

ANNUAL REPORT OF THE FORESTRY SERVICE FOR THE YEAR 2006

Main features of the year

The main features of the year were: -

(i) New National Forest Policy

Mr. Haluk Hilmi, a FAO International Consultant, visited Mauritius from 26 March to 14 April 2006 for his second mission in the context of finalization of the new National Forest Policy. The first draft of the policy document, prepared in December 2005, was circulated to all key stakeholders for comments. A national workshop was held on the 6th of April, 2006 and a final draft of the National Forest Policy was drawn and submitted to the Ministry of Agro Industry & Fisheries. The National Forest Policy was approved by Government on the 16th of June, 2006.

(ii) Conservator of Forests

Mr.S.Paupiah, Conservator of Forests, proceeded on leave without pay for a period of three years with effect from 9 October 2006 to take up employment at UNDP as Project Manager of UNDP/GEF/FAO/GoM Project on Capacity Building for Sustainable Land Management in Mauritius and Rodrigues. As from the 9 October 2006, Mr.S. Appiah was the Acting Conservator of forests.

(iii) Nurseries, The Tree Seed Centre & Greenhouse

530,290 plants were raised in the six Nurseries, the Tree Seed Centre and the Greenhouse of the Forestry Service. A stock of 658,484 was carried over from the previous year and the stock remaining at the end of the year was 678,683. Some 108,933 plants were sold to the public.

(iv) National Tree Planting Campaign

34,476 plants were issued free of charge under the National Tree Planting Campaign.

(v) Plantations

Some 54 ha were cleared and 80 ha. of new plantations were created. The plantations consisted mostly of Pine.

(vi) Tending (Maintenance of young plantations)

Some 266 hectares of young plantations were weeded. Recruiting was carried out on 257 hectares to replace dead and dying plants. 331 hectares were cleaned of noxious weeds and undergrowths, 26 hectares were pruned and staking was carried out over an extent of 43.5 ha.

(vii) Forest Conservation

In-situ conservation has been effected at Les Mares, Gouly Père and Perrier Nature Reserves.

The Greenhouse, Tree Seed Centre and other Forest nurseries have raised some 67,522 native plants (including ornamental and medicinal plants) during the year under review. Some critically endangered plants like *Trochetia parviflora*, *Begonia salaziensis* & *Dombeya populnea* have been successfully raised.

(viii) Recreational Forestry

Monvert Nature Walk (near Forest Side) has already been completed and is operational. It was inaugurated on the 22nd of June 2006 by the Senior Chief Executive, Mrs. Beegum, of the Ministry of Agro Industry & Fisheries. It has become a great attraction in the uplands and receives many visitors who spend a pleasant and memorable time in this beautiful environment. Visitors Centre, Kiosks, tables & benches and other amenities have been set up. Powder Mills Nature Walk, near SSR National Hospital, Pamplémousses, is nearing completion and it is expected to be operational in May 2007.

Nature Walk provides a great opportunity for people to learn and appreciate the rare indigenous and endemic fauna and flora, their value to society and the need to conserve them.

Some 25,000 people visited Monvert & Bras D'Eau Nature Walk during the year 2006.

(ix) Exploitation

7,103 m³ of timber and poles were put on the market along with 3,473 m³ of fuelwood.

(x) Forest Legislation

The Forests and Reserves Act No. 41 of 1983 as amended by Act No.1 of 1986 and Act No.7 of 2003 is still in force for the administration and management of Forest Resources.

CHAPTER 1

Management

- 1.1 The new National Forest Policy was approved by Government on the 6th of June 2006. It accords highest priority to the environmental functions and non-consumptive uses of forests (Conservation of soil, water and biological diversity; recreation and ecotourism). The following ten main issues hindering progress in the forest sector have been identified and strategies to address each one of them have been proposed in the policy document:-
- (i) Conservation and protection of watersheds and other environmentally sensitive areas in Mauritius and Rodrigues;
 - (ii) Increasing tree cover to enhance the environment and the carbon sink capacity of the forests;
 - (iii) Degradation of native forests by invasive alien species;
 - (iv) Deer ranching
 - (v) Development of inland recreation and ecotourism;
 - (vi) Forest destruction by recurrent cyclones, fire, insect pests and diseases;
 - (vii) Conversion to forest of abandoned sugarcane land in environmentally sensitive areas;
 - (viii) Land degradation in Mauritius & Rodrigues;
 - (ix) Development of small forest-based businesses for income generation in Mauritius & Rodrigues;
 - (x) Improvement of the Forestry Service in Mauritius & Rodrigues.
- 1.2 The new approved forest policy, under which the State Forest Estate is managed, aims at:
- (i) Increasing tree planting in the catchment areas of rivers, lakes and reservoirs in the interest of soil and water conservation, for mitigating floods and droughts and for the retardation of siltation of reservoirs;
 - (ii) Conserving the natural heritage of the country by preserving the remaining forests with their unique fauna & flora, which represents the remarkable biological diversity and genetic resources of the country;

- (iii) Increasing forest/tree cover to enhance the environment and the carbon sink capacity of the forests through afforestation, reforestation and the National Tree Planting Campaign;
- (iv) Promoting the development of inland recreation and ecotourism activities for tourists and the local population;
- (v) Ensuring the sustainable management of forest lands leased for Shooting & Fishing (Deer Ranching);
- (vi) Improving the Forestry Service.

1.3 A National Forest Action Programme (NFAP) is being prepared to implement the National Forest Policy. The NFAP process started in August 2006. All key stakeholders were consulted and relevant projects were identified according to the ten priority issues highlighted in the National Forest Policy document. The preparation of a first draft of the NFAP document is expected to be completed by June 2007.

The Forest Area

1.4 The forest lands of Mauritius may be classified as follows:

I State-owned Forest Lands

(a) State lands

	<u>Area</u> <u>(Hectares)</u>	<u>Total Area</u> <u>(Hectares)</u>
(i) Plantations	11,848	11,848
(ii) National Parks	6,574	6,574
(iii) Islet National Parks	134	134
(iv) Nature Reserves		
(i) on mainland	200	
(ii) islets	599	799
(v) Bras D'Eau & Poste La Fayette Reserves	472	472
(vi) Unplantable, protective or to be planted	1,719	<u>1,719</u>
		<u>21,546</u>

(b) Pas Géométriques

(i) Plantations	226	
(ii) Leased for grazing and tree planting	230	
(iii) Unplantable, protective or to be planted	179	<u>635</u>
Sub-total		<u>22,181</u>

II. Privately-owned Forest Lands

(a) Reserves protected by Law		
(i) Mountain Reserves	3,800	
(ii) River Reserves	2,740	6,540
(b) Private Reserves		13
(c) Plantations		2,600
(d) Forest lands, including scrub and grazing lands: (Figures not available but estimated at)		<u>15,847</u>
Sub-total		<u>25,000</u>
Grand Total		<u>47,181</u> =====

State Forest Lands

- 1.5 The total area of State Forest Lands was shown previously as 21,550 hectares. During the year under review about 4 Ha of State Forest lands have gone to other uses. This brings along the total area to 21,546 ha.

Pas Géométriques

- 1.6 These form a narrow belt, theoretically 81.21 metres (250 French feet) in width, round the coast and are State-owned. There are several cases where the width is less than 81.21 metres or does not exist at all.
- 1.7 The total area of Pas Géométriques is about 2,110 hectares. Much of this is now leased for campement and hotel sites and has thus passed out of forestry use; proclaimed and unproclaimed public beaches occupy a fairly large area around the Island; a substantial portion, especially in the south, is leased to adjacent estates and yet other areas have been granted on long term leases for grazing and tree planting in lieu of land acquired from private estates for various purposes.
- 1.8 Filao (*Casuarina equisetifolia*), a nitrogen fixing species, is mostly planted all along the coast. It is well adapted to coralline sand, grows fast and yields valuable timber, poles and firewood. On the windward side of the island, the Filao plantation acts as a valuable windbreak.

Privately-owned forest lands

- 1.9 Mountain Reserves occupy the upper slopes of mountains; parts are rocky and bare but many areas are densely covered with native forest or thickets of Traveller's palm (*Ravenala madagascariensis*). Most of these areas are being extensively used for deer ranching.
- 1.10 River Reserves are found on both sides of the rivers of the island and vary in width from 3 to 16 metres on each side according to the size of the river. As they are privately owned, they are controlled and maintained by the riparian owners. These are also regularly patrolled by Forest Officers.

Other Privately Owned Lands

- 1.11 It is estimated that there are about 15,847 hectares of privately owned land that is under scrub forest and is mostly managed for deer ranching.

Forest Legislation

- 1.12 The Forests and Reserves Act (Act. No. 41 of 1983) together with its amendments were still in force for the administration and management of Forest Resources.

- 1.13 The Wood Exploitation Licence Regulations 1992 proclaimed under Section 17 of the Forests and Reserves Act 1983 which states that “No person shall exploit timber, poles and firewood for commercial purposes from State-owned lands unless he holds a Wood Exploitation Licence issued under the authority of the Minister”, were still applicable.
- 1.14 The Wildlife and National Park Act 1993 (Act No. 13 of 1993) is still in force for the conservation and management of Wildlife and National Parks. It makes provision for the creation of National Parks, reserves and buffer zones where (a) such land is of natural, scenic, scientific, educational, and recreational or other importance or value to the State (b) the preservation of the land is necessary to properly protect, to permit access to or management of, or to allow public viewing or enjoyment of an area of such land.
- 1.15 The Conservator of Forests is a member the Wildlife and National Parks Advisory Council.
- 1.16 The State Land (Amendment) Act No. 6 of 1986 and the Pas Géométriques (Amendment) Act. No. 7 of 1986 were still in force. These Acts give powers to the Minister of Housing, Lands, Town and Country Planning to evict squatters on State Lands and Pas Géométriques.
- 1.17 The Forests and Reserves Act No.41 of 1983 has been amended by the Forests and Reserves Act 2003 (Act No.7 of 2003), Government Gazette No.46 of 24 May 2003, to make provision for control of access to nature reserves.
- 1.18 State land Bras D’Eau and part of Pas Geometriques Bras D’Eau have been declared Bras D’Eau Reserve, and part of Poste LaFayette Pas Geometriques has been declared Mare Sarcelle Reserve under section 11(1) of the Wildlife and National Parks Act 1993 by Proclamations No.20 & No.21 of 2002 respectively. The total area of these Reserves is about 472 ha.
- 1.19 Eight islets namely Rocher des Oiseaux, Pigeon Rock, Ilot Vacoas, Ile D’Ambre, Ile Aux Oiseaux, Ile Aux Fous, Ile Aux Fouquets and Ile Aux Flamants of a total extent of about 134 ha were proclaimed Islets National Park on 25 May 2004.

CHAPTER II

A. Organisation of the Forestry Service

2.1 The Forestry Service is responsible, among other things, for the management of the State Forest Estates within which all silvicultural operations are carried out.

2.2 At the end of the year, the permanent establishment of the Forestry Service in Mauritius was made up as follows:

Professional and Senior Officers	6
Technical officers	153 (including 33 vacancies)
Clerical and non-forestry Officers and employees	108 (including 19 vacancies)
Artisans, Gangmen and Lorry Loaders	148 (including 39 vacancies)
General Field & Office Premises Workers, Gardeners/Nurserymen and Head and Senior Gardeners/Nurserymen	960 (including 282 vacancies) -----
TOTAL	1375 (including 373 vacancies)

2.3 Appendix I gives the management chart of the Forestry Service and IA gives the territorial organisation of the Service. The smallest administrative unit of management is the Forest Section under the control of a Forester assisted by one or several Forest Guards. Twenty four Sections are grouped territorially into four Ranges, each administered by a Forest Ranger assisted by two deputy Forest Rangers. Two Ranges constitute a Division which is administered by a Divisional Forest Assistant. There are also four Forest Rangers stationed at Headquarters, one is in charge of the Curepipe Timber Store and Workshops (mechanics, blacksmiths and carpenters), another one is in charge of the flying squad and the internal control unit, the third one is in charge of Reserves and Records Unit and the fourth one is in charge of Forest Biodiversity Range that includes the Tree Seed Centre, Greenhouse and Ecotourism/Landscaping Unit.

2.4 Mr.S.A.Paupiah, Conservator of Forests, proceeded on leave without pay for a period of three years with effect from 9 October 2006 to take up employment

as Project Manager of UNDP/GEF/FAO/GoM Project on Capacity Building for Sustainable Land Management in Mauritius & Rodrigues.

B. Staff Movements

- 2.5 The following employees have retired from the Service:
- (i) Mr. Biswah Hurnath, Divisional Forest Assistant, retired from the Service on grounds of age on 3 October 2006;
 - (ii) Mr. Sooraj Cheekhoree, Forest Guard, retired from the Service on medical grounds on 7 September 2006;
 - (iii) Three Officers of the General Service Cadre retired from the Service on ground of age in the year 2006: and
 - (iv) Twenty-three employees in the minor grades have retired from the Service in the year 2006.
- 2.6 The following Officers were promoted:
- (i) Mr. Greejanand Goboodun was promoted as Divisional Forest Assistant with effect from 3 October 2006;
 - (ii) Mr. Amanollah Jaffur was promoted as Forest Ranger with effect from 3 October 2006.
- 2.7 Eight Temporary Forest Guards were recruited in the year 2006:
- (i) Ramlalah Sham;
 - (ii) Ambrish Buckhory;
 - (iii) Suraj Nundlall;
 - (iv) Kiran Theekoy;
 - (v) Rajiv Kumar Daharee;
 - (vi) Lambhodharen Coolen;
 - (vii) Lalman Ramkorun; and
 - (viii) Mohammad Samiir Perou
- 2.8 Mr. Lalman Ramkorun, Temporary Forest Guard, resigned on 21 November 2006.
- 2.9 Six employees in the minor grades passed away in the year 2006.

CHAPTER III

Forest Protection

Climatic Agencies

- 3.1 The weather was in general good except for the passage of Tropical Depression Diwa in the region on the 4th and 5th March, 2006. It brought a lot of rainfall. Young forest plantations were affected and staking operation had to be carried out to support the bent seedlings.

Weeds

- 3.2 With the climatic conditions prevailing in the country, tree plantations never suppress the undergrowth except in the drier areas of the coastal plain. The thorny climber 'Framboise marron' (*Rubus alcaefolius syn.R. roridus*) forms dense thickets in the upland plantations and this increases the cost of silvicultural operations. It is highly prickly and with its scrambling habits, it can reach the top of trees, eight to ten metres high, very rapidly and smother them. It spreads by seeds disseminated by the bird *Otocompsa jocosa* and by rooting whenever a branch touches the ground. *Psidium_cattleianum* is a prolific shrub forming dense scrub in the upland forest. It is spread by birds, pigs and monkeys. *Homalanthus populifolius* seems to be gaining ground on the plateau especially at Montagne Cocotte. The plants reach up to three metres tall. The weed *Clidemia hirta* is invading forest plantation in the Nouvelle Découverte area and is affecting young Pine and other species. 'Liane margoze' (*Mikania scandens*) is a serious pest in many young plantations. *Hiptage benghalensis* which is a bad weed at low altitude is slowly spreading up the slopes. *Cuscuta reflexa* is another pest that is found as a parasite on a variety of hosts.

Animals

- 3.3 Monkeys (*Macaca fascicularis*) are causing damage to plantations by ring barking trees. They continue to be a major pest in the native forest by eating the fruits and seeds of forest trees and preying on the eggs and young of native birds.
- 3.4 Nearly all State Forest Lands, even those in some water catchment areas are leased for shooting and fishing. The current stock of deer (*Cervus timorensis*) is increasing and it is causing considerable damage to plantations and native forests. The deer population in Mauritius is estimated at 70,000 heads, including those that are reared in intensive deer farms. The Shooting and Fishing lessees spend considerable sums on fencing, gamekeepers and opening of paths. The additional protection thus afforded to the forest offsets the inconvenience of having to curtail some forest operations during the shooting season - from the first Saturday of June to the last Sunday of September of each year.

- 3.5 Rats cause significant damage to the pine seeds as well as to seeds of both exotic and indigenous species. They also destroy the eggs of native birds.
- 3.6 The aphid *Cinara cupressivora*, which has caused a lot of casualties among the Cypress (*Juniperus bermudiana*) population since its appearance in 1999, struck again during the year under review. A lot of Cypress trees were infested with the aphid especially in the region of Salazie and Eau Bouillie. The matter was reported to the Entomology Division.

Fire

- 3.7 The number of fire incidents was 26 as compared to 16 in year 2005. Most of them occurred on the Port Louis Hills and other dry areas in the North and West. The total area burnt was about 8 hectares in protected areas and 86 hectares in unprotected areas. About 15 km of firebreaks were re-opened at a total cost of Rs 692,540.

Forest Offences

- 3.8 Appendix II gives the number and classification of forest offences during the year. 133 cases (111 in 2005) were registered, of which 14 were taken to court, 16 were dealt departmentally, 43 were outstanding and in 60 the offenders were unknown. Fines amounting to Rs 43,380 were imposed. At the request of the Police Authorities, timber and poles were evaluated in 9 cases (9 in 2005) of illegal possession.

CHAPTER IV

Surveys, Roads and Buildings

Surveys

- 4.1 The survey branch personnel was composed of one Senior Surveyor, one Survey and Mapping Assistant, one Draughtsman, two Head Polers, four Polers and seven Chainmen. The Surveyor, Surveying and Mapping Assistant and one Head Poler are on secondment from the Ministry of Housing and Lands.
- 4.2 During the year, the survey branch performed the following work:

(i)	Re-opening of boundary lines & Mountain Reserves Lines	34.8 km
(ii)	Area surveyed	250 ha
(iii)	Number of Notices to attend to Survey	28

Roads

- 4.3 About 206 kms of existing roads and paths were repaired and maintained at an average cost of Rs 28 per metre. The length maintained in each Forest Range was as follows :-

<u>Range</u>	<u>Length (km)</u>	<u>Cost (Rs)</u>
Northern	97	3,167,309
Eastern	42	1,609,333
Western	35	619,111
Southern	32	388,199
Total	206	5,783,952

Buildings

- 4.4 A sum of Rs 2,513,337 has been spent during the year on the construction of Mahebourg Forest Office, Black River Forest Office, Poste de Flacq Forest Office, Bras D'Eau Nursery Office and Extension of Chamarel Forest Office.

4.5 A sum of Rs 192,606 has been spent during the year on:-

- (i) The construction of a store, toilet and watchman shed at Curepipe nursery, a shadehouse at Vuillemin nursery, a toilet and bathroom at Eau Bouillie nursery.
- (ii) General repairs and painting carried out at Salazie Forest Office and messroom, Port Louis Forest Office at Monneron, Cassis Range Office and Forest Quarters at Vallee Pitot and Curepipe.

CHAPTER V

Silviculture

State Forest Plantations

5.1 In 2006, the approximate distribution of state forest plantations (including Pas Geometriques) by types was as follows:-

	<u>Area(ha)</u>	<u>%</u>
Pine	8162	68
Other Softwood	1613	13
<i>Eucalyptus</i> and <i>Casuarina</i>	1450	12
Other hardwood (including indigenous spp.)	<u>849</u>	<u>7</u>
	<u>12,074</u>	<u>100</u>

5.2 The age class distribution of softwood plantations (mostly *Pinus elliottii*) was approximately as follows: -

<u>Years planted</u>	<u>Area (ha)</u>
Before 1960	72
1961 - 1965	109
1966 - 1970	1690
1971 - 1975	2133
1976 - 1980	2477
1981 - 1985	610
1986 - 1990	742
1991 - 1995	655
1996 - 2000	713
2001- 2005	494
2006 -	<u>80</u>
TOTAL	<u>9,775</u>

- 5.3 The bulk of the state forest plantations consists mainly of *Pinus elliottii* and *Eucalyptus* species. Other species like *Cryptomeria japonica* and *Casuarina equisetifolia* are also grown.
- 5.4 *Cryptomeria* requires good and well-drained, but very wet and cool sites. The minimum altitude would appear to be 540m and the minimum rainfall 3000mm. Pine grows well on all other sites provided the soil is not water-logged and not too shallow. It will even regenerate naturally on sites which are free of all weeds but these are very rarely found.
- 5.5 *Eucalyptus robusta* is grown fairly successfully on moist lateritic clay soils at elevations of 300 to 600m. It stands an abundant rainfall, but requires superficial drainage where there is stagnant water. It tolerates limited drought. It is not wind resistant as many trees are uprooted by cyclones. *Eucalyptus kirtoniana* is grown at mid altitude.
- 5.6 *Eucalyptus tereticornis* which has been introduced in Mauritius since 1879, is grown below 300m altitude, on all kinds of soil including red clay, black clay and gravelly soils, on lands chiefly covered with Lantana and Aloes. It requires a moderate rainfall and grows well with 125 to 150mm of rain, falling during 100-200 days in the year. It can stand long droughts. It is not too wind firm in the early stages, but is quite good after about 15 years old. It is mostly grown for poles.
- 5.7 *Casuarina equisetifolia* thrives best on sandy beaches, but will grow on well-drained soils up to 600m elevation. On black stiff clays, it barely reaches 10 years of age. It is at its best with a rainfall of 150mm per annum distributed over 100 to 150 days, but tolerates 250mm rainfall per annum distributed over 250 days on well-drained soils. It is grown mostly for firewood and poles, though it is also used for flooring.

Nurseries

- 5.8. 400 kg of seeds of various forest species were collected locally at a cost of Rs. 116,445 exclusive of transport and storage costs. The amount of seeds collected by species is given below:

Species	Amount (kg)
<i>Pinus elliottii</i>	39.5
<i>Araucaria spp.</i>	30
<i>Casuarina equisetifolia</i>	2.5
<i>Eucalyptus spp.</i>	2.5
<i>Palm spp.</i>	218.5
<i>Indigenous species</i>	40
<i>Other Species</i>	67

Some 240 species of plants are raised in forest nurseries.

- 5.9 Some 469,955 cuttings of ornamental species like Hibiscus, Bougainvillea, Croton, Allamanda, Trochetia, etc, were prepared and raised in nurseries and greenhouse.
- 5.10 Some 530,290 plants were raised during the year in the six Nurseries, Greenhouse and the Tree Seed Centre of the Service. Details by species are given below: -

<u>Species</u>	<u>Stock left at 31.12.05</u>	<u>Stock raised in 2006</u>	<u>Stock remaining at end of 2006</u>
Pine	229,896	203,594	205,541
Eucalyptus	1,673	20,950	6,148
Cryptomeria	24,746	455	12,392
Casuarina	5,406	5,091	2,690
Araucaria	9,129	20,578	21,338
Juniper	231	7	136
Other exotic species*	299,311	212,093	346,268
Indigenous species*	88,092	67,522	84,170
Total	658,484	530,290	678,683

* including ornamentals

- 5.11 Rs. 23,586,716 were spent on the raising and maintenance of plants in the Nurseries, Greenhouse and the Tree Seed Centre.
- 5.12 About 34,476 plants were issued, free of charge, under the National Tree Planting Campaign to various organizations, clubs and other Ministries. Some 300,024 plants were used by the Forestry Service and 108,933 plants were sold to the public.

Tending

- 5.13 266 hectares of young plantations were weeded. Recruiting was carried out on 257 hectares. 331 hectares were cleaned of rampant creepers and exotic undergrowth. 26 hectares were pruned and staking was done on 44 hectares. Appendix III gives the various silvicultural operations that were carried out during the year.

Mechanisation

- 5.14 Owing to shortage of labour in certain sections, the Service had to have recourse to mechanical means in order to be able to cope with its activities. There is every indication that this trend will have to be followed more and more in the future. An area of about 45 ha. was cleaned mechanically at a cost of Rs.408,589.

CHAPTER VI

Conservation of Biological Diversity

In-Situ Conservation

- 6.1 In-situ conservation has been effected at Les Mares, Gouly Père and Perrier Nature Reserves. Moreover, uprooting and removal of noxious growths were carried out at Monvert Nature Walk on an extent of about 5 hectares.

Survey of Native Vegetation

- 6.2 Survey of native vegetation has been conducted at Nature Reserves Les Mares, Gouly Père and Le Pouce, & at Ferney Valley and State Land Osterlog.

Creation of Nature Corner at Schools

- 6.3 This Service has set up Nature Corner in some 35 primary schools with a view to sensitize and familiarize pupils with endemic/indigenous plants and the needs to protect them. Moreover, Officers of this Service gave talks on forest conservation in primary and secondary schools around the island.

Production of Native plants including native medicinal plants

- 6.4 The Greenhouse, Tree Seed Centre and other Forest nurseries have raised some 67,522 native plants (including ornamental and medicinal plants) during the year under review. Some critically endangered plants like *Trochetia parviflora*, *Begonia salaziensis* & *Dombeya populnea* have been successfully raised.

Seeds of indigenous and endemic plants whenever available were collected and sown in nurseries, Tree Seed Centre & Greenhouse. Native plants are raised mainly for eventual planting out in the forests. Native plants raised from seeds and cuttings were also offered for sale to public in forest nurseries.

Our National Flower

- 6.5 *Trochetia boutoniana*, (Boucle d'Oreille) a rare endemic species, is the National Flower of the Republic of Mauritius. This flower also appears on the various insignia that are conferred by the Republic of Mauritius. This species is being propagated with a view to encourage every Mauritian to grow a plant in his yard.

Recreational Forestry

- 6.6 Monvert Nature Walk (near Forest Side) has already been completed and is operational. It was inaugurated on the 22nd of June 2006 by the Senior Chief

Executive, Mrs. Beegum, of the Ministry of Agro Industry & Fisheries. It has become a great attraction in the uplands and receives many visitors who spend a pleasant and memorable time in this beautiful environment. Visitors Centre, Kiosks, tables & benches and other amenities have been set up. Powder Mills Nature Walk, near SSR National Hospital, Pamplemousses, is nearing completion and it is expected to be operational in May 2007. Nature Walk provides a great opportunity for people to learn and appreciate the rare indigenous and endemic fauna and flora, their value to society and the need to conserve them. Some 25,000 people visited Monvert & Bras D'Eau Nature Walk during the year 2006.

Wildlife Management

- 6.7 *Macaca fascicularis* (monkey) is being caught from the wild and is also bred in captivity by Bioculture (Mauritius) Ltd., Senneville, Rivière des Anguilles and at Frederica, Bel Ombre, and by the Centre de Recherches Primatologique at Ferney, for export.
- 6.8 Most of the State Forest Lands are leased for Shooting & Fishing under the Shooting & Fishing Lease Act 1966. Deer ranching has become an important economic activity and the production of venison is about 450 tonnes annually (370 tonnes on private forest lands & 80 tonnes on state forest lands). However, considerable damage is caused to both planted and native forests due to rise in stocking density of deer. There is an urgent need to find a consensus among all concerned parties so that deer ranching activities are carried out in a sustainable way with least impacts on the environment.

The existing leases that were renewed in the year 2000 will expire in 2007. The rental, which is being phased over a period of seven years as from year 2000, are as follows: -

	SHOOTING AND FISHING		GUARDIENNAGE
	Upland Plateau (Rs)	Low to Mid-Altitude (Rs)	(Rs)
Year 1	200	100	35
Year 2	250	125	55
Year 3	300	150	75
Year 4	350	175	95
Year 5	400	200	115
Year 6	450	250	135
Year 7	500	300	150

CHAPTER VII

Exploitation and Utilization

Marketing of Forest Produce

- 7.1 There is an Agreement between the Government of Mauritius and Messrs Grewals (Mauritius)Ltd. granting the Company the right to exploit timber from State Lands for a period of 5 years as from 18 October, 2002. By virtue of this Agreement, Messrs Grewals (Mauritius)Ltd., is allowed to fell trees and extract round logs of marketable timber, not exceeding 3,000m³ annually. The prices of timber, poles and firewood have been revised during the year and the new prices take effect as from 1st July 2006. There still exist two categories of prices for logs of class III Timber, which includes Pine. The logs of 24cms diameter and above are offered at Rs 1,050 per m³ and logs of 18cms to less than 24cms diameter at Rs 850 per m³.
- 7.2 Timber from State Lands was sold to woodmerchants registered with the Forestry Service on the same basis as Messrs Grewals (Mauritius) Ltd. They also bought firewood and poles from this Service.
- 7.3 Poles and tool handles were also cut by the Forestry Service and supplied against payment to other government departments.

Production of Timber and Firewood

- 7.4 The following quantities of wood were sold during the year.

	Cubic metres (Round wood)
(i) <u>Timber</u>	
(a) Hardwood	9
(b) Softwood	6,047
(ii) <u>Poles</u>	
(a) Hardwood	675
(b) Softwood	372
(iii) Fuelwood	
(a) Firewood	3,473
b) Charcoal	-

- 7.5 The volume of logs sold was comparatively higher than in the previous year. Grewals (Mauritius) Ltd purchased 2,165m³ (2,038m³ in 2005) of the above-mentioned timber of over 18 cms diameter, and 3,891 m³ (2,580 m³ in 2005) were sold to woodmerchants holding Wood Exploitation Licence.
- 7.6 In addition, a limited volume of wastewood in the form firewood of Privet and Chinese Guava sticks was removed, free of charge, by the forest workers and members of the public from State Lands all over the island.

Minor Forest Produce

- 7.7 The sale of Christmas trees, tool handles, bamboos, nursery plants and other minor forest produce amounted to Rs 2,651,365 (Rs 2,758,222 in 2005).
- 7.8 Appendices IV and IVA give the selling rates for timber and poles that are in force.
- 7.9 No data on forest produce from private land is available.

Timber Processing

- 7.10 The Concessionnaire Grewals (Mauritius) Ltd., runs a modern sawmill and timber preservation plant at Pailles, employing some 77 workers on cutting, extraction, sawmilling, etc. Owing to the shortage of large size logs from State Lands, this Company also buys substantial quantities from abroad. There are, in addition, three reasonably large sawmills and about 23 small ones, scattered over the island employing about 160 workers. The Service has no control over the licensing of these sawmills, many of which operate on a part-time basis.
- 7.11 Other small wood-based industries include a match factory at Roche Bois and about 1,400 furniture factories, out of which 1,230 employ less than 10 artisans each, all over the island.

Timber Imports

- 7.12 The amount of sawn timber imported during the year was 51,794 m³, equivalent to 89,085 m³ of roundwood. The timber was mainly imported from Madagascar, Malaysia and South Africa. The CIF value was Rs 425 million (Rs 397 million in 2005).

Local consumption of Timber

7.13 The local consumption of sawn timber (both imported and local production) over the last (10) ten years is given below:

VOLUME IN M³

Year	Imports	Local production	Total
1997	64,359	3,611	67,970
1998	49,210	5,653	54,863
1999	39,210	3,226	42,436
2000	36,853	2,757	39,610
2001	55,370	2,558	57,928
2002	42,306	2,207	44,513
2003	38,115	2,169	40,284
2004	63,184	2,638	65,822
2005	64,979	2,685	67,664
2006	51,794	3,521	55,315

*The figures for local production do not include timber sold from private lands. The factor roundwood: sawnwood is taken as 1.72:1

7.14 The local consumption of wood, excluding plywood, paper, etc. during the year was as follows:

Volume m³ - roundwood

	Timber	Poles	Fuelwood	Total
I.From State Lands				
(a) Sold	6,056	1,047	3,473	10,576
(b) Cut departmentally	11	13	180	204
(c) Removed free of charge (estimated)	-	-	1,112	1,112
II.From Private Lands (estimated)	802	545	1,293	2,640
III.Imports (Roundwood equivalent)	89,085	9,510	-	98,595
Total	95,954	11,115	6,058	113,127

7.15 Appendix V gives the statement of revenue and expenditure of the Forestry Service for the year 2006, for Mauritius and Rodrigues.

7.16 The total expenditure for Mauritius amounted to Rs. 152,851,359

7.17 The total revenue for Mauritius amounted to Rs 14,265,435.

CHAPTER VIII

Rodrigues

Staff

- 8.1 Forestry Staff in Rodrigues, although subject to technical direction from the Conservator of Forests, is answerable in all day today matters, to the Departmental Head, Commission for Forestry. The island has its own staff establishment and is funded by the Rodrigues Regional Assembly through the Commission for Forestry.
- 8.2. At the end of the year, the permanent and pensionable establishment of the Service in Rodrigues was made up as follows:

Rank	No.	Remarks
Officer in Charge of Forestry	1	One (1) Post vacant
Forest Ranger	1	
Deputy Forest Ranger	1	
Forester	4	
Forest Guard	20	
Executive Officer	1	
Clerk	1	
Gangman	8	One (1) Post vacant
Head Gardener/Nurseryman	1	One (1) Post vacant
Gardener/Nurseryman	5	
Watchman	53	Twelve (12) Post vacant
Woodcutter	16	
Office Attendant	1	
Store Keeper	1	
Driver	1	One (1) Post vacant
Lorry Loader	3	One (1) Post vacant
General Worker	56	
Launch Driver	1	
Boatman	2	
TOTAL	177	

Protection

- 8.3 Straying cattle and goats were the main cause of damage to young plantations. Ninety-five cases and four cases of allowing animals to graze on State Lands and River Reserves respectively were taken to Court. Fines were imposed in (97) ninety-seven cases and warning given in (2) two cases. (14) Fourteen cases of unlawful destruction and (6) six cases of illegal possession of forest

produce were tried and fined. At the end of the year, (11) eleven cases and (1) one case of allowing animals to graze on State Land and River Reserves respectively were still awaiting prosecution.

Silviculture

- 8.4 63,677 seedlings were raised during the year at Solitude and Oyster Bay Nurseries. 36,033 seedlings were used departmentally and 2,737 were sold to the public.
- 8.5 About 16 hectares of forest lands have been rehabilitated with both exotic and endemic tree species. The main species used were: *Albizia lebbbeck*, *Acacia auriculiformis*, *Delonix regia*, *Tabebuia pallida*, *Juniperus bedfordiana*, *Vitex glabrata*, *Terminalia arjuna* and *Endemic species*.
- 8.6 Weeding was carried out over about 2.2 hectares of forest plantations, 9.3 hectares were cleaned, 10 hectares were thinned and 6.6 ha were pruned.

Nature Reserves

- 8.7 The Forestry Service and the Mauritian Wildlife Foundation carried out conservation works in Nature Reserves at Grande Montagne, Anse Quitor and Cocos & Sandy Islets. Exotic plants were uprooted/weeded and indigenous plants were planted.

Revenue and Expenditure

- 8.8 Expenditure amounted to Rs 19,961,152 compared to Rs20,951,988 in the previous year. The revenue collected amounted to Rs 163,337 (Rs 185,425 in 2005).

CHAPTER IX

Miscellaneous

- 9.1 The staff of the Service gave several talks on forest conservation and wildlife both in schools and in public social gatherings. They took various parties of secondary school children on ecological tours to the forests.
- 9.2 This Service participated actively in the National Threatened Plant Committee and the Invasive Alien Species Committee.
- 9.3 The Service continued to work in close collaboration with the Government Tourist Office, the National Monuments Board and the Nature Reserves Board, as well as the Town and Country Planning Board of the Ministry of Housing, Lands, Town and Country Planning and several other governmental and para-governmental organisations.
- 9.4 The Service gave advice to several organisations on landscaping and on matters pertaining to Forestry and Nature Conservation.

Publications

- 9.5 The following is a list of articles, reports and books that have a bearing on Forestry, Wildlife and the Environment in Mauritius:-
 - (a) Forestry Service/FAO (2006) New National Forest Policy
 - (b) S.A. Paupiah (2004) Concept Note, Update on the Status of the National Forest Programme and Request for a Partnership Agreement with the National Forest Programme Facility
 - (c) S.A.Paupiah (2001) Forestry Outlook Study for Africa (FOSA)
 - (d) S.A.Paupiah(2001) Forest Revenue System and financial support for Sustainable Forest Management in Mauritius
 - (e) S.A. Paupiah(2001) Forest Biodiversity in Mauritius - Paper presented during National Biodiversity Strategic Action Plan (NBSAP) Thematic Workshop held in January 2001
 - (f) Guého, J.& Owadally, A.W. (in press) *Bibliographie des travaux d'histoire naturelle et science connexes concernant Maurice* (504pp)
 - (g) Lind, R (1994) Management of the EEP (European Endangered Species Programme) Pink Pigeons *Columba (Nesoenas) mayeri* Population. **Dodo, J.W.P.T. 30**:106-113.
 - (h) North,(1994) Changes in the vegetation and reptile populations on

- S.G. *et al.* Round Island, Mauritius, following eradication of rabbits. *Biol. Conserv.* **67**:21-18
- (i) Owadally (1995) *Report on River Reserves.* This Report was submitted to the Ministry of Agriculture and Natural Resources. 26pp + 8 appendices + 2 maps
A.W., Pong Kim Kam,
Jootun, L & Tezoo, V
- (j) Bosser, J. (1997) *Flore des Mascareignes: La Reunion, Maurice, Rodrigues.* MSIRI.
- (k) Rouillard, G. (1999) *Les plantes et leur histoire à Maurice & Gueho, J.*
- (l) Gurib-Fakim, A. (1999) *Natural Toxins and poisonous plants in Mauritius.* UNDP
& Gueho, J.
- (m) Claude Michel (1992) *Birds of Mauritius*
(3rd Edition)
- (n) Th. Cadet (1998) *Fleurs et plantes de la Reunion et de l'île Maurice*
(12th Edition)
- (o) Staub, F. (1993) *Fauna of Mauritius and associated flora*
- (p) Gurib, A. (1995-1996) *Plante Médicinales de Maurice-Tome 1, 2 et 3*
& Gueho, J.