



# Vanuatu Sandalwood Regulations and Development

*Presentation prepared for the Vanuatu National  
Green Export Review,  
Warwick Le Lagoon Resort, Port Vila, Vanuatu  
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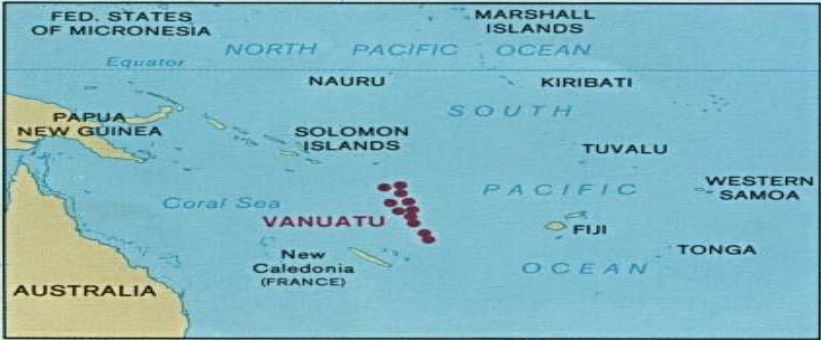
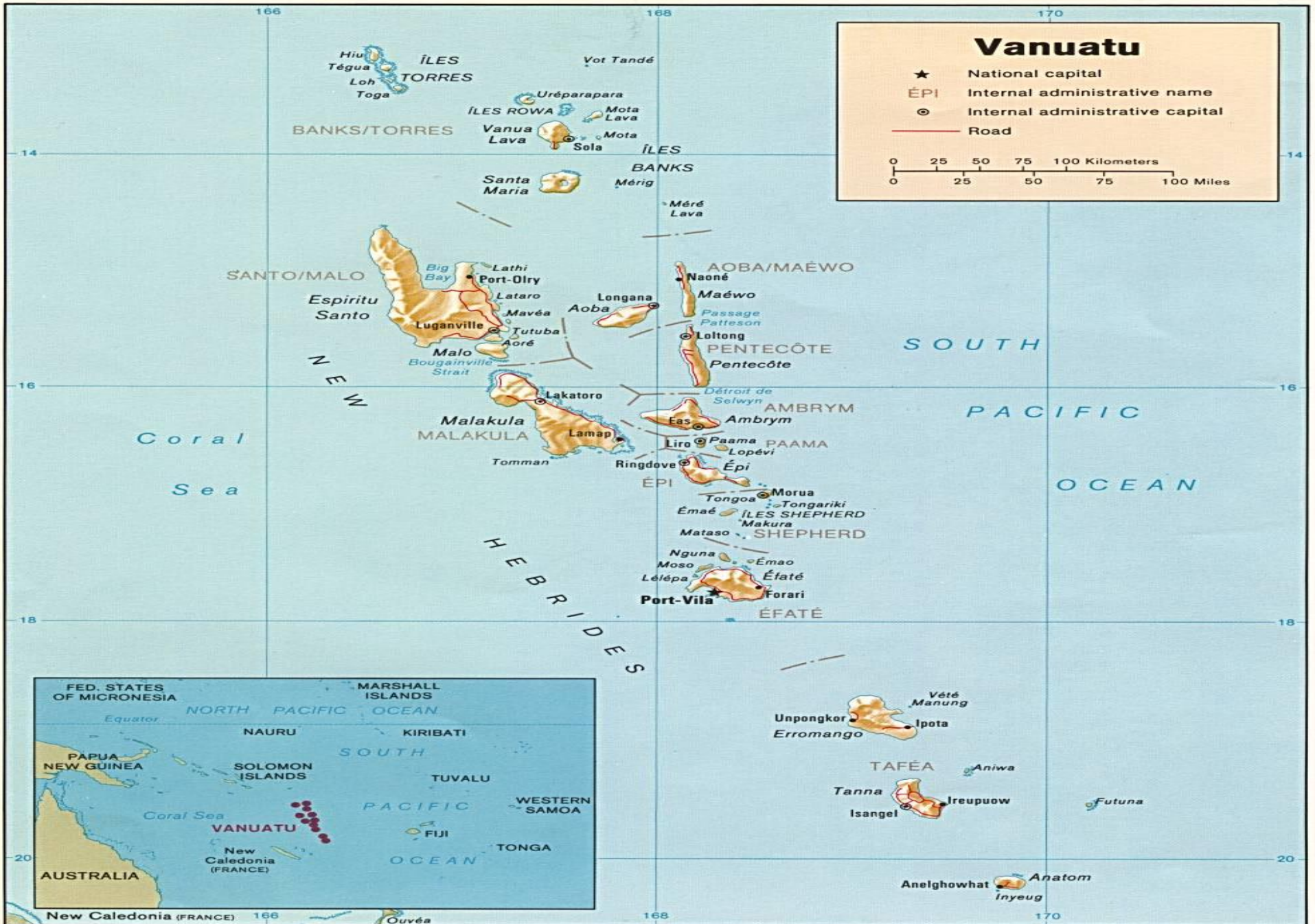
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Vanuatu Department of Forests

A close-up photograph of a sandalwood branch. The branch is light green and covered in numerous small, round, green buds. Some buds are slightly open, showing small white flowers. The background is a soft, out-of-focus green, suggesting a natural outdoor setting.

# OUTLINE

1. Natural distribution of Sandalwood in Vanuatu
2. Brief history
3. Trade and Industry
4. Benefits to farmers
5. Research and Development
6. Replanting programs
7. Challenges
8. Way forward









# Natural Distribution of Sandalwood in Vanuatu

- Sandalwood in Vanuatu is scientifically known as *Santalum austrocaledonicum*
- It is indigenous to Vanuatu and New Caledonia and is naturally distributed mostly in the Western part of most of the islands in Vanuatu where it is naturally growing
- Currently it is widely introduced through out the archipelago and has been harvested and traded in some of its new habitat

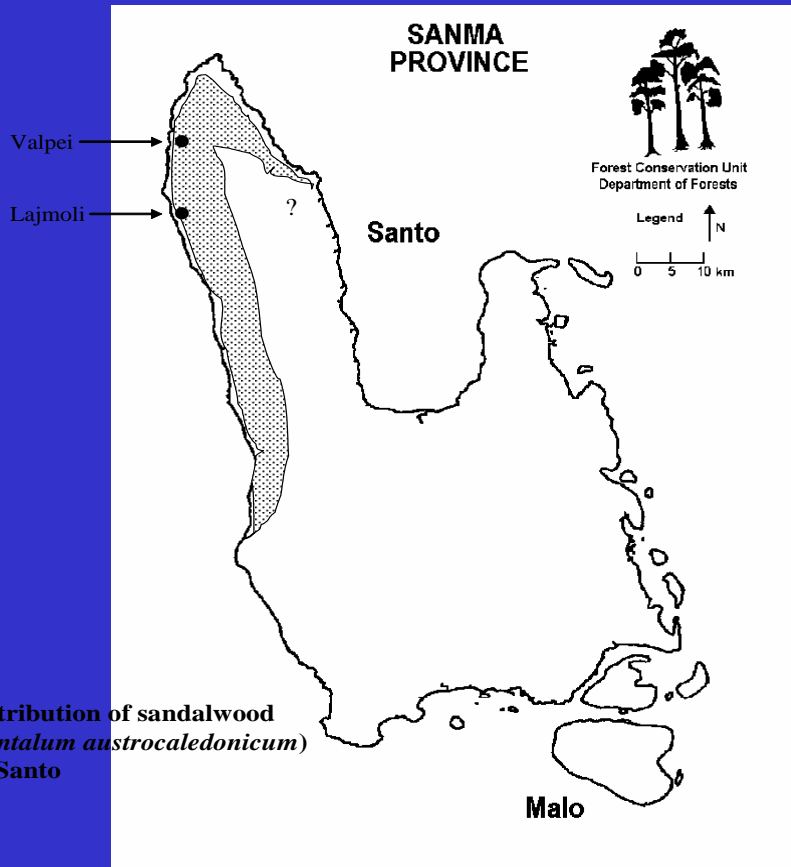
# Natural Distribution of Sandalwood in Vanuatu

Legend:

- Demonstration plot
- Planted sandalwood (>20 trees)
- ⊗ Proposed gene conservation stand

Sandalwood frequency

- Moderate
- Low
- Very low



Distribution of sandalwood (*Santalum austrocaledonicum*) on Santo

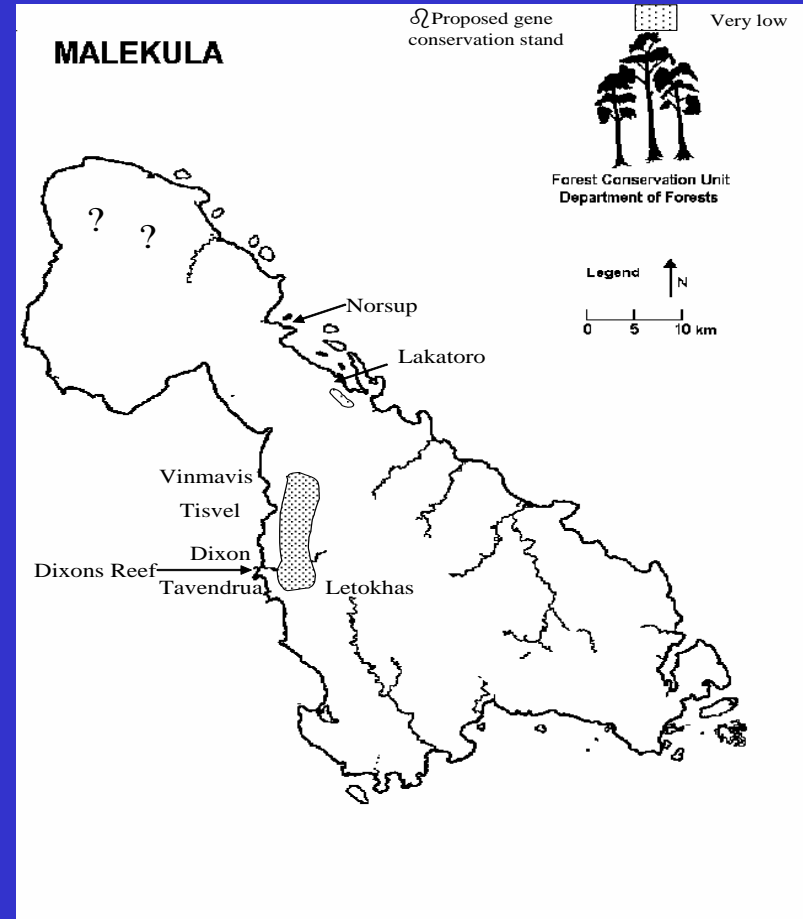
## Distribution of sandalwood (*Santalum austrocaledonicum*) on Malekula

Legend:

- Demonstration plot
- Planted sandalwood (>20 trees)
- ⊗ Proposed gene conservation stand

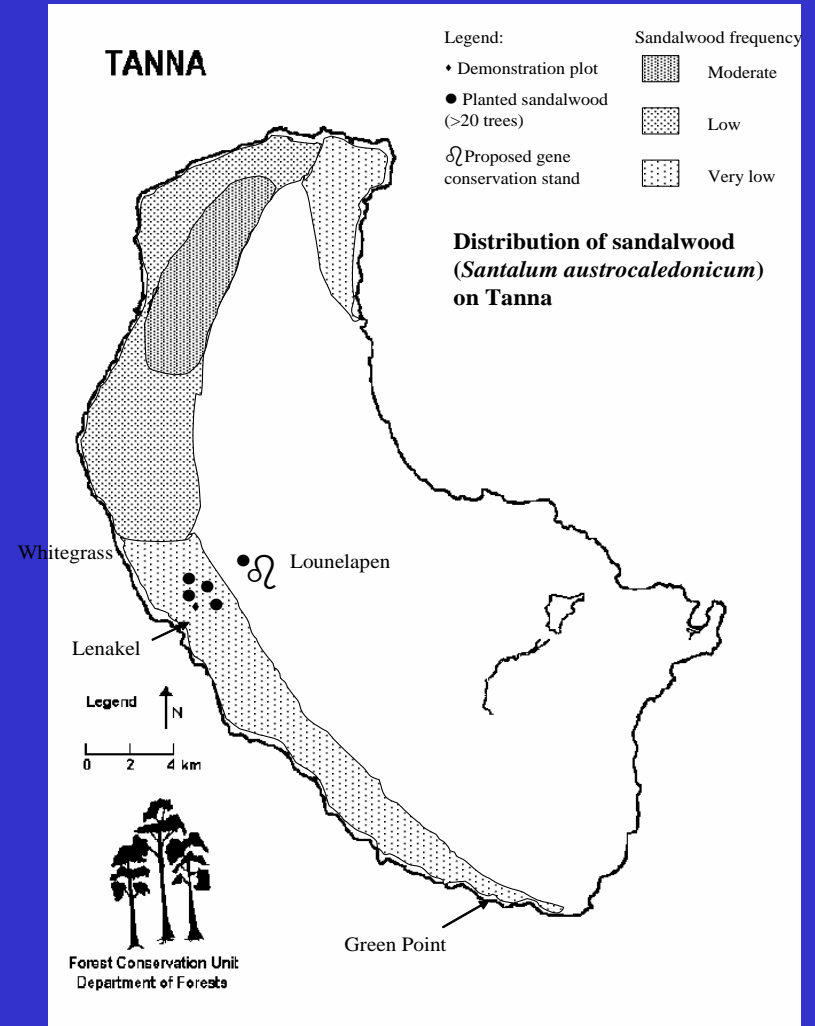
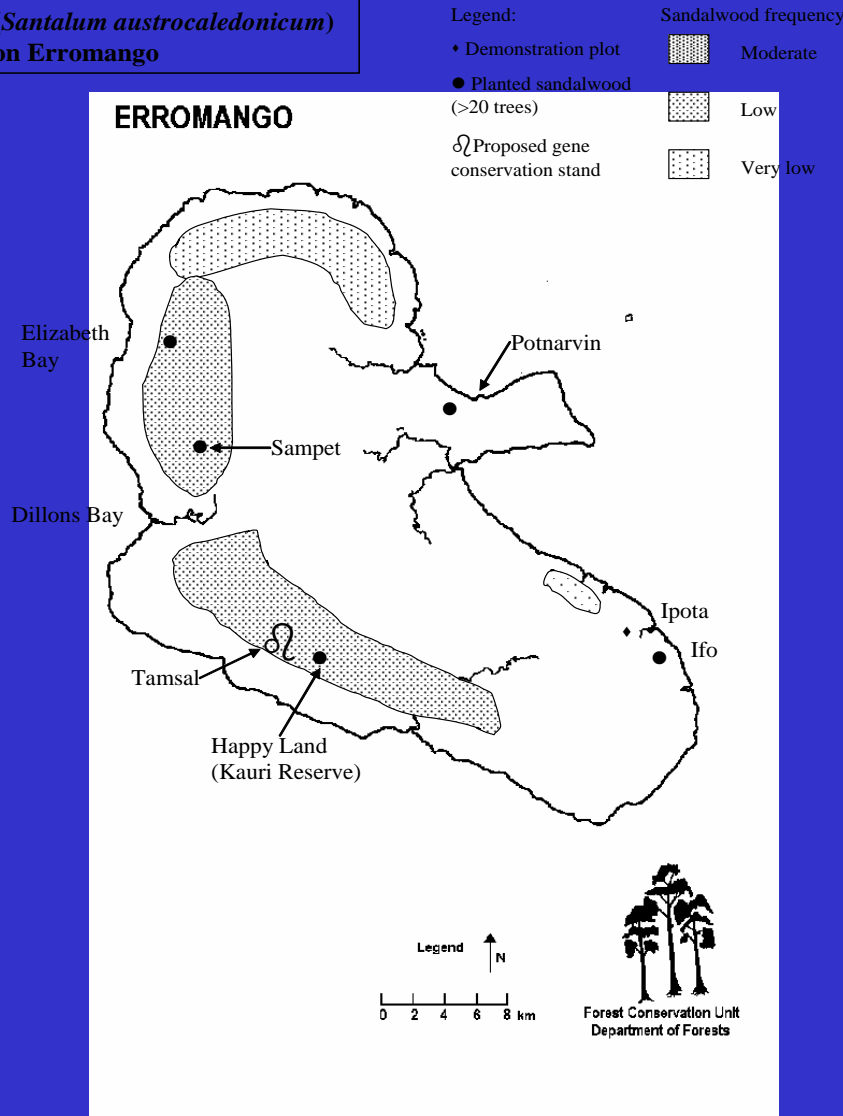
Sandalwood frequency

- Moderate
- Low
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# Natural Distribution of Sandalwood in Vanuatu

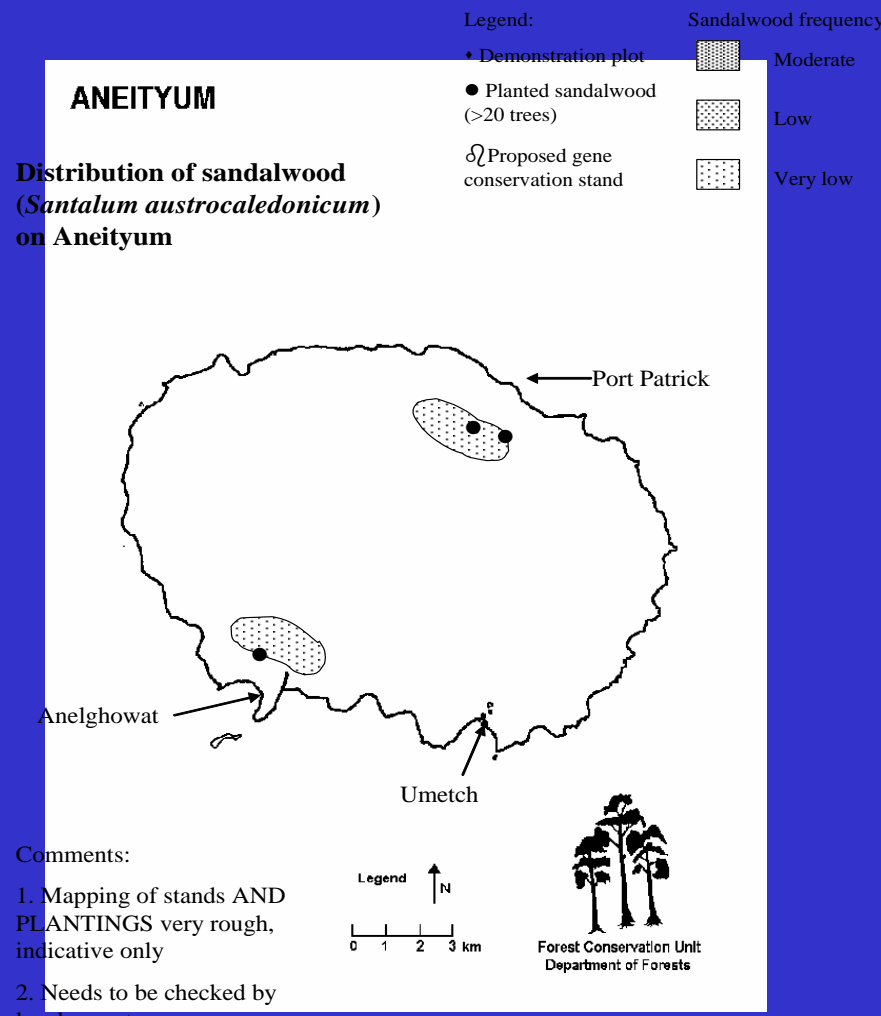
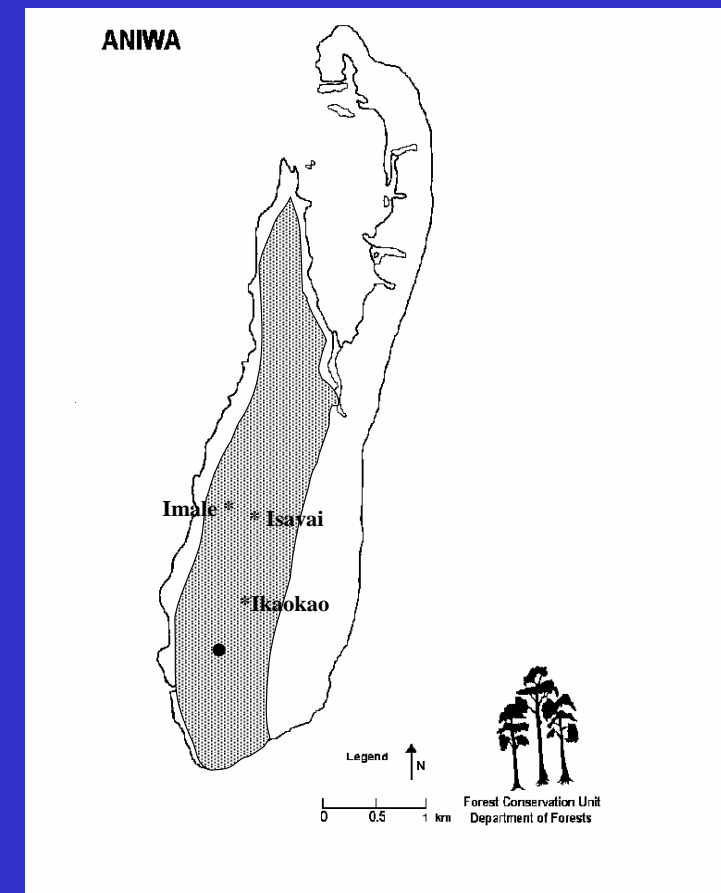
## Distribution of sandalwood (*Santalum austrocaledonicum*) on Erromango



# Natural distribution of Sandalwood in Vanuatu

## Distribution of sandalwood (*Santalum austrocaledonicum*) on Aniwa

- Legend:
- Demonstration plot
  - Planted sandalwood (>20 trees)
  - ♂ Proposed gene conservation stand
- Sandalwood frequency
- Moderate
  - Low
  - Very low





# Brief history of Sandalwood in Vanuatu

- Trading of Sandalwood in Vanuatu started in the 1800s and was known to be one of the commodities that brought in foreign influence
- It was depleted in some of the islands especially on Aneityum and Efate due to over exploitation between 1800s and 1900s
- A 5 year moratorium was introduced in 1987 but started in 1988 and only lasted 4 years
- Regulation of sandalwood started in 1995



# Trade and Industry

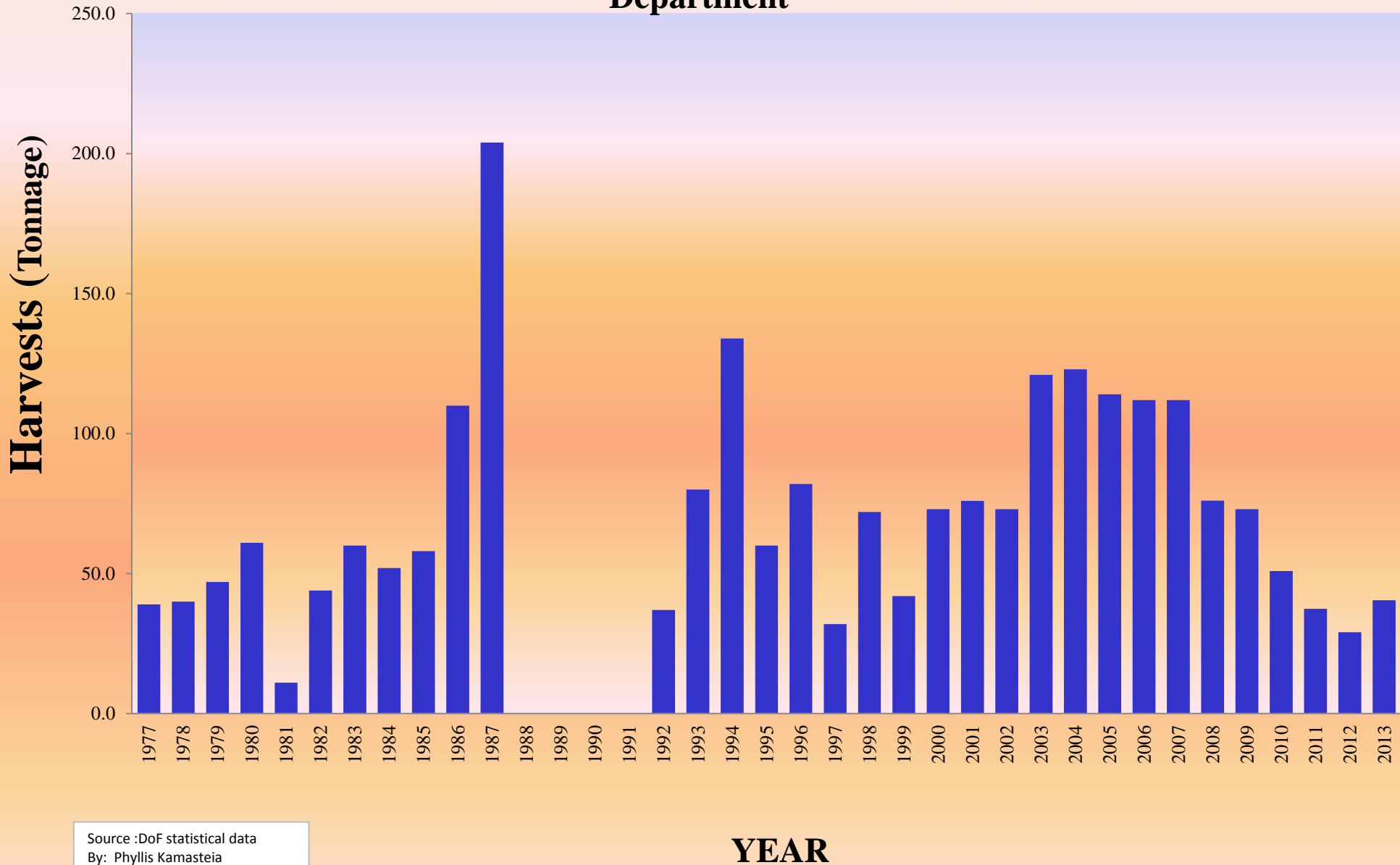
A close-up photograph of a sandalwood branch. The branch is covered in small, light-colored flowers and buds. The leaves are green and elongated. The background is a soft, out-of-focus brown and green.

- Sandalwood are normally exported in the form of oil, chips, logs, spent biomass and oil bi-products to India, Japan, Hong Kong, China, Taiwan and Fiji
- In some instances Sandalwood sapwood were also exported but at the price lower than the regulated prices
- With the inclusion of sapwood, this could mean more than 70% of the Sandalwood tree can be utilised

# Trade and Industry cont..

- In 1993, Sandalwood logs were sold at Vt250/Kg, 1995 - Vt320/kg, 2000 - 400Vt/kg, 2004 – Vt500, 2005 - Vt600/Kg, 2008 – Vt800/Kg, 2010 -Vt1,500/Kg
- By 2013 – the price was between Vt2000- Vt4000/Kg
- In 2000, 73 tons of Sandalwood logs = Vt31,727,850 compare to Vt32,974,910 of 39,860 M<sup>3</sup> of commercial timber logs

# Annual Sandalwood Production (ton) recorded by Vanuatu Forestry Department



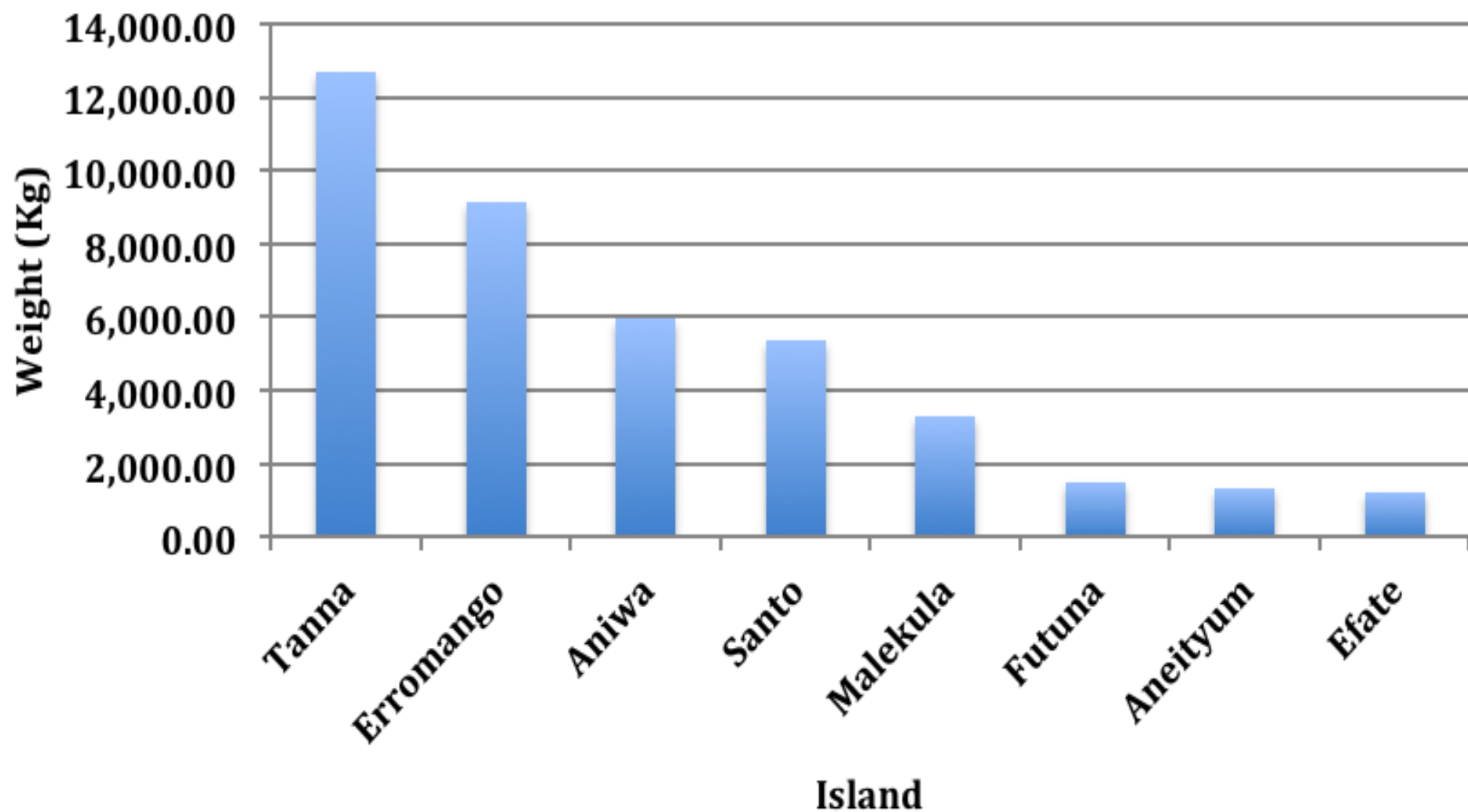
Source :DoF statistical data  
By: Phyllis Kamasteia



# Benefits to Local Farmers.

- Every year, the local farmers would earn direct incomes from the sale of their wood
- In a given year the amount would vary between the island with Erromango and Tanna dominating the supply of sandalwood each year
- In 2013, Tanna produces 12.67 tones worth around Vt39,000,000
- Their earnings would normally be used to pay for school fees and basic items including: food, medical bills, marriage ceremonies, clothing, soap, kerosene, etc..

# Sandalwood Harvested and Recorded by island, 2013



# Distribution of Sandalwood Royalties per island, 2013

<b>Island</b>	<b>Royalties (VT)</b>
Tanna	39,149,850
Erromango	22,796,960
Aniwa	10,087,000
Santo	7,780,300
Futuna	5,275,000
Malakula	4,935,500
Aneityum	3,312,500
Efate	2,735,300
<b>Total</b>	<b>96,072,410</b>



# Policy and Regulation

- The early Forest Policy allows for an Annual harvest of 70 tons heartwood as a sustainable quota
- The current sustainable quota is 80 tons
- Up until 2012, 80 tons quota was normally shared between only 2 buyers
- The change in the current policy directions now resulted in 13 local buyers granted with Sandalwood license to purchase sandalwood in any islands of Vanuatu

# Policy and Regulations cont.

- Two category of buyers – 11 annual buyers competing for 30 tons and 2 long term buyers consuming 50 tones
- It was estimated that more than 70% of the 40 tones of wood recorded in 2013 came from planted trees
- This calls for an immediate change in Policy directions and regulation



# Policy and Legislation cont....

- The minister would declare the harvest season open between June and September each year
- The harvest season normally falls within the fruiting season to encourage regeneration of mature seeds
- The minimum prices of logs is also regulated by the Minister responsible for Forestry currently set between Vt2000 – Vt4000/Kg of heartwood



# Harvesting & Transporting Sandalwood logs to Vila





# Research and Development



- The previous Research programs in Vanuatu aims at various milestones:
- To determine the species variance (oil quality) CIRAD Foret , late 80s
- To determine the socio-economics of sandalwood – Ausaid, 1993-1994
- To determine the co-relation between heartwood size and weight – DoF, 1996



# Research and Development cont..

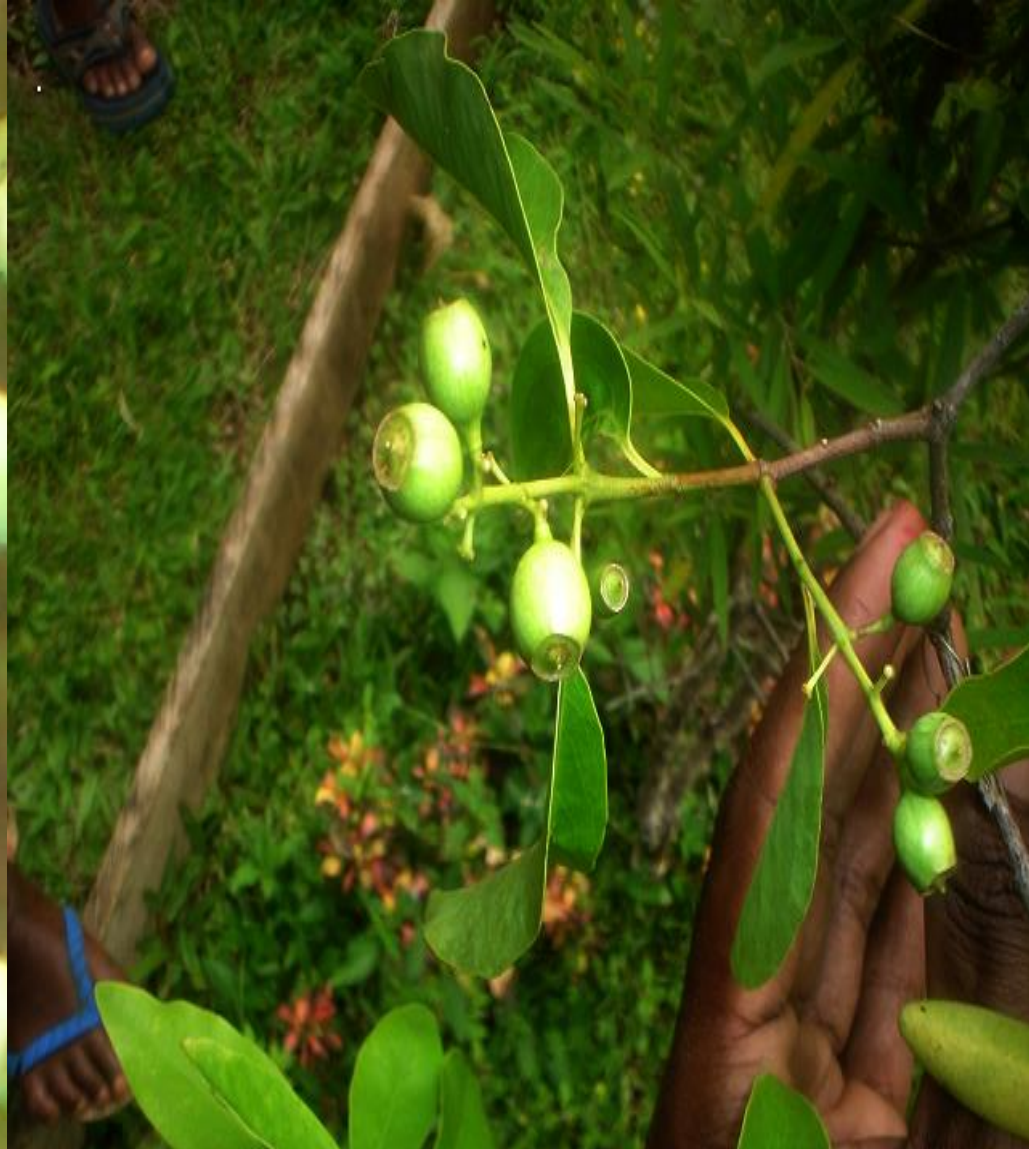


- 2004 – 2005
  1. Establishment of Seed and Gene Conservation by SPRIG Project
  2. Oil Analysis survey to determine the best phenotype  
ACIAR
  3. Grafted Clone Bank to provide seed of superior individual genetic material and also provide scion material for inclusion for further grafted clonal seed orchards.





**Budding clone of grafted sandalwood seven months after grafting**



**Fruiting clone of grafted sandalwood eight months after grafting**



# Replanting programs

- Current estimates of replanting- commercial >150ha , small scale >300ha
- High interest of replanting resulted in sandalwood seedlings being introduced in other islands
- Seedlings are sourced from DoF and Private nurseries
- There could be a shift in the future production of sandalwood directed more towards Malekula according to the current replanting



# Sandalwood Seedling Ready to be Transported to Local Farmers



Sandalwood Seedlings in the Nursery

Farmers Sandalwood Plot





# Challenges

- The 2013 record shows quantity of exported wood higher than the quantity recorded in the purchase register
- Sandalwood logs are still paid under the regulated prices
- DoF still lacks human resources and finances to undertake monitoring and control during the harvest seasons
- Growth rates still varies from islands and between different sites within the islands



## Challenges cont.

- Maintaining our gene pool is at risk with the introduction of other species
- Lack of financial support to increase planting stock and maintain planted materials



# Some Way forward

- Amend the regulations and Act to reflect the shift from wild sandalwood to planted trees
- Divide the management of planted trees/forests and wild native forests
- Promote the best materials through deployment programs
- Undertake inventory survey to establish information on sandalwood stock
- Research on heartwood development and host plant

## Way forward cont.

- Register planted trees through the introduction of Planted Forests Act
- Do away with the issuance of Licenses and promote auction sale of sandalwood logs through approval of permits to overseas buyers to maximize benefits to farmers
- Promote downstream processing
- Encourage seed collection from the best or improved mother trees only



A close-up photograph of a sandalwood branch. The branch is light green and bears several clusters of small, pale yellow flowers and buds. The flowers have a distinct shape with a large, rounded petal. The background is a soft, out-of-focus green, suggesting a natural outdoor setting.

## Way forward cont.

- Pruning is highly recommended to improve log quality
- Promote the formation of sandalwood farmers Association
- One million tree initiative
- Turn Port Vila into Sandalwood City



**Thank you**