CocoVeneer: Estate planning

Guide to community development of Estate Coconut Renewal Plans

Content

- Community and family estates as a source of log supply.
- Estate Coconut Renewal Guide
  - Section 1: Developing an estate plan for coconuts.
  - Section 2: Resource information.
  - Section 3: Support worksheets.

Community estates and log supply

- A regular coconut log supply for wood processing can result from communities deciding to ***renew*** their coconut plantations, and sell logs.
- To make informed decisions, communities need to develop and adopt an ***estate coconut renewal plan***.
  - Once agreed, it can then be implemented.

Guide aim and structure

- The guide proves a structured but achievable, 6-step process for a community to assess the impact of estate renewal and decide on actions.

Step 1: Assemble the planning team → Step 2: Map the estate → Step 3. Assess coconut production → Step 4. Estimate impacts of renewal → Step 5. Establish community priorities. → Step 6. Planning any harvest

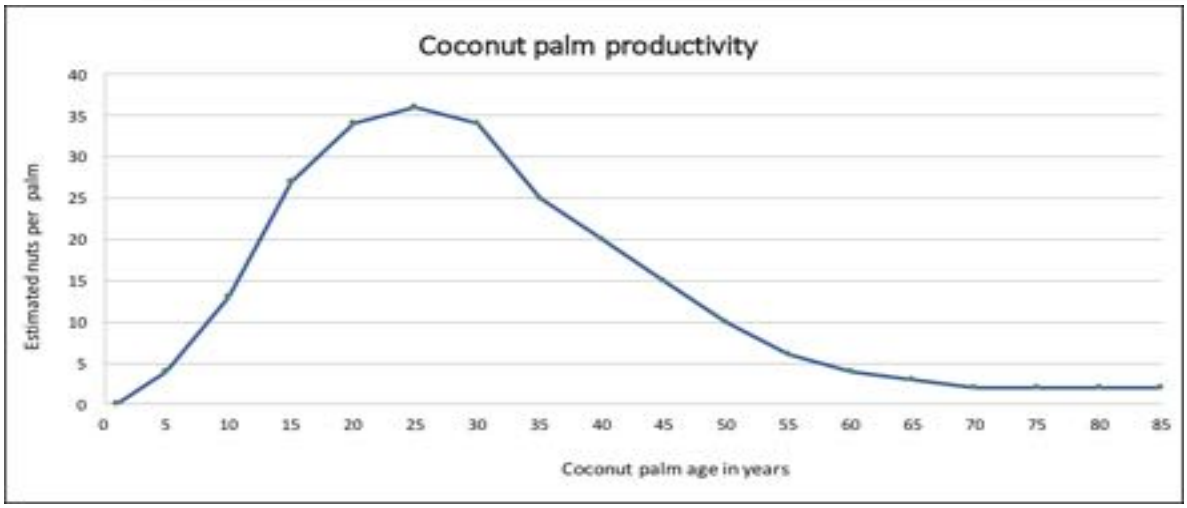
Guide structure

Section 1: Developing an estate plan for coconuts.

Section 2: Resource information.

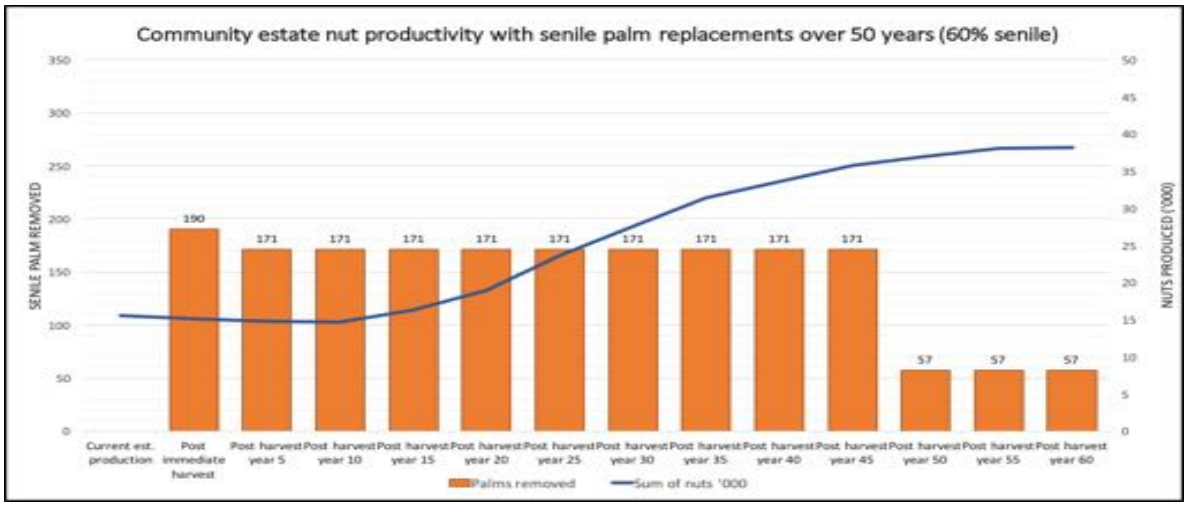
Section 3: Worksheets and checklists.

Section 2: Resource information



Trend of coconut nut productivity yields with palm age *Source: Forstreuter, SPC 2013*

Section 2: Resource information



20 ha plantation with 60% senility addressed over 50 years in a continuing 60 year coconut palm rotation – matches Fiji.

Section 2: Resource information

Period	Est. change in nut production		Portion of palms harvested	
	50 year replacement	25 year replacement	50 year replacement	25 year replacement
Current est. production	1.00	1.00		
After initial harvest	0.97	0.95	9%	16%
After harvest: Year 5	0.95	0.92	9%	15%
After harvest: Year 10	0.94	0.96	9%	15%
After harvest: Year 15	1.05	1.13	9%	15%
After harvest: Year 20	1.22	1.50	9%	15%
After harvest: Year 25	1.52	2.01	9%	3%
After harvest: Year 30	1.78	2.55	9%	3%
After harvest: Year 35	2.02	2.99	9%	3%
After harvest: Year 40	2.16	3.16	9%	3%
After harvest: Year 45	2.30	3.05	3%	3%
After harvest: Year 50	2.38	2.76	3%	3%
After harvest: Year 55	2.45	2.37	3%	3%
After harvest: Year 60	2.46	1.96	3%	3%

Change factors for nut production and harvest volume – 60% senile estate, 50 & 25 year replacement

Section 1: Develop a coconuts estate plan

Step 3: Assessing coconut production

Step 3: Assessing coconut production

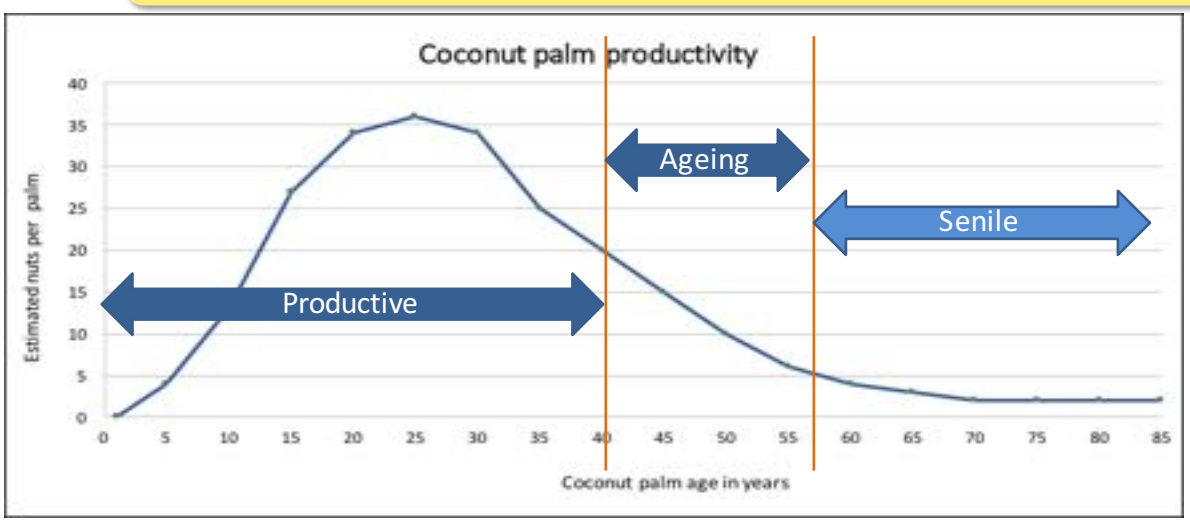
- The condition of estate coconut palms needs to be assessed for age and current productivity. This is to identify:
  - The number of healthy and unproductive palms.
  - Their distribution.
  - Current nut productivity.
  - Areas of pest or disease.
- Those who live near the stand may know:
  - When the stand was planted (its age).
  - The total nuts collected (its productivity)

Step 3: Assessing coconut production

Palms can be assessed as either.

- A ***productive palm***: a growing or mature palm, producing more than 20 coconuts every year.
- An ***aging palm***: a mature palm, producing between 5 and 20 coconuts every year.
- A ***senile palm***: a very mature palm producing 5 coconut or less every year.
- A ***fallen palm*** is a damaged, broken or completely missing palm.

Step 3: Assessing coconut production



Trend of coconut nut productivity yields with palm age *Source: Forstreuter, SPC 2013*

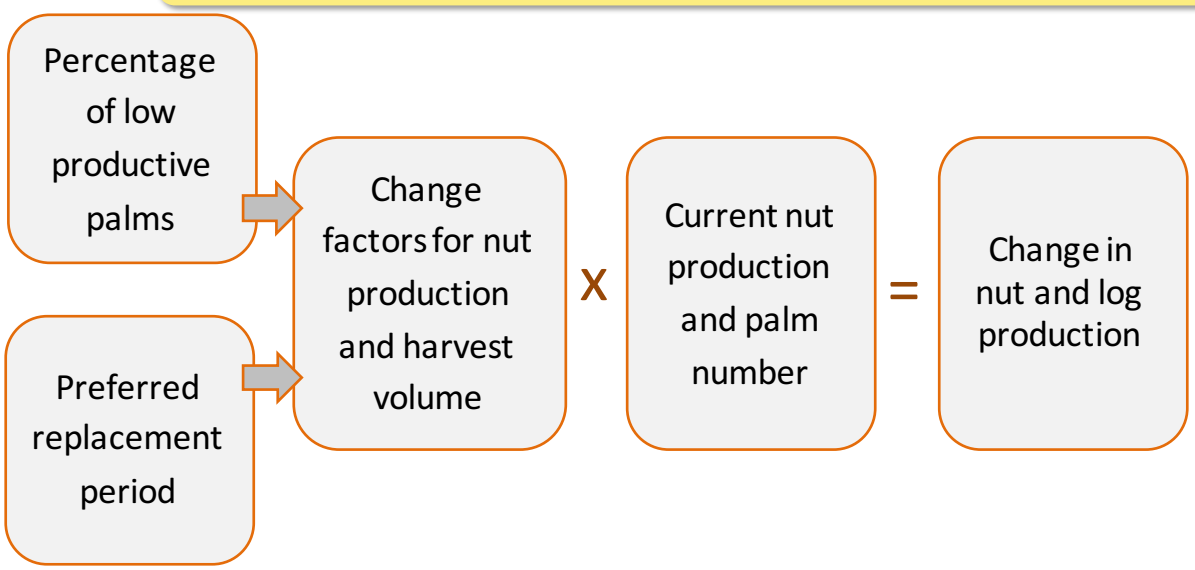
Step 3: Assessing coconut production

- The assessments can be summarised and provide the information needed to define the profile of low productive palms in stands and the estate.

Palm type	% Palms in the estate	
Percentage senile palms		*Divide the number of senile palms in Table 1 by the total number of palms then multiply by 100.*
Percentage aging palms		*Divide the number of aging palms in Table 1 by the total number of palms, then multiply by 100.*
Total % low productive palms standing		*Add the percentage of senile, and aging palms together.*
Percentage fallen palms		*Divide the number of fallen palms in Table 1 by the total number of palms, then multiply by 100.*
Total % of low productive palms		*Add the percentage of senile, aging and fallen palms together.*

Table 2: Percentage of low productive coconut palms on the estate

Step 4: Impact of coconut renewal



Step 4: Impact of coconut renewal

Change factors included for:

- 60% senile, replaced in 50 and 25 years.
  - Matching Fiji
- 40% senile, replaced in 40 and 20 years.
- 20% senile, replaced in 30 and 15 years.
  - Matching the Solomon Islands
- 16% senile, replaced in 30 and 15 years.
  - Matching Samoa

Impact example

An estate, 1500 stems, 60% senile, producing 20,000 nuts a year, senile replacement in 25 years with partial harvest every 5 years.

What will happened to nut and log production at 20 and 40 years.

Section 2: Resource information

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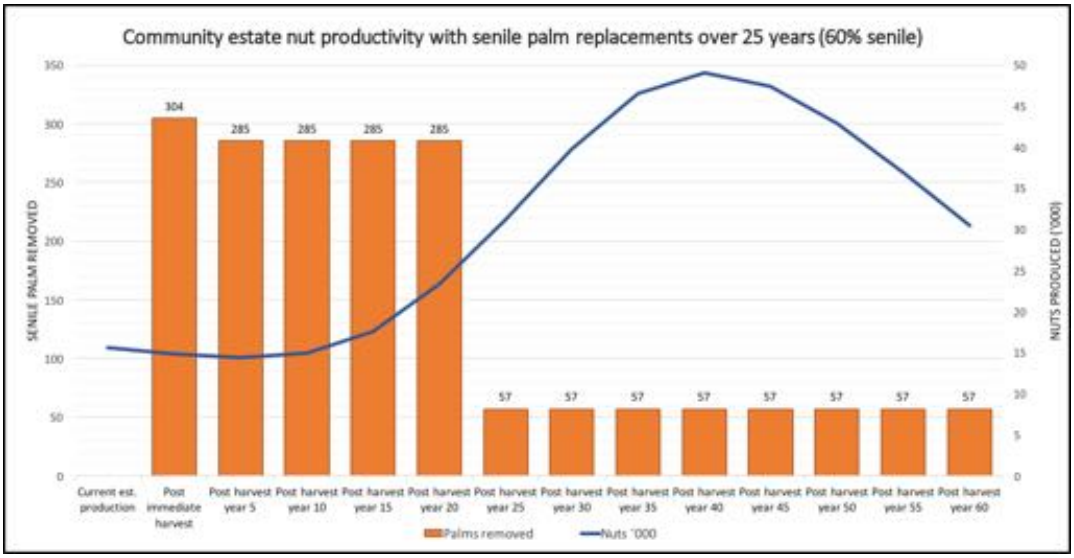
Change factors for nut production and harvest volume – 60% senile estate, 50 & 25 year replacement

Impact example

- At 20 years, it can produce:
- ~ 20,000 x 1.5 = 30,000 nuts
- ~ 1500 x 0.15 = 225 logs.
- At 40 years, it can produce
- ~ 20,000 x 3.16 = 63,200 nuts
- ~ 1500 x 0.03 = 45 logs.

Step 4: Impact of coconut renewal



Step 5: Establish community priorities

Community priorities for their coconut plantations needs to be established and accommodated in an agreed renewal plan.

- Inform the discussion with estimates of nut and log production.
- Agree on the key points.
- Appoint those responsible for action.
- Recording the decisions.

Step 6: Planning the harvest

- With decision, a draft harvesting and renewal schedule can be developed and implemented.

Aim: Regular coconut log supply

Summary

- Community plantation renewal is a source of coconut log supply.
- Communities need to develop and adopt an ***estate coconut renewal plan***.
- The guide proves a structured but achievable, 6-step process for a community to assess the impact of estate renewal and decide on actions.
- This is supported with resource information and worksheets.

Questions

Australian Government
Australian Centre for International Agricultural Research

Queensland Government

SPC Secretariat of the Pacific Community

UNIVERSITY of TASMANIA