CocoVeneer: Estate planning

Resource supply and estate planning.

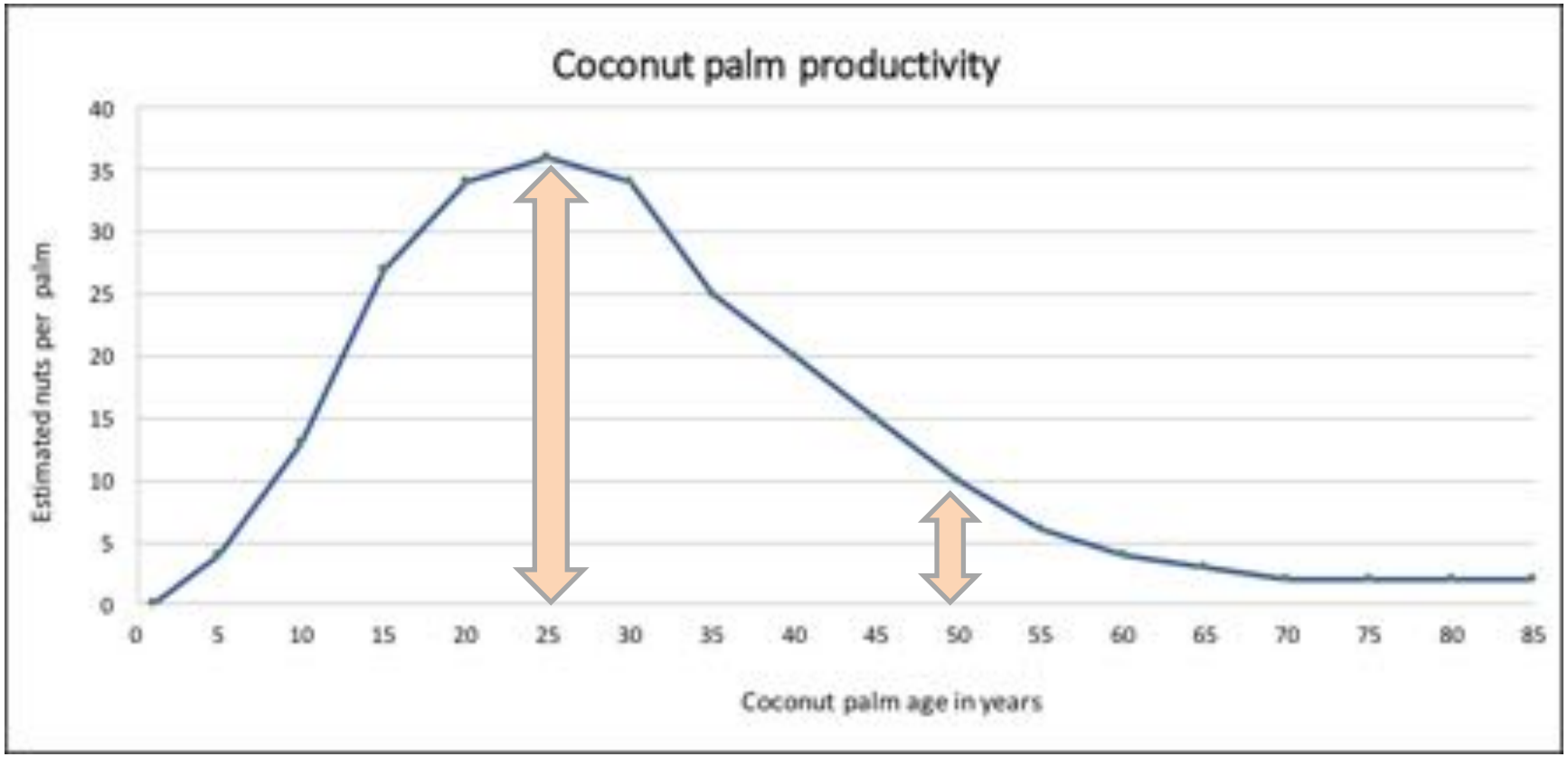
Contents

- Coconut palm: growth and senility.
- Senility profile and estate renewal: nut and log supply impacts.
- Guide to Community Development of Estate Coconut Renewal Plans.

Coconut in community

- Coconut plantations are a valuable economic and social resource for South Pacific communities.
- However, many palms in South Pacific coconut plantations are old and have lost their vitality and productivity.

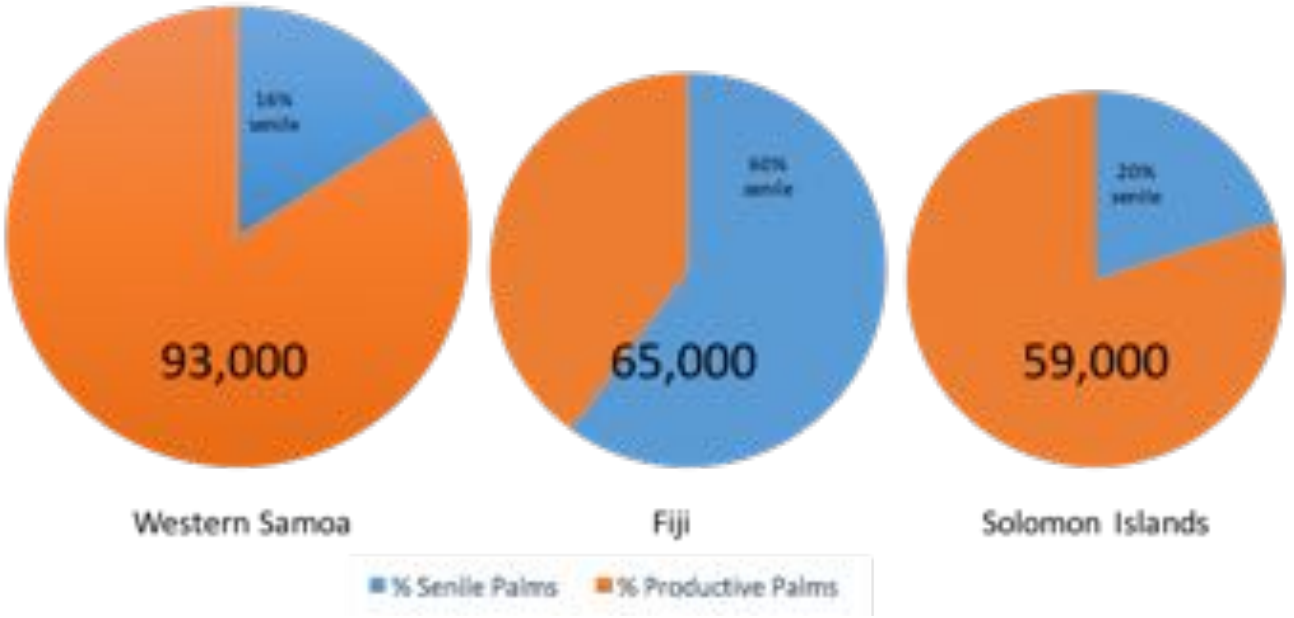
Impacts of coconut senility



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

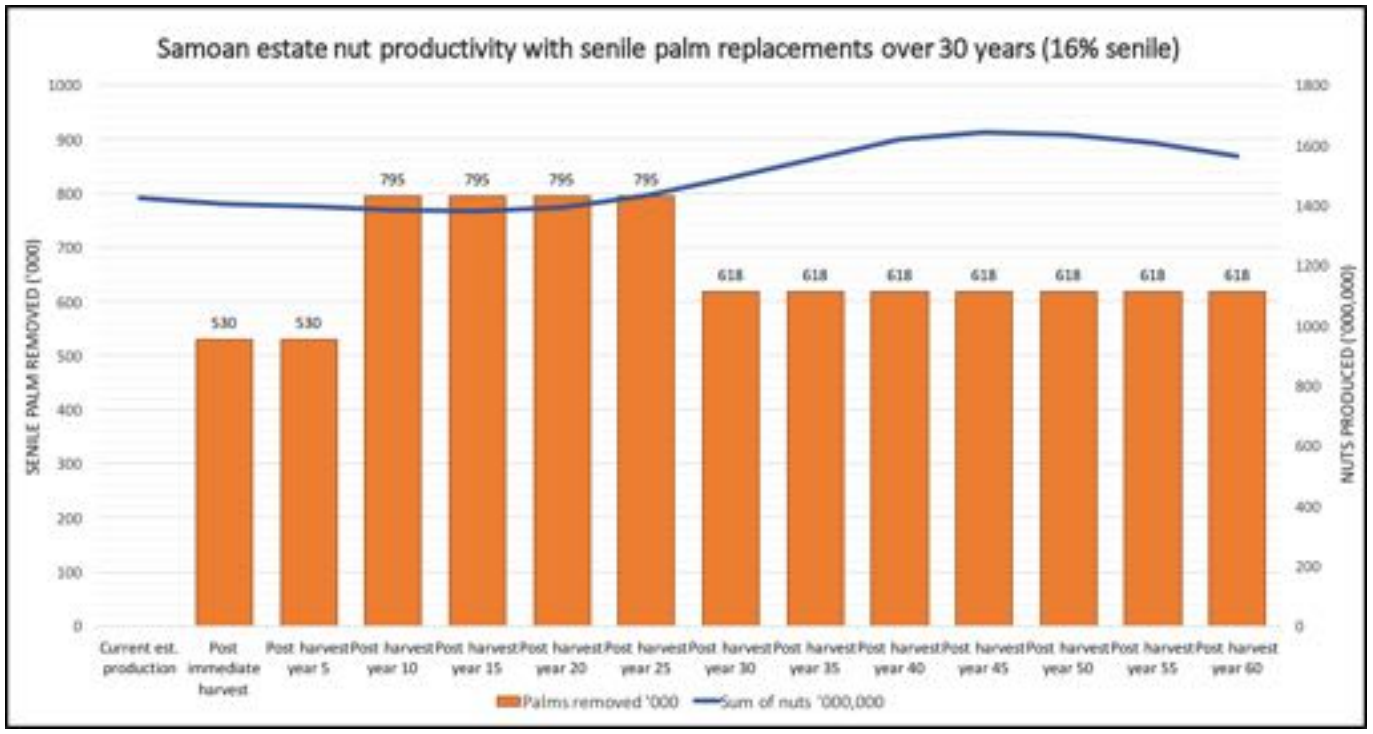
Extent of the senile estate

The profile of aging or senile palms in the estate creates an increasing drag on community income and development.



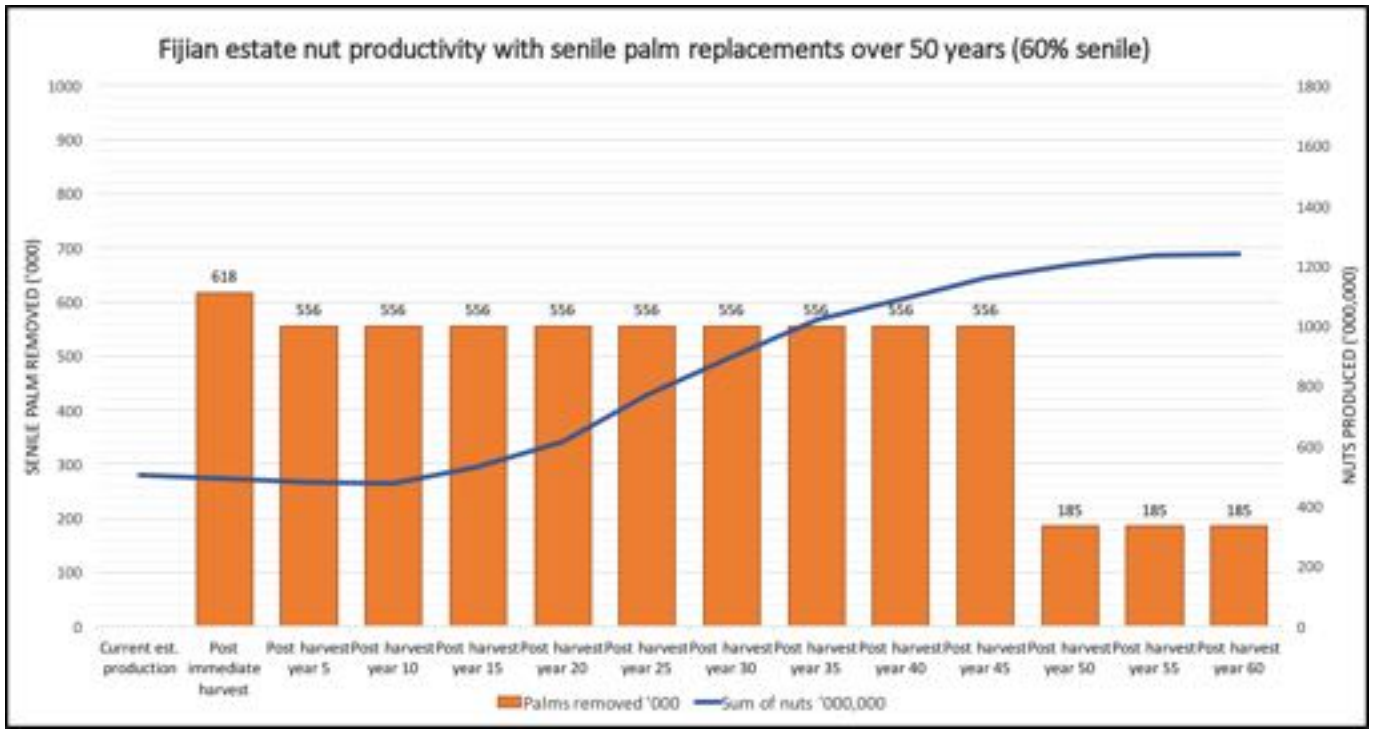
	Samoa	Fiji	Solomon Is
Total area of coconut plantations (ha)	93,000	65,000	59,000
Percentage area of senile palms (%)	16	60	20
Total area of senile palms (ha)	14,880	39,000	11,800

Impacts of coconut renewal - Samoa



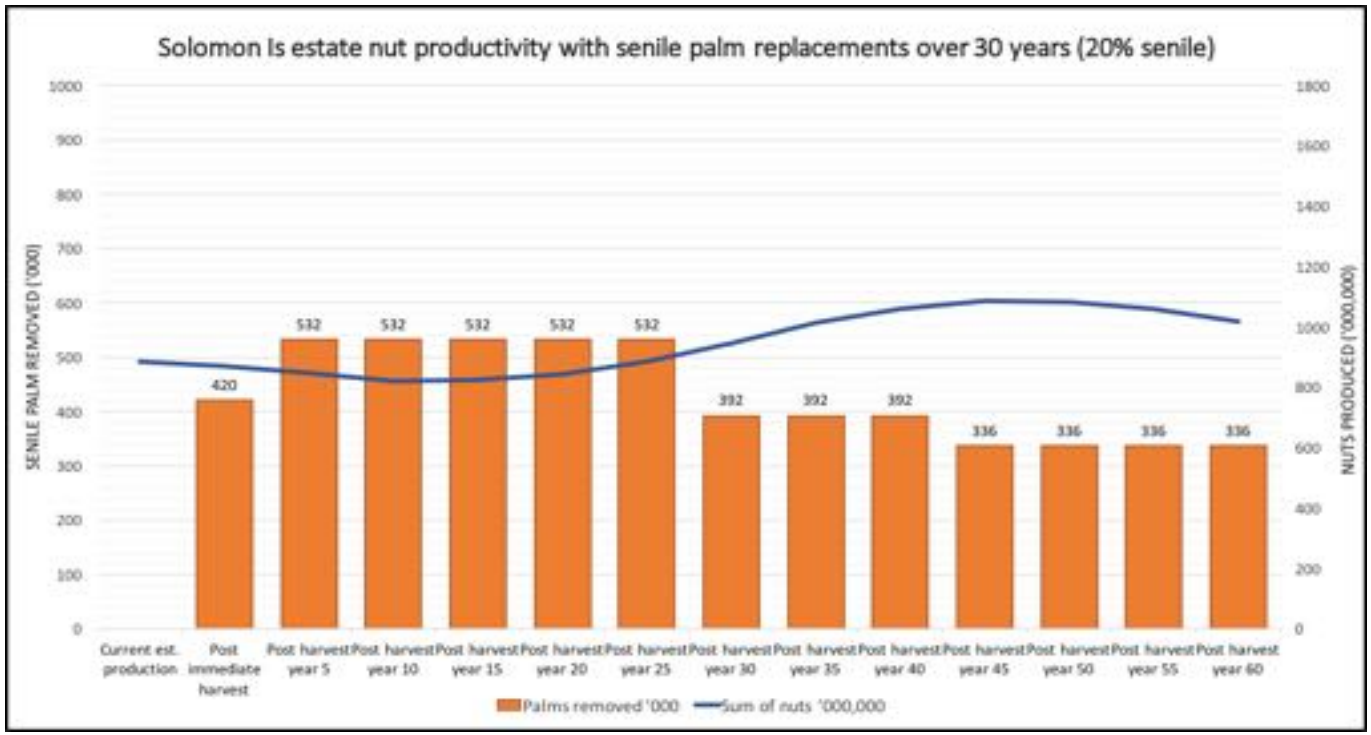
- Based on constant estate area with renewal over 30 years with harvest event at 5 yearly intervals.
- Nut production increases ~ 115% at year 45.
- Log supply around 91,500 m^3/annum

Impacts of coconut renewal - Fiji



- Based on constant estate area with renewal over 50 years with harvest event at 5 yearly intervals.
- Nut production increases ~ 230% at year 45.
- Log supply around 64,000 m^3/annum

Impact of coconut renewal – Solomon Is



- Based on constant estate area with renewal over 30 years with harvest event at 5 yearly intervals.
- Nut production increases ~ 120% at year 45.
- Log supply around 61,000 m^3/annum.

Coconut renewal generates a resource

Harvest of senile palms during estate renewal generates:

- Saw and peeler logs for wood products.
- Residue products:
  - At the estate: a bole, upper stem and fronds.
  - At the process mill

Community estates and log supply

Estates and communities:

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

Community estates and log supply

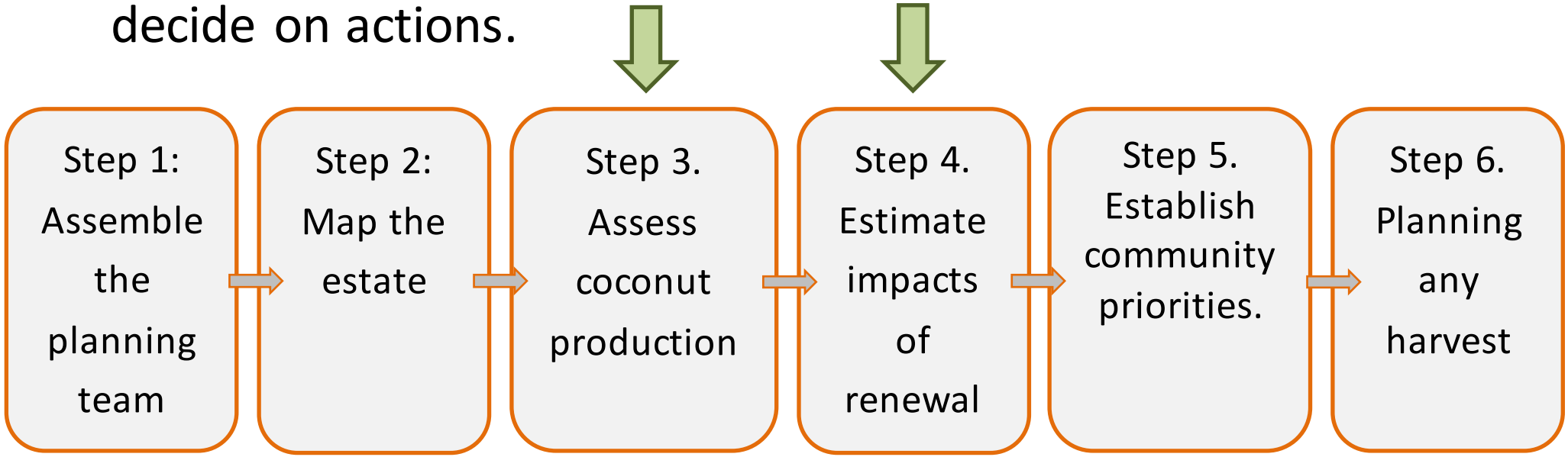
- A regular coconut log supply for wood processing can result from communities deciding to ***renew*** their coconut plantations, and sell logs.
- To make informed decisions, communities need to develop and adopt an ***estate coconut renewal plan***.
  - Once agreed, it can then be implemented.

Community estates and log supply

- Estate Coconut Renewal Guide
  - Section 1: Developing an estate plan for coconuts.
  - Section 2: Resource information.
  - Section 3: Support worksheets.

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 3: Assessing coconut production

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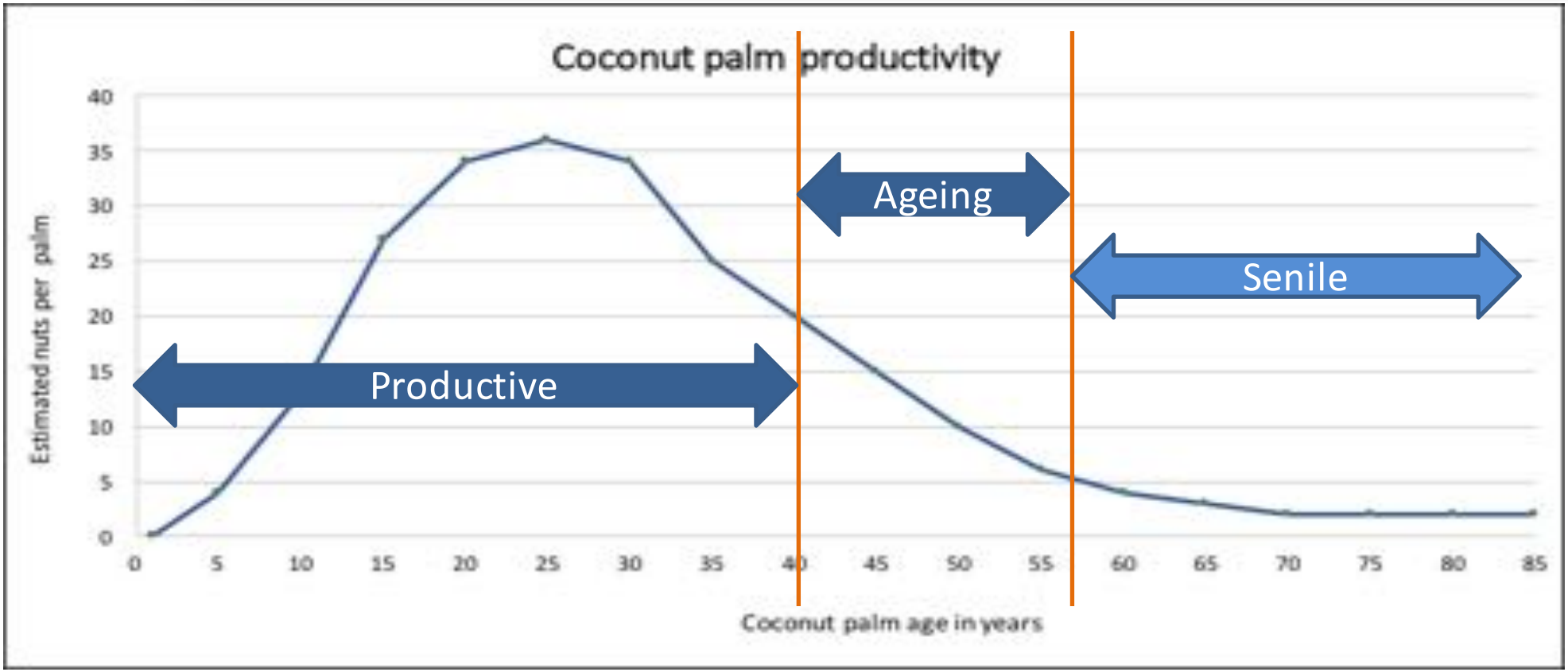
- The condition of estate coconut palms needs to be assessed for age and current productivity. This is to identify:
  - The number of healthy and unproductive palms.
  - Their distribution.
  - Current nut productivity.
  - Areas of pest or disease.

Step 3: Assessing coconut production



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

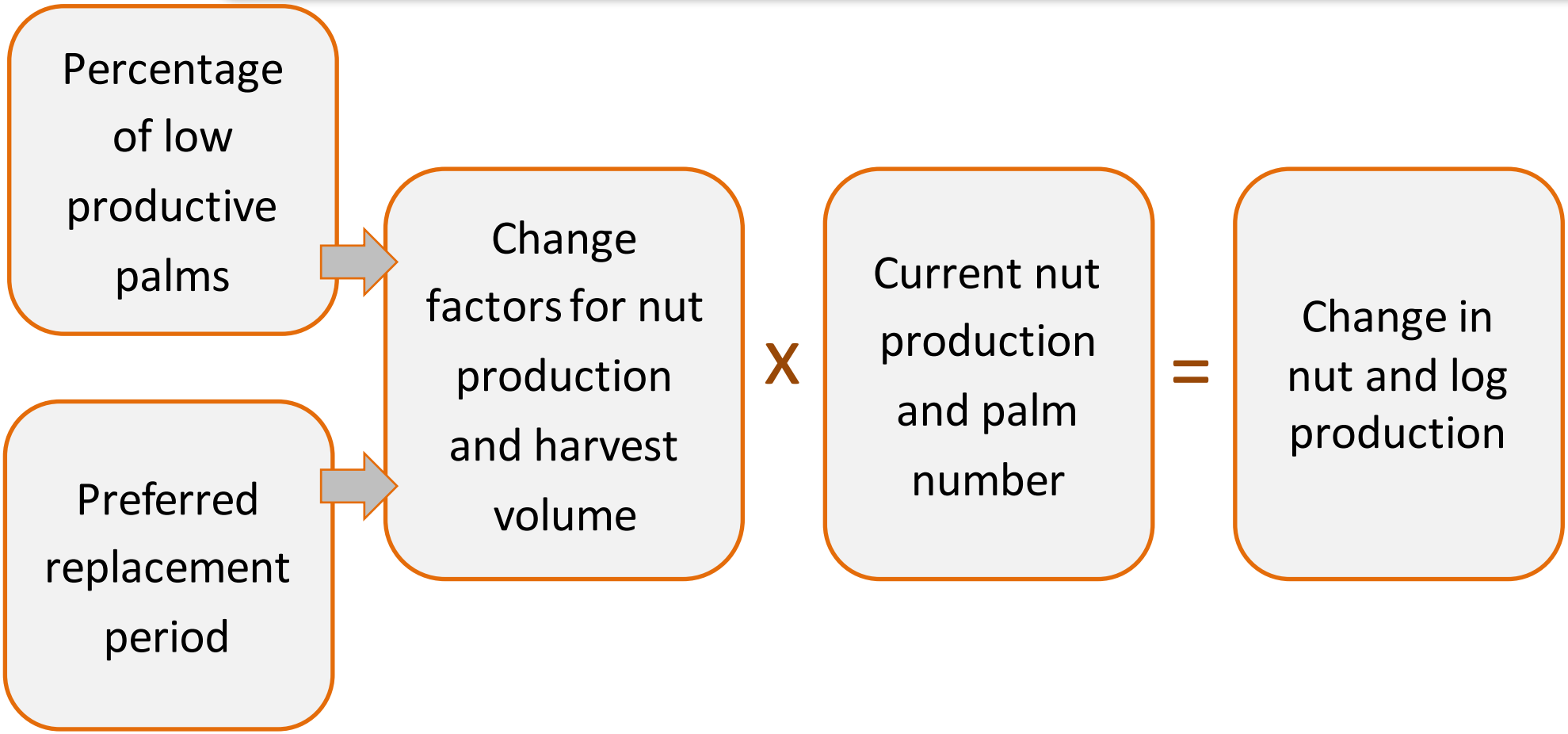
Step 3: Assessing coconut production

- 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

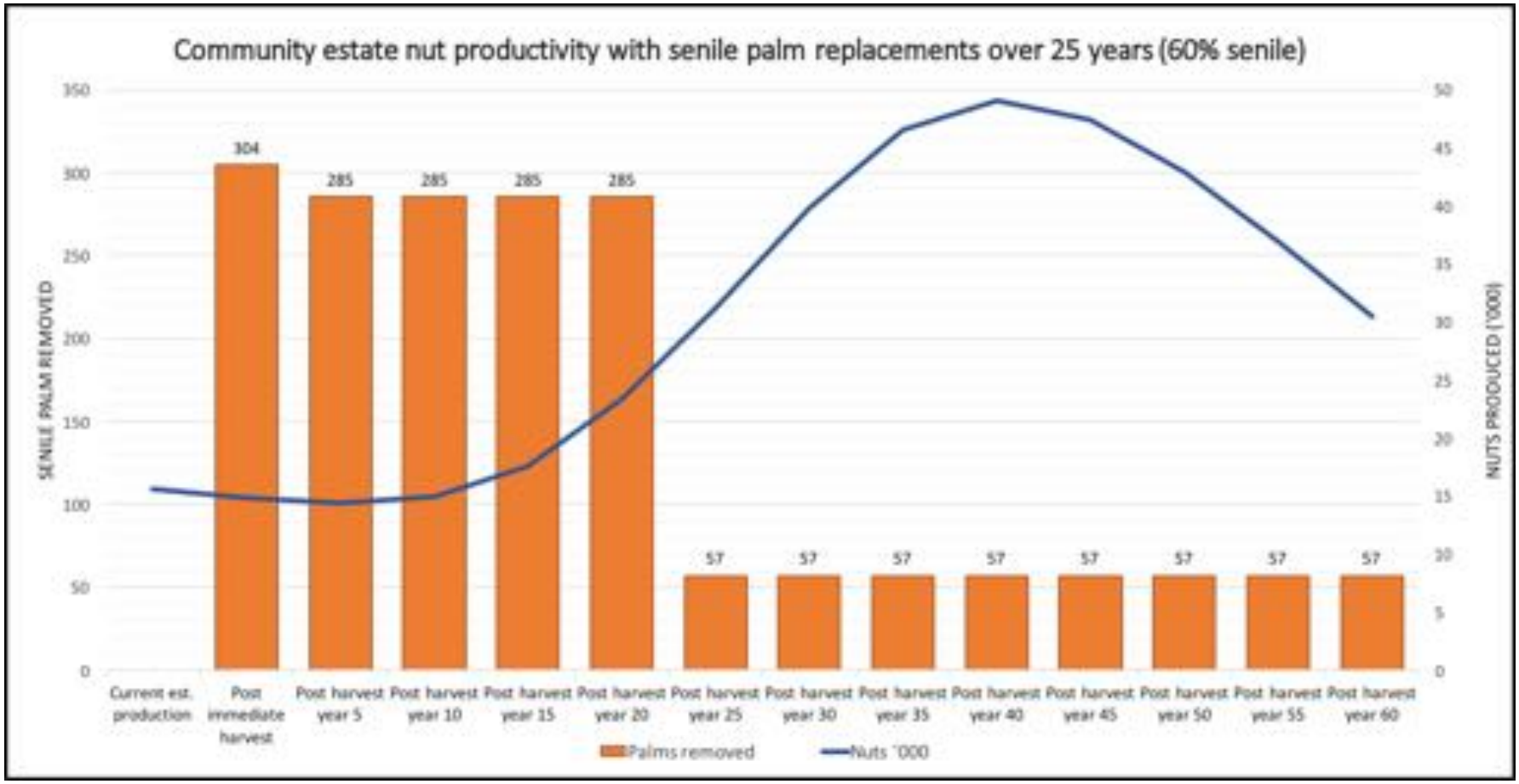


Impact example

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



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

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 6: Planning the harvest

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

Aim: Regular coconut log supply

Questions