Objective 3

Establish experimental veneer-peeling capacity in the South Pacific
Advanced veneer and other product from coconut wood
Objective 3 – South Pacific veneer peeling capacity

Identify markets → Forestry: stem harvesting → Peeling in S. Pacific

Peeling trials → Assemble and test products → By-product utilisation

Advanced veneer and other product from coconut wood
Objective 3 – South Pacific veneer peeling capacity

Peeling in S. Pacific

Peeling trials

Advanced veneer and other product from coconut wood
Objective 3 – Establish experimental veneer-peeling capacity in the South Pacific

3.1 – Commissioning a spindleless lathe equipment

3.2 – Assessing the potential of a regional trial and demonstration program
Objective 3 – South Pacific veneer peeling capacity

3.1 – Commissioning a spindleless lathe equipment

- Lathe equipment in place and under commission at TUD Fiji this week
- Trial work commenced this week
- Visit TUD for a demonstration tomorrow
3.1 Commissioning Spindleless Lathe

- Equipment in place and operational!
3.1 Commissioning Spindleless Lathe

- Steam pre-conditioner
  - Steam bath made in Australia.
  - Existing kiln box modified at TUD
  - Installed together at TUD and commissioned.
  - Operation is to be tuned during trials.
3.1 Commissioning Spindleless Lathe
3.1 Commissioning Spindleless Lathe
3.1 Commissioning Spindleless Lathe

- Bath inserted into modified kiln
- Kiln sits on raised concrete plinth
- Logs can be inserted and removed using a forklift
3.1 Commissioning Spindleless Lathe

- Stem in-feed
  - Ready to be installed once location has been tested and confirmed
  - Foundations in place
3.1 Commissioning Spindleless Lathe

• Lathe
  – Modifications completed in QLD
  – Improved safety
  – Improved control during peeling
  – Lathe in place at TUD
3.1 Commissioning Spindleless Lathe
3.1 Commissioning Spindleless Lathe
3.1 Commissioning Spindleless Lathe

• Conveyor
  – In place at TUD
  – Feed speed and detailed setup to be confirmed during trials
3.1 Commissioning Spindleless Lathe

• Clipper
  – In place at TUD
  – Feed speed and detailed setup to be confirmed during trials
3.1 Commissioning Spindleless Lathe

- Final equipment commissioning this week
- Trials commence this week
- Training commences this week
- Trials and training continue Oct/Nov 2014
3.2 – *Assessing the potential of a regional trial and demonstration program*

- Feasibility of transporting the lathe suite between regional centres will be assessed
  - Technical
  - Economic
  - Physical
Three regional trial locations were investigated:

- TeiTei Taveuni Farmer Association selected location at Taveuni, Fiji.
- Strickland Brothers Ltd facility at Apia, Samoa.
- Timol Timber facility at Honiara, the Solomon Islands.
Modeled equipment suites

• Option 1: The existing lathe suite is adapted for travel and relocated.
• Option 2: One additional lathe suite is acquired, adapted for travel to each trial locations and relocated.
• Option 3: Three additional lathe suites are acquired, one for each trial location, adapted and relocated.
Modeled operational stages

- **Stage 1: Initial training.**
  - An experienced operational staff member from each trial location is trained as a lathe team captain at TUD Nasinu.

- **Stage 2: Infrastructure upgrades.**
  - Local infrastructure is upgraded to operate the lathe equipment suite.

- **Stage 3: Equipment preparation.**
  - The equipment suite or suites are collected, packed and dispatched to the regional trial location.

- **Stage 4: Regional equipment installation.**
  - The equipment suite is unpacked, installed and commissioned.

- **Stage 5: Regional training.**
  - The local lathe team captain and a project officer train a lathe production team at the regional trial location.
Modeled operational stages

- **Stage 6: Regional research.**
  - Peeling experiments are conducted with local coconut resources.

- **Stage 7: Regional demonstration.**
  - Regional demonstration program is held for community, government and business groups.

- **Stage 8: Repack and despatch.**
  - Lathe decommissioning, repacking and relocation to the next centre.

- **Stage 9: TUD Reinstall.**
  - At the completion of the program, the equipment suite is left at the chosen location or returned to TUD for recommissioning.
## Modeled demonstration program

<table>
<thead>
<tr>
<th>Critical path activity</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order manufacture and deliver equipment</td>
<td>-</td>
<td>3 months</td>
<td>4 months</td>
</tr>
<tr>
<td>Modify equipment</td>
<td></td>
<td>2 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Pack and prepare equipment</td>
<td>2 months</td>
<td>2 months</td>
<td>1 month</td>
</tr>
<tr>
<td>Dispatch and operate in Taveuni.</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Dispatch and operate in Samoa</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Dispatch and operate in the Solomons</td>
<td>3 months</td>
<td>3 months</td>
<td>3 months</td>
</tr>
<tr>
<td>Return to TUD and reinstall</td>
<td>2 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12-13 months</td>
<td>16 months</td>
<td>17-18 months</td>
</tr>
</tbody>
</table>
The major significant risks are the level and cost of modification needed to any additional lathes and finding a suitable site and power supply for a Taveuni trial.
Estimated total cost

<table>
<thead>
<tr>
<th>Cost summary ($)</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>$56,077</td>
<td>$58,833</td>
<td>$61,681</td>
</tr>
<tr>
<td>Supplies and services</td>
<td>$32,429</td>
<td>$27,529</td>
<td>$21,899</td>
</tr>
<tr>
<td>Travel</td>
<td>$29,701</td>
<td>$29,701</td>
<td>$29,701</td>
</tr>
<tr>
<td>Capital items</td>
<td>$31,057</td>
<td>$129,557</td>
<td>$327,807</td>
</tr>
<tr>
<td>Contingency (15%)</td>
<td>$22,390</td>
<td>$36,843</td>
<td>$66,163</td>
</tr>
<tr>
<td>Total</td>
<td>$171,653</td>
<td>$282,463</td>
<td>$507,251</td>
</tr>
</tbody>
</table>

Option 1 leaves one peeling research facility in the Pacific. Options 2 & 3 establish satellite joint production/research facilities. A single organisation may fund Options 1 & 2. Organisations in association may fund Options 2 & 3.
Objective 3 – South Pacific veneer peeling capacity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Planned</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lathe suite relocated to Fiji</td>
<td>March 2014</td>
<td>July 2014</td>
</tr>
<tr>
<td>Lathe suite commissioned in Fiji</td>
<td>March 2014</td>
<td>August 2014</td>
</tr>
<tr>
<td>Assessment of potential regional peeling program</td>
<td>June 2014</td>
<td>August 2014</td>
</tr>
</tbody>
</table>

*Key completion dates –*

Peeling in S. Pacific

Peeling trials