

# 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

Estates and communities:

- Own most coconut stands.
- Control coconut plantation renewal.

They can:

- Keep their senile coconuts.
- Replace them with new productive palms.
- Replace the coconuts completely and move to another crop.
- Any combination of these.



# Community estates and log supply

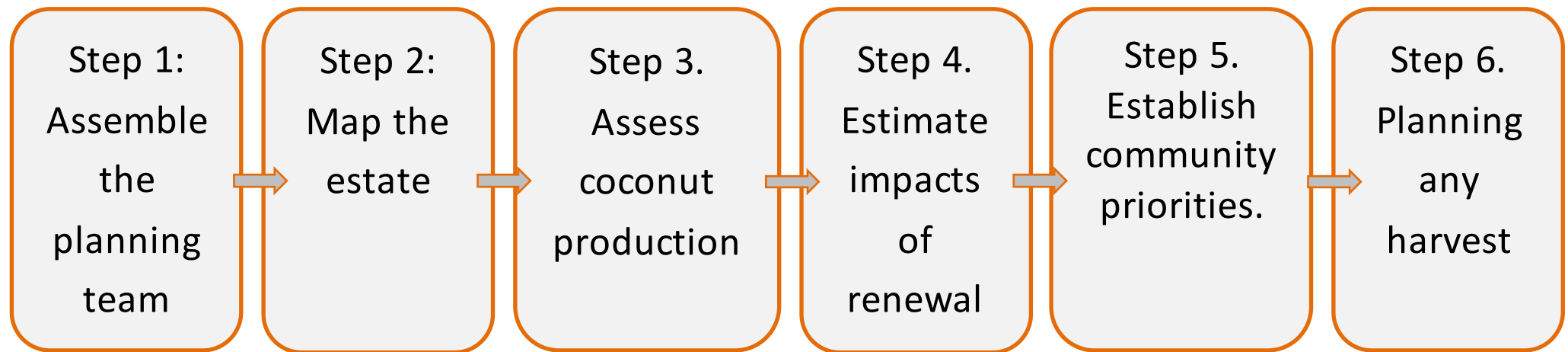
- A regular coconut log supply for wood processing can result from communities deciding to **renew** their coconut plantations, and sell logs.
- To make informed decisions, communities need to develop and adopt an **estate coconut renewal plan**.
  - Once agreed, it can then be implemented.





# 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.



# Guide structure

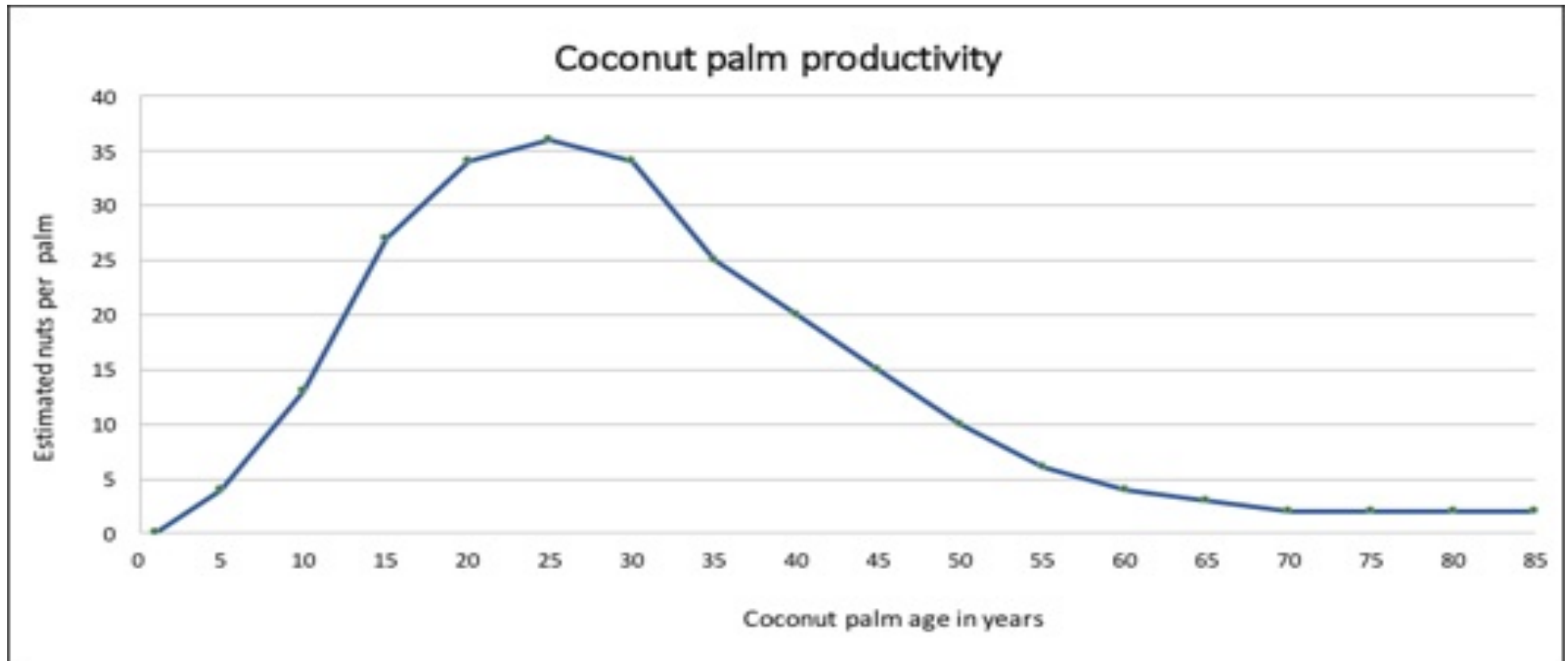


**Section 1:** Developing an estate plan for coconuts.

**Section 2:** Resource information.

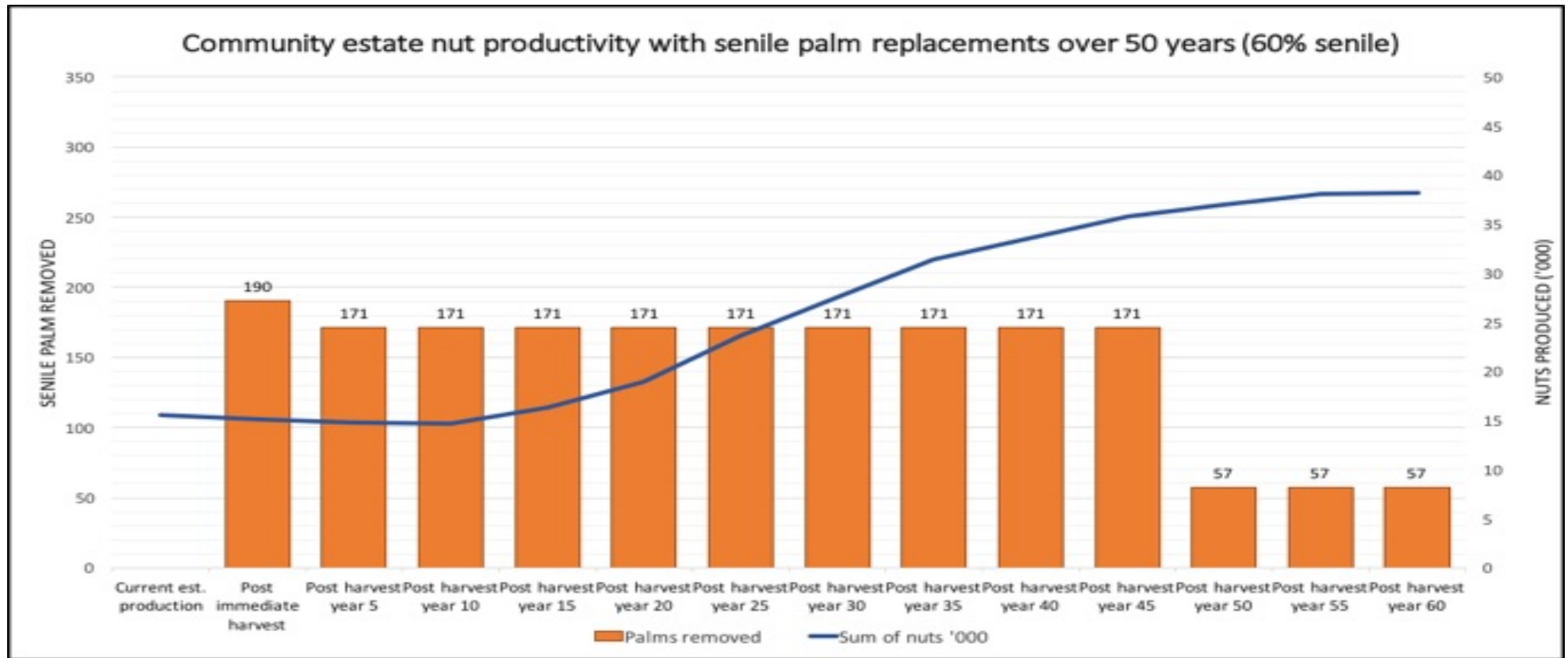
**Section 3:** Worksheets and checklists.

## 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 1: Assemble the team

- Assemble the planning team
  - With diverse age and range of skills
  - Appoint ‘job captains’.
- Establish deadlines
  - Realistic, reviewed regularly, and if needs be, flexible
- Collect available resource information
  - Government agencies, community members and others may all have useful information about the estate.

## Step 2: Mapping the current estate

- A drawn map is the most effective tool for estate planning.
- One needs to be prepared to identify:
  - The blocks of coconut palms.
  - Areas of other crops, pasture and forest.
  - The locations of roads, electricity lines and other service infrastructure.
  - Areas important to the community for social and other reasons.



## Step 2: Preparing the map

- Measure the estate and drawing the results.
- Adapt a hard-copy lands or similar map of the area
- Capturing the screen image of the estate on Google maps.
  - This can be traced to provide a base map.
- Using geographic information system (GIS) software packages.





## Step 2: Preparing the map



## Step 2: Preparing the map



## Step 2: Preparing the map





## Step 2: Preparing the map

- General map inclusions:
  - Legal boundaries and reserved areas.
  - Plantation and other cropping areas.
  - Waterways, roads, tracks and footpaths.
  - Buildings, yards, services and other infrastructure.
  - Other areas important to the community.
- Check the map against conditions on the ground.
- Protect the map.
  - It is very valuable



## 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

Before the assessment:

- Have copies of the plantation assessment form and draft maps.
- Confirm the detail of the stand match the map.
  - Note things to correct on the map.
- Establish:
  - The initial plant-out dimension and palm arrangement of the block.
  - A start point and an assessment pattern.



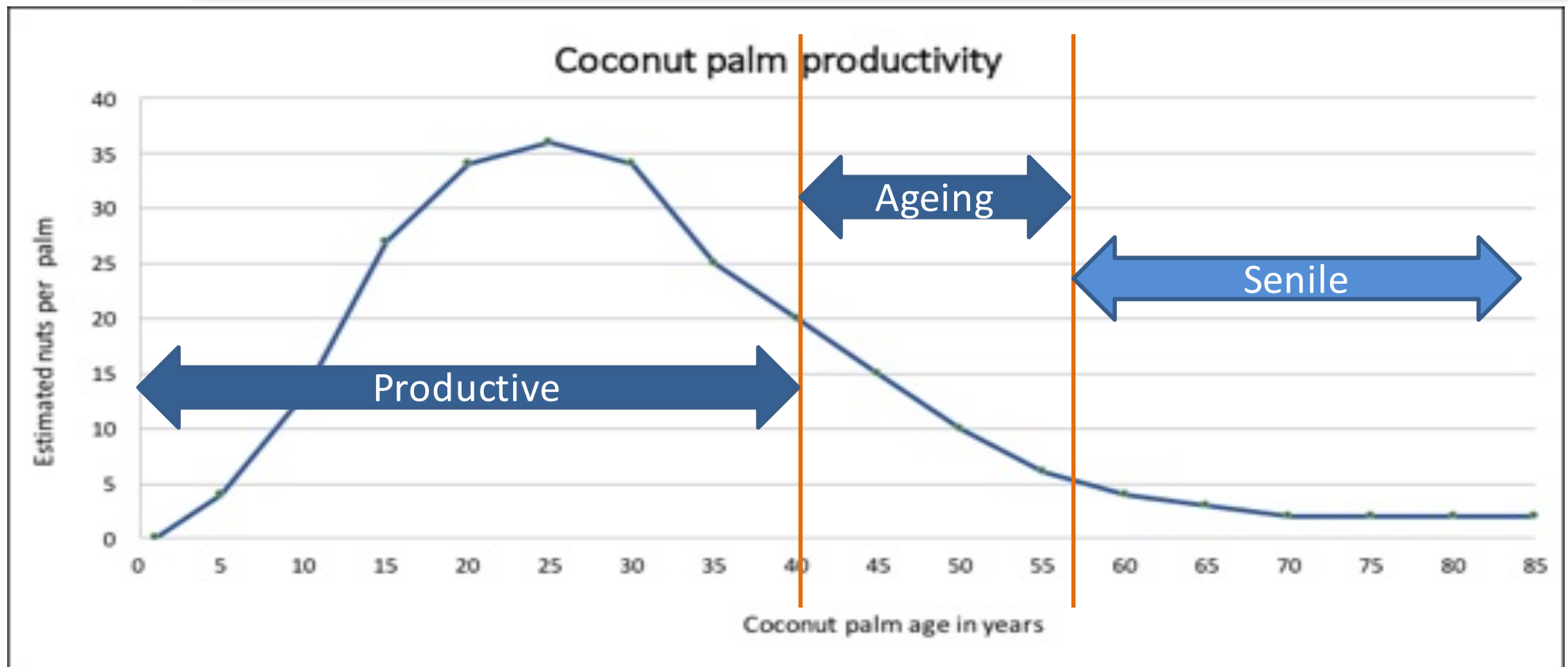
## Step 3: Assessing coconut production

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

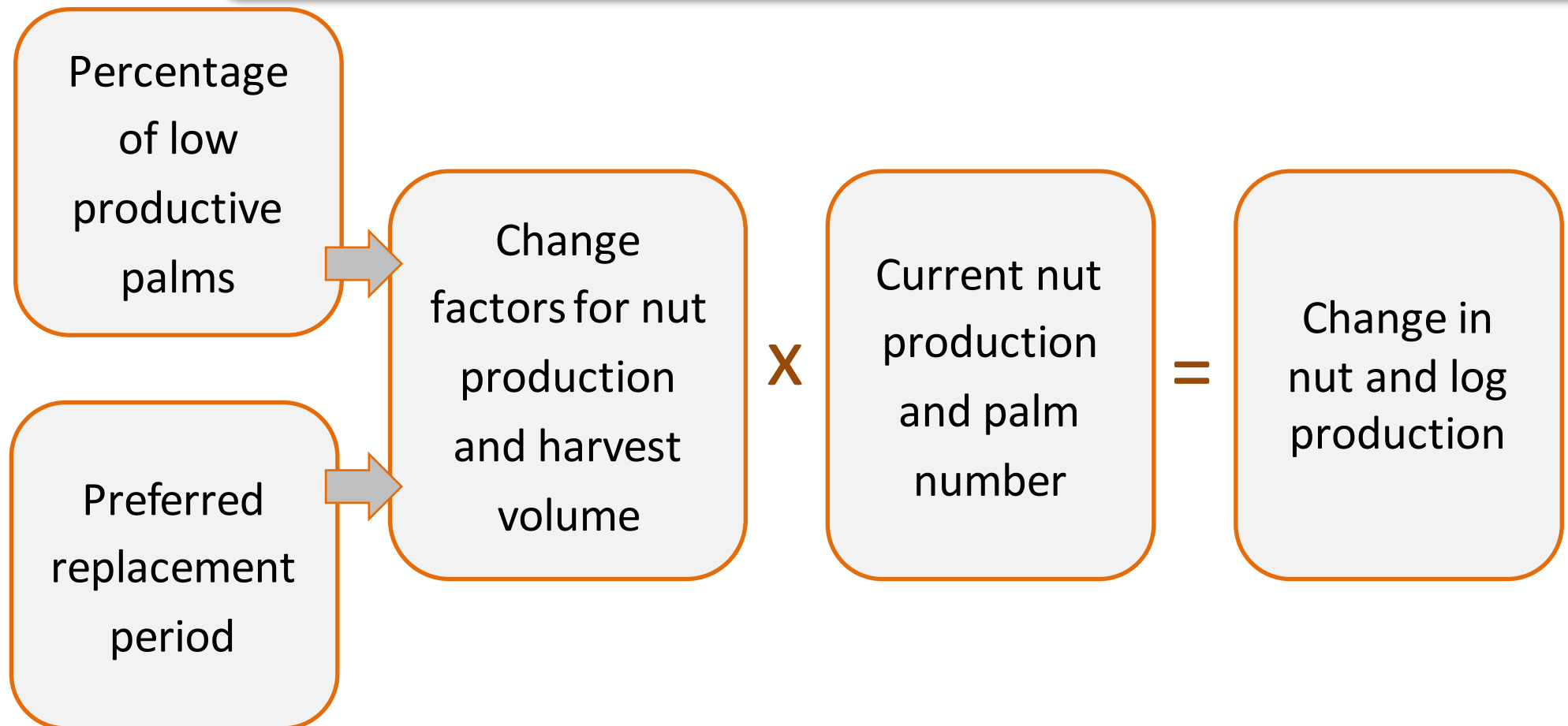
- The assessments can be summarised and provide the information needed to define the profile of low productive palms in stands and the estate.

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

**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 happen to nut and log production at 20 and 40 years.

## Section 2: Resource information

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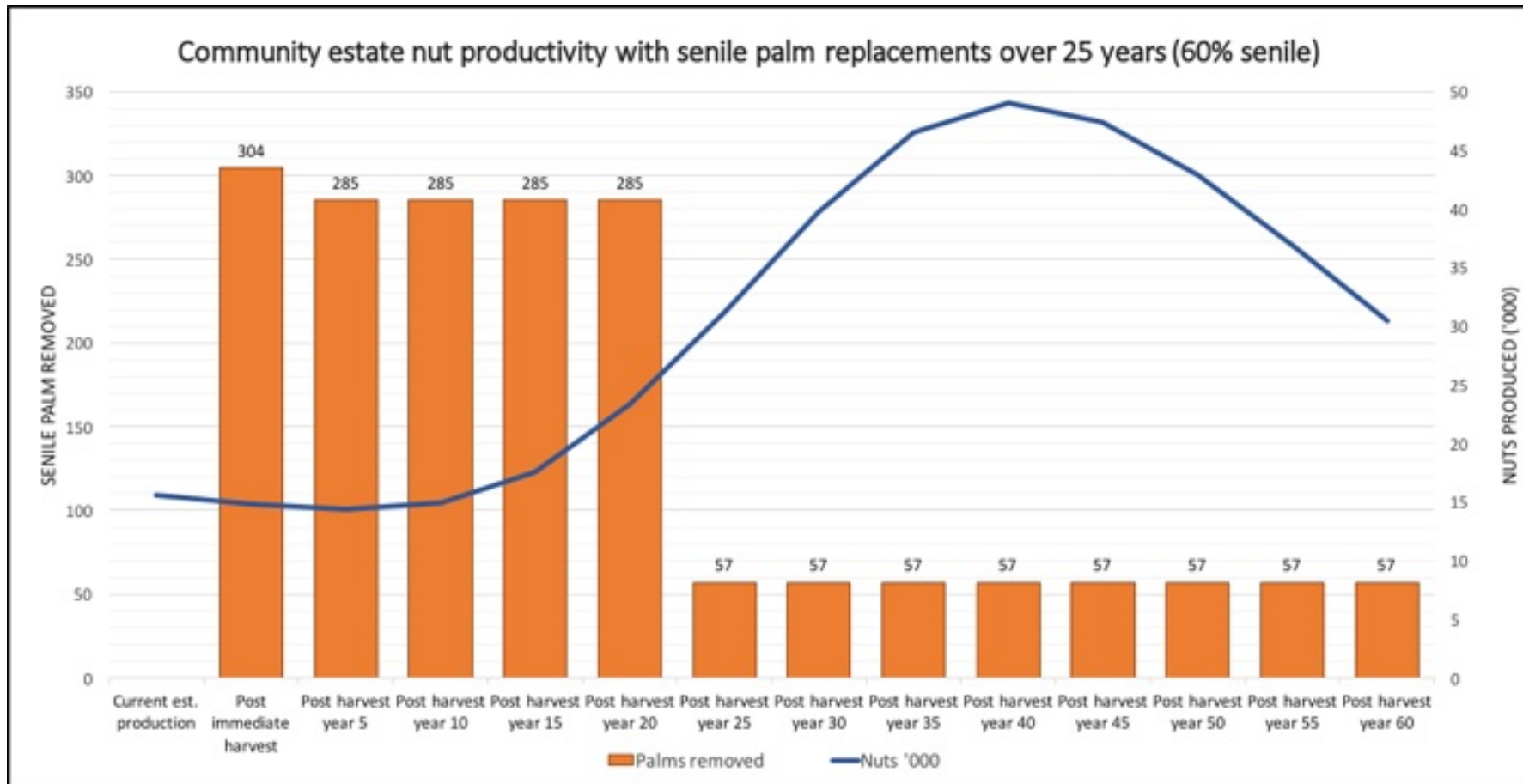


## Impact example



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

# Step 4: Impact of coconut renewal



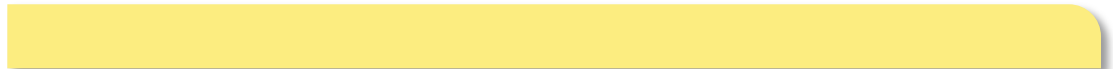
## Step 5: Establish community priorities

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

