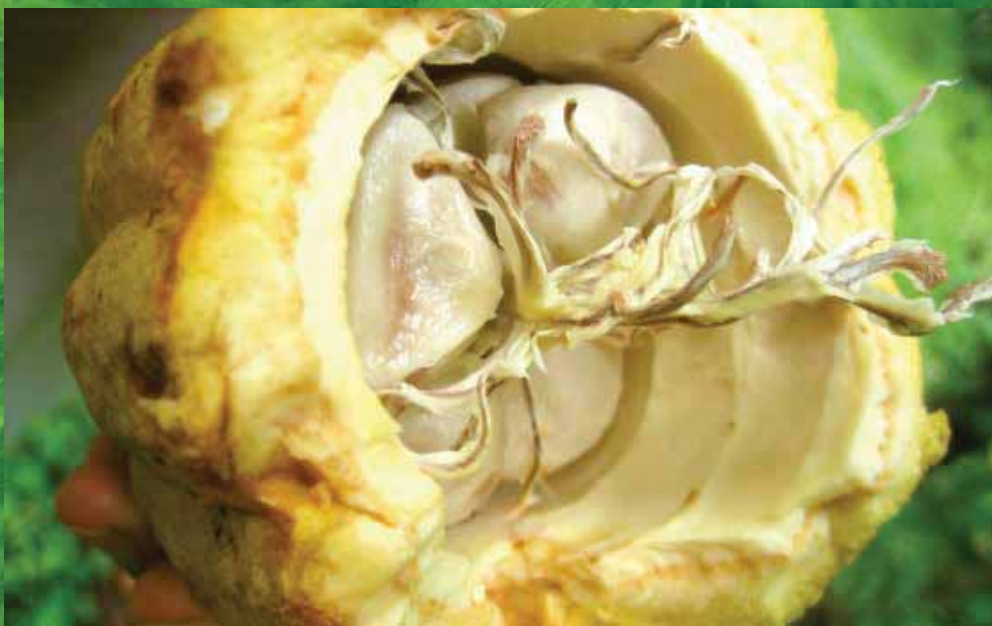


Cocoa Production



May 2019



GREEN
CLIMATE
FUND



Empowered lives.
Resilient nations.

Why should I consider this option?

CURRENT MARKET SITUATION

Several initiatives are currently focusing on reviving the Samoan cocoa industry and exports have been consistently increasing since 2012.

The market demand for Samoan cocoa is very high (especially for export market). Samoa currently supplies only about a third of the estimated 150 Tonnes required to meet the international market demand.

POTENTIAL CUSTOMERS

There are several buyers/exporters in Samoa including Whilex *in the catchment* and Savai'i Koko. Savai'i Koko the exclusive exporter for Whittakers in New Zealand.

Koko Samoa can be sold on the oad side, at Apia food markets or directly to the supermarkets.



01 > KOKO SAMOA

My plantation size is 1 or 2 acres and I would like to focus on the national market.



02 > EXPORT MARKET

My plantation size is 5 or more acres and I would like to focus on the international market (more consistent).



03 > CLEAR MARKET PATHWAY

Cocoa is one of the few comodities in Samoa which have had a consistently increasing export pattern since 2012. There are well established cocoa buyers in Samoa, including in the catchement.



04 > EXTRA SOURCE OF INCOME

2 Acres

Minimum Exploitation Size

5 Acres

Ideal Exploitation Size

3 - 4 Years

First Harvest

\$6,000

Setup Cost

\$30,000

Net Annual Revenue



J | F | M | **A** | M | J | J | A | S | O | N | D

Expected Harvest Time



Production & Revenue

A plantation comprises **between 500 and 700 trees per acre**, depending on soil condition (fertile soils with good water holding capacities can accommodate more trees). A tree carries on average between 30 and 50 pods per year. A pod carries on average 40g of dry beans. 1200 beans, weight about 1,000 kg wet or 300kg dry.

Based on the above, annual return (*in absence of cyclones*) can be estimated as follow:

5 Acres x 500 to 700 trees/acre x 30 (up to 50) pods per tree x 40 g (dry weight) of seeds/pods / 1000 (conversion into kg) x SAT\$10 (gate price for dry pods)= SAT\$ 30,000 / year.



Minimum Exploitation Size

The minimum plantation for commercial operation is **5 Acres**. One household (**2 people**) can manage a plantation of that size. Plantation of 1 or 2 acres are also viable but would be targeting national market rather than international. It is best to start a plantation during the raining season as it helps young trees to establish.



Where can I find Expertise

Chamber of Commerce

SCIDI - Project

Savai'i Koko

Whilex - in the Catchment

Private Sector



In-Kind Contribution & Maintenance

Trees **start fruiting after 3 to 4 years** and reach **optimum production from 7 to 25 years** from seed. If grafted, trees can reach optimum production after 3 years, however there has no studies on the effect of cyclones on grafted trees. **The lifetime for a tree is about 35 to 40 years.**

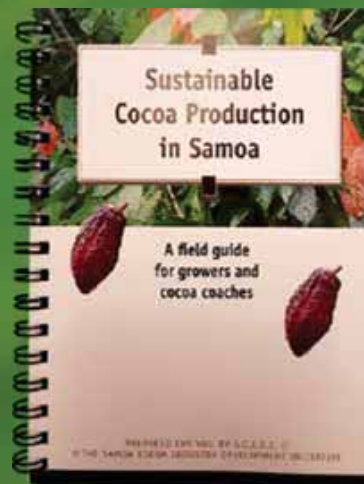
There are **2 main harvests per year.**

Cash crops such as taro can be grown during the first 3 years of the plantation establishment. Taro matures between 6 to 8 months.

Plantations required **1 to 2 heavy pruning per year (some farmers do no prune their trees) and some "maintenance" pruning throughout the year.**

A Sustainable Cocoa Production in Samoa - field guide has been developed as part of the Samoa Cocoa Industry Development Initiative (SCIDI)

Please ask the Samoa Chamber of Commerce for reference





SETUP COST *Estimated*

Description	Quantity	Unit Price	Total
(1) Plantation Establishment			
Land Clearing	1		≈\$5,000
Trees	700	\$0.30-1.00	\$210-700
		SAT\$	>\$6,000



RUNNING COST *Estimated*

Description	Quantity	Unit Price	Total
(1) Plantation Maintenance			
2 workers	2	*\$4,784	\$9,568
		In-Kind Contribution -SAT\$	≈\$10,000

* Based on the legal minimum wage is \$2.30 Tala an hour

On cultivated cacao plantations, only 3 out of 1,000 flowers are pollinated, fertilized and progress to fruit. Cacao yield is entirely dependent on pollinators such as *Forcipomyia* species (also known as re known as the biting midges) which is considered to be more limiting to cocoa yield than plant resources. Pods take six months to ripen after pollination.



Ceratopogonid male, the main pollinator of Cocoa trees

Source: <https://www.sciencefriday.com/articles/meet-the-flies-that-pollinate-cocoa-trees/>

The GCF team would like to sincerely thanks M Tupai Saleimoa Vaai from Savai'i Koko for its valuable inputs for the production of this brochure.

