

# ANNUAL REPORT OF THE FORESTRY SERVICE

2009



Forestry Service  
Botanical Garden Street  
Curepipe  
December 2010



**The Conservator of Forests, Mr. V. Tezoo, receiving the Public Service Excellence Award (PSEA - 2007)**

**FORESTRY SERVICE**

**MINISTRY OF AGRO INDUSTRY & FOOD SECURITY**

**ANNUAL REPORT 2009**

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## **VISION**

Our vision is to ensure a healthy forest environment that will satisfy the needs and aspirations of present and future generations for goods and services from our forests in a sustainable manner

## **MISSION**

Our mission is to manage our forest resources for, with and on behalf of the people of Mauritius

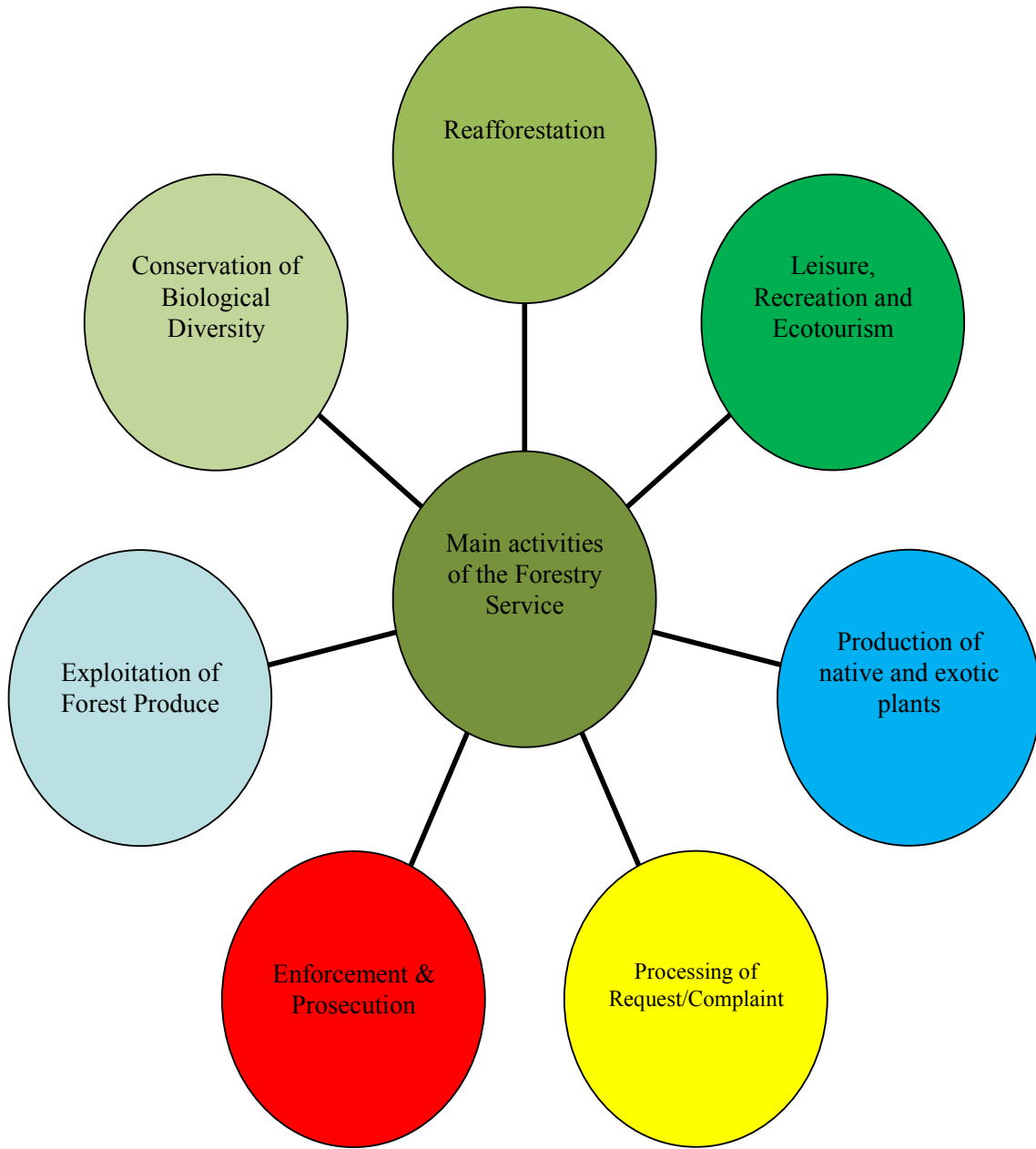
## **GOAL**

Our goal is the accelerated growth and development of the nation's forest sector in harmony with our Republic National Development Plan

We aim to fulfill the commitment by:

- Improving the management, protection, rational use, and increase and diversification of our forest resources;
- Taking good care of the water catchment areas in the forests to ensure a steady supply of water for domestic and other purposes;
- Looking after our rich heritage of native species of plants, birds and other animals; and
- Developing facilities in the forests for recreation and tourism, which has now become an important sector of our economy

As our name suggest, we are at the service of our citizens.



## **From the Conservator of Forests**

The process of modernization and improvement of the Forestry Service in this new century is well underway to meet the needs and aspirations of the present and future generations and provide a quality service to the nation. Innovation is being used as a tool to address resistance to change with a view to improve efficiency and productivity. The test of time has proven that success is increasingly determined by one's ability to respond innovatively to changing needs and aspirations of people. During this decade the Forestry Service has created three Nature Walk in beautiful wilderness forest areas at Monvert (Forest-Side), Bras D'Eau & Pamplemousses; and two more are nearing completion at Sophie (Near Mare-aux-Vacoas) and Ile D'Ambre to meet the increasing demand for leisure and recreation. Visitor's Centre and amenities like kiosk, tables, benches, toilet, trails, etc have been set up to ensure that the visitor spends a pleasant and memorable moment in the midst of nature with unique fauna and flora. The number of visitors is increasing annually and it is expected to reach 100,000 people by the end of 2010. Nature Walk offer great scope for leisure and recreation and promotion of the conservation of biodiversity. The benefits are, amongst others:

- Recreation for both the local population and tourist
- Conservation of biological diversity
- Conservation, education and raising awareness on the need to protect the rare endemic fauna and flora
- Scientific and educational purposes; and
- Improving the health of the population

Another great innovation at the Forestry Service is the setting up of a Forest Land Information System (FLIS) to improve management and monitoring of forest resources in the Republic of Mauritius. The FLIS is a powerful tool that combines Geographical Information System (GIS) and Remote Sensing technology to collect, integrate and process data from varied sources into useful information for decision-making. The FLIS was set up during this year under the project "Capacity Building for Sustainable Land Management in Mauritius and Rodrigues" funded by UNDP/GoM/GEF.

In conclusion, the innovation I have highlighted could not have been achieved without the unfailing support, collaboration and dedication of all staff of the Forestry Service.

V. Tezoo  
Conservator of Forests

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### **Main features of the year**

The main features of the year were: -

(i) **Conservator of Forests**

Mr. Vishnu Tezoo was promoted as Conservator of Forests with effect from the 1<sup>st</sup> of April 2009.

(ii) **Raising of Plants**

506,907 plants were raised in the six Nurseries, the Tree Seed Centre and the Greenhouse of the Forestry Service. A stock of 647,067 was carried over from the previous year and the stock remaining at the end of the year was 704,590. Some 83,801 plants were sold to the public.

(iii) **National Tree Planting Campaign**

27,546 plants were issued free of charge under the National Tree Planting Campaign.

(iv) **Forest Plantations**

Some 90 hectares of new forest plantations were created. The plantations consisted mostly of Pine.

(v) **Tending (Maintenance of young plantations)**

Some 199 hectares of young plantations were weeded. Recruiting was carried out on 170 hectares to replace dead and dying plants. 239 hectares were cleaned of noxious weeds and undergrowths, 5 hectares were pruned.

(vi) **Forest Conservation**

In-situ conservation has been effected at State Land Monvert, Bois Sec and Perrier Nature Reserves.

The Greenhouse, Tree Seed Centre and other Forest nurseries have raised some 56,329 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.

(vii) **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 nearing completion at Sophie and Ile D'Ambre respectively

Some 71,639 people visited Monvert, Bras D'Eau & Powder Mills Nature Walk during the year 2009.

(viii) Exploitation

4,772 m<sup>3</sup> of timber and poles were put on the market along with 4,197 m<sup>3</sup> of fuelwood.

(ix) 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

### Forest Management

- 1.1 The new National Forest Policy was approved by Government on the 16<sup>th</sup> 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.



**Vital forest function – water conservation**

## The Forest Area

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

### **I State-owned Forest Lands**

(a) State lands

|  | <u>Area</u><br><u>(Hectares)</u> | <u>Total Area</u><br><u>(Hectares)</u> |
|--|----------------------------------|--|
| (i) Plantations                            | 11,901                           | 11,901                                 |
| (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                   | 1,373                            | <u>1,373</u>                           |
|  |                                  | <u>21,528</u>                          |

(b) Pas Géométriques

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

### **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:<br>(Figures not available but estimated at) |       | <u>15,847</u>        |
| <b>Sub-total</b>   |       | <b><u>25,000</u></b> |

|                     |               |
|---------------------|---------------|
| <b>Grand Total:</b> | <b>47,159</b> |
|---------------------|---------------|

#### State Forest Lands

- 1.4 The total area of State Forest Lands is 21,528 ha.

#### Pas Géométriques

- 1.5 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.
- 1.6 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 Geométriques under the control of the Forestry service has been reduced from 635 ha to 631 ha during the year under review.
- 1.7 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

- 1.8 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.
- 1.9 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

- 1.10 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

- 1.11 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.
- 1.12 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.

- 1.13 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.
- 1.14 The Conservator of Forests is a member the Wildlife and National Parks Advisory Council.
- 1.15 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.
- 1.16 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.
- 1.17 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.
- 1.18 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.
- 1.19 The Vallée D'Osterlog Endemic Garden Foundation Act 2007 was proclaimed by "Proclamation No.17 of 2007" w.e.f. 4<sup>th</sup> 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 41 vacancies)                |
| Clerical and non-forestry Officers and employees   | 110 (including 18 vacancies)                |
| Artisans, Gangmen and Lorry Loaders  | 125 (including 41 vacancies)                |
| General Field & Office Premises Workers, Gardeners/Nurserymen and Head and Senior Gardeners/Nurserymen | 960 (including 352 vacancies)               |
| TOTAL  | -----<br>1,350<br>(including 454 vacancies) |

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- 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 Mr.Vishnu Tezoo was promoted as Conservator of Forests with effect from 01 April 2009.
- 2.5 Mr.Poojanraj Khurun was promoted as Deputy Conservator of Forests with effect from 01 April 2009.

- 2.6 Mr.Cassam Badal, Mr.Ranjeet Seegum and Mr.Dineshwar Bholee were promoted to the rank of Deputy Forest Ranger with effect from 08 July 2009.
- 2.7 Thirty seven employees in the minor grades retired from the Service on grounds of age.
- 2.8 Mr.Jogendra Ramjuttun, Forester, passed away on 10 December 2009.
- 2.9 Nine employees in the minor grades passed away in the year 2007.

C. Training during the year

- 2.10 All employees of the Forestry Service followed a Training Course on Performance Management organized by the Ministry of Agro Industry and Food Security.
- 2.11 Two General Service Staff followed a refresher course in ICT and two Forest Officers attended a refresher course in First Aid.
- 2.12 The Deputy Conservator of Forests attended a Training Course in Negotiation Skills organized by the Ministry of Civil Service and Administrative Reforms.
- 2.13 Seven Forest Rangers followed a Training Course on Supervision and Leadership organized by the Ministry of Civil Service and Administrative Reforms.
- 2.14 One Forest Officer attended a Training Course in Prosecution Matters held by the Ministry of Civil Service and Administrative Reforms.
- 2.15 One Forester attended a short Training Programme on effective Communication Skills at the Ministry of Environment.
- 2.16 One General Service staff attended a Training Programme on Effective Communication Skills at the Ministry of Civil Service and Administrative Reforms.
- 2.17 Six General Service staff attended a Training Course for Officers organized by the Ministry of Civil Service and Administrative Reforms.
- 2.18 Three Office Attendants attended a Training Course in Public Relations and Customer Care organized by the Ministry of Civil Service and Administrative Reforms.
- 2.19 Forty-one Forest Officers attended a Fire Fighting Training Course organized by UNDP under the project Capacity Building for Sustainable Land Management in Mauritius and Rodrigues.
- 2.20 Two General Service staff attended an Advanced Training Course on Excel and Power Point organized by the Ministry of Civil Service and Administrative Reforms.
- 2.21 All Forest Officers from the grade of Forester to the Division Forest Assistant and the Forest Surveyor attended a Training Programme on Basic Risk Assessment organized by the Occupational Health and Safety Unit.
- 2.22 One Forester attended Training on Metadata Validation at the Meteorological Services.



## CHAPTER III

### Forest Protection

#### Climatic Agencies

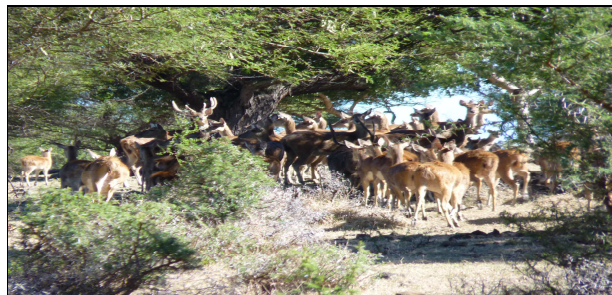
- 3.1 The climatic conditions prevailing on the island during the year under review have been good in general. Fortunately the country has not been visited by cyclones. A few cyclones passed far away from the island.

#### 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 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, 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 youngs 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 75,000 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 14 as compared to 26 in year 2008. Most of them occurred on the Port Louis Hills and other dry areas in the North and West. The total area burnt was about 123 hectares, which occurred in unprotected areas. About 23 km of firebreaks were re-opened and maintained at a total cost of Rs 1,071,634.

#### Forest Offences

- 3.9 Appendix II gives the number and classification of forest offences during the year. 101 cases (129 in 2008) were registered, of which 15 were taken to court, 7 were dealt departmentally, 53 were outstanding and in 26 the offenders were unknown. Fines amounting to Rs 96,617 were imposed. At the request of the Police Authorities, timber and poles were evaluated in 7 cases (13 in 2008) of illegal possession.

## CHAPTER IV

### Surveys, Roads and Buildings

#### Surveys

4.1 The survey branch personnel was composed of one Surveyor, one Survey and Mapping Assistant, one Draughtsman, 1 Clerical Officer, 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 | 38.1 km |
| (ii)  | Area surveyed  | 300 ha  |
| (iii) | Number of Notices to attend to Survey                  | 36      |

#### Roads

4.3 About 126 kms of existing roads, trails and paths were repaired and maintained at an average cost of around Rs 52 per metre. The length maintained in each Forest Range was as follows:-

| <u>Range</u> | <u>Length (km)</u> | <u>Cost (Rs)</u> |
|--------------|--------------------|------------------|
| Northern     | 58                 | 3,950,037        |
| Eastern      | 31                 | 1,508,600        |
| Western      | 25                 | 914,687          |
| Southern     | 12                 | 213,965          |
| <b>Total</b> | <b>126</b>         | <b>6,587,289</b> |

#### Buildings

4.4 A sum of Rs 108,319 has been spent on the construction of Black River Forest Office at La Caverne and the upgrading of an old stoned building into a museum at Plaine Sophie.

4.5 A sum of Rs 328,087 has been spent on the construction of a wooden garage at Monneron, concrete shed for electric pump, Watchman house and Parking Area at Sophie, concrete store and repairs of Vallee Pitot Forest Quarters.

4.6 A sum of Rs 4,103,330 has been spent on Nature Walk Projects.

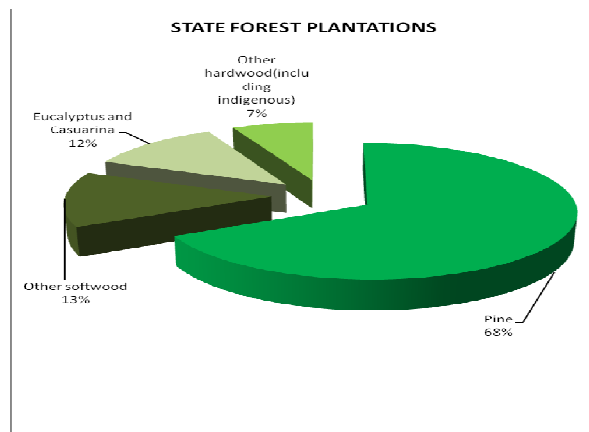
## CHAPTER V

### Silviculture

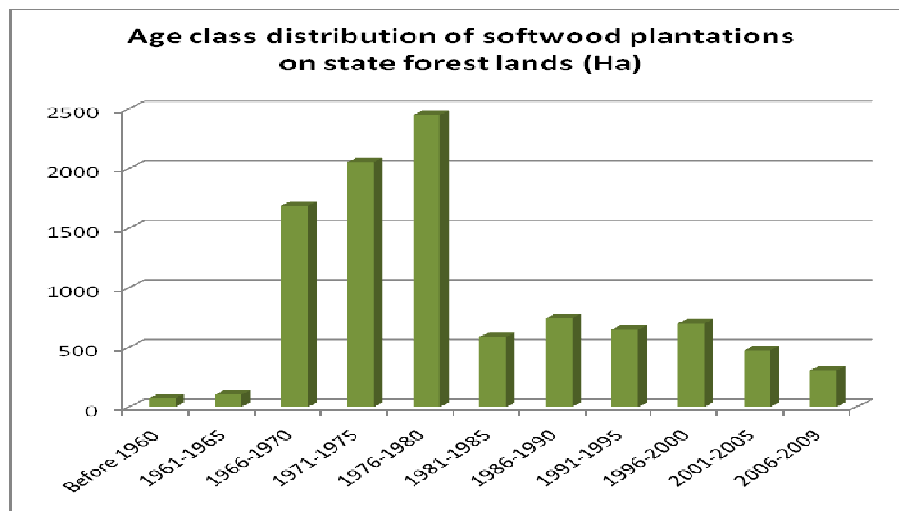
#### State Forest Plantations

5.1 In 2009, the approximate distribution of state forest plantations (including Pas Geometriques) by types was as follows:-

|  | <u>Area(ha)</u>      |
|--|----------------------|
| <i>Pine</i>                                | 8197                 |
| Other Softwood                             | 1624                 |
| <i>Eucalyptus</i> and <i>Casuarina</i>     | 1443                 |
| Other hardwood (including indigenous spp.) | <u>859</u>           |
|  | <b><u>12,123</u></b> |



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 consist 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 515 kg of seeds of various forest species were collected locally at a cost of Rs 132,563 exclusive of transport and storage costs. The amount of seeds collected by species is given below:

| <b>Species</b>                 | <b>Amount (kg)</b> |
|--------------------------------|--------------------|
| <i>Pinus elliottii</i>         | 37.5               |
| <i>Araucaria spp.</i>          | 70                 |
| <i>Casuarina equisetifolia</i> | 3                  |
| <i>Eucalyptus spp.</i>         | 4                  |
| <i>Palm spp.</i>               | 210.5              |
| <i>Indigenous species</i>      | 63                 |
| <i>Other Species</i>           | 127                |

Some 200 species of plants are raised in forest nurseries.

- 5.9 Some 276,949 cuttings of ornamental species like *Hibiscus*, *Bougainvillea*, *Croton*, *Allamanda*, *Trochetia*, etc, were prepared and raised in nurseries and greenhouse.
- 5.10 Some 506,907 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<br/>at 31.12.08</u> | <u>Stock raised<br/>in 2009</u> | <u>Stock remaining<br/>at end of 2009</u> |
|------------------------------|-----------------------------------|---------------------------------|---|
| <i>Pine</i>                  | 228,592                           | 150,216                         | 134,032                                   |
| <i>Eucalyptus</i>            | 590                               | 20,500                          | 9,966                                     |
| <i>Cryptomeria</i>           | 1,163                             | 1,852                           | 26  |
| <i>Casuarina</i>             | 537                               | 8,200                           | 6,066                                     |
| <i>Araucaria</i>             | 29,135                            | 58,641                          | 59,897                                    |
| <i>Juniper</i>               | 350                               | 114                             | 264                                       |
| <i>Other exotic species*</i> | 352,607                           | 211,055                         | 415,550                                   |
| <i>Indigenous species*</i>   | 34,093                            | 56,329                          | 78,789                                    |
| <b>Total</b>                 | <b>647,067</b>                    | <b>506,907</b>                  | <b>704,590</b>                            |

\*including ornamentals

- 5.11 About Rs. 30,135,161 was spent on the raising and maintenance of plants in the Nurseries, Greenhouse and the Tree Seed Centre.
- 5.12 Some 27,546 plants were issued, free of charge, to various organizations, clubs and other Ministries under the National Tree Planting Campaign. Some 256,815 plants were used by the Forestry Service and 83,801 plants were sold to the public.

#### Tending

- 5.13 199 hectares of young plantations were weeded. Recruiting was carried out on 170 hectares. 239 hectares were cleaned of rampant creepers and exotic undergrowth. 5 hectares were pruned and staking was done on 3 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. An area of about 68.4 hectares was cleaned mechanically at a cost of Rs. 1,581,426.

## **CHAPTER VI**

### **Conservation of Biological Diversity**

#### **In-Situ Conservation**

- 6.1 In-situ conservation has been effected at State Land Monvert, Bois Sec and Perrier Nature Reserves. Invasive alien species were uprooted and removed on a total extent of about 5 hectares.



**Forester Jokhun examining an ebony tree for seeds (left) and propagating the epiphyte Bois Fier(right)**

#### **Exploration and Survey of Native Vegetation**

- 6.2 Survey of native vegetation has been conducted at Goat Rock, Quoin Bluff, Mountain Senneville, State Land Rivalland, Mountain du Fougé, Mountain Lagrave and Moutain Brisée.



**Forester Ramjaun between Makak and Ebony trees during exploration**

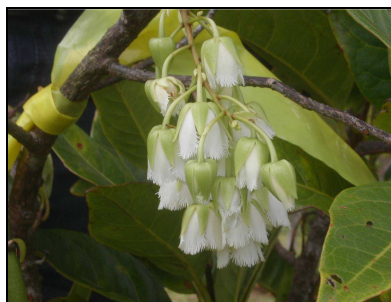
### Creation of Nature Corner at Schools

- 6.3 This Service continued its programme to set up Nature Corner in 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.



### Production of Native plants including native medicinal plants

- 6.4 The Greenhouse, Tree Seed Centre and other Forest nurseries have raised some 56,329 native plants (including ornamental and medicinal plants) during the year under review. Some critically endangered plants like *Elaeocarpus bojeri* and *Trochetia parviflora* have been successfully raised.



*Elaeocarpus bojeri*



*Trochetia parviflora*

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.

## CHAPTER VII

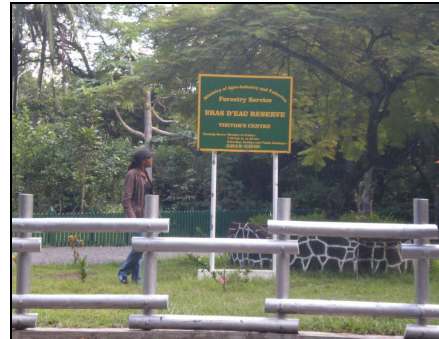
### Recreational Forestry

- 7.1 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 nearing completion at Sophie and Ile D'Ambre respectively.

Some 71,639 people visited Monvert, Bras D'Eau & Powder Mills Nature Walk during the year 2009.



Monvert Visitors Centre



Bras D'Eau Nature Walk



Powder Mills Nature Trail



Fernery at Monvert Nature Walk

- 7.2 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.

## CHAPTER VIII

### Wildlife Management

- 8.1 The population of *Macaca fascicularis* (monkey) is increasing in the absence of cyclone visiting the island. Monkeys are a major threat to native fauna and flora and contribute greatly in the decline of biodiversity. They are being caught from the wild and are also bred in captivity by some five companies that export them for medical research.
- 8.2 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<br>(Rs) | Low to Mid-Altitude<br>(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 IX

### Exploitation and Utilization

#### Marketing of Forest Produce

- 9.1 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 2,500m<sup>3</sup> 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 m<sup>3</sup> and logs of 18cms to less than 24cms diameter at Rs 850 per m<sup>3</sup>.
- 9.2 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.
- 9.3 Poles and tool handles were also cut by the Forestry Service and supplied against payment to other government departments.

#### Production of Timber and Firewood

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

|                       | Cubic metres<br>(Round wood) |
|-----------------------|------------------------------|
| (i) <u>Timber</u>     |                              |
| (a) Hardwood          | 28                           |
| (b) Softwood          | 3,713                        |
| (ii) <u>Poles</u>     |                              |
| (a)Hardwood           | 413                          |
| (b)Softwood           | 618                          |
| (iii) <u>Fuelwood</u> |                              |
| (a)Firewood           | 4,197                        |
| (b) Charcoal          | -                            |

- 9.5 The volume of logs sold was comparatively lower than in the previous year. Grewals (Mauritius) Ltd purchased 1,297 m<sup>3</sup> (1,671 m<sup>3</sup> in 2008) of the above-mentioned timber of over 18 cms diameter, and 2,444 m<sup>3</sup> (2,567 m<sup>3</sup> in 2008) were sold to woodmerchants holding Wood Exploitation Licence.

9.6 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

9.7 The sale of Christmas trees, tool handles, bamboos, nursery plants and other minor forest produce amounted to Rs 4,095,315 (Rs 3,924,945 in 2008).

9.8 Appendices IV and IVA give the selling rates for timber and poles that are in force.

9.9 No data on forest produce from private land is available.

Timber Processing

9.10 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.

9.11 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.

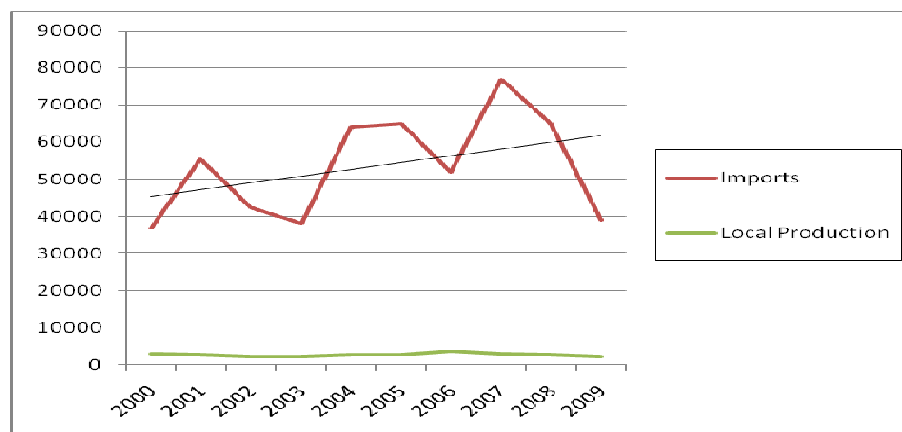
Timber Imports

9.12 The amount of sawn timber imported during the year was 38,966 m<sup>3</sup>, equivalent to about 67,022 m<sup>3</sup> of roundwood. The timber was mainly imported from Madagascar, Malaysia and South Africa. The CIF value was about Rs 627 million (Rs 767 million in 2008).

Local consumption of Timber

9.13 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 M<sup>3</sup>



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

**Volume m<sup>3</sup> - roundwood**

|   | Timber        | Poles         | Fuelwood     | Total         |
|---|---------------|---------------|--------------|---------------|
| I.From State Lands                        |               |               |              |               |
| (a) Sold                                  | 3,741         | 1,031         | 4,197        | 8,969         |
| (b) Cut departmentally                    | 21            | 71            | 186          | 278           |
| (c) Removed free of charge<br>(estimated) | -             | -             | 819          | 819           |
| II.From Private Lands (estimated)         | 45            | 140           | 280          | 465           |
| III.Imports (Roundwood equivalent)        | 67,022        | 11,373        | 466          | 78,861        |
| <b>Total</b>                              | <b>70,829</b> | <b>12,615</b> | <b>5,948</b> | <b>89,392</b> |

9.15 Appendix V gives the statement of revenue and expenditure of the Forestry Service for the year 2009, for Mauritius and Rodrigues.

9.16 The total expenditure for Mauritius amounted to Rs 164,668,049

9.17 The total revenue for Mauritius amounted to Rs 16,326,213

## CHAPTER X

### Rodrigues

#### Staff

- 10.1 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.
- 10.2 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   | 1 post vacant              |
| Forest Ranger                 | 1   |                            |
| Deputy Forest Ranger          | 1   | One (1) Post Vacant        |
| Forester                      | 4   |                            |
| Forest Guard                  | 20  | Two (2) Posts Vacant       |
| Technical Officer             | 1   |                            |
| Clerk                         | 2   | (one) 1 post vacant        |
| Gangman                       | 8   | Three (3) posts vacant     |
| Head Gardener/Nurseryman      | 1   | One (1) post vacant        |
| Gardener/Nurseryman           | 5   | One (1) post vacant        |
| Watchman                      | 53  | Nineteen (19) posts vacant |
| Woodcutter                    | 16  | Three (3) posts vacant     |
| Office Caretaker              | 1   |                            |
| Store Keeper                  | 1   |                            |
| General Worker                | 53  | Eighteen (18) posts vacant |
| Launch Driver                 | 1   |                            |
| Boatman                       | 2   |                            |
| Driver                        | 1   |                            |
| Lorry Loader                  | 2   |                            |
| TOTAL                         | 174 |                            |

#### Protection

- 10.3 Straying cattle and goats were the main cause of damage to young plantations. One hundred and twenty-four cases of allowing animals to graze on State Lands were taken to Court. (2) two cases of unlawful destruction and (1) one case of giving instructions to commit a misdemeanor were tried. At the end of the year, (56) fifty six cases of allowing animals to graze on State Land, and five cases of illegal possession of wood were still awaiting prosecution.

### Silviculture

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

| <b>Operation</b>  | <b>Extent worked (ha)</b> |
|-------------------|---------------------------|
| Cleaning          | 25 ha                     |
| Thinning          | 3.5 ha                    |
| Weeding           | 2.5 ha                    |
| Erection of fence | 4870 rm                   |
| Repair of fence   | 13625 rm                  |

- 10.5 Some 64,761 seedlings were raised during the year at Solitude and Oyster Bay Nurseries. 10,809 plants were sold to the public.
- 10.6 About 3.12 hectares have been restored with indigenous and endemic species at Anse Quitar.

### Nature Reserves

- 10.7 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

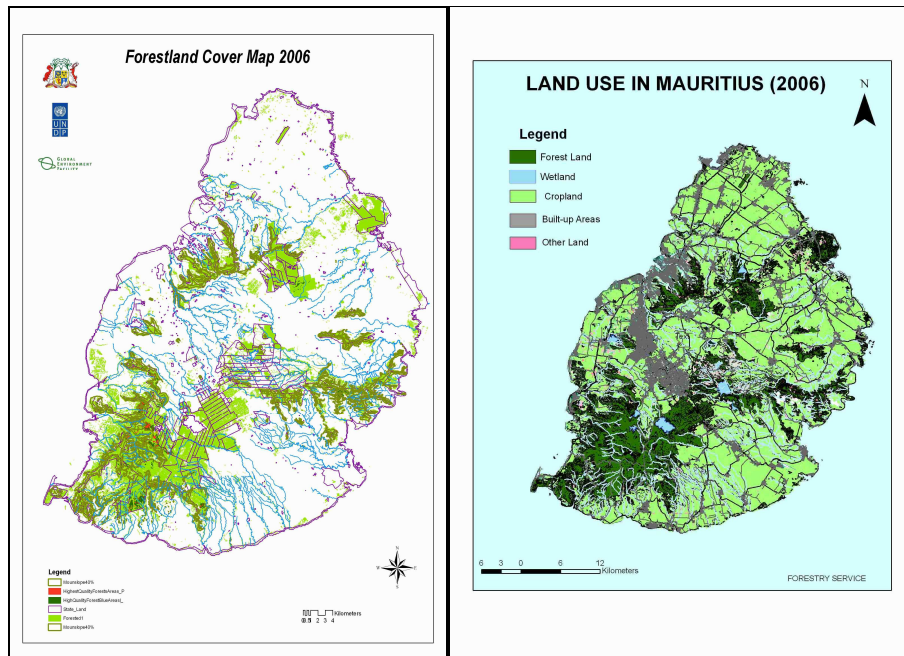
- 10.8 Expenditure amounted to Rs 25,087,736 compared to Rs 20,916,285 in the previous year. The revenue collected amounted to Rs 159,807 (Rs 142,901 in 2008).



## CHAPTER XI

### Forest Land Information System

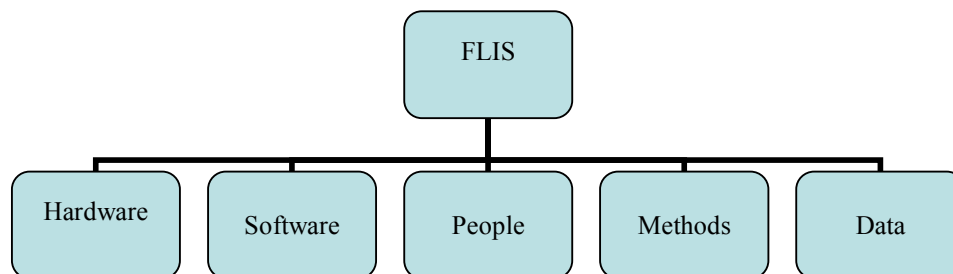
- 11.1 The Forestry Service modernization programme gained momentum during this century with increase use of communication and information technology (ICT). Innovation is the key to attaining excellence and offering a high quality service to the nation. In this context, a Forest Land information System (FLIS) has been set up at the Forestry Service Headquarters in 2009 under the project “Capacity Building for Sustainable Land Management in Mauritius & Rodrigues” funded by UNDP/GoM/GEF.



- 11.2 The FLIS is a specialized Geographical Information System (GIS) designed to provide up-to-date, updatable, reliable source of quantitative information:

- To support improved decision making about the forests of Mauritius & Rodrigues
- As a tool for monitoring and evaluation of the forests of Mauritius & Rodrigues

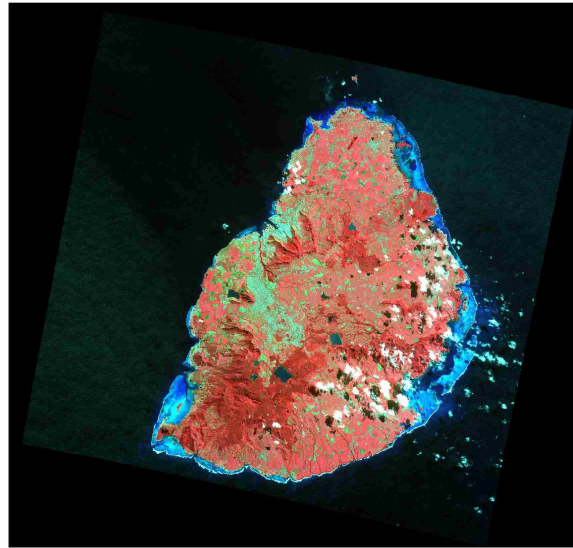
The FLIS has five key components: hardware, software, data, people and methods.



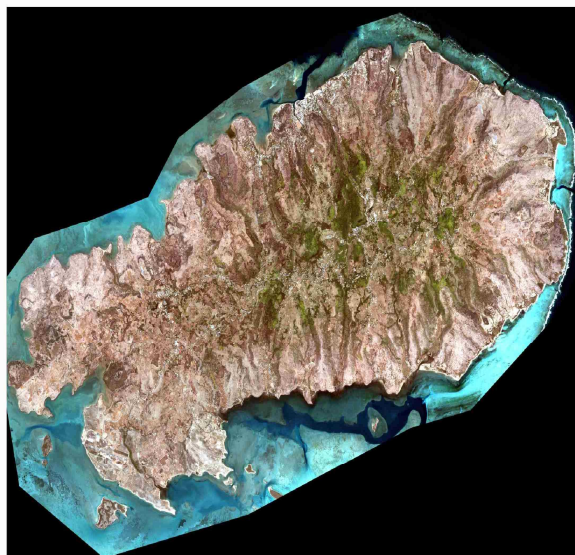
11.3 The FLIS combines GIS and Remote Sensing Technology to capture, analyze and display geographically referenced information. The advantages are:

- Visualization Impact
- Analytical Capability
- Ability to assimilate divergent sources of data both spatial and attribute
- Producing updated and updatable digital maps known as smart maps
- Sharing of Information

**Mauritius -Spot Imagery 2006 (5m resolution)**



**Rodrigues - Quickbird Imagery 2006 (60 cm resolution)**



## CHAPTER XII

### Miscellaneous

- 12.1 The Forestry Service participated in the World Food Day Exhibition at the Agricultural Services, Réduit on the 16<sup>th</sup> October 2009. The Forestry Service held an Exhibition on the importance of Forests at Allée Brillant Community Centre on 11-13 October 2010.
- 12.2 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.
- 12.3 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.
- 12.4 The Service gave advice to several organisations on landscaping and on matters pertaining to Forestry and Nature Conservation.

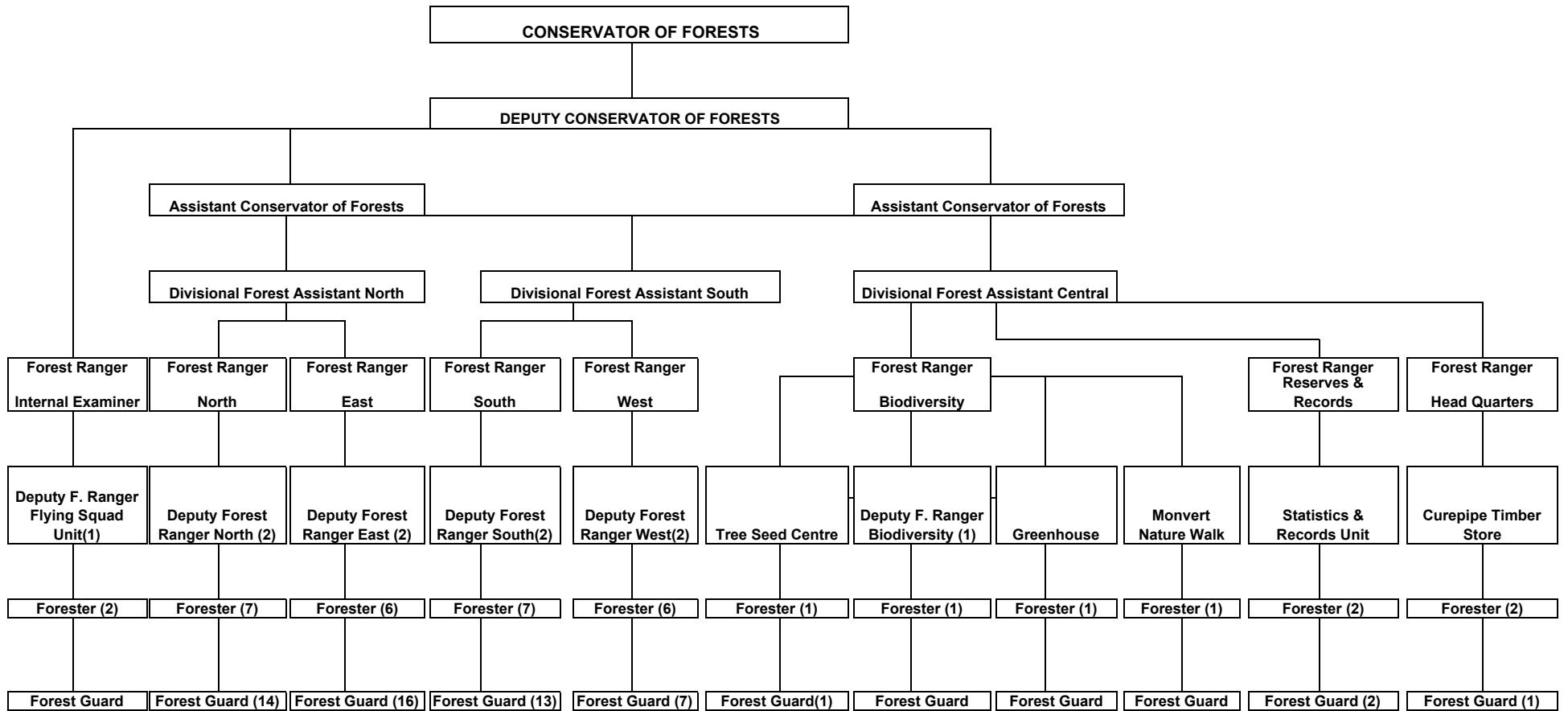
### Publications

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

APPENDIX I

ORGANISATIONAL CHART OF THE FORESTRY SERVICE



## **APPENDIX I A**

### **Territorial Organisation of the Forestry Service - 2009** **(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

#### **DIVISION SOUTH**

##### Southern Range

##### Forest Sections

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

##### 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 2009

(Chapter III refers)

| CATEGORY OF OFFENCES                           | No . of offences |               |             |           |            |
|--|------------------|---------------|-------------|-----------|------------|
|  | TAKEN TO COURT   | DEALT BY DEPT | OUTSTANDING | UNKNOWN   | TOTAL      |
| <b>1. Unauthorised felling/removal</b>         |                  |               |             |           |            |
| (a) State Forest                               | 4                | 2             | 13          | 14        | 33         |
| (b) River Reserves                             | 4                | 2             | 6           | 3         | 15         |
| (c) Road Reserves                              | 3                | 2             | 7           | 1         | 13         |
| (d) Pas Géométriques                           | 2                | -             | 4           | 4         | 10         |
| (e) Mountain Reserves                          | -                | -             | -           | -         | -          |
| <b>2. Illegal Possession of Wood</b>           |                  |               |             |           |            |
| (a) State Land                                 | -                | -             | -           | -         | -          |
| (b) Pas Geometriques                           | -                | -             | -           | -         | -          |
| <b>3. Encroachment</b>                         |                  |               |             |           |            |
| (a) State Land                                 | -                | -             | 4           | -         | 4          |
| (b) River Reserves                             | -                | -             | -           | -         | -          |
| (c) Mountain Reserves                          | -                | -             | 5           | -         | 5          |
| (d) Pas Geometriques                           | -                | -             | -           | -         | -          |
| <b>4. Illegal Deposit of Stones/ Materials</b> |                  |               |             |           |            |
| (a) State Land                                 | -                | 1             | -           | 2         | 3          |
| (b) River Reserves                             | -                | -             | 4           | -         | 4          |
| (c) Pas Geometriques                           | 1                | -             | -           | 2         | 3          |
| <b>5. Illegal Possession of Implements</b>     |                  |               |             |           |            |
| (a) State Land                                 | -                | -             | -           | -         | -          |
| (b) River Reserves                             | -                | -             | -           | -         | -          |
| (c) Pas Géométrique                            | -                | -             | -           | -         | -          |
| <b>6. Erection of Structures</b>               |                  |               |             |           |            |
| (a) River Reserves                             | 1                | -             | 10          | -         | 11         |
| <b>7. Animals grazing on State Land/PG</b>     |                  |               |             |           |            |
|  | -                | -             | -           | -         | -          |
| <b>Total</b>                                   | <b>15</b>        | <b>7</b>      | <b>53</b>   | <b>26</b> | <b>101</b> |

**APPENDIX III**  
(Chapter V refers)

Silvicultural operations carried out in plantations during 2009  
(AREAS IN HECTARES)

| OPERATION               | CLEARING FOR PLANTING | PLANTING         | WEEDING          | RECRUITING     | STAKING       | CLEANING         | PRUNING       |
|-------------------------|-----------------------|------------------|------------------|----------------|---------------|------------------|---------------|
| FOREST RANGE            |                       |                  |                  |                |               |                  |               |
| NORTHERN                | -                     | 4                | -                | -              | -             | 137              | 3             |
| EASTERN                 | 43                    | 25               | 155              | 138            | 3             | 42               | 2             |
| SOUTHERN                | 39                    | 47               | 36               | 26             | -             | 40               | -             |
| WESTERN                 | 14                    | 14               | 8                | 6              | -             | 20               | -             |
| Total areas in hectares | <b>96</b>             | <b>90</b>        | <b>199</b>       | <b>170</b>     | <b>3</b>      | <b>239</b>       | <b>5</b>      |
| TOTAL COST(Rs)          | <b>2,748,751</b>      | <b>1,181,616</b> | <b>8,936,890</b> | <b>777,657</b> | <b>12,545</b> | <b>8,948,345</b> | <b>73,258</b> |

GRAND TOTAL COST = Rs 22,679,062

|                     |        |        |        |       |       |        |        |
|---------------------|--------|--------|--------|-------|-------|--------|--------|
| AVERAGE COST/Ha(Rs) | 28,633 | 13,129 | 44,909 | 4,574 | 4,182 | 37,441 | 14,652 |
|---------------------|--------|--------|--------|-------|-------|--------|--------|



## APPENDIX IV

### Selling Rates of Timber for the year 2009 ( Chapter IX refers )

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

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

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

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

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

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

**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 (2009)

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

| Base diameter class |    | <b>0-3cm</b> | <b>3-6cm</b> | <b>6-9cm</b> | <b>9-12cm</b> | <b>12-15cm</b> | <b>15-18cm</b> |
|---------------------|----|--------------|--------------|--------------|---------------|----------------|----------------|
| 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 31<sup>ST</sup> DECEMBER 2009  
(1 US\$ about 31 Mauritian Rupees)

### A.MAURITIUS

| <u>Revenue</u>   | <u>Amount (Rs)</u> | <u>Expenditure</u>                  | <u>Amount (Rs)</u> |
|--|--------------------|-------------------------------------|--------------------|
|  |                    | Personal Emoluments                 | 123,319,337        |
| Sale of Forest Produce   | 8,922,948          | Travelling                          | 22,855,946         |
| Shooting and Fishing Rights including Rental and Registration Fees | 7,196,265          | Uniforms                            | 2,944,215          |
| Wood Exploitation Licence  | 204,000            | Maintenance and Running of vehicles | 1,826,232          |
| Agricultural Lease   | 3,000              | Others                              | 6,668,175          |
|  |                    | <b>Sub Total</b>                    | <b>157,613,905</b> |
|  |                    | Projects                            | 7,054,144          |
| <b>Total</b>   | <b>16,326,213</b>  | <b>Total</b>                        | <b>164,668,049</b> |

### B. RODRIGUES

| <u>Revenue</u>               | <u>Amount (Rs)</u> | <u>Expenditure</u>       | <u>Amount (Rs)</u> |
|------------------------------|--------------------|--------------------------|--------------------|
| Sale of Major Forest Produce | 135,921            | Personal Emoluments      | 21,617,599         |
| Sale of Minor Forest Produce | 3,340              | Travelling and Transport | 2,274,664          |
| Sale of Plants               | 8,746              | Overtime                 | 91,464             |
| Sale of Christmas trees      | 11,800             | Other operating expenses | 1,104,009          |
| <b>Total</b>                 | <b>159,807</b>     | <b>Total</b>             | <b>25,087,736</b>  |

**APPENDIX VI**

**MAIN IMPORTS OF FOREST PRODUCE FOR THE YEAR 2009**

| <b>H.S. Code</b> | <b>Description</b>  | <b>Unit</b> | <b>Country of origin</b>   | <b>Quantity</b> | <b>CIF Value (Rs)</b> |
|------------------|---|-------------|--|-----------------|-----------------------|
| 44012200         | Non-Coniferous wood in chips or particles   | kg          | Italy, USA   | 32              | 14,424                |
| 44013000         | Sawdust,woodwaste,scrap in logs,briquette, pellet etc   | kg          | France, South Africa   | 630             | 56,424                |
| 44029000         | Other wood charcoal   | kg          | S.Africa, France, USA, UAE   | 77,786          | 1,882,796             |
| 44031000         | Rough wood,stripped of bark or not,paint,stains etc treated                                       | m3          | S . Africa, Malaysia, Russian Federation, France   | 8,222           | 50,619,775            |
| 44034100         | Rough wood or wood roughly squared (non-coniferous)   | m3          | Malaysia, Myanmar,S.Africa, New zealand, Mozambique, Madagascar, USA, Japan, Zambia, Morocco   | 3,151           | 50,455,432            |
| 44039900         |   |             |  |                 |                       |
| 44041000         | Hoopwood,split poles,pile chipwood, unworke   | kg          | S.Africa   | 13,121          | 254,539               |
| 44042000         | Hoopwood,split poles,pile,chipwood etc non-c  | kg          | S.Africa, France   | 93,524          | 1,831,839             |
| 44071000         | Coniferous wood sawn thickness > 6mm planed or sanded or not                                      | m3          | Myanmar, Madagascar,Argentina,Malaysia, S.Africa, Reunion, New Zealand,Mozambique,Singapore, Congo, China  | 10,100          | 98,689,667            |
| 44072500         | 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, Phillipines,Thailand, Brazil, Germany, Ghana, UAE, India | 28,866          | 528,244,706           |
| 44079900         |   |             |  |                 |                       |
| 44081000         | Veneer sheet of wood n.e.s of a thickness not exceeding 6mm                                       | kg          | China, Malaysia, France, South Africa, New Zealand, India, Madagascar  | 129 574         | 5,120,841             |
| 44083900         |   |             |  |                 |                       |
| 44089000         |   |             |  |                 |                       |
| 44091010         | Mouldings for frames for painting,photo,mirrors,etc (Conifer)                                     | kg          | China,Madagascar, Indonesia, ,Malaysia, France, South Africa, Singapore, Italy, Spain, Denmark, UK   | 72,422          | 5,112,531             |
| 44091090         |   |             |  |                 |                       |
| 44092010         | Mouldings for frames for painting,photo,mirrors,etc; Dowelling in the length(Non-Coniferous wood) | Kg          | Italy,Madagascar,Taiwan,S.Africa,Indonesia,China, France, Germany, Singapore, UAE, Morrocco, Malaysia, Phillipines, Switzerland, Thailand  | 203,059         | 12,855,031            |
| 44092090         |   |             |  |                 |                       |
| 44101110         | Oriented strand board and Wafer board   | kg          | Madagascar, Malaysia, France, S.Africa, China, Japan, Belgium, Switzerland, Thailand.  | 636,816         | 20,645,431            |
| 44109000         | Particle board and similar board of wood,or other ligneous material                               |             |  |                 |                       |
| 44111210         | Fibreboard of wood not mechanically worked  | kg          | Germany,Malaysia,S.Africa, Portugal, Singapore, France, China, Thailand, Taiwan, Indonesia, Zambia   | 10,080,793      | 178,430,488           |
| 44119490         | Medium Density Fibreboard   |             |  |                 |                       |

|                      |  |            |  |           |             |
|----------------------|--|------------|--|-----------|-------------|
| 44121000<br>44129900 | Plywood,veneer/laminated panel   | m3         | Malaysia,Singapore,France, Brazil, UAE India,S.Africa, China, Thailand, Indonesia, Germany, Australia, UK, Vietnam, Taiwan, Italy, Korea, Belgium, Madagascar, Czech Rep., Hong Kong, Italy, Lithuania, Morrocco, Spain  | 36,472    | 230,443,276 |
| 44130000<br>44140000 | Densified wood in blocks,plates, strips<br>Wooden frames for paintings, photograph, mirrors or similar objects   | kg         | China,France,UK,Italy, Indonesia,India,Spain, Madagascar,Malaysia, Thailand,S.Africa, Czech. Rep., Lithuania, Morrocco, Japan, Hong Kong, Malaysia   | 518,150   | 8,306,913   |
| 44151000<br>44152000 | Packing cases,boxes,crates,drums of wood pallets,box pallets and other boards  | numb<br>er | France,South Africa,China, Australia, Syria, Indonesia,Germany,Spain.  | 3,674     | 13,484,631  |
| 44160000             | Casks, barrels, vats, tubs, other coopers products and parts thereof   | kg         | France,UK, South Africa  | 31,117    | 3,579,608   |
| 44170010<br>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.  | 138,857   | 6,402,331   |
| 44181000<br>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 | 2,915,295 | 151,603,607 |
| 45031000<br>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,   | 169,104   | 18,782,830  |
| 47032100             | Semi bleached coniferous chemical wood pulp  | kg         | Sweden, USA.   | 720,460   | 20,181,095  |
| 470790000            | Waste/Scrap of paper/paperboard nes excl470710-30,incl unsorted  | kg         | Spain  | 34        | 3,596,345   |
| 48010000             | Newsprint in rolls or sheets   | kg         | Indonesia,India,Russian Fed.,Malaysia, USA,S.Africa,China,Japan.   | 7,390,912 | 153,890,335 |
| 48021000<br>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,Brazil,China,Netherlands,Portugal, France,Indonesia,India,Italy,Malaysia,Thailand, Sweden,UAE,Malaysia,H.Kong,Taiwan,Finland   | 6,021,698 | 189,279,421 |

|  |   |        |  |            |               |
|--|---|--------|--|------------|---------------|
| 48030000<br>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, Sierra 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, Belgium, Mexico, Kenya, Portugal, Egypt, Cyprus, Poland, Czech Rep, Iran, Madagascar, Monaco   | 32,699,310 | 1,015,212,069 |
| 48191000<br>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, Morocco 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, Ukraine, Tanzania | 2,980,822  | 444,565,565   |
| 48221000<br>48229000<br>48231900<br>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, Portugal, Rico, Portugal, Morocco, Japan, Kingdom of Lesotho, Ireland  | 2,086,231  | 122,361,694   |
| 94033000<br>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  | 18,562     | 41,050,122    |
| 94034000<br>94034000                         | Wooden Furniture of a kind used in the kitchen, other wooden furniture  | number | China, France, UK, Belgium, Italy, Indonesia, India, S.Africa, Malaysia, Nigeria, UAE, Brazil, Australia, Canada, Phillipines, Poland,   | 24,746     | 57,758,514    |
| 94035000                                     | 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, India, Malaysia, H.Kong, France, Switzerland, Madagascar, Thailand, Reunion,  | 17,498     | 54,432,572    |
| 94036010<br>94036090                         | Other wooden furnitures, Small hanging food safe wall cabinet of wood, Large scale rack & Shelving Systems of wood  | number | China, France, UK, H.Kong, Indonesia, Italy, Pakistan, Brazil, Thailand, Madagascar, Malaysia, S.Africa, Singapore, Reunion, Phillipines, Vietnam, Belgium, Germany, Taiwan, UAE, Spain, Canada, Cyprus, sweden, Netherlands, Switzerland, usa, Kenya, Korea, Rep.   | 116,472    | 140,899,098   |
|  |   |        |  |            | 3,630,043,950 |















44089000