Activity 1.2
Harvesting of Selected Species – Oomsis Timber Area
In order for these activities to be done, there is the most important resource or material.

- Basic Properties and Mechanical Testing
- Development of Kiln Drying Schedules
- Preservative treatment characteristics of timbers
- Gluing / Finishing
- Other Processing characteristics (machining)
- Timber Promotion Materials (Wood Samples)
Importance of Activity

- BASIC PROPERTIES & MECHANICAL TESTS
- PRESERVATIVE TREATMENT CHARACTERISTICS OF TIMBERS
- DEVELOPMENT OF KILN DRYING SCHEDULES
- TIMBER PROMOTION MATERIALS
- GLUING/FINISHING
- MACHINING CHARACTERISTICS OF TIMBER
Importance of Activity (cont.)
Discussion with Landowners & Tree Marking

- Prior to conducting harvesting discussions and liaisons must be carried on certain issues
- TFTC Harvesting team and Activity’s Organising Coordinator met with Oomsis Landowners
- Discussion on clarification of logs extraction purpose
- Negotiation and agreement on payments and operation
- Dates of initial activity implementation (tree Marking) which included:
  - Selection / numbering of 5 standing trees per species
  - Measuring DBH
  - Calculate Merchantable height
  - Calculate Total Height
- This activity was done with project officers and TFTC Harvesting Team and Landowners
The species must be from the Secondary Forest / Plantation forest

Will have to be more than 15yrs after regrowth or planting

5 trees per species with good form and merchantable height

All 5 trees must be in the same forest area

Another important factor to be considered was to determine the age of the trees
Harvesting
(felling, labelling, transporting)

• Marked standing trees are located and felled

• These logs were then hauled (track/wheel Skidder) to the log landing

• At the log landing labelling and scaling was done

• Information from the log scaling (diameter and length) was recorded using the PNGFA Log Scaling Sheet.

• The log scaling sheet provides log volume which important information for Research and log payment purposes

• The labelling of the log sections as shown was important as it allows each piece tested to be identified of its location (identifying sample piece taken from which log and the specific section) e.g. ALB1 B

• Logs sawn to sections are then transported to TFTC Timber yard for milling
Harvesting

MEETING WITH LO

LOADING/TRANSPORTING

TREE MARKING

LABELING/SCALING

TREE FELLING
Each sectioned logs were scaled again before milling, recording diameter and length (for sawmill recovery calculation).

Logs were milled using the conventional and the Lucas portable sawmills.

Timbers were labelled using the codes from the log labels (e.g. ROS1B A).

The main sizes milled were 4x1, 3x3, 2x2.

The under sizes accepted were 3x2, 3x1 and 2x1.

The timbers are then tallied and moved or ready for the dryer.

Timber sizes were milled with consideration of samples for the activities under this project that will be using timber.
Milling

RESOURCES
- Round Logs
- Cants

BREAK DOWN (MILLING)
- Static Mill
- Portable mill
- Alasakan mill
- Band Re-saw

R/S TIMBER (Product)
- Sizes Milled
  - 2x1
  - 2x2
  - 3x1
  - 3x2
  - 3x3
  - 4x1
  - 6x2
Drying

- Timber drying was done at TFTC Kiln dryer and Unitech Solar Kiln
- TFTC Kiln’s could hold a capacity of 10m³
- Unitech Solar Kiln could hold a capacity of 5-8m³
- Total of 13 species have been dried (3 species x5 trees are currently in the Kiln Dryer at TFTC)
- Timbers were removed at MC of 10 – 12% for machining.
Drying

KILN/OPEN AIR DRYING

SOLAR KILN DRYING
Machining

Docking to length

Ripping to size

Dressed samples

Planning -1 face

Dressing- DAR
Sample Identification System

- the ID system or labelling of the samples, timber and logs were important.

- This was to enable those doing the tests and reports to reconstruct the tree and identify the location of each sample on the tree.

- E.g. ROS1 M indicates that this timber is of the Middle (M) section of Rosewood Tree #1 (ROS1)

- The codes of each species used were of the commercial codes that have been used by the industry.

- The ID system was modified for each species as more trees were harvested, even also on the labelling of timber during milling

- It was confusing at the beginning but as more milling was done, it was familiarized

- The location of each piece of log per tree would enable the restructure of the tree to locate at which height above ground was the piece taken
Sample Identification System
Achievements (Results)

- Harvested 13 species (65 trees)
  1. Pelita
  2. Wau Beech
  3. Taun
  4. Rosewood
  5. Albizia
  6. Boxwood
  7. Vitex
  8. Labula
  9. Hopea (heavy)
  10. Basswood
  11. Kwila
  12. PNG Mersawa
  13. Erima

- 10 species have been completed drying and processing
- All tests mentioned have enough samples for it to be carried

- This is what the team have accomplished despite the challenges and limitations faced.

- In the initial list the team was requested to complete testing for 12 species but we managed to have 13 species done.

- We didn’t complete tests and preparation as scheduled, however this was due to matters beyond our control.
Milling of the next 13 species

- The team has been asked to harvest and test 13 more species.
- Discussions and preparations are currently underway to have this done in a more effective financial and that everyone takes part and not to overwork individuals/institutions.
- Ensure to utilize at each individual and institution’s capacity to deliver.

<table>
<thead>
<tr>
<th>No.</th>
<th>Botanical Name</th>
<th>Trade Name</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>Canarium oleosum</em></td>
<td>GREY CANARIUM</td>
<td>Lae</td>
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<tr>
<td>2</td>
<td><em>Calophyllum inophyllum</em></td>
<td>CALOPHYLLUM</td>
<td>Lae</td>
</tr>
<tr>
<td>3</td>
<td><em>Dracontomelon dao</em></td>
<td>PNG WALNUT</td>
<td>Lae</td>
</tr>
<tr>
<td>4</td>
<td><em>Elaeocarpus sphaericus</em></td>
<td>PNG QUANDONG</td>
<td>Lae</td>
</tr>
<tr>
<td>5</td>
<td><em>Pterocymbium beccarii</em></td>
<td>AMBEROI</td>
<td>Lae</td>
</tr>
<tr>
<td>6</td>
<td><em>Alstonia scholaris</em></td>
<td>WHITE CHEESEWOOD</td>
<td>Lae</td>
</tr>
<tr>
<td>7</td>
<td><em>Syzygium spp.</em></td>
<td>WATERGUM</td>
<td>Lae</td>
</tr>
<tr>
<td>8</td>
<td><em>Pandium edule</em></td>
<td>PANGIUM</td>
<td>Lae</td>
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<tr>
<td>9</td>
<td><em>Pinus carabae</em></td>
<td>CARIBBEAN PINE</td>
<td>Unitech</td>
</tr>
<tr>
<td>10</td>
<td><em>Terminalia brassii</em></td>
<td>BROWN TERMINALIA</td>
<td>Unitech</td>
</tr>
<tr>
<td>11</td>
<td><em>Araucaria hunsteinii</em></td>
<td>KLINKI PINE</td>
<td>Bulolo</td>
</tr>
<tr>
<td>12</td>
<td><em>Araucaria cunninghamii</em></td>
<td>HOOP PINE</td>
<td>Bulolo</td>
</tr>
<tr>
<td>13</td>
<td><em>Eucalyptus deglupta</em></td>
<td>KAMARERE</td>
<td>Oomsis</td>
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<thead>
<tr>
<th>Lesser-Known Species</th>
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<tbody>
<tr>
<td>14 <em>Castanospermum australe</em></td>
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<tr>
<th>Plantations (Waiting list)</th>
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<tbody>
<tr>
<td>15 <em>Tectona grandis</em></td>
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<tr>
<td>16 <em>Agathis laillardieri</em></td>
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<tr>
<td>17 <em>Acacia mangium</em></td>
</tr>
<tr>
<td>18 <em>Pinus patula</em></td>
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</tbody>
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Acknowledgements

- ACIAR and University of Melbourne
- Timber and Forestry Training College
  - Commercial Operation (esp. harvesting, sawmill, wood tech & machining)
  - Management and Admin esp. Finance Office
- PNG Project Partners (PNG FRI FPP & Unitech DOF)
- Forestry Lae Region Area Office
- Landowners of Oomsis Timber Area
Thank you