

## Appreciating Diverse Viewpoints

“The positive side to Alien Species in the Mascarenes”

The Case of Mauritius  
by  
S.A. Paupiah  
Conservator of Forests



1

## Brief History

- Late 16<sup>th</sup> century
  - Pristine Forests
  - Undisturbed Ecosystems
  - Rich Biodiversity (Flora & Fauna)
  - 700 species of flowering plants (300 Endemic)
  - 29 species of endemic birds
  - Several species of reptiles, Molluscs, etc.

2

## Impact on forests after human settlement

- Dutch, French, British and Post-Independence
- Exploitation of rich lowland forests for Ebony
- Inadvertent/Deliberate introduction of animals & plants
- Animals e.g. rats, deer, pigs, monkeys, mongoose
- Introduced Plants: economic importance e.g. Sugar, Tea, timber species
- Some exotic plants useful but invasive

3

## Present Situation

- A Completely changed landscape
- Predominantly exotic sp. in the forests and country-side as a whole
- Native forests (less than 3%)
- Severely invaded by alien sp.
- Reduced potential of sites to support wildlife
- Original forest ecosystems no longer functional
- Many species critically endangered
- Lack of financial & human resources to cope with the situation

4



## Exotic species of Economic importance

Timber species

- **Conifer**
  - *Pinus elliottii* (Pine)
  - *Araucaria species* (Sapin)
  - *Juniperus bedfordiana* (Cypress)
  - *Cryptomeria japonica* (Cedar)
- **Broadleaf species**
  - *Eucalyptus robusta*
  - *Eucalyptus tereticornis*.
  - *Tabebuia pallida* (Tecoma)
  - *Swietenia mahagony* (mahogany)
  - *Tectona grandis* (Teak)
  - *Cinnanemum camphorea* (Camphrier)

7

## Exotic invasive plant species of economic importance

- Chinese guava (*Psidium cattleianum*)
- Poivre rose (*Schinus terebentifolia*)
- Honey suckle (Lonicera sp.)
- Bamboos
- *Ravenal* (*Ravenala madagascariensis*)
- *Privet* (*Ligustrum spp.*)

8



## Introduced animals of economic importance

- Deer
- Monkeys
- Wild boars

11





**Contribution of the planted forests to the national economy**

- > Provision of raw materials to construction industry (boards& poles)
- > Supply of fuel-wood
- > Supply of wood for poultry industry (Wood-chips)
- > Support honey production
- > Employment (2000 jobs) (Plantation ,exploitation ,processing sectors)
- > Revenue to Govt. Rs 7 m
- > Planted forests leased for Deer Ranching
- > Potential of Ecotourism in areas leased for Shooting & Fishing
- > Support to handicraft and ship model sectors.

15





## Economic importance of Guava

- > 1000 seasonal jobs
- Turn over of Rs 25m - 40m (conservative)  
(1000 x 4 x 20 x (300-500))
- 20,000 families visit the forest annually to collect guavas (20,000 trips x Rs 500 = Rs 10m)
- Potential for fuel wood (ever increasing cost of cooking gas)
- Potential to support honey production

20



## Protective & habitat functions of alien species

- Soil & water conservation by upland forest plantations
- Invasive species on steep slopes
- Carbon sequestration
- Flood Regulation
- Exotic forests adopted by native birds (Pink pigeon, Coq de bois, Mauritian fody)
- Phelsumas in Ravenala for Kestrels

23





### Deer Ranching

- Employment (1000 direct & indirect jobs)
- 500 T venison annually + by products (trophy, antlers, skin, etc)
- 10,000 ha of state land leased
- Revenue on S&F leases Rs 5m
- Fencing & watchmen offers built-in protection against poaching & theft of timber

26



### Monkeys Exports

- Captive Breed + Feral
- Present level of production -8000 units annually (Expected to reach 10-12,000 by 2010)
- Revenue -3000 USD/Unit  
24 m USD approx.
- Employment-100 jobs
- Export Co. contribute 75 USD per head to " Wild life & Conservation Fund"

30

### Comparative importance of sub-sectors

- > Monkeys                      RS 500m
- > Deer                            RS 50m
- > Guava                         RS 30m
- > Timber                        RS 10m

**Monkeys**

**Deer**

**Guava**

**Timber**

31

### Major Constraints in CBD

- > Complete Eradication of Alien Invasive sp. is virtually impossible
- > Magnitude of problem disproportionate with Available Resources
- > Limited human & financial Resources from public sector
- > Most of the investment comes from "WL & C FUNDS" (Export of monkeys)
- > Max of 50 Ha can be treated annually with present level of resources.
- > Process not sustainable in the long run .
- > Private sector not motivated to invest in CBD (too costly)

32

### OPTIONS

- > Incentives to private sector
- > Tax Rebates ,Grants (Donor's funding)
- > Promotion of eco-tourism –part of revenue ploughed back in CBD
- > Set up more propagation units by young entrepreneurs
- > Govt. buys seedlings from them using" WL.&C Funds"
- > Contract out rehabilitation & enrichment planting
- > Exploitation of valuable invasive sp. (e.g. Chinese guava) & plough back revenue in rehabilitation activities

33

# THANK YOU

34