

ACIAR project



FST/2009/062

Development of advanced veneer and other product from coconut wood to enhance livelihoods in South Pacific communities

Project organisations



Australian Government

**Australian Centre for
International Agricultural Research**



Project team

Australia based



Project Leader

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University of Tasmania



Project Manager

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Project Research Fellow
University of Tasmania



Collaborating Scientist

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Team Leader
Department of Employment, Economic
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Partner country based

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Coordinator

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Principal Utilisation Officer

Fiji Department of Forestry

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Forestry Department, MNRE Samoa

Reeves Moveni

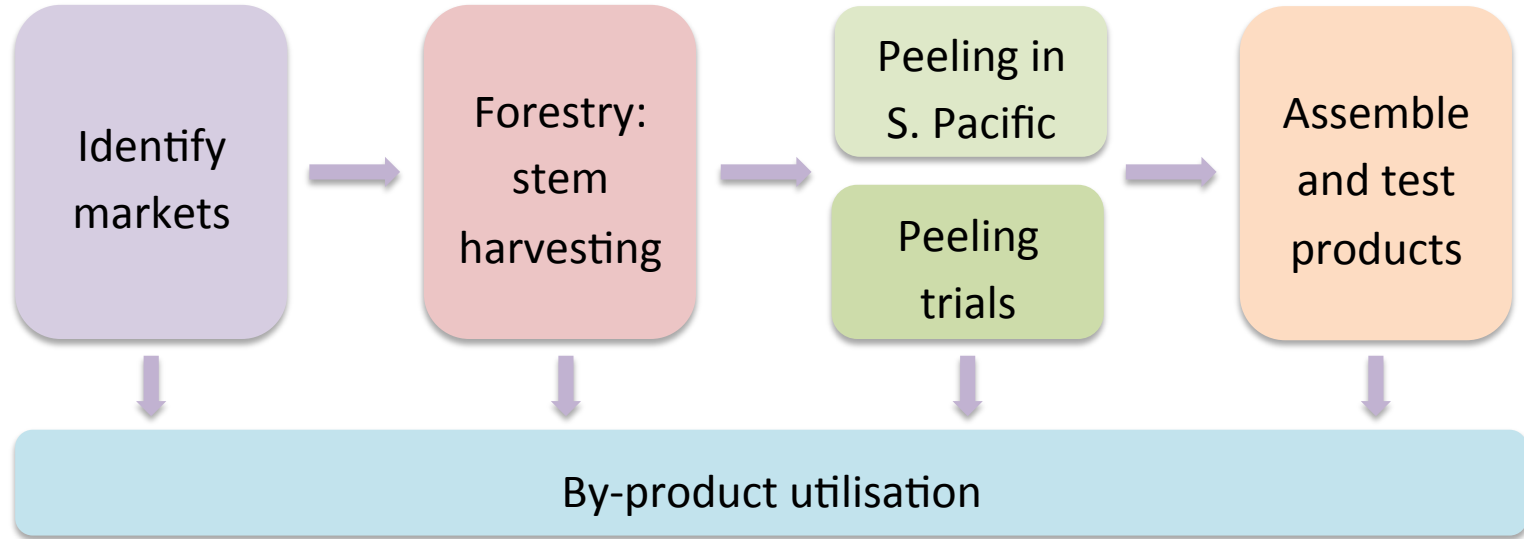
Commissioner of Forestry

Ministry of Forests

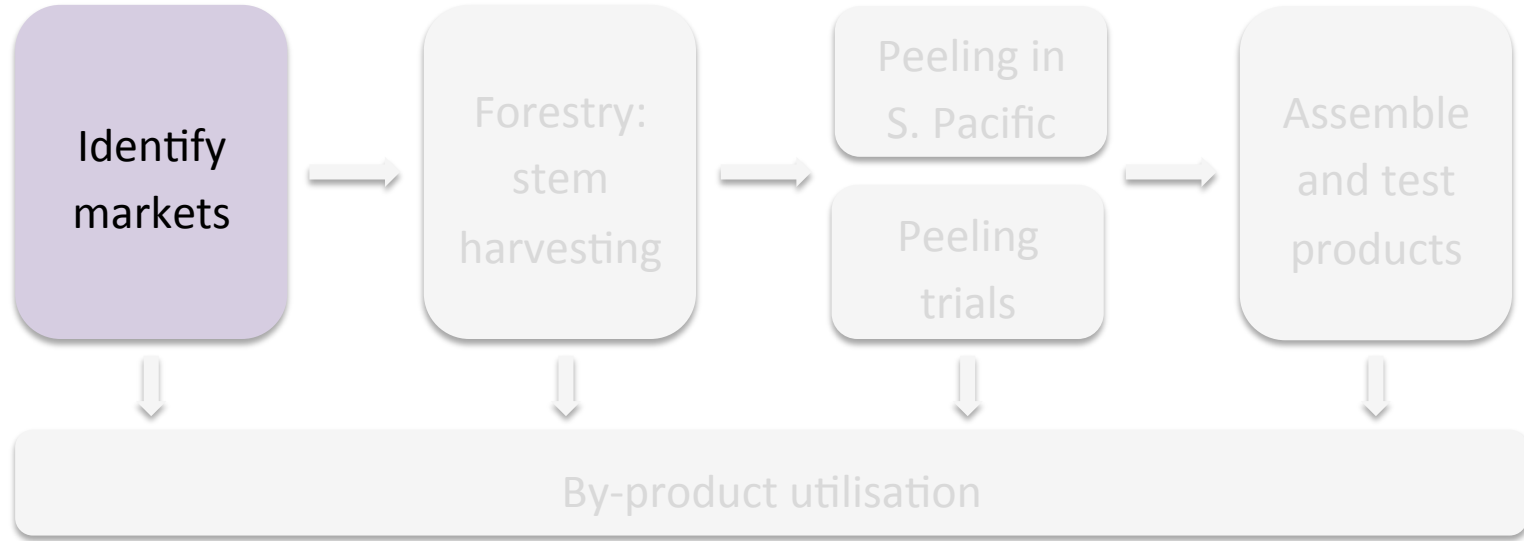
Solomon Islands

**+ industry collaborators from Australia
and South Pacific communities**

Project Objectives



Objective 1 – Identify Markets



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Identify
markets

Objective 1 – Identify the most promising product options for the veneer from coconut stem

1.1 – Market assessment and product development

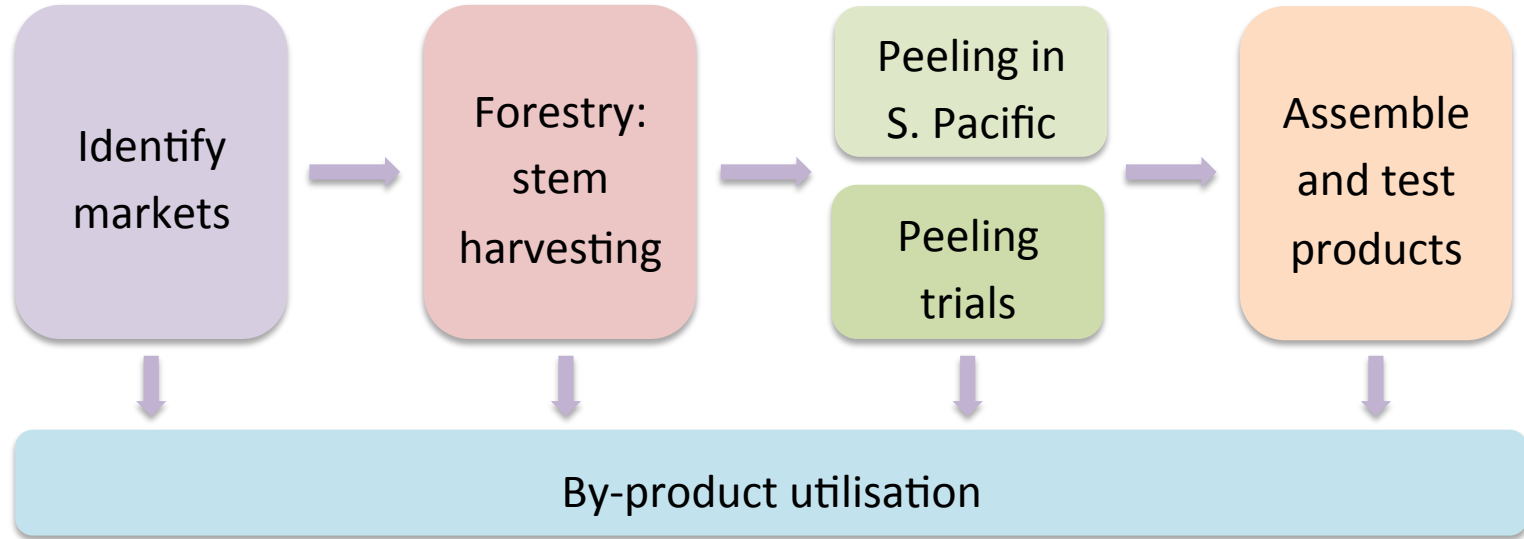
1.2 – Value-chain analysis

1.3 – Stakeholder engagement

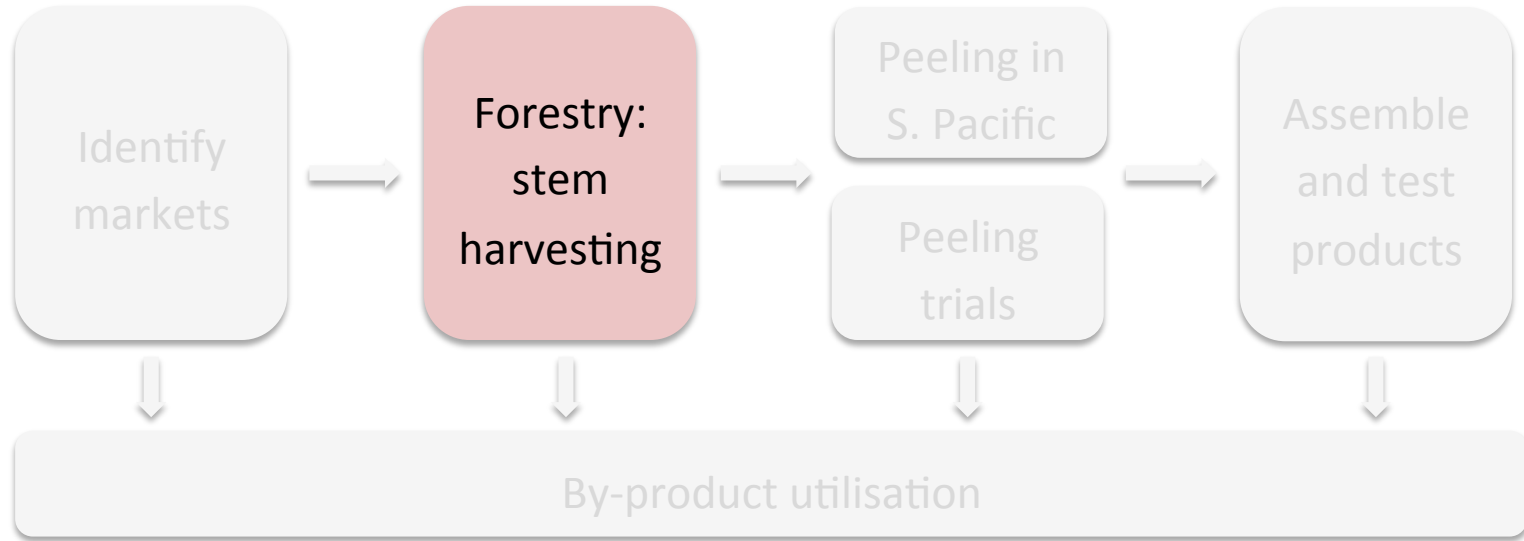
Objective 1 – Identify Markets



Objective 2 – Forestry



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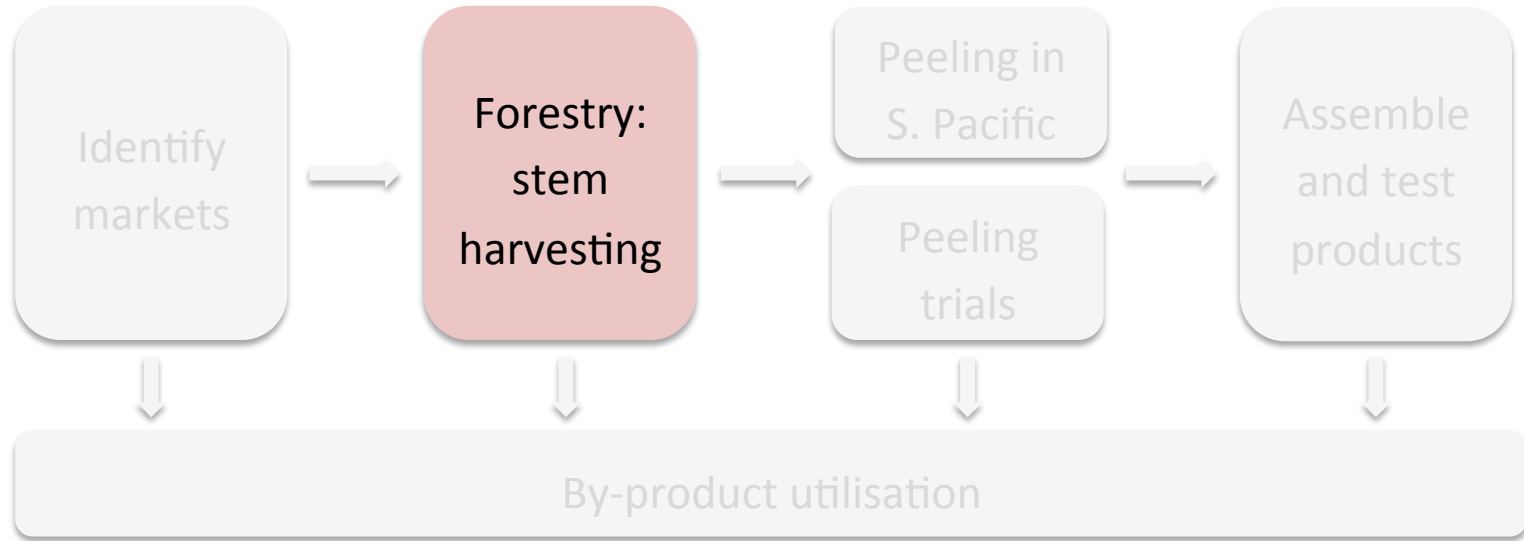
Forestry:
stem
harvesting

Objective 2 - Develop protocols and capacity for sustainable low-impact coconut wood harvesting, plantation rehabilitation, and log grading, handling and transport

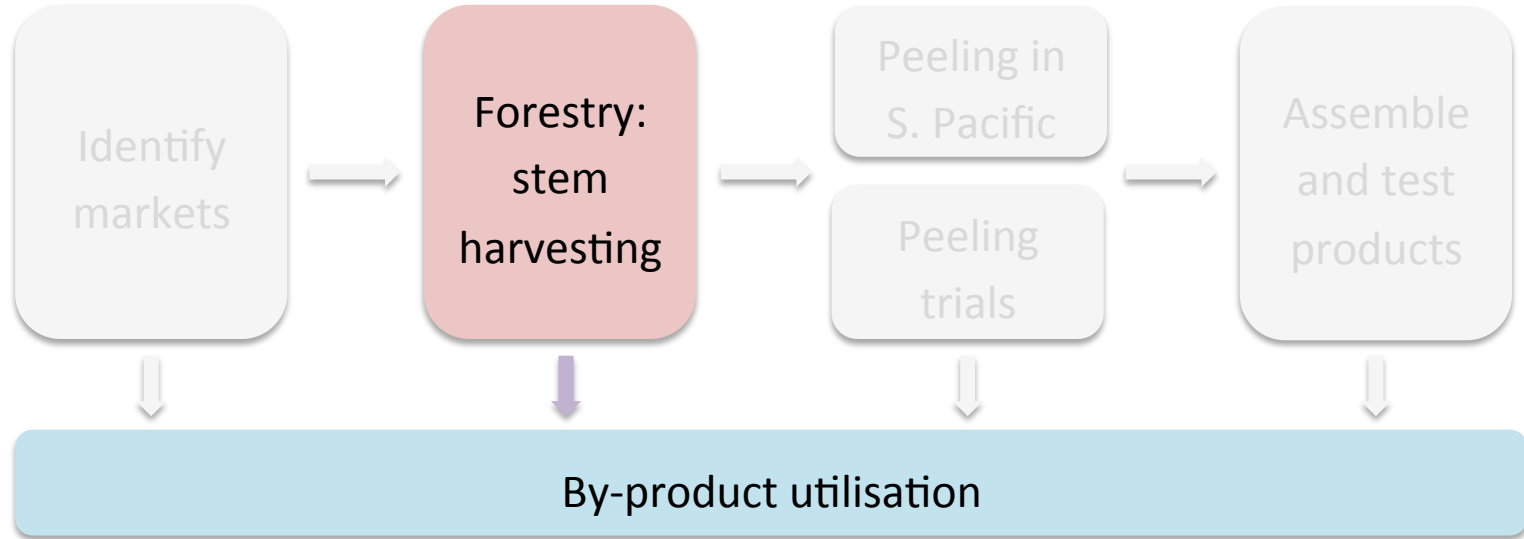
2.1 - Local resource assessment and harvesting

2.2 - Development and training in harvesting and handling protocols

Objective 2 – Forestry



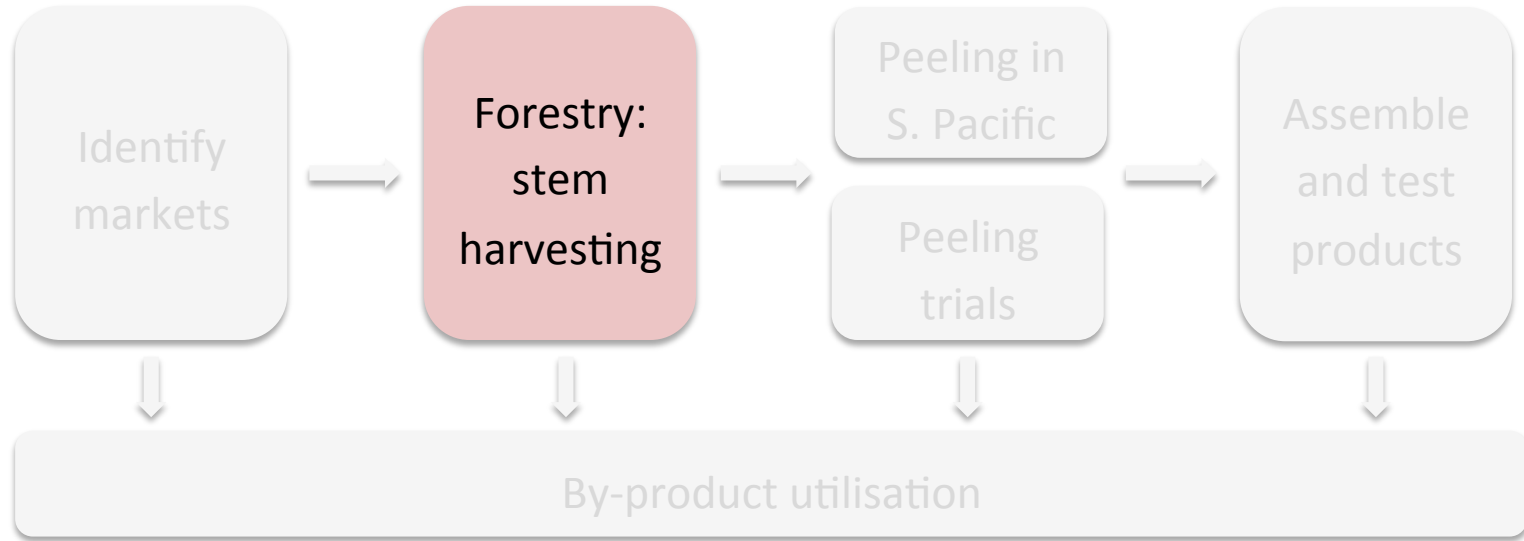
Objective 2 – Forestry



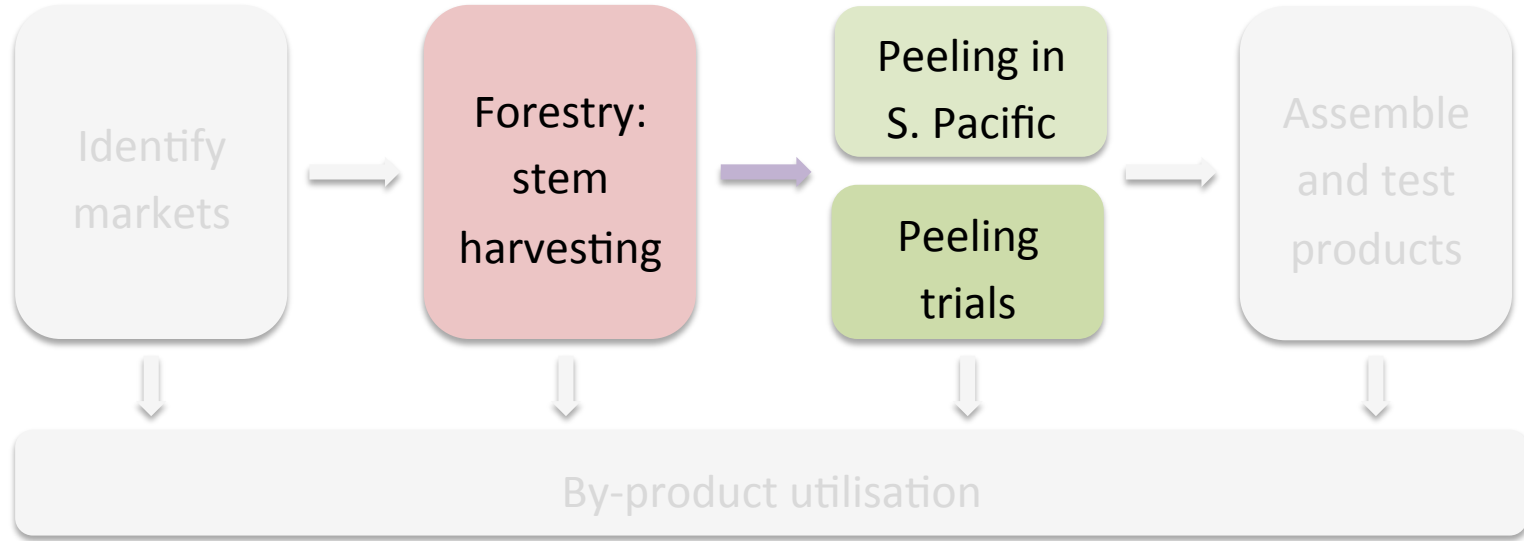
Material collected for peeling trials:

- Below grade stems
- Fronds

Objective 2 – Forestry



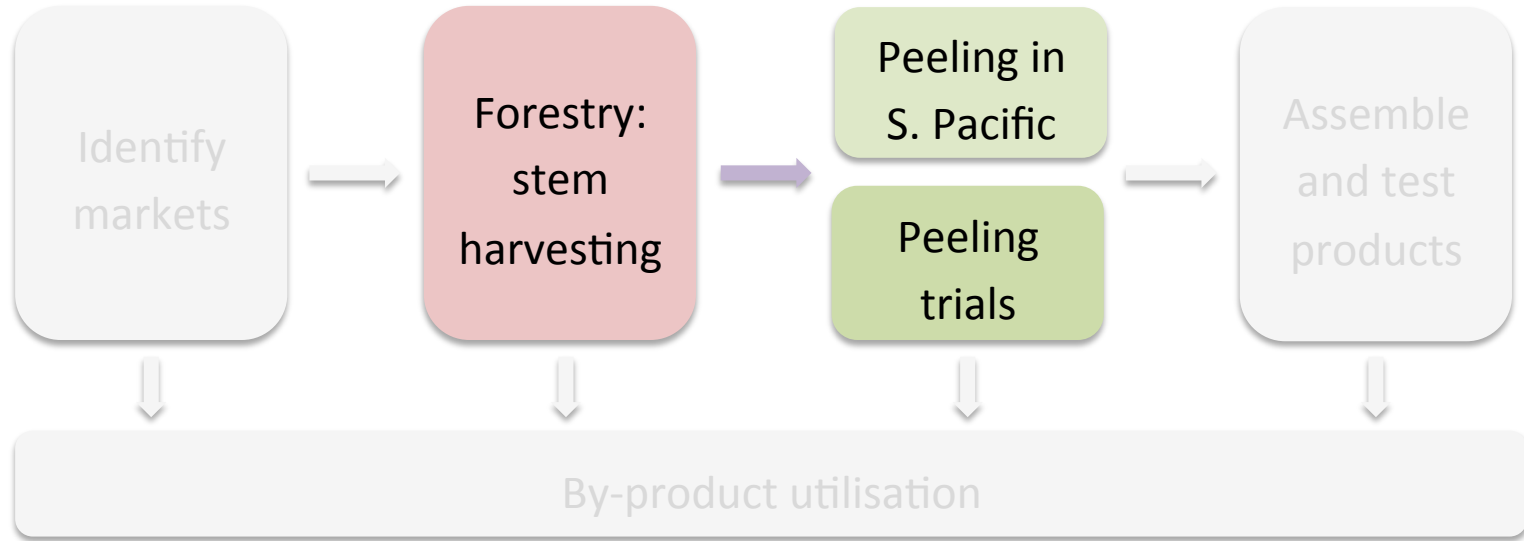
Objective 2 – Forestry



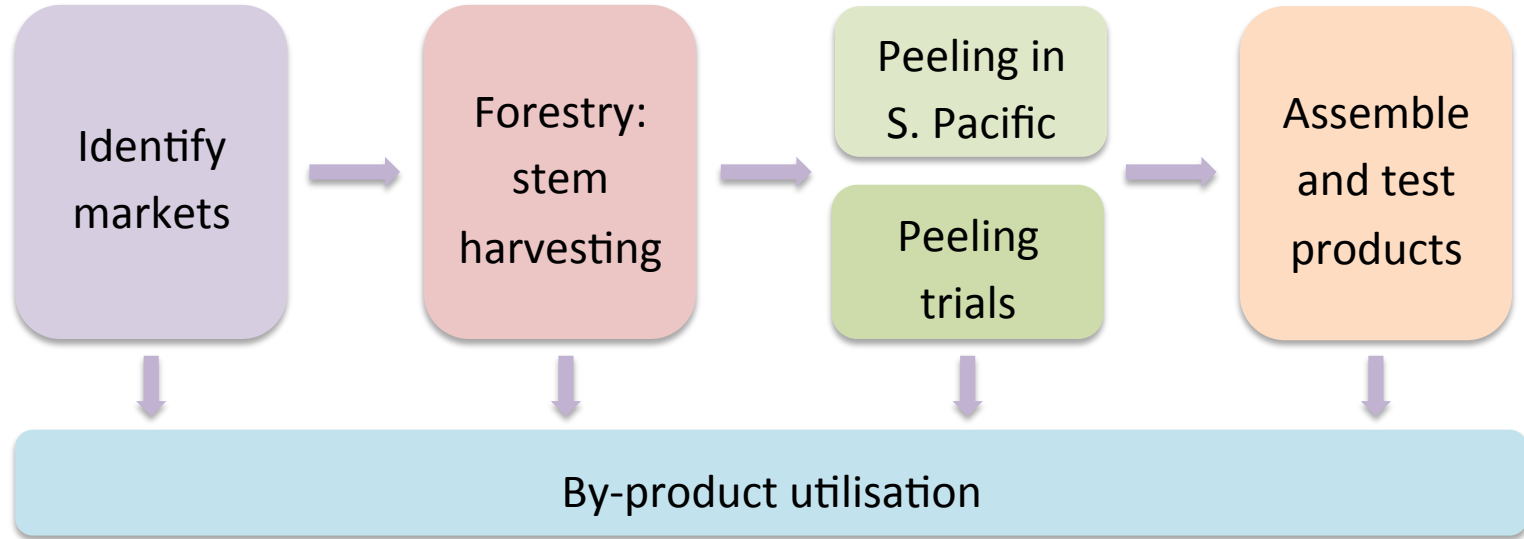
Material collected for trials of residue uses:

- Discs
- Stems

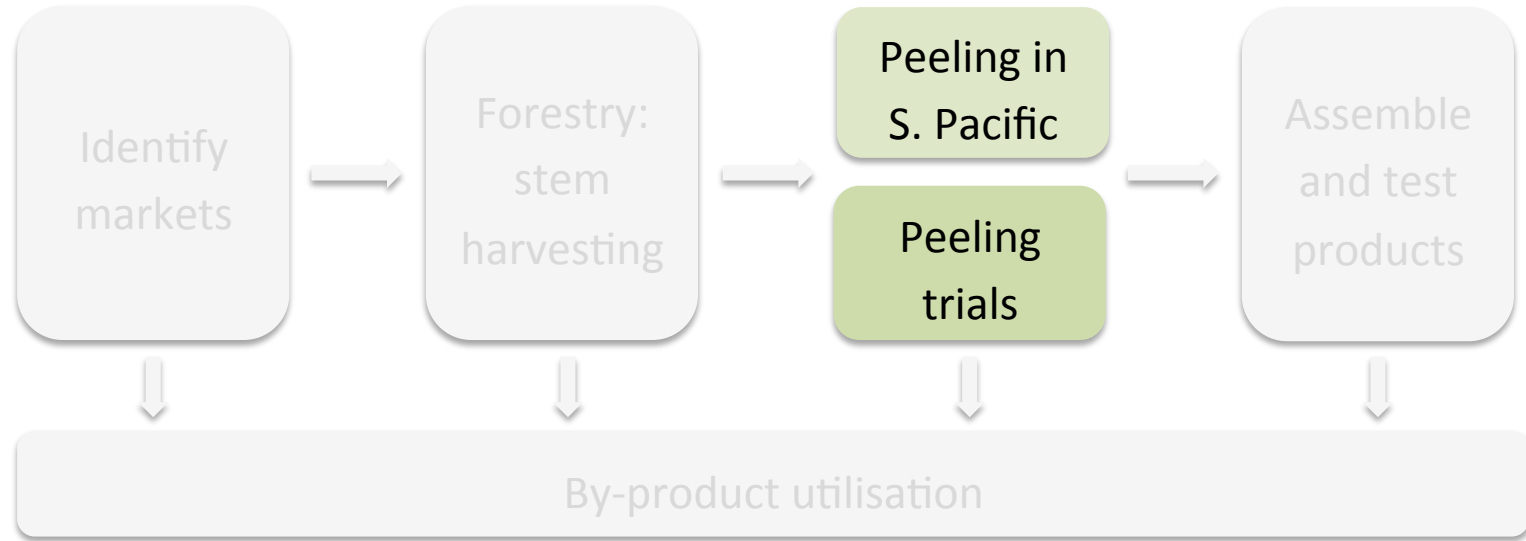
Objective 2 – Forestry



Objectives 3 & 4 - Peeling



Objectives 3 & 4 - Peeling



Objectives 3 & 4 - Peeling

Peeling in
S. Pacific

Peeling
trials

Obj. 3 – Veneer peeling in S. Pacific

Peeling in
S. Pacific

Peeling
trials

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 4 – Peeling trials

Peeling in
S. Pacific

Peeling
trials

Objective 4 – Peeling trials

Peeling in
S. Pacific

Peeling
trials

Objective 4 – Determine the optimum processing parameters & protocols for peeling coconut stems & the properties of the recovered veneer

4.1 – Assessing veneer processing parameters from cocowood disks

4.2 – Calibrating processing parameters at DEEDI in Queensland

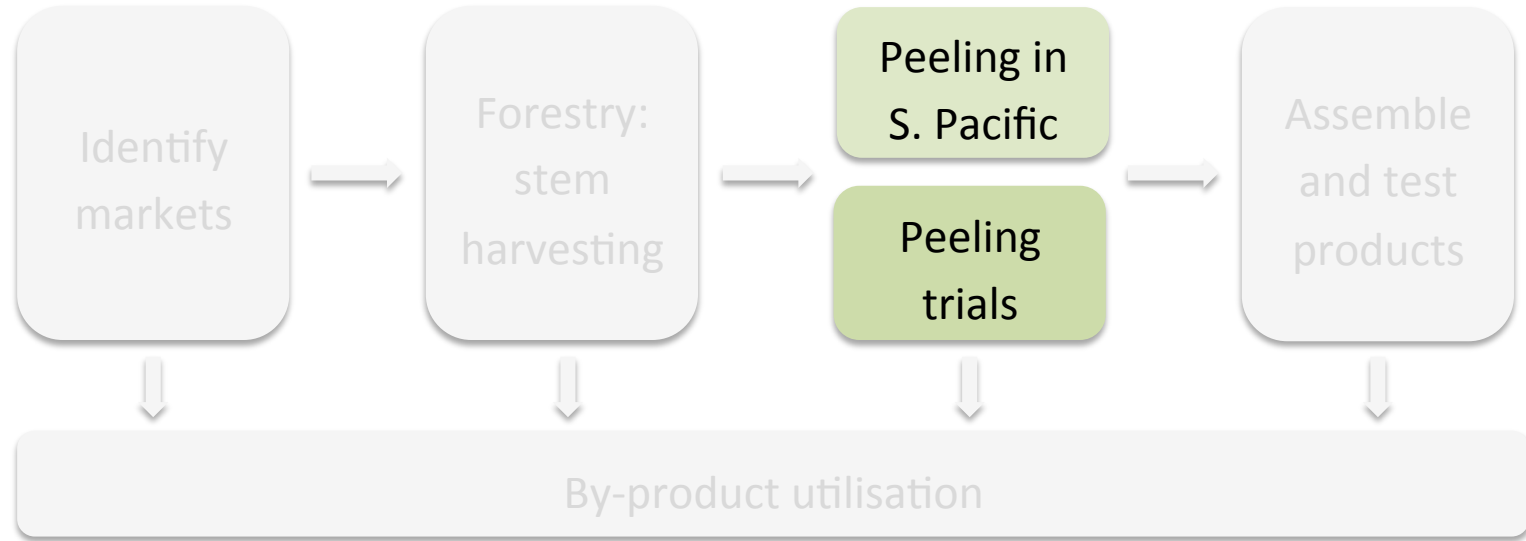
4.3 – Initial compact experimental peeling trial in Fiji

4.4 – Compact commercial peeling trial in Fiji

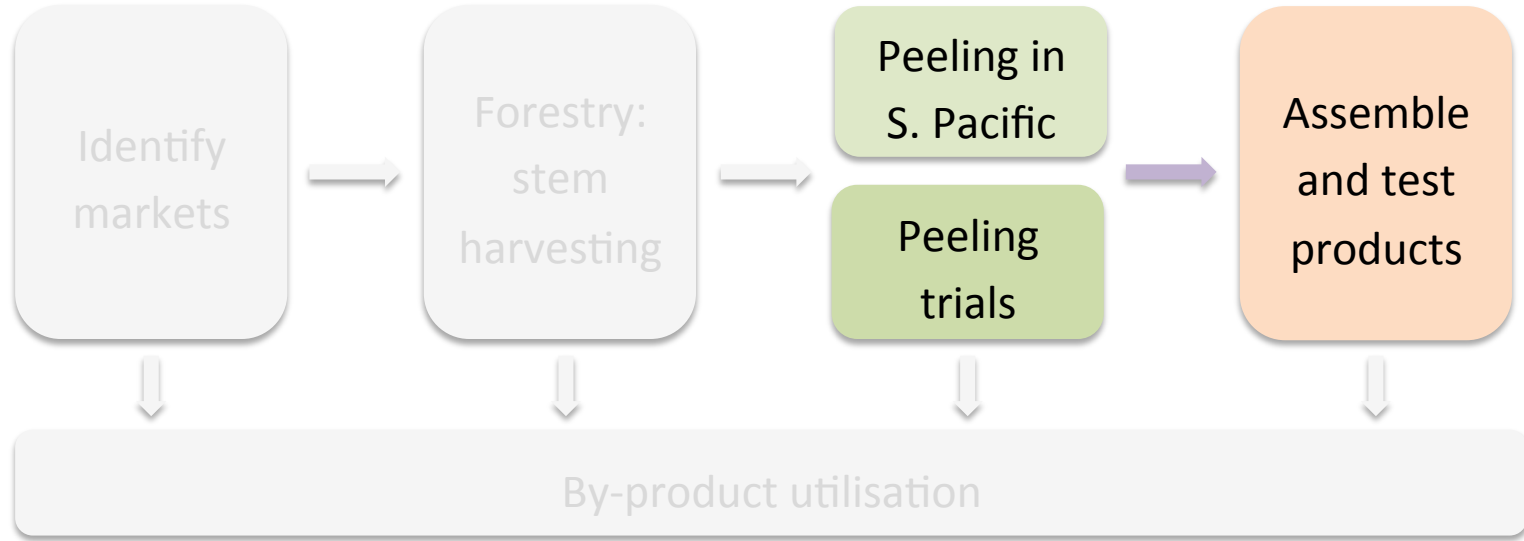
4.5 – Broad industrial peeling trial in Fiji

4.6 – Properties and recovery assessment

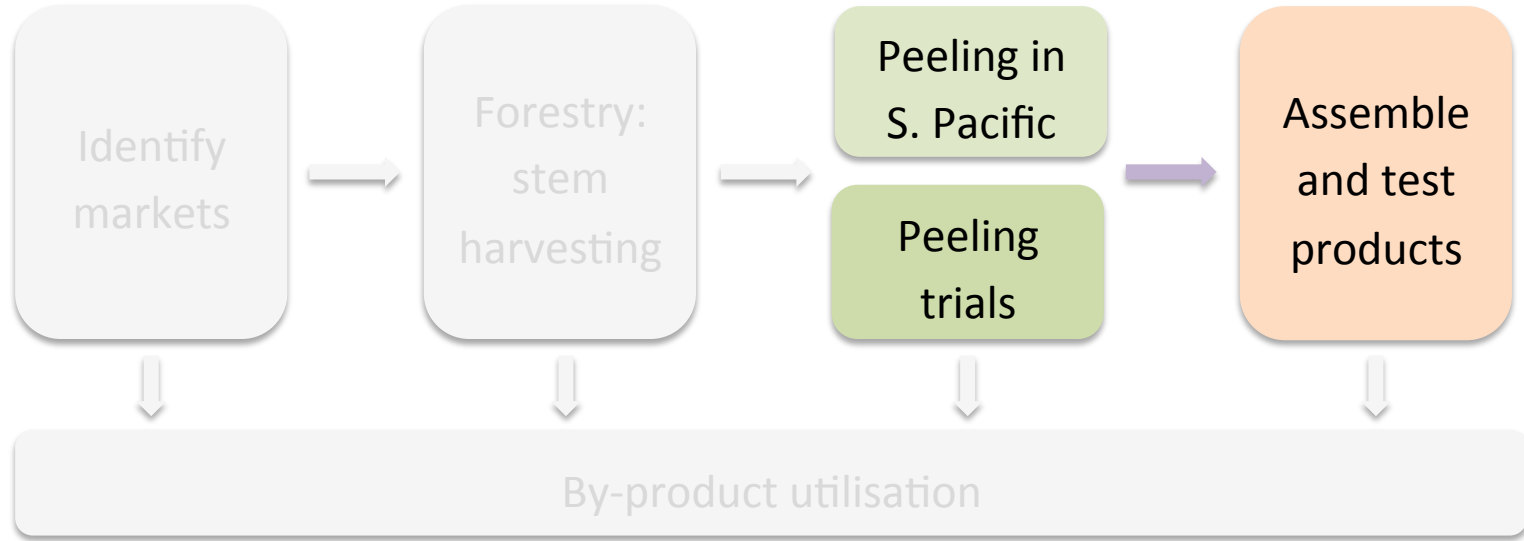
Objectives 3 & 4 - Peeling



Objectives 3 & 4 - Peeling



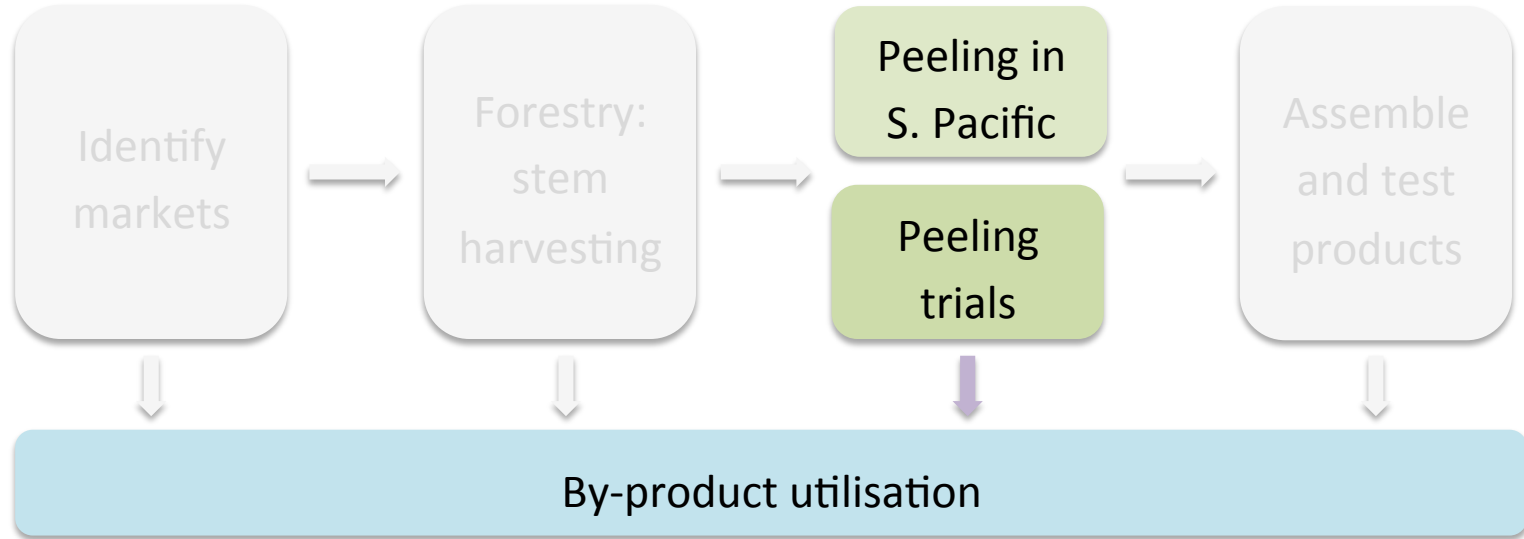
Objectives 3 & 4 - Peeling



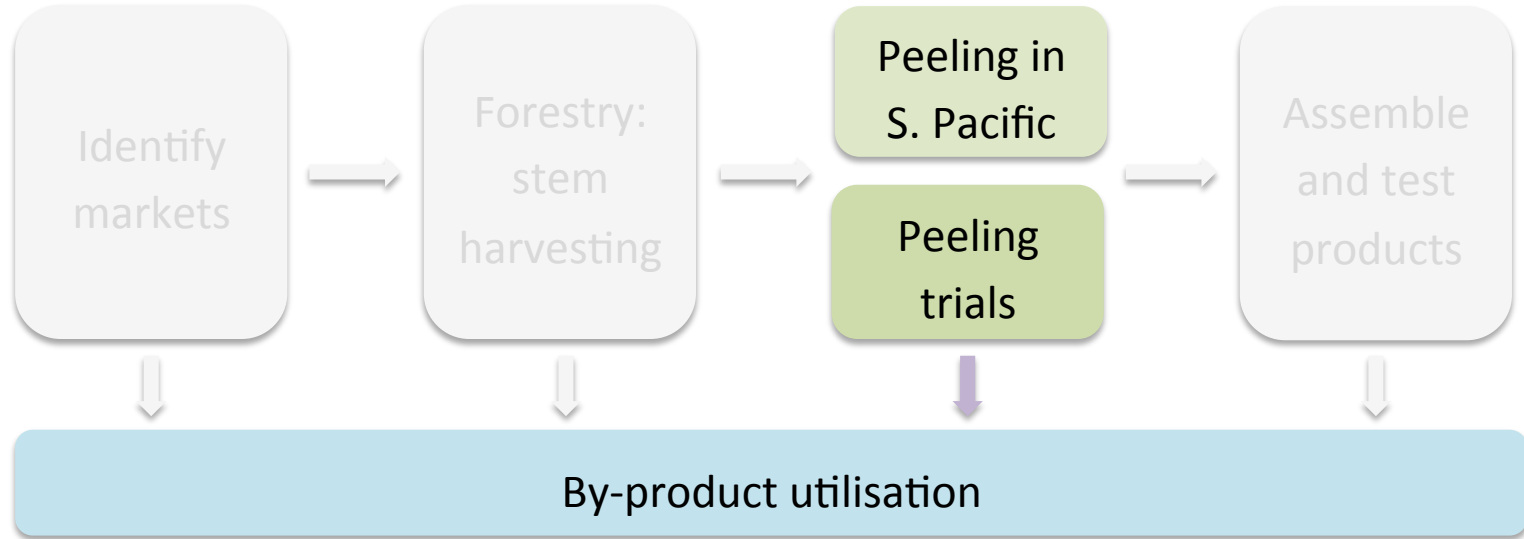
Recovered veneer used to assemble product suite

- plywood
- LVL etc

Objectives 3 & 4 - Peeling



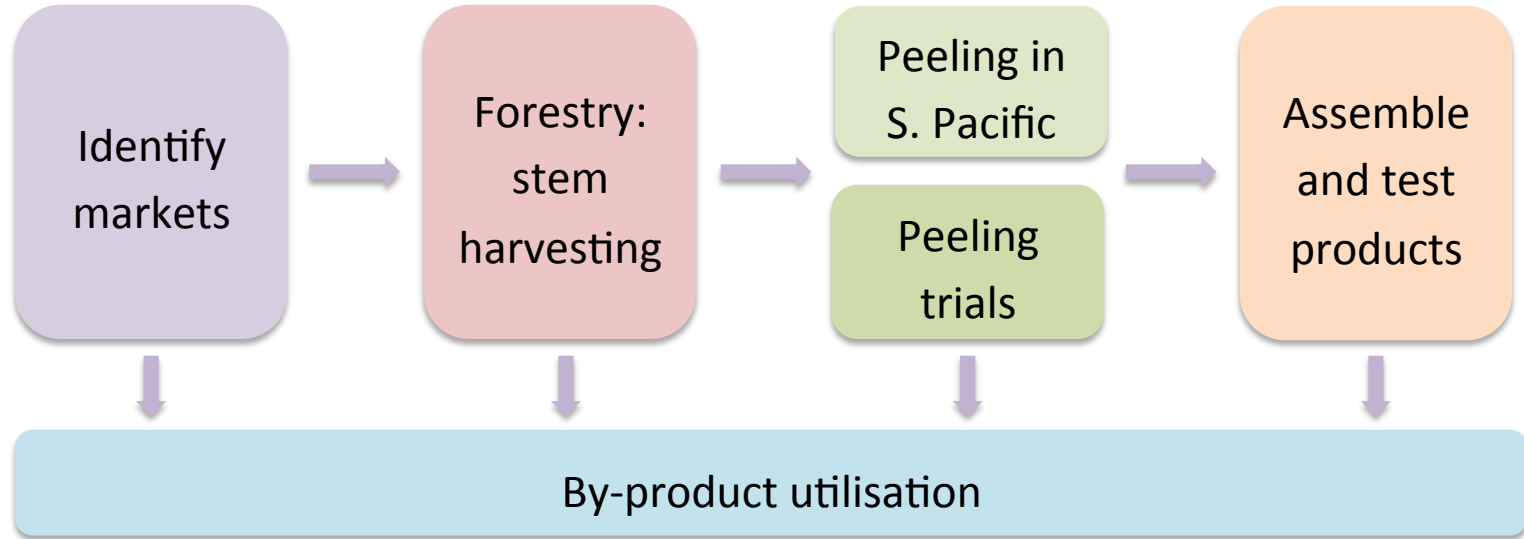
Objectives 3 & 4 - Peeling



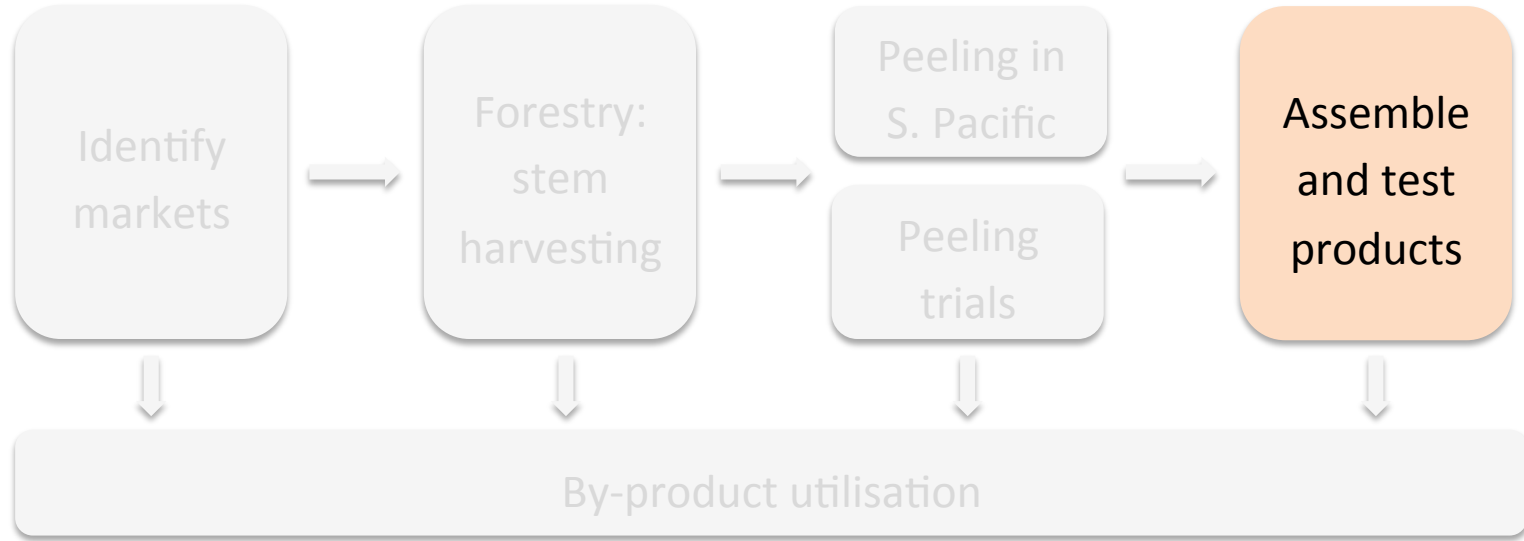
Material collected for residue trials

- Outer material
- Core
- Below grade veneer

Objective 5 - Products



Objective 5 - Products



Objective 5 – Products

Assemble
and test
products

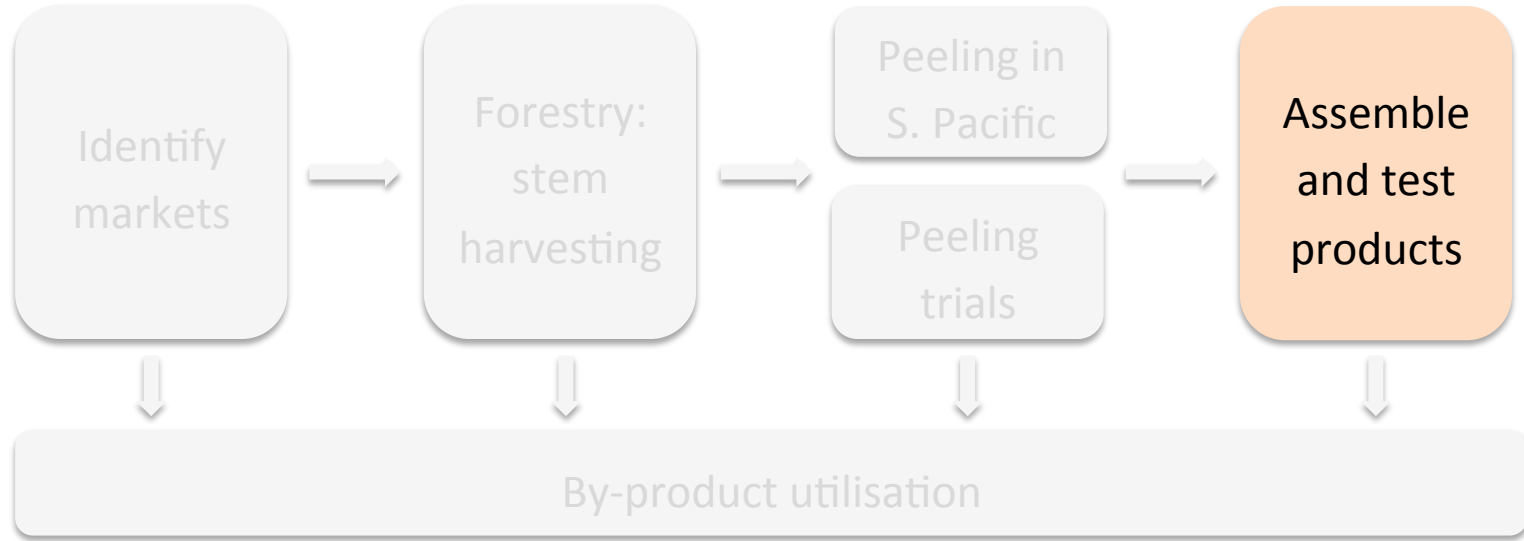
Objective 5 – Assemble the product suite and establish its characteristics and in-service performance

5.1 – Experimental product assembly

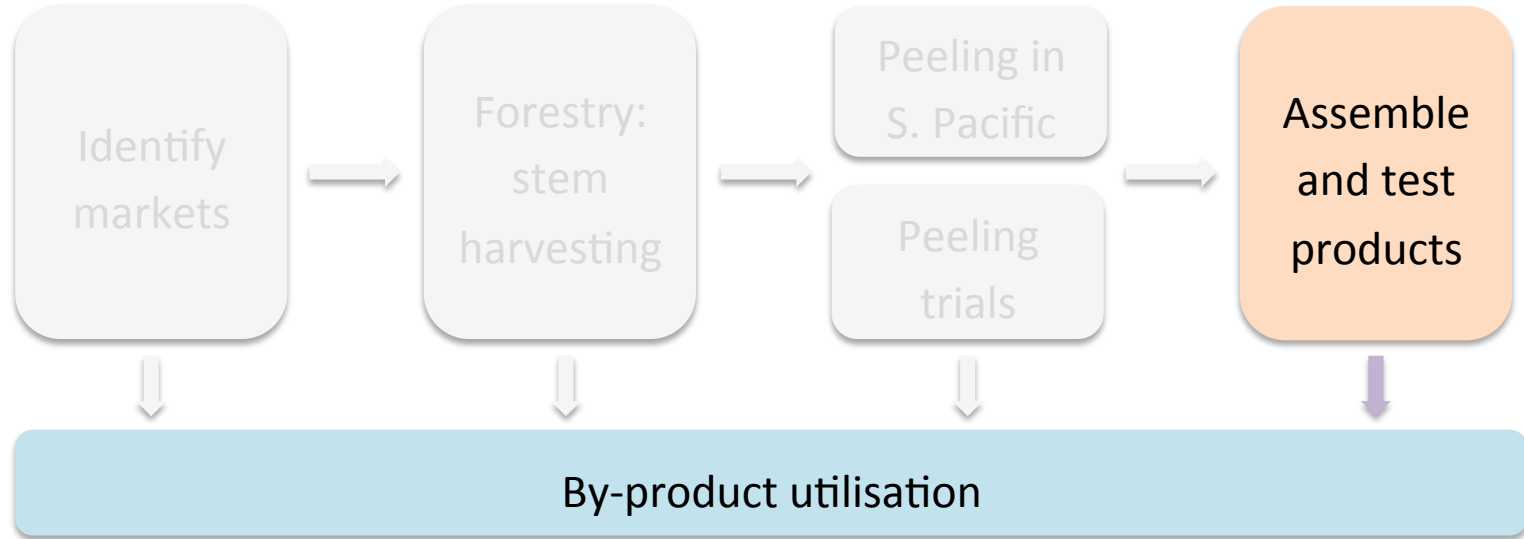
5.2 – Product characterisation and testing

5.3 – Product assessment in-service

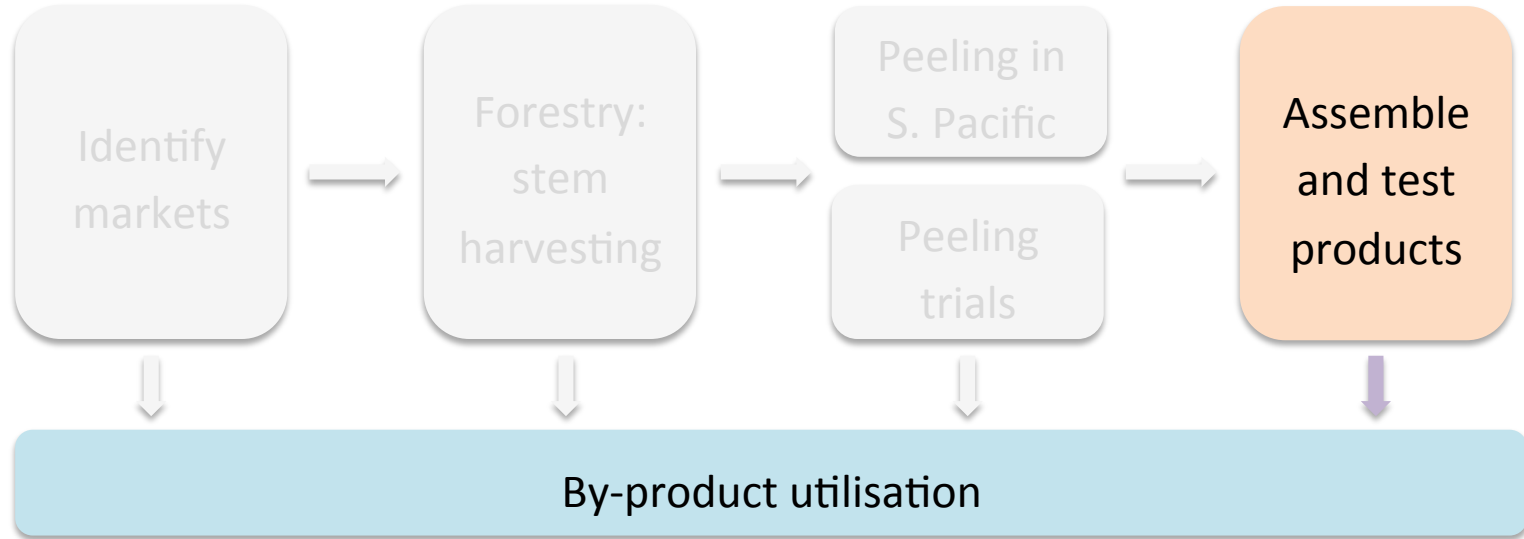
Objective 5 - Products



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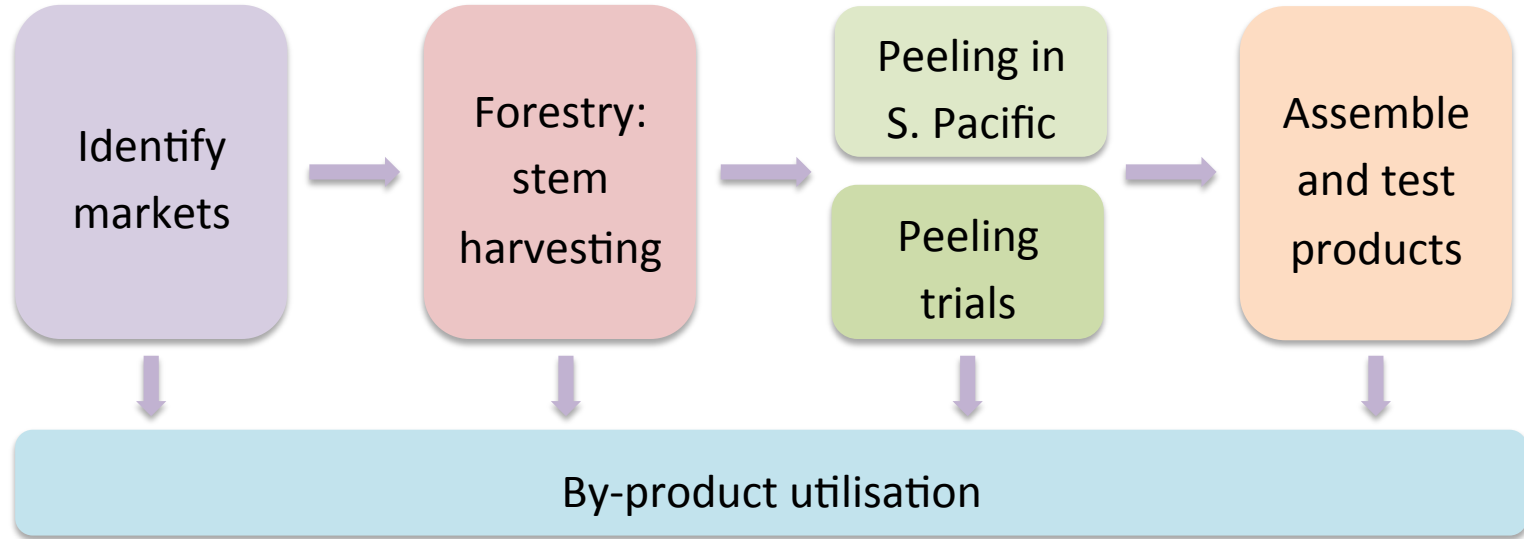
Objective 5 - Products



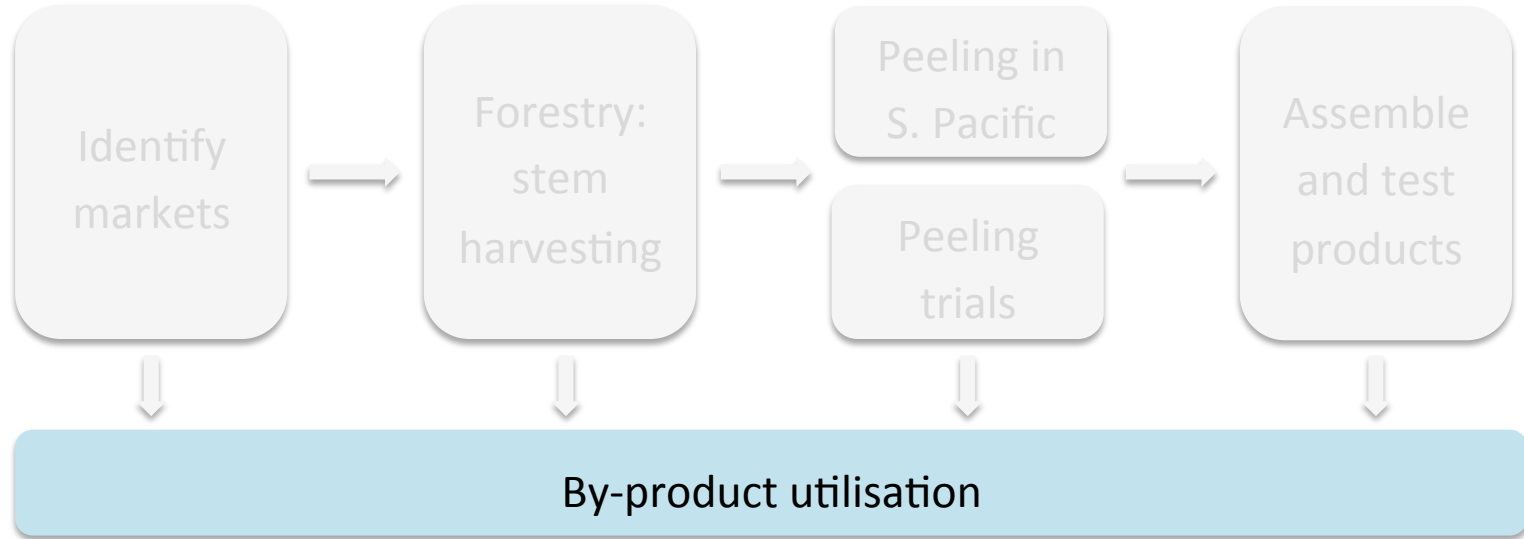
Material collected for residue trials

- Assembly residues

Objective 6 – By-product utilisation



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By-
product
utilisation

Objective 6 - Determine the costs and benefits of using the residual cortex and soft, central cores for bio-char and other agricultural products

6.1 – Collaboration with agricultural projects

6.2 – Biochar trials

Summary

This is a four-year, collaborative project with 6 specific objectives:

1. Identify the most promising product options for the veneer from coconut stem.
2. Develop protocols and capacity for sustainable low-impact coconut wood harvesting, plantation rehabilitation, and log grading, handling and transport.
3. Establish experimental veneer-peeling capacity in the South Pacific.
4. Determine the optimum processing parameters and protocols for peeling coconut stems and the properties of the recovered veneer.
5. Assemble the product suite and establish its characteristics and in-service performance. Characterisation would be to local and export performance standards.
6. Determine the costs and benefits of using the residual cortex and soft, central cores for bio-char and other agricultural products.

Questions



centre for sustainable
architecture with wood

