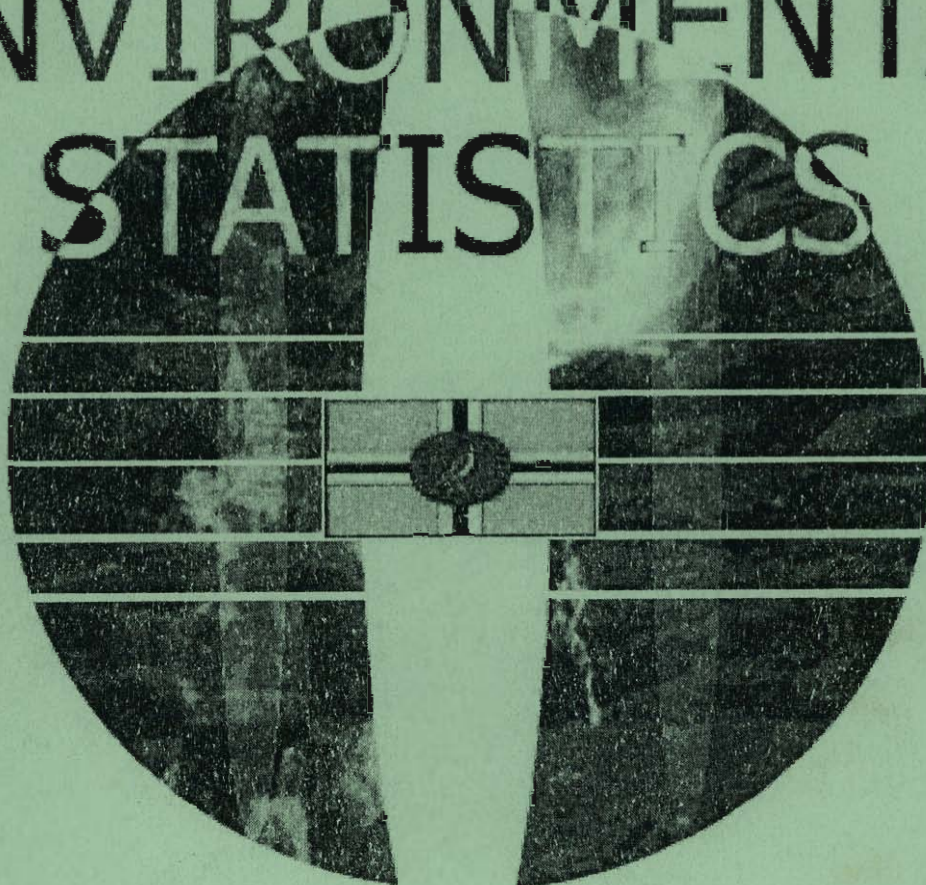




Commonwealth of Dominica

ENVIRONMENTAL STATISTICS



Central Statistical Office

MINISTRY OF FINANCE AND PLANNING

KENNEDY AVENUE

ROSEAU

2002

PREFACE

This is the first issue of the Environmental Statistics Compendium in Dominica. The data have been collected from various sources, and represents the main environmental concerns of economists, natural resource managers and other decision-makers.

Some of the topics covered include Climate, Population, Biodiversity, Energy, Water and Waste.

The Environmental Statistics Compendium will be published on a three-year interval. Additional information will be included as it becomes available and slight changes may be made.

The Central Statistical Office expresses great appreciation to all those who assisted in providing the relevant information which helped in the compilation of this issue. The Central Statistical Office welcomes any comments and suggestions from users, which will improve future publications.

The Central Statistical Office would like to acknowledge the support provided by the United Nations Statistics Division (UNSD)/Caribbean Community (CARICOM) Project on “Strengthening Capacity in the compilation of Statistics Indicators for Conference Follow-up in the Caricom Region”. As part of the project, a staff member of the Central Statistical Office attended a workshop on Environment Statistics held in Belize in August 2000.

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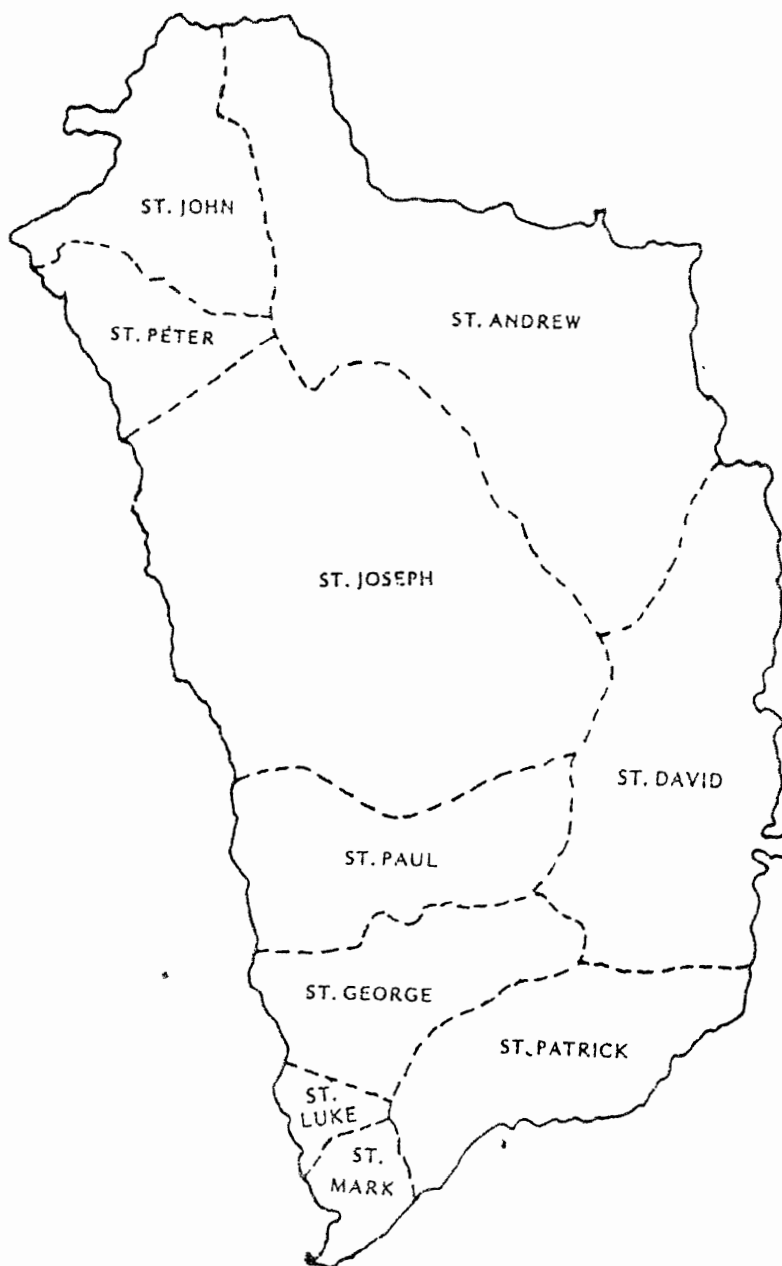
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DOMINICA



AREA: 751 km²

CENTRAL STATISTICAL OFFICE

GUADELOUPE CHANNEL



MARTINIQUE CHANNEL

Notes and Symbols

0 - Nil
.. - Not available
(e) - Estimates
(p) - Preliminary
% - Percentage

Conversion Table

<u>Metric</u>	<u>to</u>	<u>Imperial</u>
1 ha		2.4712 acres
1 km ² = 100 ha		0.3861 sq. miles
1 kg = 1000 g		2.2046 lbs.
1 tonne		0.9842 ton
1 ml		0.0352 oz = 0.0338 us. oz

<u>Imperial</u>	<u>to</u>	<u>Metric</u>
1 ton		1.0161 tonnes
1 sq. mile = 640 acres		2.590 km
1 litre		2.113 pints = 1.76 us pint
1 gal = 1.2009 us. gal		4.5461 litres
1 us. gal		3.7854 litres

Unit of Measurement

g- gram
h- hour
ha- hectare
w- watt
wh – watt-hour

Multiples of Units

k- kilo
h- hecto

ACRONYMS AND ABBREVIATIONS

CARICOM	-	Caribbean Community
CFCs	-	Chlorofluorocarbons
CSO	-	Central Statistical Office
DOMLEC	-	Dominica Electricity Services Ltd.
DOWASCO	-	Dominica Water and Sewerage Company
GDP	-	Gross Domestic Product
HCFs	-	Hydrochlorofluorocarbons
MOA	-	Ministry of Agriculture
ODS	-	Ozone Depleting Substance
UNSD	-	United Nations Statistics Division

OVERVIEW

The Island of the Commonwealth of Dominica is 751 square kilometers (298 square miles) in area and is situated between Latitude 15 40 North and Longitude 61 30 West. The Island is in the Eastern Caribbean and is more suitably located between the French Islands of Guadeloupe and Martinique. Dominica attained political independence from England in 1978. The official language is English. However, because of past French influence, a semi-French dialect (Creole) is widely spoken.

The topography is mountainous and the many rivers flowing from those peaks provide an ample supply of water. The Island is relatively quiet and is popularly considered the appropriate hide-away from the hustle-bustle of life. The political climate is stable and based on a multi-party democracy. Dominica is also becoming a better known tourist destination. The three major markets are the Caribbean, the United States of America and Europe.

Dominica consists of ten parishes (see map on 5) that are conveniently used for demographic and other analytical purposes. The capital city Roseau is located within the Parish of St. George, in the south-west.

SOCIO-ECONOMIC BACKGROUND

TABLE 1.1: Non-Institutional Population at Census Dates (1946-2001)

	1946 9 th April	1960 7 th April	1970 7 th April	1981 7 th April	1991 12 th April	2001 12 th May (p)
TOTAL	47,624	59,916	69,548	73,795	71,183	71,242
MALE	22,277	28,167	32,967	36,754	35,471	36,081
FEMALE	25,347	31,749	36,581	37,041	35,712	35,161

Source: Central Statistical Office

(p) Preliminary data

TABLE 1.2: Total End of Year Population Estimates by Sex (1994-2000)

YEAR	1994	1995	1996	1997	1998	1999	2000
TOTAL	72,494	72,713	72,267	72,099	71,984	71,631	71,430
MALE	37,414	37,386	37,090	36,722	36,633	36,489	34,999
FEMALE	35,080	35,327	35,177	35,377	35,351	35,142	36,431

Source: Central Statistical Office

Chart1: End of Year Population by Sex (1994-2000)

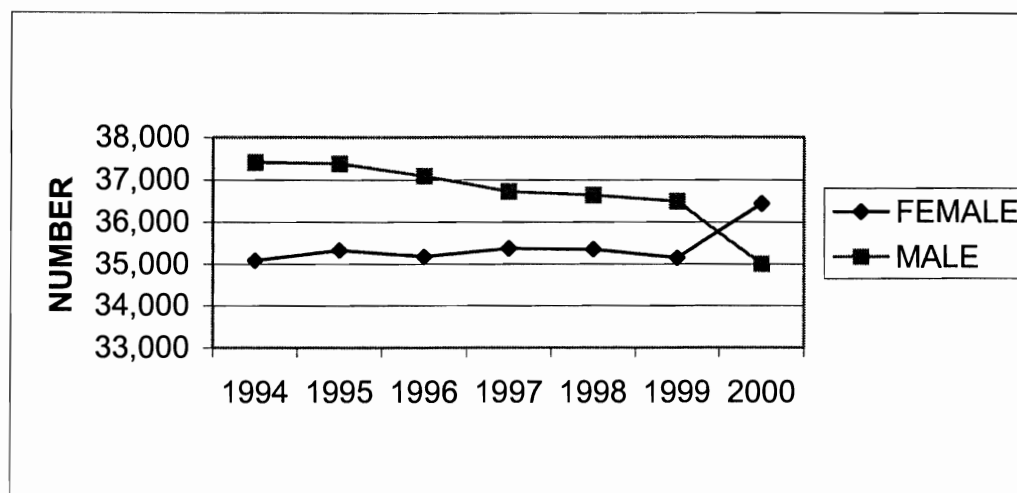


TABLE 1.3: Life Expectancy (1995-2001)

Period	Male	Female	Both Sexes
1995	71.8	74.8	73.3
1996	71.7	75.0	73.4
1997	71.0	75.4	73.7
1998	71.4	75.4	73.4
1999	71.0	75.1	73.1
2000	71.0	74.8	72.7
2001	71.0	74.9	72.9

Source: Central Statistical Office, Demographic Statistics

CHART 3: Life Expectancy (1995-2001)

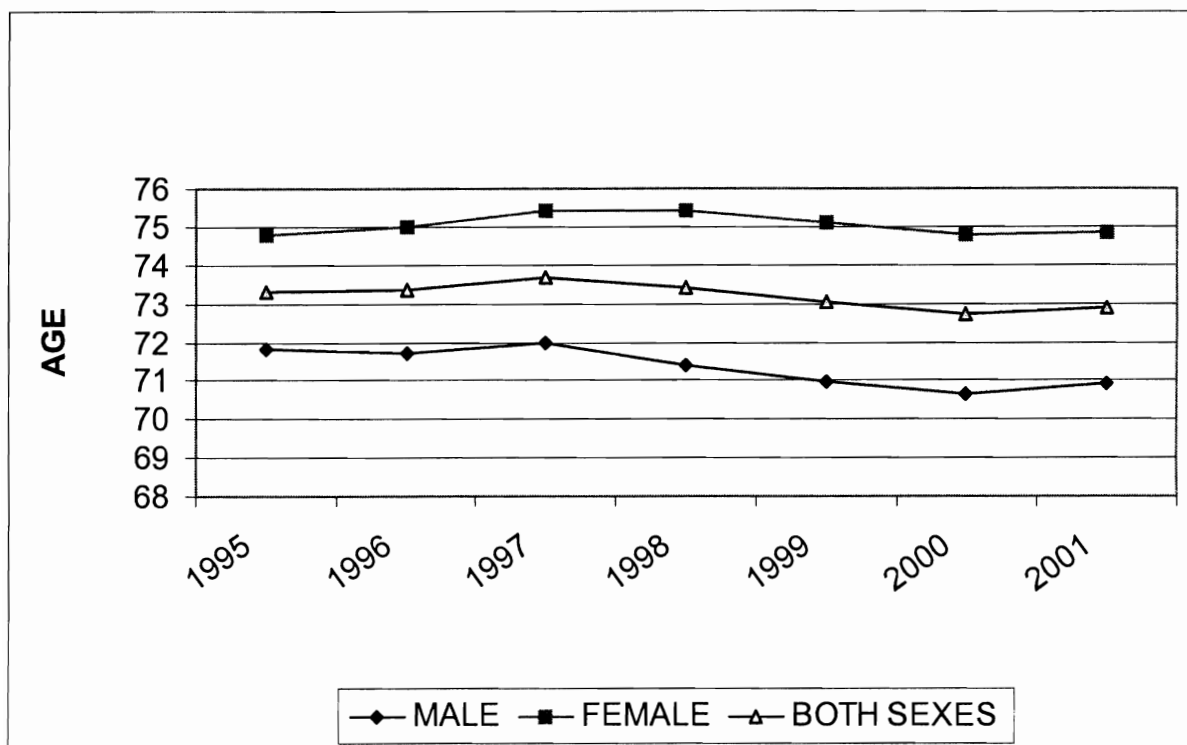


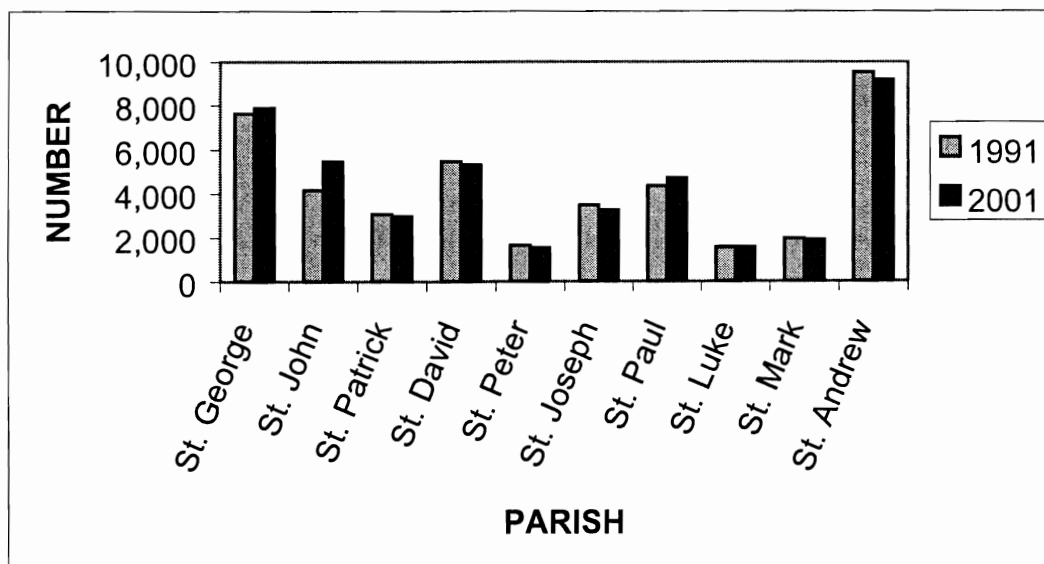
TABLE 1.4: Population on Coast Line by Parish (1991 & 2001)

PARISH	POPULATION	
	1991	*2001
St. George	7,637	7,893
St. John	4,165	5,464
St. Patrick	3,068	2,971
St. David	5,476	5,318
St. Peter	1,638	1,518
St. Joseph	3,478	3,252
St. Paul	4,359	4,719
St. Luke	1,552	1,576
St. Mark	1,943	1,891
St. Andrew	9,515	9,184
TOTAL	42,831	43,786

Source: Central Statistical Office (1991 Population Census) and Preliminary Data from 2001 Population Census

*Data Preliminary

CHART 3: Population on Coastline by Parish (1991 & 2001)



**TABLE 1.5: Gross Domestic Product by Economic Activity, At Factor Cost
In Current Prices (EC\$M)
(1995-2000)**

SECTOR	1995	1996	1997	1998	1999	2000R
Agriculture	94.55	106.99	107.58	110.27	114.12	112.54
Crops	75.68	87.82	86.73	88.36	91.66	90.10
Livestock	7.41	7.51	7.94	8.07	8.19	8.27
Forestry	3.43	3.48	3.53	3.56	3.59	3.62
Fishing	8.03	8.18	9.38	10.28	10.68	10.55
Mining & Quarrying	4.70	4.85	5.09	4.63	4.90	5.02
Manufacturing	37.17	39.43	42.29	50.81	49.30	54.44
Electricity & Water	21.11	23.60	26.21	29.24	33.49	34.63
Construction	46.96	48.49	47.66	46.27	48.96	50.19
Wholesale & Retail Trade	58.62	62.30	65.39	67.72	70.20	72.58
Hotels & Restaurants	15.06	14.76	15.20	15.50	16.16	15.39
Transport	51.49	54.46	53.36	55.53	57.56	56.51
Road Transport	27.13	28.22	28.64	28.35	28.36	29.60
Sea Transport	19.89	21.64	19.98	22.63	24.08	22.03
Air Transport	4.47	4.60	4.74	4.55	5.12	4.88
Communications	38.32	39.48	44.57	49.46	52.12	47.84
Banks & Insurance	59.85	61.57	59.79	65.73	68.72	70.11
Real Estate & Housing	17.81	18.48	19.12	19.88	20.27	20.88
Government Services	93.71	100.93	103.83	112.87	116.51	121.69
Other Services	7.65	8.11	8.47	9.07	9.45	9.50
Less Imputed Service Charge	46.32	45.96	43.86	51.93	52.11	53.98
TOTAL	500.68	537.49	554.70	585.05	609.65	617.34
GROWTH RATE	1.34	7.35	3.20	5.47	4.20	1.26

Source: Eastern Caribbean Central Bank/Central Statistical Office, National Accounts Statistics, 2001

CLIMATE & AIR

**TABLE 2.1: Mean Annual Air Temperature, Relative Humidity
And Rainfall (1994 – 2000)**

Year	Mean Annual Air Temperature (degrees C)		Total Rainfall (mm)	Average Relative Humidity (%)
	MAX	MIN		
1994	29.7	24.1	1707	67
1995	30.1	24.5	2940	74
1996	29.4	24.6	2102	74
1997	29.7	25.3	1976	73
1998	30.1	25.3	1693	75
1999	29.6	24.9	1992	73
2000	29.2	24.6	1806	72

Source: Meteorological Office, Canefield and Melville Hall Airports

The temperature in Dominica has maintained a relatively normal pattern with slight fluctuations over the years, the lowest maximum mean average of 29.2 C recorded in 2000 and the highest of 30.1 C in 1995 and 1998 (Table 2.1). For the minimum mean average temperature, there was a constant rise until 1999 when a slight decrease of 0.4 C was registered. The decline continued in the following year (2000) recording a 0.3 C decrease. Over the last seven years the lowest rainfall recorded was in 1998 while the highest was registered in 1995.

CHART 4: Mean Annual Air Temperature (1994-2000)

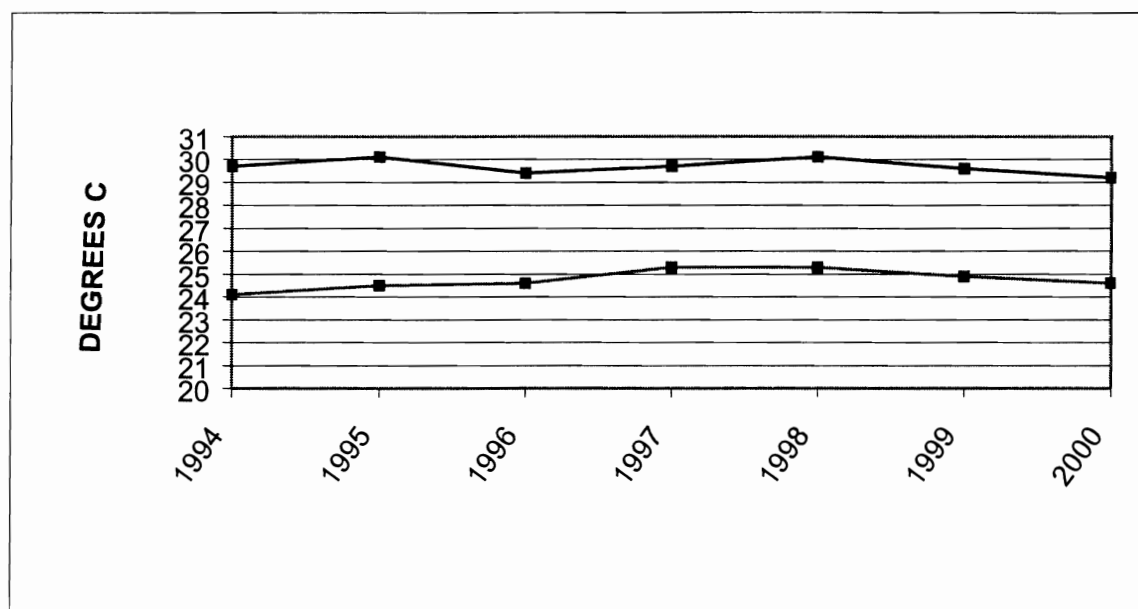


TABLE 2.2: Imports of Ozone Depleting Substances 2000 – 2001

(kg)

Ozone Depleting Substances	2000	2001
CFC 11
CFC 12	2,046	1,441
HCFC 22	2,902	2,180
CFC 15 (0.8 x R502)	120	200.8
Total	5,068	3,812.8

Source: Environmental Coordinating Unit, ODS Survey Report 2002
Ministry of Agriculture and Environment

According to the source, Imports of Ozone Depleting Substances (ODS) increased by 35% in 2000 over the 1995 to 1997 average imports level, while in 2001 ODS imports increased by 14% over the 1995 to 1997 average (table 2.3).

TABLE 2.3: Percentage Increase in ODS Imports over 1995 – 1997 Average Levels

Year	2000	1995 - 1997	% increase	2001	1995 – 1997 (average)	% increase
Total ODS (kg)	5,068	3,270	35	3,821	3,270	14

Source: Environmental Coordinating Unit, ODS Survey Report 2002
Ministry of Agriculture and Environment

TABLE 2.4: Consumption of ODS 2000 – 2001

(kg)

CFC11		CFC12		HCFC22		CFC15 (R502 x 0.8)	
2000	2001	2000	2001	2000	2001	2000	2001
41	41	1,209	1,182	2,686	2,713	87.2	87.2

Source: Environmental Coordinating Unit, ODS Survey Report 2002
Ministry of Agriculture and Environment

To obtain this information, eight (8) major service providers in the refrigeration and air conditioning sectors were interviewed during the survey to determine their consumption of ODS in the repair and servicing of refrigerators and air conditioning units.

LAND USE AND AGRICULTURE

TABLE 3.1: Number of Farms (1958, 1961, 1976, 1983 & 1995)

Farm Size (Acres)	1958	1961	1976	1983	1995(adjusted)
Landless	*	442	*	*	824
0.01 – 4.9	6,864	6,405	5,957	6,540	6,696
5.0 – 49.9	1,748	2,087	1,814	1,728	2,448
50.0 – 99.9	95	78	67	74	61
100 & +	85	97	84	22	71
Total	8,792	9,109	7,822	8,364	10,100

Source: Ministry of Agriculture: 1961, 1976, 1995 Agricultural Census

*Information Added to Interval 0.01 – 4.9

An increase of about 1000 farms was recorded from 1961 to 1995. However over the same period a decrease of 23.98% was registered for acreage under farms (Table 3.2). The decline is due to the change in land use of larger farms. The difference in the acreage may be explained by farms that have been divided, abandoned, changed of land use (forest, tourism etc.) or do not exist since they were not found in the 1995 Agricultural Census.

The number of landless farm increased more that 80% from 1961 to 1995 (adjusted).

TABLE 3.2: Land under Farms

(‘000 acres)

	1958	1961	1976	1983	1995
Landless	*	0	*	*	0
0.01 – 4.9	10.3	10.1	9.0	14.2	13.7
5.0 – 49.9	18.9	20.3	18.9	19.7	24.1
50.0 – 99.9	6.3	5.1	3.8	6.4	4.0
100 & +	38.4	40.8	39.7	2.9	16.2
Total	73.9	76.3	71.4	43.2	58.0

Source: Ministry of Agriculture, 1958 Farm Register, 1983 Small Farm Register

* Information Added to Interval 0.01 – 4.

TABLE 3.3: Actual Land Use in 1961 & 1995 Agricultural Census

Census Year	Total Acreage	TOTAL	Cultivated	%	Forest	%	Other	%
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	Under Farms	%						
1995 Not Adjusted	52.2	100.0	32.2	61.7	14.8	28.3	5.2	10.0
1995 Adjusted	58.0	100.0	35.8	61.7	16.4	28.3	5.8	10.0
1961	76.2	100.0	33.7	44.2	37.1	48.7	5.4	7.1

Source: Ministry of Agriculture 1961, 1995 Agricultural Census

Of the 61.7% (32,200) acres enumerated under farms 2,300 acres were recorded under temporary crops, 29,300 acres with permanent crops and 600 acres under fallow of one year and less. Approximately 28.3% (14,800 acres) was classified as forest; the remaining 10% (5,200) was classified as other, which included fallow more than one year to three years (2,500 acres), pastures (1,700 acres) and 1,000 acres of non agricultural areas (waste land, construction, etc).

**TABLE 3.4: Use of Fertilizers and Agro-Chemicals on Farms during Census Year (1995)
By Size of Farm**

Size of Farm (Acres)	Organic Manure Fertilizers	Inorganic Fertilizers	Agro-Chemicals
0.01-0.99	580	1,105	880
1.00-4.99	1,130	3,625	3,445
5.00-9.99	277	1,189	1,148
10.00-24.99	157	577	563
25.00-49.99	19	71	63
50.00-99.99	22	41	33
100.00-199.99	12	26	25
200.00-499.99	11	16	15
500.00 and more	3	5	3
TOTAL	2,211	6,655	6,175

Source: Ministry of Agriculture 1961, 1995 Agricultural Census

Out of a total of 8,434 farms interviewed, a percentage of 26.2 percent used Organic Manure Fertilizers, 78.9 used Inorganic Fertilizers and 73.2 used Agro Chemicals in their farming practices.

The inappropriate use of chemical fertilizers may cause run offs into streams, rivers and lakes, thereby causing contamination to the water. This may result in the death of different species of wildlife living in those water sources and even become harmful overtime, to the human population.

TABLE 3.5: Production of Main Agricultural Crops (1995 – 2000)

(tonnes)

CROPS	1995	1996	1997	1998	1999	2000
Banana	39,144	49,487	43,806	37,145	34,979	37,800
Coconut	15,453	10,800	13,408	13,569	13,598	11,820
Dasheen	11,858	11,862	11,281	11,903	11,929	11,754
Grapefruit	10,682	11,641	11,012	19,100	16,645	18,222
Limes	1,058	1,102	1,353	1,447	1,147	1,356
Mangoes	2,362	1,714	1,766	1,700	1,671	1,720
Oranges	3,367	3,514	3,871	3,851	3,521	3,553
Plantain	7,899	8,212	8,637	8,608	8,344	8,060
Sweet Potatoes	1,734	1,715	1,722	1,665	1,653	1,695
Tannias	4,408	3,636	3,500	3,534	3,518	3,409
Yams	7,066	7,672	7,648	7,290	7,187	6,880
Pears	323	400	471	469	628	540
Other	6,873	7,478	7,393	6,335	6,559	6,688

Source: Ministry of Agriculture & Central Statistical Office

TABLE 3.6: Livestock Production (1995-2000)
Number Killed

Livestock	1995	1996	1997	1998	1999	2000
Cows	557	579	572	473	507	513
Pigs	419	417	421	689	671	731
Goat/Sheep	146	142	140	63	57	71
Chicken	93	93	90	936	1,112	1,036

Source: Environmental Health, Ministry of Health

TABLE 3.7: Imports of Pesticides and Fertilizers (1995-2000)

	1995		1996		1997		1998		1999		2000	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
Insecticide	290	3,964	312	3,150	180	2,076	201	2,182	217	2,225	329	1,12
Fungicide	84	7,776	78	2,596	43	1,416	5	186	36	1,205	88	41
Herbicide	192	2,017	184	2,217	133	1,566	99	988	126	1,549	102	1,31
Rodenticide	4	42	2	25	7	70	6	64	10	114	8	72
Fertilizer	7,133	7,495	6,060	5,282	4,957	5,588	4,286	4,125	4,574	3,662	3,276	2,76

Source: Central Statistical Office

N.B. Quantity: Tonnes

Value: EC\$'000

TABLE 3.8 : Number of Licenses issued for the Importation of Pesticides (1997-1999)

Type	1997	1998	1999
Insecticide	31	22	31
Herbicide	18	9	11
Rodenticide	12	7	5
Fungicide	7	8	11
Nematicide	2	0	0
Molluscicide	2	1	2
Pheromone	0	0	2
Spreader	0	1	1
Buffer	0	0	1

Source: Pesticide Control Board, Ministry of Agriculture

BIODIVERSITY

TABLE 4.1: National Parks and Forest Reserves by Area and Year Established

PARK AND FOREST	YEAR ESTABLISHED	AREA IN ACRES
Parks:		
Morne Trois Piton National Park	1975	16,984
Cabrits National Park	1986	260
Morne Diablotin National Park	2000	8,242
Forest:		
Central Forest Reserve	1952	1,013
Northern Forest Reserve	1977	13,730

Source: Forestry and Wildlife Division, Ministry of Agriculture

The Morne Trois Piton National Park established in 1975, includes the Archbold Reserve, an area over 900 acres donated by the late John D. Archbold.

The original area of the Northern Forest Reserve was 21,770 acres, but approximately 8,000 acres of this Reserve was re-designated as the Morne Diablotin National Park in 2000.

Morne Diablotin National Park includes the 204 acres, Syndicate Parrot Reserve. The Government of Dominica acquired this area in 1989 from private owners.

TABLE 4.2: Number of Licenses Issued by Type (1995 – 1999)

	1995	1996	1997	1998	1999
Hunting	271	344	405	193	0
Fishing	229	267	387	167	0
Removal Permits*	250 _(e)	225 _(e)	100	202	216
Timber Cutting License	68	49

Source: Forestry and Wildlife Division, Ministry of Agriculture

(e) Estimate

*i.e. Travelling out of state with forest produce

The ban on hunting and fishing introduced in September 1998 was temporarily lifted at the beginning of October 1999 to the end of the year. The ban however came into full force from January 1999 and as a result, no hunting and fishing licenses was issued.

TABLE 4.3: Estimated Number of Endangered /Threatened Species

Type	Number of Native Species	Number of Endangered/ Threatened Species	Endangered/ Threatened Species as a % of Total
Birds	59	2	3
Mammals	15	0	0
Lizards	10	1	10
Amphibians (Frogs)	3	0	0
Crustaceans	31	0	0
Fresh Water Fish	10	0	0

Source: Forestry and Wildlife Division, Ministry of Agriculture

Of the 59 resident species of birds in Dominica, the Sisserou Parrot, which is the National Bird of Dominica, is one of the two on the endangered species list. The hunting and capture of this National symbol is strictly prohibited. The Jaco Parrot is also a threatened species. The Iguana is the only threatened species of Lizard on the island. As a result of the sharp decreases in the number of turtles on the island, there is a ban on the hunting and capturing of turtles.

COASTAL AND MARINE RESERVES

TABLE 5.1: Fish Landed (1995 – 1999)

Year	Quantity '000 kg
1995	1,892
1996	2,036
1997	2,158
1998	2,466
1999	2,501

Source: Fisheries Division, Ministry of Agriculture

CHART 5: Fish Landed (1995-1999)

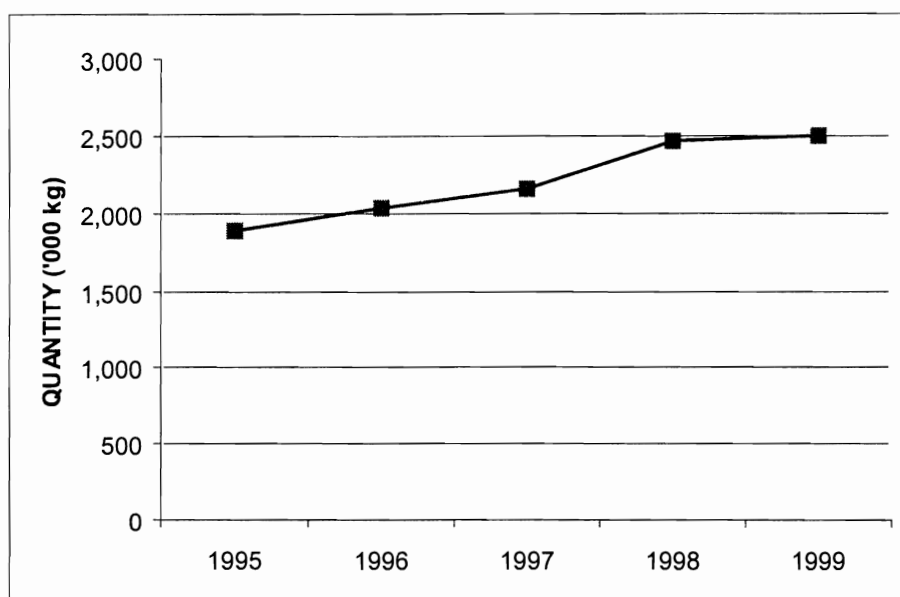


TABLE 5.2: Registrations by Type (1992-1999)

Type of Registration	Number Issued
Fishermen	1,446
Boat (Vessel)	1,023
Non-Registered Fishermen	2,235

Source: Fisheries Division, Ministry of Agriculture

Over the period 1992 – 1999, 1446 fishermen were officially registered with the Fisheries Division, (Table 5.2). These fishermen are issued a registration number and an identification card.

TABLE 5.3: Number of Shrimp/Prawn Farms (1995 – 1999)

Location	Number of Farms
Belfast	1
Canefield	1
Marigot	1
Stowe	1
Layou Valley	1
Castle Bruce	1

Source: Fisheries Division, Ministry of Agriculture

Shrimp farming is done on a very small scale in Dominica and is a relatively new industry. As registered by the Fisheries Division, there are only six shrimp farms in Dominica.

TABLE 5.4: Marine Reserves

Reserve	Area (Acres)	Year Established
Cabrits National Park (Marine Section)	1054	1996
Soufriere/Scottshead Marine Reserve (SSMR)	...	1998

Source: Forestry and Wildlife Division, Ministry of Agriculture

TABLE 5.5: Type of Restrictions for Threatened and Protected Marine Species

Species	Type of Restriction
Lobsters	30 April – 1 st September (Closed Season)
Turtles	20 th February – 1 st October (Closed Season)
Conchs	Size of catch restricted

Source: Forestry and Wildlife Division, Ministry of Agriculture

Lobsters, Turtles and Conchs are the only threatened species reported by the Fisheries Division. There is however, a closed hunting season yearly to aid in increasing these species during breeding.

TABLE 5.6: Mangrove Area by Location and Acreage (1995-1999)

Location	Species	1995	1996	1997	1998	1999
Hampstead Bay Marigot	White Mangrove	28 trees	24 trees	24 trees	24 trees	24 trees
Cabrits Swamp Portsmouth	White Mangrove	69 trees	69 trees	69 trees	69 trees	69 trees
Tou Ma Tante Calibishie	Black Mangrove	18 trees	17 trees	17 trees	17 trees	17 trees
Eden-on-Sea Wesley	Black Mangrove	6 trees	5 trees	5 trees	5 trees	5 trees
Nyah Estate, Grand Savanne Salisbury	Black Mangrove	9 trees	9 trees	9 trees	9 trees	9 trees
Bibay, La Plaine	Black Mangrove	<30 trees	<30 trees	<30 trees	<30 trees	<30 trees
Bottom Wesley	Black Mangrove	<10 trees	<10 trees	<10 trees	<10 trees	<10 trees

Source: Forestry and Wildlife Division, Ministry of Agriculture

Dominica does not possess any large area/stand of mangroves. However very small stands are reserved at Cabrits and Bibay; the mangroves are restricted to lining ravines and small rivers.

ENERGY

TABLE 6.1: Electricity Generation, Sales and Consumers (1995 – 2000)

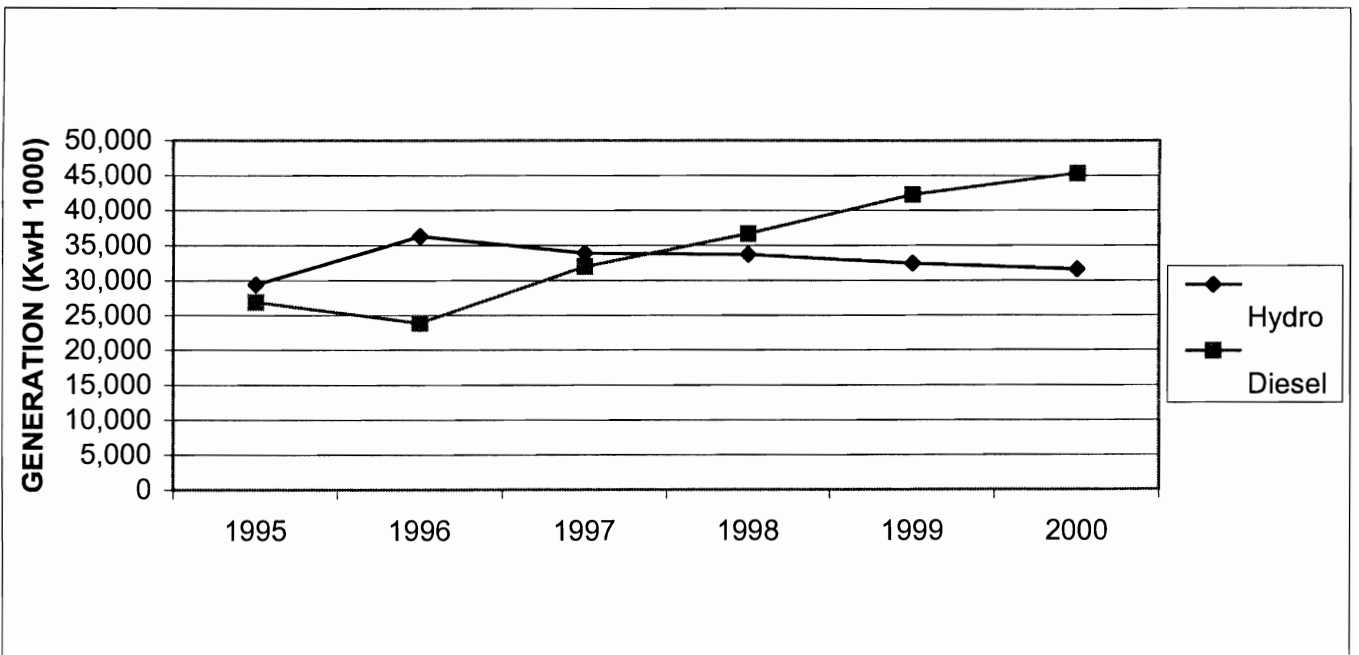
Description	1995	1996	1997	1998	1999	2000
Generation (1000 kWh)						
Hydro	29,362	36,226	33,841	33,670	32,410	31,590
Diesel	26,847	23,867	31,942	36,630	42,226	45,336
TOTAL	56,209	60,093	65,783	70,300	74,636	76,926
Diesel Fuel used in Generation (Imp. Gallon)	1,584,463	1,502,680	1,850,422	2,131,978	2,462,890	2,683,510
Sales (1000 kWh)						
Domestic	23,485	24,968	26,721	28,716	30,023	30,872
Commercial	12,723	13,447	15,192	17,079	18,747	19,206
Industrial	2,306	2,686	2,326	4,348	4,553	4,420
General Lighting	5,825	6,566	7,054	6,110	6,202	6,409
Street Lighting	813	914	1,000	1,041	1,069	1,098
TOTAL	45,125	48,581	52,293	57,294	60,594	62,005
Consumers at Year End						
Domestic	19,270	20,062	20,903	21,528	22,196	22,802
Commercial	1,552	1,600	1,702	1,590	1,824	1,909
Hotels	23	26	25	24	23	23
Industrial	51	50	47	41	42	41
Street Lighting	184	189	194	202	223	234
General Lighting	1,014	1,089	1,193	1,216	1,297	1,374
TOTAL	22,094	23,016	24,064	24,601	25,605	26,383

Source: Dominica Electricity Services, 1999 & 2000 Annual Report

The Dominica Electricity Services Limited is the only company regulated under the Electricity Supply Act, 1996, for electricity generation, transmission and distribution in the Commonwealth of Dominica. The company is a subsidiary of CDC Group plc, a Company in the United Kingdom.

Information which was mainly compiled from Domlec's Annual Report showed that there was an increase in the use of both hydro and diesel, 7.6% and 68.9% respectively, for the generation of electricity from 1995 to 2000. There were steady increases in the sale of electricity in the Domestic, Commercial and Street Lighting sectors while there were fluctuations in Industrial and General Lighting.

CHART 6: Electricity Generation (1995-2000)



WATER

TABLE 7.1: Potable Water Consumption and Distribution (1995 – 2000)

Distribution	1995	1996	1997	1998	1999	2000
Domestic:						
Metered – number	4,391	5,095	6,387	na	8,072	8,405
Non-metered – number	6,605	6,318	5,717	na	6,189	5,231
Consumption ('000 gals)	210,768	244,560	306,672	369,600	342,000	336,071
Industrial:						
Metered – number	66	72	74	na	69	65
Consumption ('000 gals)	39,600	43,200	44,400	48,000	54,060	35,648
Commercial:						
Metered – number	464	562	604	na	498	449
Consumption ('000 gals)	83,520	100,800	108,220	110,700	104,940	60,343
Government:						
Metered –number	140	145	153	na	176	193
Consumption ('000 gals)	84,266	87,276	92,076	92,076	90,000	69,158
Standpipes – number	591	592	606	598	599	600
Consumption ('000 gals)	164,006	164,294	165,127	166,237	165,324	123,993
Total Consumption	582,160	640,130	716,495	786,613	756,324	625,213

Source: Dominica Water and Sewerage Company

The number of metered household increased from 4391 in 1995 to 8405 in 2000, recording a 91.4% increase. The meter installation system in newly built structures and reconnected buildings contributed to this sharp increase (Table 7.1). In spite of an increase in the number of meters installed in public institution for the period (1997-2000), consumption declined.

**TABLE 7.2: Percentage Distribution of Households by
Type of Water Facility (1970, 1981 and 1991)**

	1970	1981	1991
Private Piped into Dwelling	5.1	9.3	10.0
Private Catchment not Piped	2.2	1.6	2.0
Public Piped into Dwelling	8.3	12.8	29.6
Public Piped into Yard	7.4	9.5	10.6
Public Standpipe	51.1	47.3	37.3
Public Well or Tank	0.7	1.0	2.6
Other	25.2	18.5	7.9
TOTAL	100.0	100.0	100.0

Source: 1970, 1981 and 1991 Population and Housing Censuses

WASTE

TABLE 8.1: Solid Waste Disposal (1995-1999)
(tonnes)

	1995	1996	1997	1998	1999
LANDFILLS	10,000	10,000	11,000	12,000	12,775

Source: Dominica Solid Waste Management Corporation

Due to the unavailability of accurate data on sanitation the information available are estimates.

For the proper disposal of solid waste, skips and bins are made available (by the Solid Waste Management Corporation) to different communities, and are collected daily.

According to data source, the average daily waste generated in Dominica is 0.50 kg per person.

Currently there are no official records of any other form of recycling.

CHART 7: Generated Waste Disposal (1995-1999)

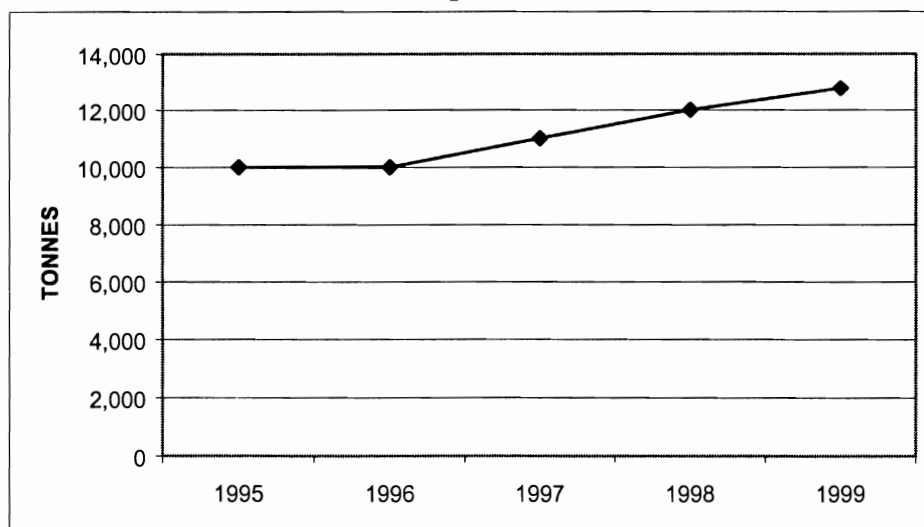


TABLE 8.2: Annual Expenditure on Solid Waste (1995/1996 – 1999/2000)

YEAR	EC \$'000
1995/1996	1,450
1996/1997	1,068
1997/1998	1,691
1998/1999	2,226
1999/2000	2,213

Source: Dominica Solid Waste Management Corporation.

TRANSPORT

TABLE 9.1: Imports of Motor Vehicle by Type (1995 – 2000)

Year	Tractor	Coaches, Buses & Mini Buses	Motor Cars	Dumpers	Lorries (Trucks)	Total
1995	5	74	366	149	8	602
1996	12	88	603	214	2	919
1997	8	98	674	230	5	1,015
1998	13	107	607	195	3	925
1999	15	143	878	430	11	1,477
2000	16	93	765	441	10	1,325

Source: Central Statistical Office and Customs Department.

From 1995 to 2000, the number of motor cars imported almost doubled from 366 in 1995 to 765 in 2000. Overall, there were steady increases in the total importation of motor vehicles with the only fluctuation occurring in 1998 and 2000.

TABLE 9.2: Aircraft Movement and Cargo Handled (1995 – 2000)

Year	Total Number of Aircraft Movements	Cargo (kg)	
		Set Down	Picked Up
1995	20,307	442,374	636,392
1996	20,070	485,961	435,492
1997	18,672	536,715	348,051
1998	14,262	512,447	381,809
1999	13,898	742,134	355,561
2000	16,468	682,180	298,521

Source: Canefield and Melville Hall Airport

From 1995 to 1999 there were constant decreases in the total number of aircraft movements with the sharpest decrease in 1998. This was mainly as a result of the suspension of operation of a major airline at the Canefield Airport. However an increase was registered in 2000.

TABLE 9.3: Number of Motor Vehicle Licensed (1) (1995 – 1998)

Year	PRIVATE CARS (2)	TAXIS	BUSES	MOTOR CYCLES (3)	TRUCKS ETC (4)	JEEPS	TRACTORS (5)	TOTAL
1995	6,747	95	631	98	2,280	446	28	10,325
1996	7,230	108	749	102	2,531	475	33	11,228
1997	7,224	133	709	95	2,331	415	50	10,957
1998	7,330	205	649	88	2,296	370	48	10,986

Source: Traffic Department, Commonwealth of Dominica Police Force

Notes: (1) including tax-exempt vehicles
(2) including state cars
(3) including scooters and mopeds
(4) including pickups and vans
(5) including excavators and trailers

The number of licensed motor vehicles in Dominica recorded a 6.4% increase from 1995 to 1998. Of all licensed motor vehicles, taxis registered the highest percentage increase moving from 95 in 1995 to 205 in 1998.

TOURISM

TABLE 10.1: Tourist Arrival by Purpose of Visit (1995-2000)

Year	Holiday	Business	Student	Other	Total
1995	50,243	7,067	2,785	376	60,471
1996	51,326	7,815	3,621	497	63,259
1997	53,464	7,849	3,991	142	65,446
1998	53,965	7,891	3,377	178	65,501
1999	59,331	9,711	3,527	937	73,506
2000	56,489	9,103	3,305	701	69,598

Source: Travel Report, Central Statistical Office

CHART 8: Tourist Arrival by Purpose of Visit (1995-2000)

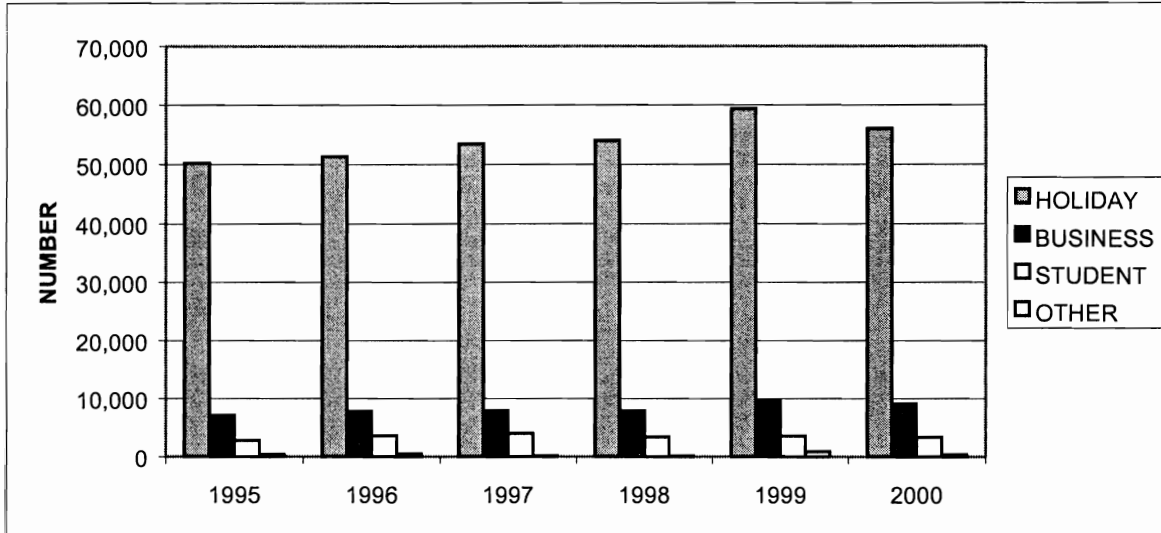


TABLE 10.2: Visitor Arrival by Mode of Travel (1995-2000)

Mode of Arrival	1995	1996	1997	1998	1999	2000
AIR	44,348	46,951	48,332	46,702	53,531	49,887
SEA	24,490	21,697	20,424	20,267	23,899	22,367
CRUISE SHIP	134,921	193,484	230,581	244,603	202,003	239,796

Source: Travel Report, Central Statistical Office

From 1995 to 2000 total visitors to Dominica registered a 4.96% increase from 68,838 to 72,254, (Table 10.2) while cruise visitors recorded a 77.7% increase from 134,921 to 207,627 (Table 10.2).

CHART 9: Visitor Arrival by Mode of Travel

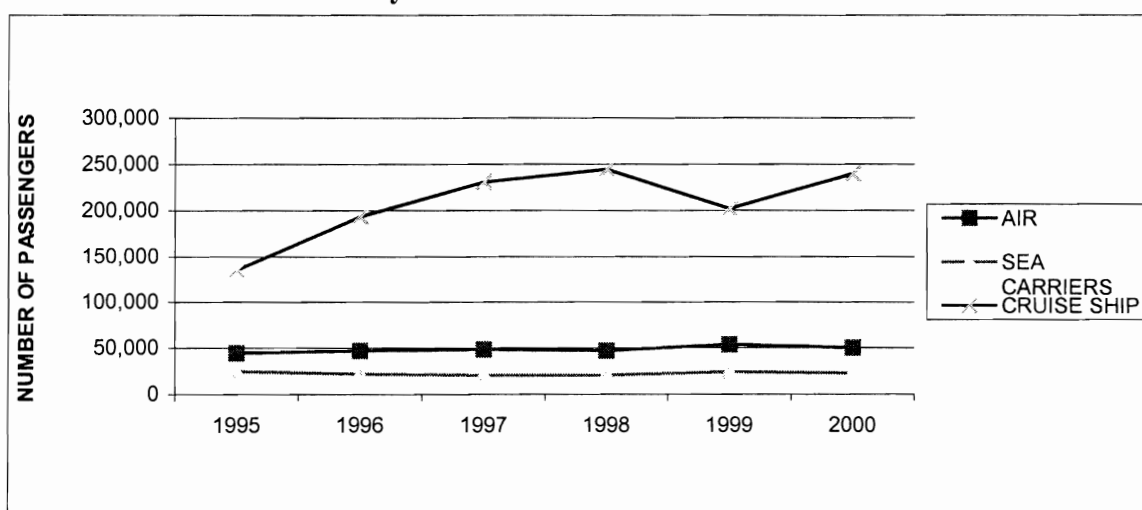


TABLE 10.3: Number of Visitors to Tourist Attraction Sites (1998-2000)

Site	*1998	1999	2000
Emerald Pool	100,913	92,689	97,486
Trafalgar Falls	90,558	83,876	97,694
Soufriere Sulphur Springs	10,529	12,792	12,014
Middleham Falls	9,083	4,662	4,242
Indian River	10,265	16,212	10,422
Cabrits National Park	9,595	13,811	11,858
Syndicate Natural Trails	520	828	432
Boiling Lake	2,297	3,567	2,995
Boeri/Fresh Water Lake	5,310	5,448	3,824
TOTAL	239,070	233,885	240,967

Source: Forestry Division, Ministry of Agriculture

N.B. * data for 1998 based on May-December

A User Fee System was introduced in June 1997. From this system the number of visitors to the various Eco-Tourism Sites were officially recorded. From 1998 the Emerald Pool recorded the highest number of visitors (except for a slight drop in 2000). The Trafalgar Falls has been the next popular site (Table 10.3). The Emerald Pool accounts for 40% to 42% of all visitors to sites.

TABLE 10.4: Registered Hotels and Guesthouses (1995 – 2000)

Year	Hotels		Guesthouses		Apartment & Cottages		Total	
	NO.	NO. OF ROOMS	NO.	NO. OF ROOMS	NO.	NO. OF ROOMS	NO.	NO. OF ROOMS
1995	20	335	18	160	20	93	58	588
1996	17	422	24	225	25	117	66	764
1997	16	504	23	224	20	96	59	824
1998e	18	534	24	219	21	94	63	847
1999	19	563	24	213	21	91	64	867
2000	19	562	25	228	22	100	66	890

Source: Travel Report, Central Statistical Office

e: estimate

NATURAL DISASTER

TABLE 11.1: Natural Disasters (1979 – 1999)

Year	Type of Disaster	Name of Disaster	No. of Persons Killed
1979	Hurricane	David	45
1979	Hurricane	Frederick	0
1980	Hurricane	Allen	0
1984	Hurricane	Klaus	0
1988	Hurricane	Gilbert	0
1989	Hurricane	Hugo	0
1994	Tropical Storm	Debbie	0
1995	Tropical Storm	Marilyn	1
1995	Tropical Storm	Luis	0
1995	Tropical Storm	Iris	0
1999	Hurricane	Lenny	1

Source: Dominica, Natural Disasters and Economic Development in a Small Island State

Dominica has been vulnerable to natural disasters. Some of the key events from the period 1979 to 1999 have been Hurricane David and Frederick in 1979, Allen in 1980, Hugo in 1989, three (3) Tropical Storms in 1995 and Hurricane Lenny in 1999. The largest environmentally significant landslide was the Layou River Landslide in 1997, although no lives were lost, the socio-economic impact was substantial in other ways.

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