases and the consolidation of the many small producing units. Given the relatively demanding requirements for entry into markets for value-added products, Dominica will need to make strides in improving productivity and the cost-efficiency of production, processing and marketing systems.

#### □ **Fruits**

The global 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.

Generally, the competition on the citrus fresh fruit market has kept prices relatively low, in many instances, too low for Dominica to profitably and continuously participate in trade in these products. A substantial reduction in production costs of citrus products and the improvement in fruit quality could however, ensure that Dominica maintains its current trade levels in citrus both within the region and in the UK, particularly since market promotion efforts as a "*great fruit choice*" have increased market acceptance of grapefruit from Dominica.

The situation differs somewhat with non-traditional fruits. In spite of the apparent high demand for these commodities in developed markets, the low production volumes (due to both to a 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.

#### **Domestic Food Production**

Dominica's domestic production capacity for roots, tubers and plantains is sufficient to meet domestic requirements. In spite of the apparent high output levels, there continues to be room for improving the efficiency of root crop production. Given the high levels of domestic market saturation for roots, tubers and plantains consumption in fresh form, there is need to develop these products into forms which extend shelf life (such as frozen packaged produce) and offer a variety of options for consumption, (the more

commonly acceptable form may be chips). Innovations such as these remove the limitations on production due to saturated domestic markets and present increased opportunities for year-round availability of the product and for trade. This is already being done with plantains and is relatively successful

The capacity is also being developed for increasing the year-round availability of the more common vegetables, mainly tomatoes, carrots, lettuce, sweet and hot pepper, using irrigation and greenhouse technologies. The results of this are evidenced by improved market stability, particularly, price stability. While greenhouse production of vegetables is an expensive investment due to its current reliance on imported technology, there has been some improvements in terms of use of local material in greenhouse construction. This trend is expected to reduce investment costs, stimulate increased utilisation of the technology and ultimately lead to expanded output of a wider range of vegetables. There also remains much scope in increasing domestic production of legumes and grains, mainly corn. The reorganising of crop production patterns, such as the systematic use of 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 go a long way in achieving expanded output and ensure year-round supplies of high quality produce at reasonable prices.

Similar developmental efforts in the livestock and fish industry, 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 may never be attained. 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.

The development of a vibrant agro-processing industry based primarily on utilisation of local supplies of fruits, vegetables and root crops, 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, grapefruits and limes. 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 ensure the continued vibrance of this sub-sector.

### Guidelines for Policy Formulation

The Government of Dominica has committed to the implementing the WTO Agreements, including reducing public sector support to agriculture. Against this backdrop, 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 Dominica to actively support the establishment and effective operation of a regional or sub-regional research centre for technology generation and transfer. This will be 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, Dominica

EC\$ Millions (1990 prices)	1991	1992	1993	1994	1995 <sup>P</sup>
<b>Primary Sector:</b>					
Agriculture	91.96	94.65	94.05	90.55	83.26
Crops	76.82	78.11	77.71	73.26	65.76
Bananas	28.90	31.30	32.20	24.60	19.00
Livestock	6.47	6.63	6.67	6.79	6.93
Forestry	2.85	3.08	3.11	3.16	3.22
Fishing	5.82	5.87	6.56	7.31	7.35
Mining & Quarrying	2.60	2.92	3.04	3.26	3.47
<b>Secondary Sector:</b>					
Manufacturing:	27.49	29.60	30.04	27.15	27.18
Construction	28.70	28.50	29.64	32.60	34.72
<b>Services Sector:</b>					
Utilities - Electricity & Water	11.92	13.15	12.73	13.60	14.26
Transport & Communications	63.32	68.33	69.82	72.10	78.01
Wholesale & Retail Trade	42.30	43.48	44.66	49.02	53.22
Restaurants and Hotels	8.82	9.02	10.67	11.37	11.66
Financial Institutions	48.88	47.81	47.02	49.58	51.39
Real Estate & Housing	13.77	13.91	13.95	14.23	14.47
Government	70.07	70.07	71.60	72.05	71.09
Other	3.98	4.06	4.31	4.74	4.98
Less Imputed Service Charge	36.03	36.40	36.18	36.41	36.77
<b>Gross Domestic Product at Factor Prices</b>	<b>377.78</b>	<b>388.14</b>	<b>395.35</b>	<b>403.84</b>	<b>410.94</b>

Source: National Accounts Statistics of Dominica, Central Statistics Office.

Table 2: Savings and Investment, Dominica

EC\$ Millions	1991	1992	1993	1994	1995 <sub>P</sub>
<b>National Savings</b>	59.1	78.3	71.8	31.8	34.6
Public Savings	21.7	20.2	9.7	11.9	18.7
Private Savings	37.4	58.1	62.1	19.9	15.9
<b>Foreign Savings</b>	78.8	56.4	53.5	100.2	99.1
<b>Total Investment</b>	137.9	134.7	125.3	132.0	133.7
Private Investment	69.7	91.0	88.6	82.8	88.8
Public Investment	68.2	43.7	36.7	49.2	44.9

Source: Ministry of Finance and IMF Staff Estimates

Table 3: Selected Consumer Price Indicators, Dominica

Average, year-end, Feb.1994=100	Wghts	1991	1992	1993	1994	1995
<b>Consumer Price Index - All Items</b>		92.50	97.57	99.10	99.11	100.40
Food	401.81	90.15	97.85	99.91	96.12	97.73
Alcoholic Beverages & Tobacco	16.16	91.43	96.53	98.47	100.55	100.95
Housing & Utilities	133.71	97.97	99.15	99.88	100.12	99.95
Furniture & Household Equip.	57.79	96.84	97.96	97.13	98.77	96.62
Transportation	162.02	96.52	97.64	99.93	101.49	102.61
Clothing & Footwear	68.35	84.21	91.89	94.83	101.52	102.76
Misc. Expenses	160.16	93.73	98.02	98.32	102.33	105.49
<b>Effective Exchange Rate Indices, 1980=100</b>						
Year Average						
Real EER		104.9	108.4	114.8	113.3	107.0
Nominal EER		142.7	155.5	167.9	173.8	171.8
Relative Consumer Prices		73.6	69.7	68.4	65.1	62.3

Source: National Accounts Statistics of Dominica, Central Statistics Office.

Table 4: Summary Central Government Fiscal Operations and Composition of PSIP, Dominica

EC \$ Millions Fiscal Year ending June 30 <sup>th</sup>	1990/91	1991/92	1992/93	1993/94	1994/95
<b>Central Government Current Account:</b>					
<b>Current Revenue</b>	139.7	144.9	143.6	147.7	155.9
Taxes	118.3	126.7	124.1	114.8	131.7
Non-Tax	15.0	15.8	19.5	22.9	24.2
Grants	6.4	2.4	-	-	-
<b>Current Expenditure</b>	130.1	141.3	140.6	157.5	157.6
Wages & Salaries	77.0	77.1	77.1	89.3	87.3
Interest Payments	8.1	10.0	12.1	12.5	13.9
Other	45.0	54.2	51.4	55.7	56.0
<b>Current Account Balance</b>	<u>9.6</u>	<u>3.6</u>	<u>3.0</u>	<u>-9.8</u>	<u>-1.7</u>
Capital Revenue	1.3	3.5	6.8	1.8	7.3
Capital Expenditure	50.1	48.8	28.4	35.7	66.5
Net lending	36.1	10.5	2.1	5.2	-1.2
<b>Overall Balance</b>	<u>-39.2</u>	<u>-41.7</u>	<u>-20.7</u>	<u>-43.7</u>	<u>-60.9</u>
<b>Expenditure on and Financing of the PSIP</b>					
<b>Total Investment</b>	<u>86.1</u>	<u>52.3</u>	<u>26.9</u>	<u>30.5</u>	<u>65.8</u>
Agriculture	4.3	5.5	2.2	1.8	0.1
Education	4.2	7.9	2.0	3.8	3.1
Manufacturing	1.5	0.5	0.1	--	--
Tourism	0.6	0.8	0.6	0.8	0.7
Other	75.4	37.6	22.0	24.1	52.9

Source: Ministry of Finance, Dominica; IMF

Table 5: Distribution of Commercial and AID Bank Credit, Dominica

EC \$ Millions, End of Period	1991	1992	1993	1994	1995p
<b>Total Commercial Bank</b>	<u>291.15</u>	<u>317.34</u>	<u>365.87</u>	<u>405.69</u>	<u>445.27</u>
Agriculture	9.04	9.68	12.56	12.22	13.14
Manufacturing	22.58	19.64	27.40	31.70	43.28
Distributive Trades	29.43	47.22	64.57	76.46	77.90
Tourism	7.99	9.75	11.90	12.79	15.76
Transport	16.05	12.86	9.89	10.75	13.27
Public Utilities	9.50	2.71	5.90	4.76	13.49
Construction & Land Development	11.02	9.51	10.39	12.32	10.61
Government & Statutory Boards	37.53	41.87	49.38	65.31	56.52
Personal	131.77	146.38	154.84	157.35	153.82
Other	16.25	17.70	19.04	22.03	47.50
<b>Total AID Bank Loan Disbursements</b>	<u>14.77</u>	<u>16.33</u>	<u>13.37</u>	<u>12.13</u>	<u>9.87</u>
Agriculture	3.98	4.93	4.93	3.13	1.74
Tourism	3.89	4.17	3.65	2.07	2.16
Education	--	--	--	3.49	4.20
Housing	1.66	1.24	3.03	1.74	0.33
Other	5.24	5.98	1.77	1.70	1.44

Sources: Commercial Banks: Eastern Caribbean Central Bank. AID Bank: Bank Reports

Table 6: Balance of Payments, Dominica

US \$ Millions	1991	1992	1993	1994	1995p
<b>Current Account Balance</b>	<u>-29.2</u>	<u>-20.9</u>	<u>-19.7</u>	<u>-37.1</u>	<u>-36.7</u>
Trade Balance	-54.1	-50.4	-56.3	-65.0	-73.8
Exports f.o.b	55.6	55.1	48.2	44.0	42.6
Imports c.i.f	109.8	105.5	104.4	109.0	116.4
Services Balance	14.2	18.4	24.3	18.2	24.1
Net Private Transfers	10.8	11.1	12.4	9.7	13.1
Capital Account Balance	34.3	29.7	25.1	34.3	43.0
Net Direct Investment	15.2	20.6	13.2	22.1	33.0
Errors & Omission	-0.7	-6.4	-5.8	-2.8	-6.6
<b>Overall Balance</b>	<u>4.5</u>	<u>2.5</u>	<u>-0.3</u>	<u>-5.6</u>	<u>-0.9</u>

Sources: Eastern Caribbean Bank and IMF Staff Estimates

Table 7: Composition of Merchandise Exports and Imports, Dominica

EC \$ Millions	1991	1992	1993	1994	1995p
<b>Exports:</b>	<b>132.92</b>	<b>140.05</b>	<b>126.57</b>	<b>119.14</b>	<b>71.12</b>
0 Food & Live Animals	95.54	95.44	84.92	69.26	60.02
1 Beverages & Tobacco	0.99	1.13	0.04	0.76	0.79
2 Crude Material	1.83	0.81	0.51	0.93	1.86
3 Minerals Fuels	-	-	-	-	-
4 Animal & Vegetable Fats & Oils	0.02	0.04	-	0.02	0.07
5 Chemicals	34.75	38.56	35.26	43.39	5.27
6 Manufactured Goods	3.04	1.33	3.45	1.60	0.08
7 Machinery, Transport, etc	0.08	0.05	0.11	0.35	0.40
8 Misc, Manufactured Goods	2.67	2.27	2.28	2.84	2.63
9 Misc. Transactions	-	-	-	-	-
<b>Re-Exports</b>	<b>7.55</b>	<b>4.33</b>	<b>3.06</b>	<b>2.94</b>	<b>4.23</b>
<b>Imports:</b>	<b>295.98</b>	<b>284.70</b>	<b>253.23</b>	<b>227.07</b>	<b>316.67</b>
0 Food & Live Animals	55.14	54.92	48.55	52.47	61.24
1 Beverages & Tobacco	14.32	12.94	10.65	11.83	13.09
2 Crude Material	6.10	4.10	5.25	5.65	7.22
3 Minerals Fuels	23.28	19.96	16.10	17.08	17.77
4 Animal & Vegetable Fats & Oils	7.17	8.80	9.78	8.42	8.52
5 Chemicals	35.56	38.20	35.36	3.68	45.23
6 Manufactured Goods	66.16	60.40	56.47	52.38	61.81
7 Machinery, Transport, etc	64.02	59.52	48.06	53.88	76.45
8 Misc, Manufactured Goods	24.22	25.84	23.01	21.68	25.35
9 Misc. Transactions	-	-	-	-	-

Sources: Eastern Caribbean Bank and IMF Staff Estimates

Table 8: Direction of Trade in Percent of Total, Dominica

Trade Shares	1991	1992	1993	1994	1995p
<b>Domestic Exports f.o.b</b>					
UK	54.7	48.4	51.7	50.7	53.5
US (including Puerto Rico)	4.0	3.9	4.9	7.3	15.7
Italy	6.1	9.5	3.4	-	1.7
Guadeloupe	5.5	4.1	4.5	3.8	2.4
CARICOM Countries	24.8	28.0	28.7	36.7	24.2
Other	4.9	6.0	6.8	1.4	2.4
<b>Total Imports c.i.f</b>					
UK	13.8	16.1	11.3	11.2	13.7
US (including Puerto Rico)	31.1	32.5	33.3	30.7	23.4
Canada	4.4	4.0	2.0	1.8	0.8
France	1.3	0.9	0.5	0.8	8.2
Japan	5.6	4.5	3.8	4.2	7.6
Netherlands	2.1	1.7	1.6	1.3	3.2
CARICOM Countries	23.0	24.1	21.8	24.9	25.8
Other	18.9	16.2	25.6	25.0	17.4

Sources: Central Statistics Office and IMF Staff Estimates

Table 9: Food Imports by Main Commodity Groups, Dominica

EC \$ '000	1991	1992	1993	1994
00 Live Animals	152	174	127	108
01 Meat & Preparations	11,847	12,830	10,364	11,673
02 Eggs & Dairy Products	8,621	8,021	7,066	8,422
03 Fish, Crustaceans & preparation	3,651	3,755	2,859	3,643
04 Cereal & preparations	12,062	10,813	7,029	11,190
05 Vegetables	4,352	8,087	4,344	4,579
06 Sugar & Preparations	5,510	4,835	3,695	3,770
07 Coffee, Cocoa, Spices	1,709	1,364	1,203	1,525
08 Animal Feed Stuffs	1,771	1,901	1,588	1,906
09 Misc. Edibles	5,466	6,144	5,510	5,656
10 Beverages	13,924	12,477	9,380	11,182

Source: Central Statistics Office



Table 10: Selected Agricultural Commodity Exports, Dominica

EC\$M	1993		1994		1995	
	'000kgs	EC\$'000	'000kgs	EC\$'000	'000kgs	EC\$'000
<b>Vegetables, Roots &amp; Tubers</b>	<b>1,788.8</b>	<b>4,785.5</b>	<b>1,828.8</b>	<b>3,285.7</b>	<b>1,802.5</b>	<b>4,630.2</b>
Tomatoes	0.4	1.6	3.1	8.7	0.4	1.2
Cucumbers	7.3	10.6	23.3	27.8	18.2	25.7
Ginger	56.9	na	63.4	na	na	na
Aubergines	8.3	16.4	13.0		14.5	28.7
Pumpkins	168.8	260.2	252.1	25.8	149.9	132.9
Sweet Potatoes	13.4	53.4	20.3	299.9	34.5	124.5
Dasheen	738.1	1,233.3	848.8	59.7	758.1	1,422.1
Tannias	379.0	1,741.9	208.7	1,006.4	208.4	944.7
Yams	392.3	1,278.2	338.7	783.0	351.8	1,089
Other	24.4	189.8	57.3	215.1	266.7	861.5
<b>Edible Fruit and Nuts</b>						
Bananas	57,044.9	68,403.1	44,386.0	56,683.9	33,069.2	45,475.5
Coconuts (not shelled)	541.2	467.9	485.9	420.1	253.2	219.3
Plantain	2,851.5	4,643.4	2,356.7	3,017.9	1,772.7	2,835.0
Avocado	460.7	912.2	505.3	498.3	284.5	906.0
Mango	102.6	400.2	200.8	381.6	162.5	636.2
Mandarine, Clementines	21.9	32.2	23.1	28.5	5.8	11.2
Oranges	485.7	588.1	548.8	469.4	567.1	655.6
Limes	113.1	245.8	160.2	234.2	151.8	328.9
Grapefruits	1,463.2	1,545.3	1,223.3	933.9	957.6	951.3
Breadfruits	66.9	81.1	52.1	34.9	28.8	26.7
Passion fruit	32.8	28.8	39.0	34.4	39.1	31.4
Watermelon	17.6	35.9	14.3	19.6	12.7	34.5
Pawpaw	1.6	2.5	26.7	42.9	47.3	76.1
<b>Agro-Processed</b>						
Coconut, Copra Oil	1.0	2.2	na	na	na	na
Jams, Jellies of Citrus	1.3	9.0	2.9	27.7	2.5	23.1
Jams, Jellies, Cheese of Guava	3.6	31.1	5.1	52.9	3.3	31.9
Non-concentrated lime juice	46.6	159.4	35.6	122.1	29.9	105.6
Single strength citrus juice	0.4	1.2	0.1	0.5	0.0	0.4
Passionfruit juice	27.2	200.5	22.2	179.9	24.1	173.4
Pepper sauce preparations	299.5	1,077.5	276.2	1,108.6	364.3	1,466.4
Essential Oils of Bay	22.4	2,366.6	11.4	1,201.9	13.4	1,563.6
Bay Rum	16.6	146.0	13.7	109.8	15.9	135.5
Other Juices, Jams, Mixtures	28.4	178.0	21.5	164.4	29.7	204.1

Sources: Yearly Statistics by Commodity, Central Statistics Office

Table 11: Selected Agricultural Commodity Imports, Dominica

EC\$M	1993		1994		1995	
	'000kgs	EC\$'000	'000kgs	EC\$'000	'000kgs	EC\$'000
<b>Vegetables, Roots &amp; Tubers</b>						
Potatoes	310.7	383.2	296.9	418.6	328.9	551.4
Onions	265.4	344.8	274.3	411.4	342.9	517.1
Garlic	47.9	272.8	64.6	337.7	52.5	324.9
Dried Kidney Beans	121.9	299.8	140.3	300.2	130.6	319.0
Dried Peas & Beans Shelled	128.8	243.2	80.9	166.1	214.0	1,242.2
Other	346.7	1,866.7	113.3	372.9	152.4	455.9
<b>Edible Fruit &amp; Nuts</b>						
Apples	21.4	95.0	43.9	108.2	36.1	116.1
Dried Grapes	94.6	51.6	20.7	115.2	20.6	124.1
Other		75.5	30.1	120.8	35.2	161.3

Sources: Yearly Statistics by Commodity, Central Statistics Office





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