

**ANNUAL REPORT OF THE FORESTRY
SERVICE
FOR THE YEAR 2008**

Main features of the year

The main features of the year were: -

(i) **Public Service Excellence Award/All Africa Public Sector Innovation Award**

The Forestry Service won the Public Service Excellence Award (PSEA) 2007 organized by the Ministry of Civil Service and Administrative reforms. It also participated in the All Africa Public Sector Innovation Award (APSIA) 2008 and its project entitled “Environment Education and Public Awareness” was awarded the 1st runner-up in the competition.



The Acting Conservator of Forests, Mr.V.Te zoo, receiving the Public Service Excellence Award

(ii) **Conservator of Forests**

Mr.S.Paupiah, Conservator of Forests, had 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. Unfortunately he passed away on the 16th of May, 2008.

Mr. Vishnu Tezoo was the Acting Conservator of Forests during the year under review.

(iii) Nurseries, The Tree Seed Centre & Greenhouse

491,020 plants were raised in the six Nurseries, the Tree Seed Centre and the Greenhouse of the Forestry Service. A stock of 593,625 was carried over from the previous year and the stock remaining at the end of the year was 647,067. Some 84,451 plants were sold to the public.

(iv) National Tree Planting Campaign

20,275 plants were issued free of charge under the National Tree Planting Campaign.

(v) Plantations

Some 96 hectares of new plantations were created. The plantations consisted mostly of Pine.

(vi) Tending (Maintenance of young plantations)

Some 195 hectares of young plantations were weeded. Recruiting was carried out on 202 hectares to replace dead and dying plants. 307 hectares were cleaned of noxious weeds and undergrowths, 26.5 hectares were pruned and staking was carried out over an extent of 19.5 ha.

(vii) Forest Conservation

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

The Greenhouse, Tree Seed Centre and other Forest nurseries have raised some 36,152 native plants (including ornamental and medicinal plants) during the year under review. Some critically endangered plants like *Trochetia parviflora* and *Psiadia arguta* have been successfully raised.

(viii) Recreational Forestry

The Forestry Service has already created (3) three Nature Walk(s) namely: Powder Mills at Pamplemousses (near SSR National Hospital), Monvert at Forest Side and Bras D'Eau with a view to provide leisure and recreation to both the local population and tourists. Moreover, 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. Two other Nature Walk(s) are being set-up at Sophie and Ile D'Ambre respectively and are expected to be completed in 2009.

Some 45,000 people visited Monvert, Bras D'Eau & Powder Mills Nature Walk during the year 2008.

(ix) Exploitation

5,146 m³ of timber and poles were put on the market along with 4,142 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 16th 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, reafforestation 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 draft National Forest Action Programme (NFAP) has already been prepared to implement the National Forest Policy. The NFAP process started in August 2006 and was completed in 2008. All the major stakeholders were consulted during the formulation of the plan. The draft NFAP document was submitted to the Ministry with a request to seek assistance from the FAO for its finalization.

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	11,855	11,855
(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) Vallee D'Osterlog Endemic Garden	275	275
(vii) Other Forest Lands	1,419	<u>1,419</u>
		<u>21,528</u>

(b) Pas Géométriques

(i) Plantations	222	
(ii) Leased for grazing and tree planting	230	
(iii) Others (mostly rocky)	179	<u>631</u>
Sub-total		<u>22,159</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: 47,159

State Forest Lands

- 1.5 The total area of State Forest Lands was shown previously as 21,545 hectares. During the year under review about 17 Ha of State Forest land have gone to other uses (12.8 ha leased to Golden Cream Dairy Ltd and 4.2 ha on Agricultural lease). This brings along the total area to 21,528 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. The area of Pas Geometriques under the control of the Forestry service has been reduced from 635 ha to 631 ha during the year under review.
- 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.
- 1.20 The Vallée D’Osterlog Endemic Garden Foundation Act 2007 was proclaimed by “Proclamation No.17 of 2007” w.e.f. 4th September, 2007. The Garden, of an extent of 275 ha from the bottom of Vallee D’Osterlog to the Creole Mountain Range, including Mountain Laselle & Mountain Lagrave, is astride the districts of Moka and Grand Port.

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, conservation and recreational & leisure activities 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	7 (including 2 vacancies)
Technical officers	148 (including 21 vacancies)
Clerical and non-forestry Officers and employees	107 (including 26 vacancies)
Artisans, Gangmen and Lorry Loaders	125 (including 31 vacancies)
General Field & Office Premises Workers, Gardeners/Nurserymen and Head and Senior Gardeners/Nurserymen	960 (including 348 vacancies)
TOTAL	----- 1, 347 (including 428 vacancies)

2.3 Appendices I & IA show the management chart and the territorial organization of the Forestry Service respectively. 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.

B. Staff Movements

2.4 Four Officers in the General Cadre and forty-six employees in the minor grades retired from the Service on grounds of age.

2.5 Mr. Arjoon Chumun was promoted as Divisional Forest Assistant with effect from 1 July 2008.

- 2.6 Eight employees in the minor grades passed away in the year 2007.

C. Training

- 2.7 Nine Officers from the rank of Clerical Officer to Higher Executive Officer followed a training course in Customer Care and Quality Management from January to May, 2008 (open distance learning course by MCA).
- 2.8 Ten Officers from the rank of Forest Guard to Forest Ranger followed a training course in Environmental economics from the 11 to 22 February, 2008, and ten Officers from the rank of Forest Ranger to Deputy Conservator of Forests followed a training course on Preparation of Project Proposal at the University of Mauritius in April, 2008 under the project Capacity Building for sustainable land management in Mauritius and Rodrigues.
- 2.9 Two Officers followed a training course on Remote Sensing at the University of Mauritius from the 18 to 29 February, 2008 under the project Capacity Building for sustainable land management in Mauritius and Rodrigues.
- 2.10 Two Forest Officers followed a training course on Ant Ecology and Identification at the University of Mauritius from the 25 to 28 February, 2008.
- 2.11 One Clerical Officer followed a refresher course in Computerized Registry System from the 7 to 10 October, 2008.
- 2.12 One Divisional Forest Assistant followed a training programme in Negotiation Skills from the 13 to 14 November, 2008.
- 2.13 Nine Officers from the rank of Forester to Forest Ranger followed a training course in Quality Counter/Customer Service at Ecole Hoteliere, Reduit.

D. Obituary

- 2.14 Mr.S.A Paupiah, Conservator of Forests, passed away at the age of 57 on the 16th of May, 2008. He joined the Forestry Service in 1976 and was promoted to the rank of Conservator of Forests in 1997. In 2006, he proceeded on leave without pay for a period of three years 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.

Through his leadership, dedication and dynamism, the Forestry Service was restructured and put on the path of modernism, efficiency and result-oriented organization. He was full of energy, a fount of knowledge, always ready to help, always cheerful and never dull. He has left us with valuable contributions in the field of forestry. He will be greatly missed by foresters, staff and all who knew him.

CHAPTER III

Forest Protection

Climatic Agencies

- 3.1 The climatic conditions prevailing on the island during the year under review have been good in general. Fortunately the country has not been visited by cyclones, although a few passed far away from the island.

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 jocosus* 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, monkeys and human beings. The weed *Clidemia hirta* is invading forest plantation in the Nouvelle Découverte area and is smothering *Rubus* 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 serious pest that is found as a parasite on a variety of hosts. It is spread by birds and by man.

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.

Insect

- 3.6 Mauritius is fortunate in having no serious insect pests of forest trees, except for the aphid *Cinara cupressivora*, which has caused a lot of casualties among the Cypress (*Juniperus bermudiana*) population since its appearance in 1999. This rule out fresh planting of this species. The Eucalyptus weevil annually causes some defoliation of *Eucalyptus robusta* but only rarely causes mortality. Flamboyant (*Delonix regia*)

planted as roadside and garden tree is affected by the leaf sucker *Cerneura delonixia* but is unlikely to cause serious damage.

Fungi

- 3.7 Pine plantations in the Nouvelle Decouverte region are affected by *Armillaria*. During the year under review, a significant number of dead Pine trees in patches caused by this disease were reported.

Fire

- 3.8 The number of fire incidents was 26 as compared to 25 in year 2007. Most of them occurred on the Port Louis Hills and other dry areas in the North and West. The total area burnt was about 1 hectare in protected areas and 135 hectares in unprotected areas. About 40 km of firebreaks were re-opened at a total cost of Rs 2,140,876.

Forest Offences

- 3.9 Appendix II gives the number and classification of forest offences during the year. 129 cases (138 in 2007) were registered, of which 14 were taken to court, 10 were dealt departmentally, 45 were outstanding and in 60 the offenders were unknown. Fines amounting to Rs 84,194 were imposed. At the request of the Police Authorities, timber and poles were evaluated in 13 cases (7 in 2007) 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 Survey Field Workers, four Senior Survey Field Workers and six Survey Field Workers. 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	32.36 km
(ii)	Area surveyed	260 ha
(iii)	Number of Notices to attend to Survey	32

Roads

4.3 About 171.6 kms of existing roads, trails and paths were repaired and maintained at an average cost of Rs 44.40 per metre. The length maintained in each Forest Range was as follows:-

<u>Range</u>	<u>Length (km)</u>	<u>Cost (Rs)</u>
Northern	104.5	5,744,080
Eastern	26.8	1,110,621
Western	27.6	548,433
Southern	12.7	215,852
Total	171.6	7,618,986

Buildings

4.4 A sum of Rs 521,560 has been spent during the year on the construction of Black River Forest Office, Bras D'Eau Nursery Office, Store & Fencing at Thorel and Sales Depot at Mahebourg.

4.5 A sum of Rs 73,835 has been spent on painting of Thorel & Curepipe Forest Section Offices and repairs at Cassis Range Office.

4.6 A sum of Rs 1,265,700 has been spent on Nature Walk Project.

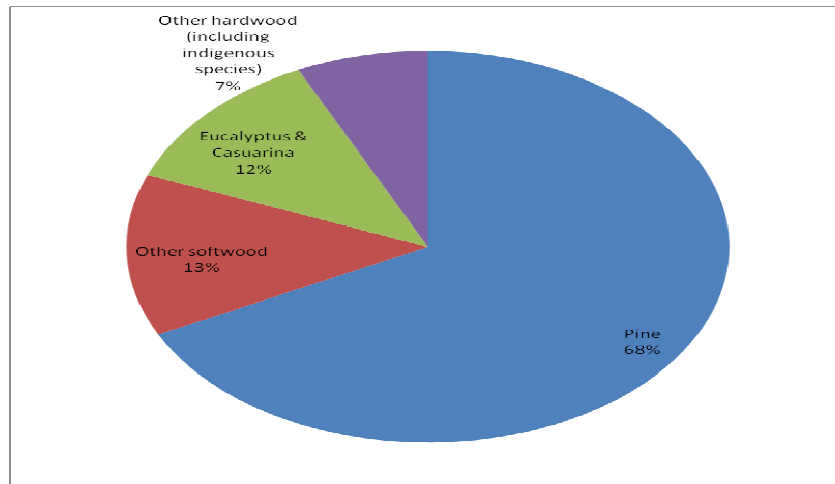
CHAPTER V

Silviculture

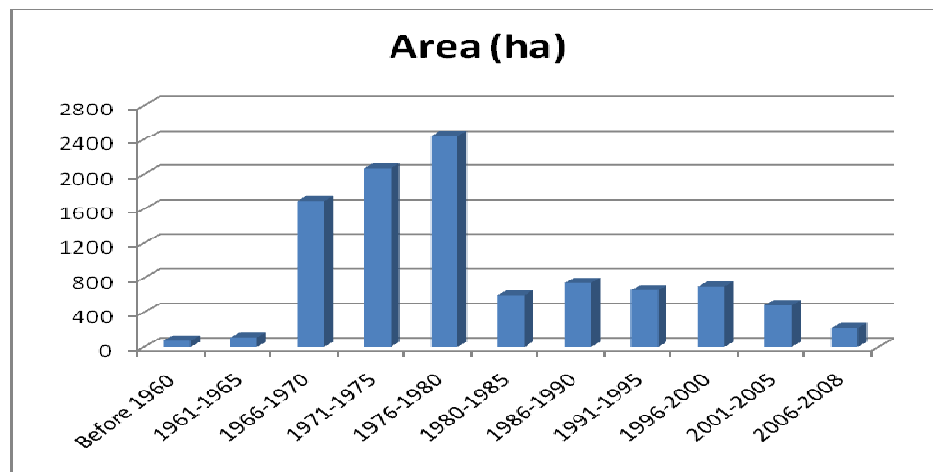
State Forest Plantations

5.1 In 2008, the approximate distribution of state forest plantations (including Pas Geometriques) by types was as follows:-

	<u>Area(ha)</u>
Pine	8165
Other Softwood	1617
<i>Eucalyptus</i> and <i>Casuarina</i>	1443
Other hardwood (including indigenous spp.)	<u>852</u>
	<u>12,077</u>



5.2 The following chart shows the approximate age class distribution of softwood plantations (mostly *Pinus elliottii*).



- 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. Some 384 kg of seeds of various forest species were collected locally at a cost of Rs. 115,149 exclusive of transport and storage costs. The amount of seeds collected by species is given below:

Species	Amount (kg)
<i>Pinus elliottii</i>	21.5
<i>Araucaria spp.</i>	19.8
<i>Casuarina equisetifolia</i>	8.75
<i>Eucalyptus spp.</i>	1.5
<i>Palm spp.</i>	130.2
<i>Indigenous species</i>	76.45
<i>Other Species</i>	125.8

Some 240 species of plants are raised in forest nurseries.

- 5.9 Some 292,640 cuttings of ornamental species like Hibiscus, Bougainvillea, Croton, Allamanda, Trochetia, etc, were prepared and raised in nurseries and greenhouse.

5.10 Some 491,020 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 31.12.07</u>	<u>Stock raised in 2008</u>	<u>Stock remaining at end of 2008</u>
Pine	193,765	256,748	228,592
Eucalyptus	4,036	7,700	590
Cryptomeria	4,470	1,688	1,163
Casuarina	1,387	5,550	537
Araucaria	26,900	21,776	29,135
Juniper	109	423	350
Other exotic species*	318,306	160,983	352,607
Indigenous species*	44,652	36,152	34,093
Total	593,625	491,020	647,067

**including ornamentals*

5.11 About Rs. 24,134,565 was spent on the raising and maintenance of plants in the Nurseries, Greenhouse and the Tree Seed Centre.

5.12.1 Some 20,275 plants were issued, free of charge, to various organizations, clubs and other Ministries under the National Tree Planting Campaign. Some 287,985 plants were used by the Forestry Service and 84,451 plants were sold to the public.

Tending

5.13 195 hectares of young plantations were weeded. Recruiting was carried out on 202 hectares. 307 hectares were cleaned of rampant creepers and exotic undergrowth. 26.5 hectares were pruned and staking was done on 19.5 hectares. Appendix III gives the various silvicultural operations that were carried out during the year.

Mechanisation

5.14 Owing to shortage of labour, 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 54 hectares was cleaned mechanically at a cost of Rs.777,288. Moreover, young forest plantations of an extent of 38 hectares were mechanically weeded at a cost of Rs 330,502

CHAPTER VI

Conservation of Biological Diversity

In-Situ Conservation

- 6.1 In-situ conservation has been effected at Les Mares, Gouly Père, Le Pouce and Perrier Nature Reserves. Invasive alien species were uprooted and removed on a total extent of about 6 hectares.

Survey of Native Vegetation

- 6.2 Survey of native vegetation has been conducted at Ferney Valley, Bras D'Eau, Pointe D'Esny and Le Cabinet & Le Pouce Nature reserves

Creation of Nature Corner at Schools

- 6.3 This Service has set up Nature Corner in eleven primary schools during the year under review 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 and biodiversity in primary and secondary schools around the island.



Forest Officer R. Ramjaun talking on forest biodiversity

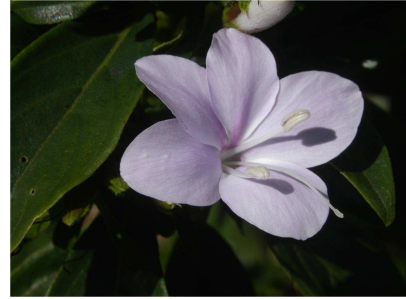
Production of Native plants including native medicinal plants

- 6.4 The Greenhouse, Tree Seed Centre and other Forest nurseries have raised some 36,152 native plants (including ornamental and medicinal plants) during the year

under review. Some critically endangered plants like *Elaeocarpus bojeri*, *Barleria Trochetia parviflora* have been successfully raised.



Elaeocarpus bojeri



Barleria

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 The Forestry Service has already created (3) three Nature Walk(s) namely: Powder Mills at Pamplémousses (near SSR National Hospital), Monvert at Forest Side and Bras D'Eau with a view to provide leisure and recreation to both the local population and tourists. Moreover, 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. Two other Nature Walk(s) are being set-up at Sophie and Ile D'Ambre respectively and are expected to be completed in 2009.

Some 45,000 people visited Monvert, Bras D'Eau & Powder Mills Nature Walk during the year 2008.



Monvert Visitors Centre



Bras D'Eau Nature Walk



Powder Mills Nature Trail



Fernery at Monvert Nature Walk

- 6.7 The Vallée D'Osterlog Endemic Garden of an extent of 275 hectares extends from the bottom of Vallée D'osterlog to the Créole Mountain Range, including Mountain Laselle, Montagne Lagrave, and is astride the districts of Moka and Grand Port. The Garden contains several critically endangered species and some of the rarest indigenous/endemic species. It is managed by The Vallée D'Osterlog Endemic Garden Foundation. Its main objective is to inform and sensitize visitors about the rich endemic flora and fauna of Mauritius.

Wildlife Management

- 6.8 *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.
- 6.9 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 2007/08 will expire in 2014. The rentals, which are being phased over a period of seven years as from year 2007/08, are as follows: -

	SHOOTING AND FISHING		GUARDIENNAGE
	Upland Plateau (Rs)	Low to Mid-Altitude (Rs)	(Rs)
2007/2008	700	375	170
2008/2009	725	400	190
2009/2010	750	425	210
2010/2011	775	450	230
2011/2012	800	475	250
2012/2013	825	500	270
2013/2014	850	525	290

CHAPTER VII

Exploitation and Utilization

Marketing of Forest Produce

- 7.1 The Agreement between the Government of Mauritius and Messrs Grewals (Mauritius)Ltd. granting the Company the right to exploit timber from State Lands was renewed on 26 September,2007 for a period of 5 years. By virtue of this Agreement, Messrs Grewals (Mauritius)Ltd., is allowed to fell trees and extract round logs of marketable timber, not exceeding 2,500m³ annually. The prices of timber, poles and firewood (2006) are still in force. 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	39
(b) Softwood	4,199
(ii) <u>Poles</u>	
(a)Hardwood	493
(b)Softwood	415
(iii) <u>Fuelwood</u>	
(a)Firewood	4,142
(b) Charcoal	-

- 7.5 The volume of logs sold was comparatively lower than in the previous year. Grewals (Mauritius) Ltd purchased 1,671m³ (2,094m³ in 2007) of the above-mentioned timber of over 18 cms diameter, and 2,567 m³ (2,758 m³ in 2007) 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 3,924,945 (Rs 3,254,683 in 2007).
- 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.

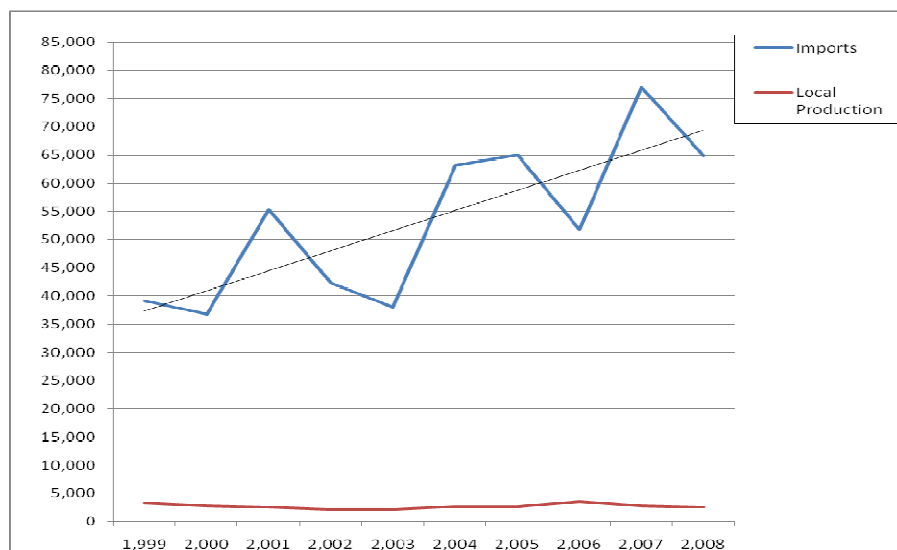
Timber Imports

- 7.12 The amount of sawn timber imported during the year was 64,958 m³, equivalent to about 111,728 m³ of roundwood. The timber was mainly imported from Madagascar, Malaysia and South Africa. The CIF value was about Rs 767 million (Rs 830 million in 2007).

Local consumption of Timber

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

VOLUME IN M³



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	4,238	908	4,142	9,288
(b) Cut departmentally	22	94	188	304
(c) Removed free of charge (estimated)	-	-	759	759
II.From Private Lands (estimated)	70	282	182	534
III.Imports (Roundwood equivalent)	111,728	8583	350	120,661
Total	116,058	9,867	5,621	131,546

7.15 Appendix V gives the statement of revenue and expenditure of the Forestry Service for the year 2008, for Mauritius and Rodrigues.

7.16 The total expenditure for Mauritius amounted to Rs 164,916,684

7.17 The total revenue for Mauritius amounted to Rs 16,343,515

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	
Forest Ranger	1	
Deputy Forest Ranger	1	One (1) Post Vacant
Forester	4	
Forest Guard	20	Two (2) Posts Vacant
Clerk	1	
Gangman	5	
Head Gardener/Nurseryman	1	One (1) Post vacant
Gardener/Nurseryman	5	
Watchman	38	
Woodcutter	15	
Office Caretaker	1	
Store Keeper	1	
General Worker	37	
Launch Driver	1	
Boatman	2	
TOTAL	134	

Protection

- 8.3 Straying cattle and goats were the main cause of damage to young plantations. One hundred and twenty-one cases of allowing animals to graze on State Lands were taken to Court. (18) Eighteen cases of unlawful destruction and (6) six cases of illegal possession of forest produce were tried and fined. At the end of the year, (33) thirty three cases of allowing animals to graze on State Land and one case of illegal possession of wood were still awaiting prosecution.

Silviculture

- 8.4 The following table shows the type of operations carried out and extent worked during the year under review.

Operation	Extent worked (ha)
Cleaning	3.67
Thinning	4.24
Weeding	58.94
Recruiting	2.23

- 8.5 Some 96,707 seedlings were raised during the year at Solitude and Oyster Bay Nurseries. 6,433 plants were sold to the public.
- 8.6 About 4.42 hectares have been restored with indigenous and endemic species at Anse Quitar.

Nature Reserves

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

Revenue and Expenditure

- 8.8 Expenditure amounted to Rs 20,916,285 compared to Rs 19,261,355 in the previous year. The revenue collected amounted to Rs 142,901 (Rs 129,010 in 2007).

CHAPTER IX

Miscellaneous

- 9.1 The Forestry Service participated in the Inventive and Innovation Exhibition during period 10-14 March, 2008 at Rajiv Ghandi Science Centre and in the World Food Day Exhibition at Wooton Crop research Station on the 16th of October, 2009.
- 9.2 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.
- 9.3 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.

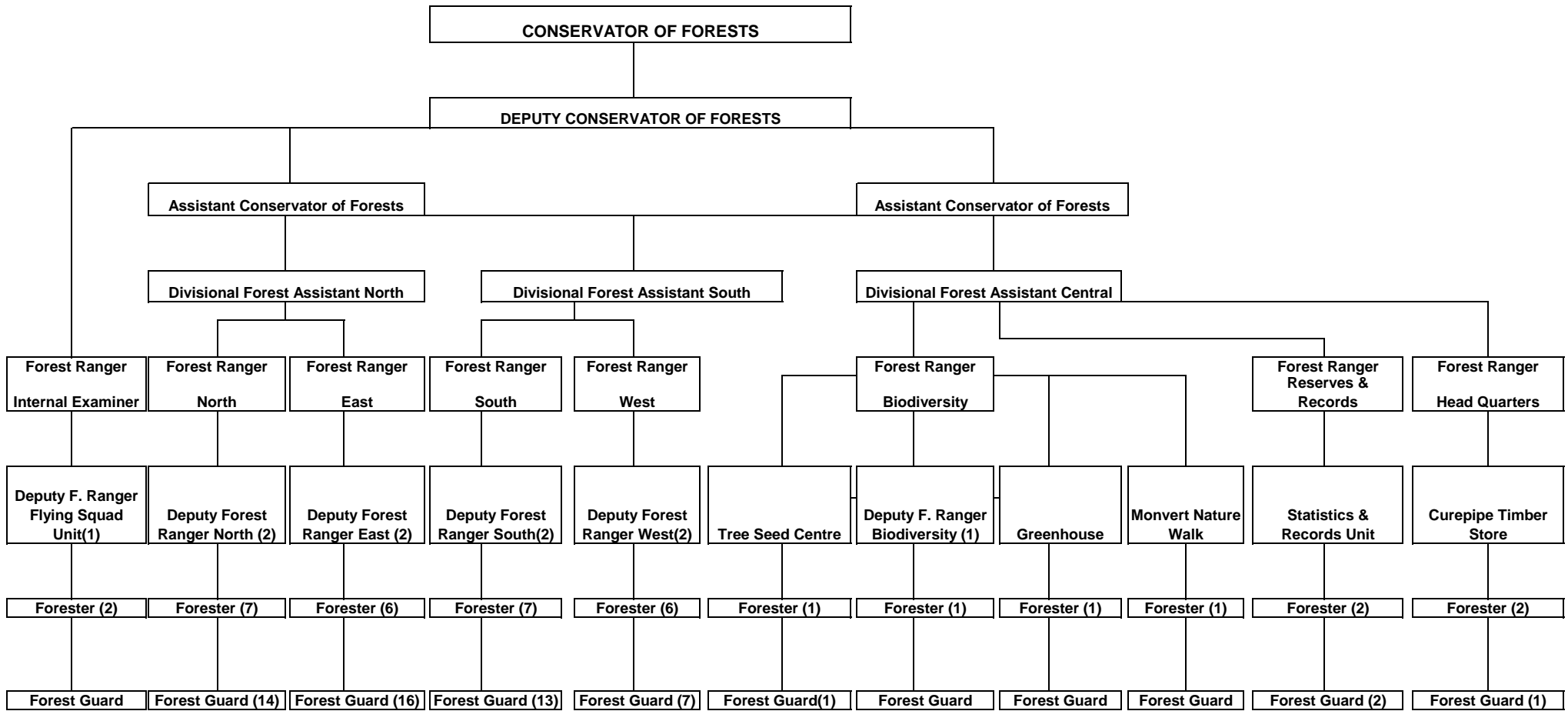
Publications

- 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) 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) S.G. *et al.* Changes in the vegetation and reptile populations on Round Island, Mauritius, following eradication of rabbits. *Biol. Conserv.* **67**:21-18
- (i) Owadally (1995) *Report on River Reserves*. This Report was submitted

A.W., Pong Kim Kam, to the Ministry of Agriculture and Natural Resources.
Jootun, L & Tezoo, V 26pp + 8 appendices + 2 maps

- (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.

ORGANISATIONAL CHART OF THE FORESTRY SERVICE 2008



APPENDIX I A

Territorial Organisation of the Forestry Service - 2008 **(Chapter II refers)**

DIVISION NORTH

Northern Range

Forest Sections

1. Northern
2. Pamplémousses
3. Bras D'Eau
4. Montagne Longue
5. Port Louis
6. Pailles

Eastern Range

Forest Sections

7. Flacq
8. G.R.S.E
9. Eau Bouillie
10. Salazie
11. Thorel
12. Vuillemin

Southern Range

Forest Sections

13. Curepipe
14. Grand Bassin
15. Parc aux Cerfs
16. Rivière du Poste
17. Rivière La Chaux
18. Grand Port

DIVISION SOUTH

Western Range

Forest Sections

19. Sophie
20. Les Mares
21. Bel Ombre
22. Chamarel
23. Rivière Noire
24. La Ferme

APPENDIX II

SUMMARY OF OFFENCES AGAINST FOREST LAWS DURING YEAR 2008

(Chapter III refers)

CATEGORY OF OFFENCES	No . of offences				
	TAKEN TO COURT	DEALT BY DEPT	OUTSTANDING	UNKNOWN	TOTAL
1. Unauthorised felling/removal					
(a) State Forest	3	2	14	36	55
(b) River Reserves	3	2	2	2	9
(c) Road Reserves	3	1	1	5	10
(d) Pas Géométriques	-	-	2	6	8
(e) Mountain Reserves	-	-	1	2	3
2. Illegal Possession of Wood					
(a) State Land	-	-	1	-	1
(b) Pas Geometriques	-	-	-	-	-
3. Encroachment					
(a) State Land	-	-	1	-	1
(b) River Reserves	3	-	16	-	19
(c) Mountain Reserves	-	-	-	-	-
(d) Pas Geometriques	-	-	-	-	-
4. Illegal Deposit of Stones/ Materials					
(a) State Land	-	-	-	5	5
(b) River Reserves	1	2	6	3	12
(c) Pas Geometriques	1	-	-	1	2
5. Illegal Possession of Implements					
(a) State Land	-	-	1	-	1
(b) River Reserves	-	-	-	-	-
(c) Pas Géométrique	-	-	-	-	-
6. Erection of Structures					
(a) River Reserves	-	3	-	-	3
7. Animals grazing on State Land/PG					
	-	-	-	-	-
Total	14	10	45	60	129

APPENDIX III
(Chapter V refers)

Silvicultural operations carried out in plantations during 2008
(AREAS IN HECTARES)

OPERATION	CLEARING FOR PLANTING	PLANTING	WEEDING	RECRUITING	STAKING	CLEANING	PRUNING
FOREST RANGE							
NORTHERN	-	2	-	-	-	165	14
EASTERN	54	46	145	155	-	39	5
SOUTHERN	36	46	50	47	19.5	59	7.5
WESTERN	-	2	-	-	-	44	-
Total areas in hectares	90	96	195	202	19.5	307	26.5
TOTAL COST(Rs)	2,712,264	1,383,282	6,541,766	811,267	33,103	9,487,204	33,139

GRAND TOTAL COST = Rs 21,002,025

AVERAGE COST/Ha(Rs)	30,136	14,409	33,548	4,016	1,698	30,903	3,137
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APPENDIX IV

Selling Rates of Timber for the year 2008 (Chapter VII refers)

(a) Standing Timber (i.e. basic royalty)

Class I	-	Rs.2,160 per m ³
Class II	-	Rs. 1,320 per m ³
Class III	-	Category I (Rs. 1,050 per m ³ for timber of 24 cm diameter and above) Category II (Rs. 850 per m ³ for timber of 18 cm to less than 24 cm diameter)
Class IV	-	Rs. 400 per m ³

(b) Sound logs at Roadside (i.e. basic royalty + labour)

Class I	-	Rs. 3,140 per m ³
Class II	-	Rs. 2,320 per m ³
Class III	-	Category I - (Rs. 2,160 per m ³ for timber of 24 cm diameter and above) Category II - (Rs. 1,820 per m ³ for timber of 18 cm to less than 24 cm diameter)
Class IV	-	Rs. 1,420 per m ³

(c) Sound logs at Curepipe Timber Store (i. e. royalty + labour + transport)

Class I	-	Rs. 4,630 per m ³
Class II	-	Rs. 3,810 per m ³
Class III	-	Category I - (Rs.3,300 per m ³ for timber of 24 cm diameter and above) Category II (Rs. 2,640 per m ³ for timber of 18 cm to less than 24 cm diameter)
Class IV	-	Rs.2,320 per m ³

APPENDIX IV (cont.)

Class I

1. Albizia lebbeck
2. Albizia procera
3. Artocarpus integrifolia
4. Sideroxylon grandiflorum
5. Canarium paniculatum
6. Dalbergia latifolia
7. Diospyros spp.
8. Eugenia glomerata
9. Labourdonnasia calophylloides
10. Mimusops maxima
11. Mimusops petiolaris
12. Ocotea cupularis
13. Swietenia spp.
14. Tabebuia spp.
15. Tectona grandis

Class II

1. Berrya ammonilla
2. Cassia spp.
3. Calophyllum inophyllum
4. Castanospermum australe
5. Cedrela spp
6. Cinnamomum camphora
7. Cordia spp.
8. Cunninghamia sinensis
9. Elaeodendron orientale
10. Eucalyptus citriodora
11. Gmelina arborea
12. Grevillea robusta
13. Juniperus bedfordiana
14. Melia azadarach
15. Olea lancea
16. Pterocarpus indica
17. Terminalia spp.
18. Vitex glabrata
19. Tristania conferta
20. Cryptomeria japonica

Class III

- | | |
|-----------------|---|
| Divided into | 1. Acacia spp. |
| two categories | 2. Agathis spp. |
| Category I-24cm | 3. Araucaria spp. |
| diameter and | 4. Azadirachta indica |
| above | 5. Samanea Samans |
| | 6. Eucalyptus spp. (except E. citriodora) |
| Category II | 7. Intsia bijuga |
| 18cm to less | 8. Lagerstroemia speciosa |
| than 24cm | 9. Michelia champaca |
| diameter | 10. Pinus spp. |

Class IV

1. Casuarina spp.
2. Dillenia speciosa
3. All other species

APPENDIX IV A
SELLING RATES OF POLES (2008)

Selling rates for poles per metre or part of metre
(Chapter VII refers)

Base diameter class		0-3cm	3-6cm	6-9cm	9-12cm	12-15cm	15-18cm
Sold Standing	A*	1.00	1.50	3.00	5.50	9.10	12.20
	B*	0.90	1.40	2.20	4.10	7.20	9.10
Cut at Roadside	A*	2.10	3.00	5.10	8.10	11.80	16.00
	B*	1.50	2.60	4.10	6.10	8.60	12.20
At Curepipe	A*	3.00	5.10	6.70	10.10	13.60	18.40
Timber Store	B*	2.00	3.50	5.60	8.10	11.20	16.00

* Class A - Cedar, guava and all indigenous spp.

* Class B - All other species

Note: (i) When measurement falls exactly on a diameter class limit use the higher class e.g. 6-9cm means 6cm to less than 9cm

(ii) When measuring length of poles, any excess over a metre will be considered as follows:

Poles of length up to 1.25m will be accounted as 1 m.

Poles of 2.26m up to 2.75m will be accounted as 2.5 m.

Poles of 2.76m to 3.25m will be accounted as 3 m.

APPENDIX V

SUMMARY OF REVENUE AND EXPENDITURE FOR THE YEAR
ENDING 31ST DECEMBER 2008
(1 US\$ about 30 Mauritian Rupees)

A. MAURITIUS

<u>Revenue</u>	<u>Amount (Rs)</u>	<u>Expenditure</u>	<u>Amount (Rs)</u>
		Personal Emoluments	126,381,145
Sale of Forest Produce	9,124,780	Travelling	20,673,951
Shooting and Fishing Rights	6,872,115	Uniforms	3,319,356
Wood Exploitation Licence	204,000	Maintenance and Running of vehicles	942,597
Registration Fees	142,620	Others	7,628,865
		<i>Sub Total</i>	<i>158,945,914</i>
		Projects	5,970,770
Total	16,343,515	Total	164,916,684

B. RODRIGUES

<u>Revenue</u>	<u>Amount (Rs)</u>	<u>Expenditure</u>	<u>Amount (Rs)</u>
Sale of Major Forest Produce	101,329	Personal Emoluments	17,777,920
Sale of Minor Forest Produce	20,342	Travelling and Transport	1,973,968
Sale of Plants	9,980	Overtime	63,829
Sale of Christmas trees	11,250	Other operating expenses	1,100,568
Total	142,901	Total	20,916,285

APPENDIX VI

MAIN IMPORTS OF FOREST PRODUCE FOR THE YEAR 2008

H.S. Code	Description	Unit	Country of origin	Quantity	CIF Value (Rs)
44012100	Coniferous wood in chips or particles	kg	Belgium	5,670	538,496
44013000	Sawdust,woodwaste,scrap in logs,briquette, pellet etc	kg	France, Malaysia,Netherlands.	10,611	538,759
44020000 44029000	Wood charcoal(including shell or nut charcoal)	kg	S.Africa, USA, Spain, China, Turkey, Madagascar, UAE	58,546	1,774,440
44031000 44032000	Rough wood,stripped of bark or not,paint,stains etc treated	m3	S . Africa, Malaysia	5,045	57,044,457
44034100 44039900	Rough wood or wood roughly squared (non-coniferous)	m3	Malaysia, Myanmar,S.Africa,France, New zealand, Mozambique, Madagascar, USA, Italy, China, Germany	3,538	61,355,445
44041000	Hoopwood,split poles,pile chipwood, unworke	kg	S.Africa,Indonesia, Madagascar	140,867	678,537
44042000	Hoopwood,split poles,pile,chipwood etc non-c	kg	S.Africa, France	69,143	1,083,793
44071000	Coniferous wood sawn thickness > 6mm planed or sanded or not	m3	Myanmar, Madagascar,Cameroun,Malaysia, S.Africa, France,New Zealand,Tanzania,India,Chile,Indonesia,Mozambique,Singapore	28,153	77,921,819
44072400 44079900	Non-coniferous woodsawn or chipped not planed/sanded etc of a thickness exceeding 6mm	m3	Myanmar,Congo,Cameroon,France,Italy,Mozambique, Madagascar,USA,China,Indonesia,Malaysia,Chile, S.Africa,N.Zealand,Cote D Ivoire,Switzerland, Australia, Singapore, Canada, Phillipines,Thailand, Hong kong, Benin, Brazil, Germany	36,805	688,875,795
44081000 44083900 44089000	Veneer sheet of wood n.e.s of a thickness not exceeding 6mm	kg	China, Malaysia, France, Singapore,Indonesia,South Africa	286,488	10,736,013
44091010 44091090	Mouldings for frames for painting,photo,mirrors,etc (Conifer)	kg	China,Madagascar, Indonesia, ,Malaysia, France, South Africa, Singapore, Italy, Spain	93,774	5,408,250
44092010 44092090	Mouldings for frames for painting,photo,mirrors,etc; Dowelling in the length(Non-Coniferous wood)	Kg	UK,Italy,Madagascar,Taiwan,S.Africa,Indonesia,China, France, Germany, Singapore, UAE,Morrocco, Ghana, New Zealand.	246,873	10,248,352
44102100 44109000	Oriented strand board and Wafer board Particle board and similar board of wood,or other ligneous material	kg	Madagascar,Malaysia, France, S.Africa,Australia ,China,Thailand, Japan,Belgium, Indonesia, UK, UAE.	669,429	16,947,093
44111100 44119990	Fibreboard of wood not mechanically worked Medium Density Fibreboard	kg	Germany,Malaysia,S.Africa,UAE,New Zealand,Ireland, UK, Portugal,Vietnam , Singapore,France,Belgium, Italy,China, Thailand, Taiwan,Indonesia.	11,621,911	199,156,522
44121300 44129900	Plywood,veneer/laminated panel	m3	Kenya,Malaysia,Singapore,France, Brazil, Canada, UAE India,S.Africa,China,Thailand,Indonesia, Germany, USA, Australia, reunion, UK, Vietnam	6,009,356	242,647,541

44130000 44140000	Densified wood in blocks,plates, strips Wooden frames for paintings, photograph, mirrors or similar objects	kg	China,France,UK,Italy,UAE,Pakistan,Indonesia,India,Spain, Madagascar,Malaysia, Belgium,Thailand,S.Africa, Czech. Rep.,Korea, Lithuania, Morrocco, Taiwan, Tunisia, Ireland, Singapore, Japan, Vietnam,Zimbabwe.	52,344	6,369,380
44151000 44152000	Packing cases,boxes,crates,drums of wood pallets,box pallets and other boards	number	France,South Africa,China, Australia, Syria, Indonesia,Germany,Spain.	1,500	2,613,670
44160000	Casks, barrels, vats, tubs, other coopers products and parts thereof	kg	France,UK, South Africa	20,502	4,976,524
44170010 44170090	Tools,tool bodies,broom or brush bodies, handles of wood boot & Shoe lasts	kg	Indonasia, Mexico, France,Thailand,USA, India,China,Taiwan,Malaysia,S.Africa.	157,204	8,284,906
44181000 44219090	Builders joinery and carpentry of wood tableware and kitchenware etc., Doors,Windows and their frames of wood, Parquet panels of wood, Statuette & other ornament of wood, articles of wood,shuttering,shingles and shakes,woodmarquetry,clothes hangers of wood,match splints	kg	Indonesia,India,Singapore,UK,Tanzania,France, Italy,Malaysia,Zimbabwe,Bahamas, Netherlands,Denmark, Thailand,S.Africa,Sweden,Taiwan,Korea, Switzerland,China,Pakistan,Turkey,Vietnam, Germany,Spain,H.Kong,Japan,Kenya,Philippines, Uganda, Madagascar,Belgium,Australia,UAE,Canada,Reunion,Guyana,U SA,Luxembourg,Slovenia, Cote D'Ivoire, Syria,Burundi, Myanmar	3,178,611	164,426,996
45031000 46029000	Corks, stoppers, tiles of any shape, mat, basket, wickerware, plait	kg	China,France,India,Portugal,S.Africa,UK,Germany,USA,Spain, Malaysia,H.Kong,Indonesia,Ireland, Taiwan,Belgium, Sri Lanka, Italy, Japan,Korea,Greece, Italy,Japan,Madagascar, Vietnam,Singapore, Philippines,Thailand,Zimbabwe,Egypt,Kenya,Netherlands	230,095	24,543,729
47032100	Semi bleached coniferous chemical wood pulp	kg	Sweden, USA.	734,115	21,140,588
470790000	Waste/Scrap of paper/paperboard nes excl470710-30,incl unsorted	kg	Spain	5	68,338
48010000	Newsprint in rolls or sheets	kg	Indonesia,India,Russian Fed.,Malaysia, USA,S.Africa,China,Japan.	6,877,175	172,645,537
48021000 48026990	Hand-made paper and paperboard of any size or shape -other paper and paperboard, uncoated base paper/board	kg	Singapore,Germany,UK,Japan,USA,Korea,S.Africa,Belgium,Bra zil,China,Netherlands,Portugal, France,Indonesia,India,Italy,Malaysia,Thailand, Sweden,UAE,Malaysia,H.Kong,Taiwan,Finland	7,367,573	244,028,698
48030000 48189090	Toilet,facial tissue,towel,napkin,uncoated kraft paper,unbleached kraft paper,semi chemical fluting paper,testliner,other uncoated paper & paper board,vegetable parchment,Greaseproof papers,Tracing papers composite paper, kaolin coated paper, handkerchiefs,self-copy paper, household articles, articles of apparel,etc.	kg	China,France,H.Kong,Indonesia,Malaysia,Spain,Siera Leone,Austria,Singapore,S.Africa,Thailand,UK,Australia,Taiwan , India,Korea, Turkey, Japan, Germany, Sweden, Italy, Finland, Netherlands, USA,Norway,Brazil,Lithuania,Morocco,S.Arabia, Reunion,UAE,Ukraine,Switzerland,Israel,Phillipines,Denmark,Be lgium,Mexico,Kenya,Portugal,Egypt,Cyprus,Poland,Czech Rep, Iran,Madagascar,Monaco	34,360,331	1,099,159,600

48191000 48219000	Cartons,boxes and cases of corrugated paper or paperboard,paper cement bags,sack, packing containers,box file,register,receipt book,binders,folders,Exercise Books of paper of paper board, Folding Cartoons,printed paper etc.	kg	UAE,Australia,Switzerland,China,India,Sri Lanka,Germany,France,UK,H.Kong,Indonesia,Lebanon,Italy, Malaysia,Netherlands,Singapore,Israel,S.Africa,Phillipines, Sweden,Austria,Portugal,Spain,Japan,Thailand,Moroco Belgium,USA,Finland,Pakistan,Korea Rep.,Brazil,Denmark,Kuwait,Poland,Spain,Reunion,Monaco,Ireland,Turkey,Taiwan,Madagascar,Nepal,Romania,Senegal,Botswana, Canada,Kenya,Bangladesh,Argentine,Honduras,Chile,Oman,Uk	3,681,540	468,555,366
48221000 48229000 48231900 48239090	Bobbins,spools,cops,self-adhesive paper, filter paper,rolls,sheets and dials,printed for self-recording machine,tray,dishes,plates of paper,other articles of paper,pulp etc printed paper or paperboard labels,Joss paper,Gaskets moulded or pressed articles of paper pulp unprocessed virgin mats.	kg	China,HongKong,India,Taiwan,France,Italy,UK,Denmark,Turkey, UAE,Finland,Luxembourg,Malaysia,Singapore,S.Africa,Belgium, Sweden,Switzerland, Tunisia, Taiwan,Germany,Spain,Japan,Thailand,Korea Rep.,Madagascar Netherlands,Reunion,USA,Greece,Poland,Seychelles,Indonesia, Australia,Austria,Israel,Porto Rico,Portugal,Morocco,Japan,Kingdom of Lesotho,Ireland	2,267,203	132,248,159
94033000 94033090	Wooden Furniture of a kind used in offices, other wooden furniture	number	S.Africa,China,India,France,H.Kong,UK,Indonesia,Italy,Malaysia, Germany,Sweden,Pakistan,UAE,Madagascar,Egypt,Denmark,B	21,471	55,449,296
94034000 94034090	Wooden Furniture of a kind used in the kitchen, other wooden furniture	number	China,France,UK,Belgium,Pakistan,Italy,Indonesia,India,S.Africa, Malaysia,Singapore,UAE,Brazil.	19,837	55,617,660
94035000 94035010 94035090	Wooden furniture of a kind used in the bedroom,woodwn tables & other wooden furniture of a kind used in the bedroom	number	S.Africa,China,Italy,Indonesia,UAE,UK,Pakistan,India,USA, Malaysia,H.Kong,France,Denmark,Switzerland,Norway, Madagascar,Germany,Thailand,Reunion,Madagascar,Belgium, Spain,Singapore.	17,969	79,479,980
94036010 94036090	Other wooden furnitures,Small hanging food safe wall cabinet of wood,Large scale rack & Shelving Systems of wood	number	China,India,France,UK,H.Kong, Denmark, Indonesia,Italy,Pakistan,Brazil, Thailand,Japan, Madagascar,Malaysia,S.Africa,Singapore,Reunion,Phillipines, Vietnam,Poland,Belgium,Tanzania,,Germany,Taiwan,UAE,Spain, Malaysia,Canada, Iceland,Cuba,Cyprus,Bahamas,Netherlands,Australia,Switzerland, Egypt.	120,725	210,891,928
94038190	Furnitures of bamboo or rattan	number	China,India,France,UK,H.Kong, Denmark, Indonesia,Italy,Pakistan,Brazil, Thailand,Japan, Madagascar,Malaysia,S.Africa,Singapore,Reunion,Phillipines, Vietnam,Poland,Belgium,Tanzania,,Germany,Taiwan,UAE,Spain, Malaysia,Canada, Iceland,Cuba,Cyprus,Bahamas,Netherlands,Australia,Switzerland, Egypt.	69,175	3,160,328
					4,128,615,995

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