



Australian Government
Australian Centre for
International Agricultural Research

Cocoa Value Chain Review



Secretariat of the Pacific Community



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Why Cocoa?

- Cocoa producing countries are unable to fulfil the growing demand for cocoa products worldwide, especially chocolate. (Cocoa Barometer 2010)
- Premium cocoa markets are expanding rapidly
- Only 10% of Pacific Island cocoa is sold to premium markets
- Cocoa is currently the 3rd most important export earner for Solomon Islands and the 4th for Vanuatu (PARDI Facts 2011)
- Returns from cocoa can be higher than copra, coffee or other cash crops.
- Cocoa production systems in the Pacific use organic techniques without being formally certified
- Premium prices can reach Pacific cocoa producers if linked to the right markets and trained to maintain quality production and high fermentation standards (McGregor, 2009)

Background

Cocoa (*Theobroma cacao*) is native to Central and South America, but is grown around the world where environmental conditions are appropriate. According to The World Cocoa Foundation the cocoa crop worldwide supports 40-50 million people who depend on it for their livelihood, and 4-6 million farmers around the globe who grow it. Recently there has been increased demand for certified cocoa products, especially chocolate, leading to increased market opportunities (Bell, 2009; ICCO, 2010).

The optimum climatic conditions for good cocoa production are: rainfall: 1500 to 4000 mm per annum, temperature: between 22 C and 31 C, sunshine: 4.5 to 6.5 hours of sunshine per day for full production, altitude: up to 600 m and wind: cocoa cannot withstand strong steady winds or cyclones, but can recover quickly after being damaged by a cyclone. (Sewell and Lau, 1993 in: McGregor, 2009).

Cocoa does not require the same back-breaking work as copra and provides a better return for effort. Once established, much of the labour input, such as the harvesting and cracking of pods, can be undertaken by women and children, which is why child labour is one of the issues related to cocoa production. A major advantage that cocoa offers smallholders is that it can be integrated into a food garden or grown under mature coconuts. Following the planting of yams, cocoa seedlings can be planted along with taro, bananas, and other food crops. (McGregor, 2009)

Africa alone accounts for 68% of the world's cocoa production, Asia and Oceania with 18% and the Americas with a 14% (ICCO, 2010). Cocoa in Melanesia is a significant source of community benefits as it is one of a currently rather narrow range of viable options for diversifying incomes, especially in the face of declining returns from copra (for crude coconut oil).

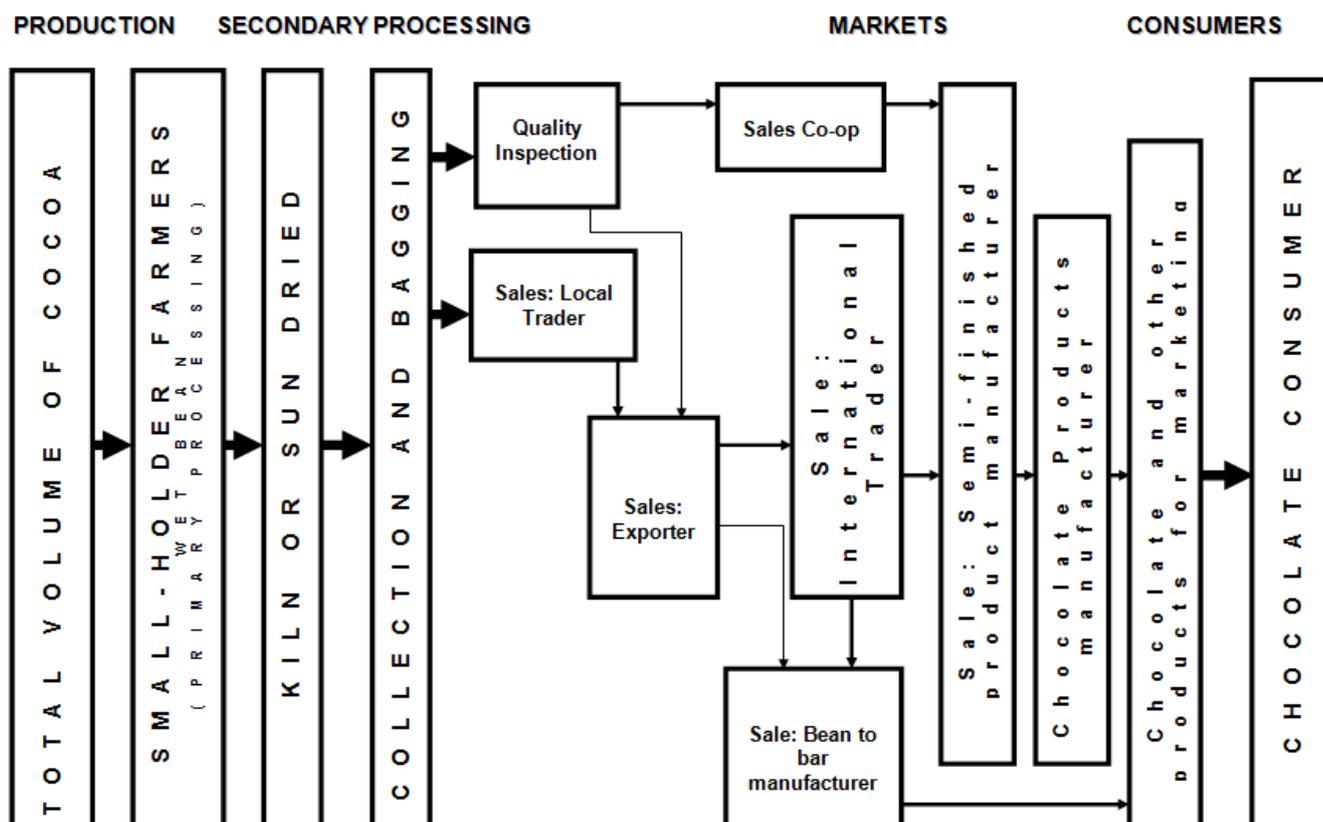
After Papua New Guinea, Vanuatu and the Solomon Islands have the most significant cocoa industries in the South Pacific. In the years 2009-2011 Vanuatu exported on average 1360 tons of cocoa (VNSO, 2012) and the Solomon Islands reached a historic exports volume in 2011 of 6136 tonnes of cocoa (GRM International, 2011). In Vanuatu current yields (of saleable beans) are on average 370kg per 1000 trees. Experience elsewhere shows that it is possible to increase yields 'immediately' (within a season) by 50% in most holdings, i.e. from about 400 grams of cocoa per tree to 600 grams. In PNG with intensified management, the productivity increased five-fold, from 500g to at least 2.5 kg per tree) (Cocoa PRA 2011).

In Solomon Islands, some 13,000 households are involved in cocoa production, with existing plantations estimated at between 10,000 and 15,000 ha. Increased yields resulting from improved Integrated Pest and Disease Management contributed to the high level of exports in 2011. In Vanuatu, according to the agricultural census in 2007 there were 8,484 households with cocoa tree sub-holdings on a total area of 22,153 ha. In 2007, cocoa growing households in Vanuatu earned a total of 58.9 million vatu, an average of 12,225 vatu per household. In Malampa (largest cocoa province in the country) where sales were 51.9 million vatu, the average return to cocoa householders was 14,511 vatu, even surpassing the national average household income (VNSO, 2007).

The majority of cocoa producers in Vanuatu and Solomon Islands grow cocoa under practices that mirror organic techniques without being certified by anyone. Therefore, this makes them 'organic by default' with the difference that all this cocoa ends up in bulk markets with standard prices and no incentives to the farmers to improve their quality or practices (Cocoa PRA 2011). In addition, growing tourism to both these destinations has led consumers to associate positive attributes to products from Vanuatu and Solomon Islands, as well as provide an important retail outlet. However, despite these two niches markets, 90% of Pacific cocoa is sold as bulk cocoa to Asia.

Pacific smallholders face a range of well-documented difficulties linking to markets. There's a big need for developing pathways for commercialization of smallholder farming systems and linking them to higher value global markets. This promotes increased cash-generating opportunities for rural households, without sacrificing family and community cohesion (Cocoa PRA 2011).

Process Flow & Industry Structure



Priority Consumer Markets

The market demand for high quality 'premium' chocolate is expanding rapidly, encouraging new product developments by industry leaders. Single-origin, health benefits, ethically-traded and dark chocolate sub-segments are some of the attributes driving the premium market growth. Current certification standards, niche markets, and origin-branding offer premium prices for Melanesian smallholders providing livelihood opportunities. (ICCO, 2010; Cocoa PRA 2011; Cocoa Barometer 2009; Bell, 2009; McGregor, 2009). By targeting this high quality branded chocolate markets, Pacific Island growers can expect to obtain a price premium of 10-20% - as well as participating in a segment that tends to be more resilient to economic downturns.

The two largest global consumers of cocoa and chocolate products are Europe with 49% and the US with 22% of the market. Future demand is expected to increase in the emerging markets of Brazil, China, India and Russia (Cocoa Barometer 2009). The cocoa consumption between 2000/01 and 2008/09 increased dramatically in Asia and Africa, with a 38% and 72% increase respectively, reflecting in part the standards of living increases, development of new products and advertising, and promotional campaigns (ICCO, 2010).

The six largest companies that manufacture chocolate and chocolate products worldwide have been slowly incorporating certified cocoa products. Some of these certified cocoa beans are going into their mainstream products and the rest is going to niche markets with premium quality segments (Cocoa Barometer 2009).

In Vanuatu, there are opportunities to reach the tourist market as it has been an ever developing industry and one of the main sources of income for the country. The average number of visitors for the years 2009-2011 in Vanuatu was 237,346 from which 140,075 are one day cruise ships visitors (59% of the total visitors). Australians are the largest nationality of visitors in Vanuatu followed by New Zealand and New Caledonia. By far, holidays is the main purpose of visit for the people going to Vanuatu, followed by business and visiting friends and relatives (VNSO, 2012).

Preliminary Consumer Research

A preliminary PARDI survey in Vanuatu aims to understand the behaviour and knowledge of the local and tourist chocolate consumers. The data is summarised briefly below.

Out of all the respondents who answered the questionnaire (355), 70 % were residents and 30% tourists. The tourists arrived in Vanuatu by cruise ship, airplane and sailing; 22 %, 76 % and 2 % respectively. When the tourists were asked if this was their first visit to Vanuatu 70% replied positively. Furthermore, country of origin was asked for the same group and the majority were from Australia 62% and New Zealand 13%, the other significant countries were New Caledonia 9% and other Pacific countries 7%.

Eight per cent of the tourists plan to buy souvenirs while in Vanuatu. And out of the whole sample of respondents, 96% are interested in purchasing chocolate made in Vanuatu with local ingredients.

When the sample was asked how frequent they were consuming chocolate products, 56% of the respondents were at least eating chocolate products once a week and the three most popular products were chocolate bars with nuts or fruit (up to 250g), plain chocolate bars (up to 250g), and blocks of chocolate (250g or more).

The respondents valued certain attributes of the chocolate when purchasing these types of products. The top rated attributes were: flavour, support to local producers, origin (that is if it's locally produced and owned), % of dark chocolate and cocoa and price.

Table 1. Importance of certain attributes when purchasing chocolate.

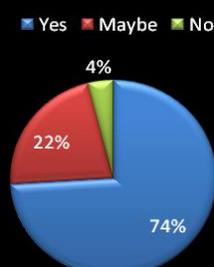
C3. When purchasing chocolate for personal consumption or as a gift, how important are the following attributes:	Not at all Important (%)	A little important (%)	Somewhat Important (%)	Important (%)	Extremely Important (%)
<i>Price</i>	8.1	10.1	19.4	27.8	34.3
<i>Flavour</i>	1.2	2.4	6.3	27.5	62.6
<i>Size or weight of the product</i>	13.9	9.3	22.6	34.0	19.9
<i>Packaging of the product</i>	12.0	10.2	17.8	38.0	22.0
<i>Nutritional information</i>	19.0	9.3	15.1	30.1	26.5
<i>High % dark chocolate/ high % cocoa</i>	12.0	10.2	15.4	41.6	20.8
<i>Milk chocolate rather than dark chocolate</i>	15.2	9.4	17.9	34.5	23.0
<i>Brand (e.g. Nestle, Cadbury, Hershey's etc.)</i>	15.1	10.3	15.4	31.4	27.8
<i>Certified Organic</i>	19.4	10.3	15.2	30.9	24.2
<i>Certified Fair Trade</i>	19.8	9.8	16.2	34.5	19.8
<i>Other certification (Rainforest Alliance, Utz, etc)</i>	26.6	12.1	23.5	25.7	12.1
<i>Ingredients are from a certain country (e.g. Vanuatu)</i>	16.4	7.6	18.8	35.6	21.6
<i>Ingredients are all from a certain part of a country (e.g. a particular island, region)</i>	19.8	11.2	20.4	32.5	16.1
<i>Product is produced locally</i>	10.6	7.0	14.6	33.4	34.3
<i>The product is produced locally and owned locally</i>	11.2	6.1	11.6	33.1	38.0
<i>The product specifies that buying it helps support local producers</i>	9.1	4.0	13.1	35.3	38.6
<i>The product specifies it is produced using traditional methods or knowledge</i>	14.5	5.9	19.1	36.7	23.8

Source: PARDI consumer survey, April/May 2011

When measuring the willingness to pay for chocolate products while in Vanuatu, 26% of the respondents answered \$10 AUD (\$1000 Vatu), 23% \$5 AUD, and 24% less than \$5 AUD. Out of 82 respondents who listed the reasons for not purchasing chocolate products while in Vanuatu, 22% stated that it was due to hygiene standards, 20% did not like chocolate, and 18% choose not to eat chocolate for health reasons.

The three most popular Vanuatu chocolate products that the interviewed would be willing to purchase were: Dark chocolate packaged as 50g bars or blocks, Dark chocolate bars blended with nuts or fruits (50g), and Milk chocolate packaged as 50g bars or blocks.

Would you buy chocolate made in Vanuatu?



Finally consumers were asked whether or not they would purchase chocolate that was manufactured locally. An overwhelming 74% of respondents answering yes.

Opportunities in Research for Development

For the Pacific Islands to further develop their cocoa industries they need to build capabilities in marketing skills, market development, track and trace systems and build linkages to new buyers located in these niche markets. Quality standards, volume and price requirements all need to be met (Bell, 2009; McGregor, 2009; Cocoa PRA 2011).

Helping cocoa growers in the Pacific to follow the regulations required for the certification agencies improves the long-term prospects and livelihoods of the farmers. Higher incomes and a more sustainable production system result after adopting management practices and steps involved in this process. Strong focus must be placed on improving the techniques and processes to make the best use of the available resources in the Pacific Region.

Appendix

ACIAR projects:

- PC(HORT)/2006/109 The potential for increasing the value of cocoa industries in Solomon Islands, Vanuatu, Fiji and Samoa
- HORT/2010/011 Improving the sustainability of cocoa production in eastern Indonesia through integrated pest, disease and soil management in an effective extension and policy environment
- PC/2008/046 Rehabilitating cocoa for improving livelihoods in the South Pacific
- ASEM/2002/014 Improving productivity and the participation of youth and women in the Papua New Guinea cocoa, coconut and oil palm industries
- ASEM/2006/127 Commercial sector/smallholder partnerships for improving incomes in the oil palm and cocoa industries in Papua New Guinea
- PHT/1995/136 Cocoa fermentation, drying and genotype product quality assessment

References

#	Title	Author	Year	Publication	Comments
1	PARDI FACT SHEET A stronger future for Pacific cocoa producer networks	Tim Martyn Randy Stringer PARDI Team	2011	PARDI Unpublished	Brief review about the project focused on helping to improve the livelihoods of Pacific cocoa farmers by facilitating their entry into higher value markets. Objectives, activities, facts and figures.
2	Cocoa Barometer 2009	Tropical Commodity Coalition	2009	Tropical Commodity Coalition	World cocoa trends and figures are described with great detail and accuracy. Facts like world demand, supply, biggest players and new markets and products are described and explained in a very easy-to-follow way.
3	Cocoa Barometer 2010	Tropical Commodity Coalition	2010	Tropical Commodity Coalition	An updated version of the above.
4	The Vanuatu Organic Cocoa Growers Association (VOCGA) : A Case Study of Agriculture for Growth in the Pacific	Andrew McGregor and Pierre Chanel Watas with Livai Tora.	2009	FAO	This comprehensive document presents a clear image of the cocoa productive system in Vanuatu. It includes its limitations, current state and planning to be made by the industry in order to become a more competitive and sustainable crop. Studying all the aspects involved, they reveal a helpful review of the VOCGA case and also lessons learned from their experiences.
5	Annual report ICCO 2009/10	International Cocoa Organization ICCO	2010	ICCO	Snapshot of the chocolate market including all business indicators up to 2010. The level of Production, demand, stock and events that played an important role in the organization during the last period.
6	PRA Proposal	Tim Martyn Randy Stringer PARDI Team	2011	PARDI Unpublished	PRA proposal: Facilitating Improved livelihoods for Pacific cocoa producer networks through premium market access.
7	PARDI chocolate consumer survey	PARDI team	2011	PARDI Unpublished	Data, graphs and information collated from the survey carried out in Port Vila in 2011.
8	ORGANIC AGRICULTURE AND FAIR TRADE IN PACIFIC ISLAND COUNTRIES	Bell, Winnie Fay	2009	FAO	This Report explores the potential of organic agriculture and fair trade in PICs, with a specific focus on five main commodities: cacao, coffee, pepper, vanilla and virgin coconut oil.

9	THE WORLD COCOA ECONOMY: PAST AND PRESENT	International Cocoa Organization ICCO	2010	ICCO	A thorough report with all the indicators re to the industry of chocolate, demand, supply, stocks, markets and consumption. Also outlines trends and major changes that have taken place in the world cocoa economy over the last ten years up to the year 2010.
10	Quarterly Statistical Indicators Republic of Vanuatu April-June 2012	VNSO	2012	Vanuatu National Statistics Office	General indicators related to the main exports products and visitors to Vanuatu.
11	Census of Agriculture Vanuatu	VNSO	2012	Vanuatu National Statistics Office	General information about the state of the agriculture, main crops, trees numbers and areas reserved for agriculture by province. Sources of income and different agricultural activities including livestock and commercial farms.