

Improved Quality of Export Cocoa: Samoa

Technical Report #092

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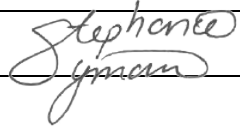
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Acronyms

Abbreviation	Description
EDG	Export Development Grant
MAWG	Market Access Working Group
NMAC	National Market Access Coordinator
PHAMA	Pacific Horticulture and Agriculture Market Access
SEFOK	Samoa Export Farmers Organic Koko
SROS	Scientific Research Organisation of Samoa

Executive Summary

Two workshops were undertaken during September 2015 to understand cocoa farmer perspectives on current production, market and export arrangements, how production might need to change to meet the requirements of new markets and the types of assistance that would benefit the industry. The discussion sought to understand what the shared interests of the cocoa farmers were, how the farmers were working together at present and what issues these farmers could work together on in the future to improve exports and returns.

The two workshops were generally positive and constructive, and it was the first time that many of the farmers had come together as a group to discuss issues. Farmers were looking to build on the recent interest in Samoan cocoa from international buyers, and there was a general interest in improving cocoa quality in order to sell to these markets. The discussion highlighted inconsistent fermentation and drying practices of farmers and the need to improve the capacity of farmers to understand quality issues and produce cocoa for export markets.

The workshops highlighted a range of activities that could be undertaken to inform the industry and support improvements in quality, including: understanding existing production and supply chains; understanding existing markets for koko Samoa and export cocoa beans; improved understanding of the experiences of existing cocoa buyers; demonstrating and trialling best practise fermentation and drying techniques; development of communication materials to promote the production of quality cocoa; providing technical support to cocoa exporters and supporting the development of farmer groups to encourage improved practices.

In the short term, work is required to encourage the adoption of work already undertaken to improve fermentation and drying practices, but also to understand the experiences of cocoa buyers so that future activities can be better targeted and so that buyers can potentially be involved in the design of these future activities. The farmer workshops were an important first step towards industry working cooperatively to improve quality. There now needs to be follow-up work to build on the interest generated in the farmer groups, including involving these groups in priority setting for future activities and giving them appropriate ownership over informing the direction any future work will take.

1.0 Scope of Activities Undertaken

1.1 Background

The cocoa industry has been a significant industry for Samoa in the past, and there is renewed interest in supporting exports of cocoa products from Samoa. Two farmer groups have been independently developing supply relationships with chocolate manufacturers in New Zealand: one group in Upolu (with Devonport Chocolates) and one in Savai'i (with Whittaker Chocolates). The specific interests and needs of these two groups have not been well defined. Due to the on-going interest of the public and private sector in Samoa to re-build this industry, the reported interest of commercial buyers for Samoan cocoa products, and the likely future investment by donors there is an interest in better understanding these supply relationships and opportunities to inform future program activities.

At the same time the mandate and functions of the current Market Access Working Group (MAWG) in Samoa has been confirmed by public and private sector stakeholders. The success of the MAWG relies upon the private sector being able to make a constructive contribution to its operation. To achieve this it has been recognised that there needs to be a strengthening of industry representation, coordination and its engagement with the public sector, buyers and other relevant stakeholders. At present the cocoa industry is not strongly represented in the MAWG or otherwise engaged in it. With the emergence of the farmer groups in Upolu and Savai'i there was interest in investigating if it would be possible to work with the groups in order to help them develop ongoing structures, in part so they could work as components of the industry working group and contribute better to MAWG activities.

This tasking note covers initial work to identify the key issues in establishing and strengthening industry based groups in Samoa and developing an action plan to progress them for the two industry groups. The report includes a focus on the priorities of the industry (as represented by the two identified groups in Upolu and Savaii) and opportunities for further work by PHAMA or other donor programs.

1.2 Scope of work completed under this tasking note

The scope of work undertaken in this tasking note supports work by the PHAMA team to strengthen industry representation, coordination and engagement by the cocoa industry with relevant stakeholders, including the Samoan Ministry of Agriculture and Forestry. The scope of work, as set out in the tasking note includes:

- (i) Document the key issues to consider in establishing and strengthening industry based groups in Samoa aiming to progress market access and export development;
- (ii) Consult with the two identified cocoa groups (and any other relevant stakeholders) on these (i) key issues and determine the broad details of their strategic, organisational and operational needs;
- (iii) Establish a broad action plan to document and progress the identified (ii) needs for each group.

The activity focussed on the interests of farmers and the supply of cocoa. Consultation with cocoa buyers to understand their views on factors such as: the size of the market; how the market might grow over time; supply issues and industry production capacity was out of scope.

1.3 Summary of activities undertaken

A desktop review was initially undertaken to understand the interests of different chocolate manufacturers who were looking to purchase cocoa products from Samoa in order to understand the different types of business and value chains involved. This was done by using information publically available from websites and media outlets. From this desktop review a series of questions were developed to gain a better understanding of the issues for the Samoan cocoa farmers.

Two workshops were undertaken during September 2015 to understand farmer perspectives on current cocoa production, market and export arrangements, how production might need to change to meet the requirements of new markets and the types of assistance that would benefit the industry. Part of the work sought to understand what the shared interests of the farmers were, how the farmers were working together at present and what issues industry could work together on in the future to improve exports and returns.

Prior to the workshops the questions were translated into Samoan by Mr Asuao Kirifi Pouono, the PHAMA National Market Access Coordinator (NMAC) for Samoa. The day prior to the workshop Mr Pouono explained the workshop and discussed these questions with the senior cocoa farmer from each region to get some guidance as to the type of responses that might be expected. The workshops were then delivered and facilitated by Mr Pouono in Samoan, with some exchanges in English to highlight key points. Immediately after the meeting the consultant and Mr Pouono had a debrief, discussing each of the questions and the responses from participants.

2.0 Report on Activities Delivered

2.1 Summary of workshops

The two workshops were generally positive and constructive. It was the first time that many of the farmers had come together as a group to discuss issues. Initially there was some questioning about the purpose of the meetings, and discussion about lack of support and progress on issues for the industry. Few of the farmers participating in the meetings were familiar with the purpose of the PHAMA program or its work. A verbal report on progress to improve the quality of export cocoa through improved fermentation practices and solar dryers (PHAMA activity SAMOA26) by SROS was met with interest and support.

Notes from the meeting discussions have been included in the report Appendices for the meeting in Upolu (Appendix A) and Savai'i (Appendix B). A number of common themes were raised in the discussion at the two workshops, and these are set out below.

2.1.1 Upolu workshop

The Upolu workshop was attended by 20 farmers. Unfortunately, no Ministry of Agriculture and Fisheries representatives were present due to prior commitments. The group included Mr Saena Mulitalo Tialino Penaia who operates the Melzi plantation¹, and who has been working with Devonport Chocolates and SROS to improve cocoa quality. Mr Penaia has established an incorporated society, the Samoa Export Farmers Organic Koko (SEFOK) which constitutes a distinct legal entity, to support trade and joint activities of the society members (incorporated societies are required to have a minimum of 15 members², and the SEFOK constitution requires members have holdings at least 4 acres). The incorporated society status can provide protection to members from debts, contracts etc, however members do not have a personal financial interest in the property or assets (if any) owned by the society. The meeting was attended by SEFOK members as well as a number of other farmers from the area.

2.1.2 Savai'i workshop

The Savai'i workshop was attended by 25 farmers, and there was a Ministry of Agriculture and Fisheries representative in attendance. The group included Mr Saleimoa Va'ai and Mr Kolone Va'ai from the Va'ai family plantation, which has a contract to supply cocoa to Whittaker Chocolate in New Zealand. Mr Keith Budd, a consultant assisting the Va'ai family on aspects of cocoa quality was also present at the meeting. Of the remaining farmers, approximately six were involved in the supply of cocoa to the Va'ai plantation to meet their contractual commitments, and the remainder were small farmers in the region. The Va'ai plantation has begun to purchase wet beans from some farmers, which are then fermented by the Va'ai plantation at their facility to ensure consistency of cocoa quality.

2.2 Themes raised in discussion

2.2.1 Production volumes

The volumes of cocoa produced by individual farms is unclear. During the workshops only one or two farmers indicated that they kept records of their annual cocoa production.

¹ <http://www.savalinews.com/2011/09/30/money-in-cocoa-tree/>

² http://www.mcil.gov.ws/rcip_inc_society.html

The lack of records makes it difficult to understand the volume of production that may be available for export, how productive the cocoa farms are at present, what seasonal variation there might be in productivity and the extent to which cocoa production might be increased to meet export demands using the existing plantings. The Samoan government has been encouraging increases in cocoa plantings through government programs^{3,4,5}, and it seems likely that this may contribute to an increase in the national production base. An effort has also been reported to be made to remove inferior quality Amelonado cocoa plants.

2.2.2 Market opportunities and market information

The volumes of cocoa being produced and sold in the different existing markets is unclear. There are at least three different types of cocoa product being sold, including cocoa beans for export to chocolate manufactures, cocoa beans for retail sale as raw nibs and koko Samoa which is consumed domestically, and some of which is exported. Farmers had no information about the current size and returns of these markets, or their future potential size and other returns. The workshops only discussed the production of cocoa for chocolate manufacture and koko Samoa.

The development of the supply arrangement between Va'ai plantation and Whittaker has generated a great deal of interest and enthusiasm amongst cocoa farmers, and it is difficult to understand how much of Samoa's production this market might eventually require. Farmers attending both the Upolu workshop and the Savai'i workshop were interested in the opportunity, and were interested in understanding what the quality requirements were and how they might be able to sell their cocoa to Whittaker.

In addition to Devonport and Whittaker a number of other markets were identified or alluded to in Samoa, Australia and New Zealand during the course of discussions. There was no specific discussion during the workshop about the size or the consistency of demand from these other markets, or how the markets were supplied. These markets included:

- A cocoa and confectionary processing facility that had been operated by Wilex Samoa⁶, based in Samoa, which allowed some domestic chocolate production until a fire destroyed the facility in 2003. There has been ongoing discussion reported about rebuilding this facility.
- A number of small chocolate manufacturers which have sourced cocoa beans from Samoa, including the Wellington Chocolate Factory⁷, based in Wellington (New Zealand); the Otago Chocolate Company⁸, based in Dunedin (New Zealand); Maloko⁹, based in Auckland (New Zealand); and Ola Pacifica¹⁰, based in Havelock North (New Zealand).
- Cocoa beans/nibs sourced from Samoa and sold by: Cravve¹¹, based in the Gold Coast (Australia); Ola Pacifica¹², based in Havelock North (New Zealand); and Nora's Plantation Foods¹³, based in Samoa (also sell cocoa paste).

³ <http://www.savalinews.com/2011/02/15/coffee-cocoa-on-the-comeback/>

⁴ <http://www.savalinews.com/2012/06/25/cocoa-coffee-projects-fruited/>

⁵ <http://www.savalinews.com/2015/08/10/govt-to-phase-out-stimulus-package/>

⁶ <http://wilexsamoa.net/>

⁷ <http://www.wcf.co.nz/>

⁸ <http://ocho.co.nz/>

⁹ <http://www.maloko.co.nz/>

¹⁰ <http://olapacifica.com/>

¹¹ <http://www.cravve.com.au>

¹² <http://olapacifica.com/>

¹³ <http://norasplantationfoods.com/>

2.2.2.1 Value chain for Samoan cocoa

Much of the cocoa produced in Samoa is consumed domestically as koko Samoa, which is usually manufactured and sold by the farmers and their families in local markets. A few of the export markets described above act as middlemen and appear to be involved in the purchase and resale of either cocoa beans or koko Samoa. Most of the chocolate manufacturers identified claim to purchase cocoa beans directly from farmers.

During the workshop discussion farmers were generally sceptical of dealing with middlemen, and farmers had concerns that they were not being paid a fair price. In some cases farmers who were supplying beans to export markets purchased beans from other farmers to make up shipment volumes, and acted as middlemen.

2.2.3 Understanding and improving consistency of quality

2.2.3.1 Fermentation

The discussion highlighted the variability in fermentation methods used by farmers in Samoa. Fermentation methods varied in the volumes of beans fermented in a single batch, the time beans were fermented for and the amount of mixing during fermentation. Whilst the procedure used by one farmer might be relatively consistent, there was variation between farmers which would lead to variability in large shipments where product from different farms is combined. The work by SROS to identify suitable method(s) for fermentation and drying, and the opportunity to improve consistency in practise between farmers was acknowledged as useful work that should be built upon, and that needs to be shared between farmers. It would also be very useful to better understand the work that Va'ai plantation has been doing in partnership with Whittaker to establish appropriate fermentation and drying practices, how they compare with alternative methods and the extent to which these practices could be adopted by other farmers in the area.

The experience of Va'ai plantation highlighted the difference in supplying a larger manufacturer, and the need for high levels of consistency within a shipment but also between subsequent shipments. Va'ai has had to spend considerable time developing fermentation techniques and investing in infrastructure to meet to standards of its buyer. Variation in quality can put its market at risk, and under these circumstances Va'ai has indicated that it is currently not possible for it to accept beans that have been fermented and dried by other farmers. Va'ai have used a strategy of buying 'wet' or unfermented beans from other farmers on the spot market to manage this risk when they have to source cocoa beans from other farms. At present other farmers in the area do not fully understand the fermentation and drying practices used by Va'ai plantation to supply Whittaker. It may be possible that in the future farmers will be able to supply fermented and dried beans as well as wet beans to Va'ai, and the decision to purchase beans processed by other farmers would be a commercial decision for Va'ai plantation. Before this can happen, farmers will need to be trained to improve fermentation and drying practices will be required in order to meet the quality and consistency requirements of their market.

2.2.3.2 Drying

As with the variability in fermentation methods, there is no standard practise used during drying. There was variation in the types of surfaces used to dry the cocoa beans, the timing of turning during drying, the thickness of the bed of beans dried and how farmers responded to rain during drying. Delays in drying as a result of cloudy days or rain are not uncommon. Moisture probes are generally not available to check the moisture content of the dried bags of beans.

2.2.3.3 Understanding impact of fermentation and drying on quality

At present, much of the cocoa harvest is consumed domestically and overseas as koko Samoa. Koko Samoa is sold in local markets, often by the farmer or a member of their family. The export of koko Samoa is thought to be quite high, but this trade is not well understood or recorded. Koko Samoa is made by roasting and then pounding fermented cocoa beans and leaving the pounded mass to dry, a process that is not standardised. The lack of a standard practise makes it difficult to compare the taste qualities of the cocoa beans used to manufacture the koko Samoa. The price of koko Samoa in the local market compares well with the sale of beans for export. For this reason, it is important that further research is conducted into (a) the comparative returns from selling koko Samoa, wet beans to processors (for eventual export) and dry beans for export and (b) the supply/demand dynamics of the koko Samoa market. This is required to understand what incentives exist for farmers to switch from producing cocoa for the koko Samoa market to producing cocoa for the export market where there are greater barriers to entry.

Whilst some cocoa producers export beans, this is a relatively small trade and few farmers have had experience with negotiating with overseas buyers on their quality requirements. During the workshop there was some scepticism expressed by farmers that they might have difficulties in meeting the quality requirements of buyers. Some farmers noted that they had sold cocoa for export in the past, but that they received very little feedback about the quality of the cocoa. Farmers indicated that they would like to learn more about quality, and they understood that this was an important requirement for export markets. The experience of Va'ai plantation working with Whittaker demonstrates the opportunity exists, and has led to significant optimism about the opportunity amongst farmers. It is important that an effort is made to understand and where possible share the lessons learnt by both Va'ai and Whittaker in order to improve the export of high quality cocoa beans in the future.

2.2.4 Willingness to work together

During the workshops in Upolu and Savai'i farmers indicated that they were willing to work together in order to secure and supply markets, and in particular there was interest in adopting more consistent fermentation and drying practices. On a number of occasions the work by SROS and Va'ai plantation on fermentation and drying was discussed, and farmers discussed working towards using the work of SROS and Va'ai plantation to develop more standard practise for Samoan cocoa.

After a discussion about the state of the industry, the work that had been underway and future opportunities the farmers attending the Upolu workshop were very interested in working together. How the group would operate and work together still needs to be clarified and agreed. However, the group was interested in trialling the SROS dryer and fermentation technique, and there seemed to be general support for SEFOK to lead this work so long as all farmers could access training and get hands on experience. The group recognised that addressing the variability in quality of the beans between farmers was an area that they could work upon as a group, and that this would help to develop markets and potentially more consistent export demand.

The farmers attending the Savai'i workshop also expressed an interest in working together. Va'ai plantation was seen as an industry leader in the area, but during the meeting it was stressed that the plantation had to meet quality requirements of its customer and this required it to centralise fermentation and drying of cocoa beans, and that it was beginning to purchase some wet beans from other farms in the area. Participants in the workshop were generally interested in improving quality, with the view that they might be able to work with Va'ai plantation in the future as exports from the plantation increase.

2.2.4.1 Future industry groups

Samoaan cocoa had been marketed through a Cocoa Board up until 1990, when this function was taken over by exporters. During the late 1980s there had been some difficulties in the industry with significant falls in world prices. Cocoa production then further declined in the wake of two cyclones (Cyclone Ofa in February 1990 and Cyclone Val in 1991) that caused significant damage to the cocoa plantations. More recently, Cyclone Evan in 2012¹⁴ was also reported to have caused damage to cocoa plantations. These events have left the industry fragmented, with a relatively small number of large plantations and many farmers with small plantings. The government has sought support to revive the industry, and a few key cocoa farmers have demonstrated that there is an opportunity to secure export markets. Currently, there are some small groups of farmers who work together, but there are no district or national forums where farmers can come together to coordinate production for exports or discuss issues for the industry.

In both workshops, there was interest expressed by participants in improving the organisation of cocoa farmers locally, with a focus on building capacity in farmers and workers to improve cocoa quality and potentially, yields. In establishing these groups, it was clear farmers would need to be involved in developing and agreeing to the scope of these groups, as well as guidelines for how they would function and operate.

The farmers indicated that the aim should be to have a local focus and start small with the existing groups. It was felt that these groups would grow and gain momentum once success could be demonstrated. A national forum to represent the interests of the cocoa industry and help coordinate industry activities was not viewed as a priority at present, with the focus of discussion being to encourage local groups to discuss and improve production.

At the Upolu workshop the participants indicated that over time farmer groups should be encouraged to work together, and a national group could eventually come from this cooperation. The same concept was discussed and supported in Savai'i, with support for starting with the existing small group convened for the workshop and expanding as interest from industry grows.

Other functions of a farmer group were discussed, such as cooperatives to market and broker the sale of cocoa from farmers. In the absence of strong and consistent markets the demand to establish organisations specifically to undertake this sort of activity on behalf of farmers is not currently required. The discussion at the workshops also tended to suggest that SEFOK and Va'ai plantation are already undertaking this activity to some extent in order to expand their own businesses, and that they plan to involve more farmers in their activities as their businesses grow.

¹⁴ <http://www.savalinews.com/2013/05/08/cocoa-farmers-need-help/>
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3.0 Future Activities Related To Cocoa Production In Samoa

During the workshops two themes emerged as areas of focus for future work on cocoa, these were better understanding the existing and potential markets for Samoan cocoa and improving the capacity of farmers to consistently produce cocoa that can meet the requirements of these markets. These activity areas are described briefly below, and in more detail in the sections following.

In general, the farmers involved in the workshops had limited information about how overseas buyers perceived Samoan cocoa, except that Samoa produced cocoa varieties that were recognised to be of high quality. The exception to this is the Va'ai plantation which has developed a close relationship with Whittaker and will have much clearer insights into what their market demands. During the meetings there was very little information discussed about how much cocoa was produced domestically, what volumes might be required by different markets, and the extent to which the cocoa produced currently could meet the quality specifications of the market.

The farmers involved in the workshop expressed an interest in changing practices to improve quality and better meet market requirements. However, farmers were not sure what prices they might receive in these markets, and the extent to which efforts to improve quality would be rewarded (Va'ai plantation is an exception, and it is likely to have a clear understanding of prices it will receive but this information is likely to be commercial in confidence and not common knowledge). Without an understanding of the potential advantages from export markets compared to the local market, such as consistency of demand and pricing as well as any potential premiums, it is difficult for farmers to commit to investing effort into improved practices. In general farmers were also interested in working together to address quality improvement issues as a group, rather than as individuals.

In both workshops there was interest from farmers in continuing to be involved in work to improve cocoa production, and farmers proposed that they should work together. Based on the support the farmers expressed for working together it would be useful to continue to work with the two groups to strengthen capacity within the groups and encourage collaboration.

3.1 Building farmer groups

From the workshop discussion it seems that as SEFOK and Va'ai plantation develop their respective businesses over time they are likely to become more involved in the cocoa value chain, such as marketing, monitoring quality, and the consolidation and export of shipments. It would be useful to discuss this directly with SEFOK and Va'ai plantation to understand their respective business plans. There are a likely to be a number of opportunities for PHAMA to work alongside these two groups to encourage the development of exports through these businesses, and support the development of good business practice.

The workshop discussion indicated farmers were interested in coming together to learn and share information about cocoa production and quality. From the discussion it seemed that this was an activity that both small and large producers could participate in, and the groups could grow over time as they become established and confidence grows. There is an opportunity for PHAMA to work with the regional groups established as part of the two workshops to help them develop a program of activities to improve cocoa production. It seems appropriate that these groups of Upolu and Savai'i-based farmers initially be supported as separate groups, as the costs and travel time may be a disincentive for participation in joint activities, as well as the groups potentially having different

priorities. Once the groups can be demonstrated to be sustainable in the short term there is an opportunity to support them to develop ongoing structures, so they could contribute to industry expansion, MAWG activities and national priority setting in agriculture.

In looking to establish industry groups it is important that the farmers are involved in setting the scope of the group, determining the types of activities the groups undertake and how the group should operate. Farmer ownership and involvement in setting direction for the groups is important for their long-term sustainability. The scope of work and how the groups function should be reviewed regularly to ensure they reflect the needs of the group, but also with a view that the groups develop more autonomy and ownership of direction over time.

One experience from the PHAMA work on sustainability of Industry Working Groups in Vanuatu (VAN18) and the Solomon Islands (SOLS28) is the value of having an export industry development officer that is able to support the activities of industry groups. Further scoping would need to be done in partnership with industry to develop a work program and priorities, but a similar position may be able to assist in running industry workshops and capacity development, and in the long term establish viable industry representative groups.

3.2 Understanding markets

3.2.1 Interview buyers

The two workshops undertaken focussed on the views of farmers, and provide some insights into their priorities and interests. There has not been an opportunity to explore the views of Whittaker and Devonport and other buyers/potential buyers of Samoan cocoa. It would be useful to involve buyers as collaborators in future work by PHAMA on cocoa, and it is logical that any work proposed takes into account their perspectives and experiences so that the work aligns with what might be occurring in the market. It would also be good to understand if outcomes from the work undertaken by these buyers in collaboration with Samoan producers can be shared more broadly with Samoan cocoa producers to improve practices, or if the outcomes of this work are confidential.

Useful areas of discussion with these buyers would include why they chose to purchase cocoa from Samoa, their views on market opportunities and requirements, the economics of different products, the volumes of cocoa they are looking to source, their knowledge on the current production and forecast production, if and how they may seek to increase the volumes they purchase, their strategies for working with Samoan industry and their experiences in dealing with the Samoan cocoa industry. Some of this information will need to be treated as commercial in confidence, but would assist in the design of future work to ensure it is relevant. These discussions may also help to identify specific work that PHAMA might be involved in to assist Samoan cocoa farmers to meet quality standards and reduce the risk of cocoa failing to meet market requirements.

During the project activity a number of other cocoa buyers were identified (see Section 1.5.2), and it may also be useful to approach these buyers to understand who they are purchasing from and their experiences in dealing with the Samoan cocoa industry. This could help to inform the farmer groups PHAMA should work with in the future, as well as the types of activities and priorities for this future work.

As an initial step it would be useful to meet with Whittaker and Devonport who have established relationships with farmers in the groups that PHAMA has met with as well as one or two other established buyers. This initial discussion should be used to understand the interests of these buyers,

their perceptions of the Samoan cocoa industry, and if they have an interest in work that PHAMA or other programs might undertake to further develop the industry. The initial work to interview these buyers could also be used to inform future work on the design and targeting of market surveys, as well as development of outwards trade missions and inward buyer missions.

It is worth noting that PHAMA has commissioned a survey of international cocoa buyers and boutique chocolatiers to understand their level of interest in sourcing quality cocoa from the Pacific. Results from this survey should be available in the first quarter of 2016.

3.2.2 Understand production potential

There is very little recent information about the actual production and potential production of cocoa in Samoa. At present it seems that there is excess production in both Upolu and Savai'i that could be exported, although it is not clear what these volumes might be. It is also recognised that there is opportunity to increase production by bringing unmanaged cocoa plantations back into production, and additional plantings established under recent government supported schemes are also coming into production. Whilst it is not necessary to know production levels or potential production, the absence of this information may make it difficult to understand the opportunity for the industry or give an indication of what might be the impact that programs seeking to increase production and export.

Export Development Grant (EDG) proposals submitted to PHAMA may provide some indication of current and future production from the enterprises that PHAMA deals with. There may also be information collected by the Samoan government as part of its stimulus package programs established to encourage cocoa production that could provide some indication about potential production. Depending on the future priorities for PHAMA cocoa activities, work with the workshop groups to improve record keeping, and assist farmers understand their production may be a useful activity for both the farmers and the program.

In addition to records of cocoa bean production for export, information about koko Samoa production for domestic and export consumption could also provide useful insights into the Samoan cocoa industry. There is limited information about how the koko Samoa export industry operates at present, and given its current importance to the cocoa farmers it might be useful to better understand the koko Samoa value chain.

3.2.3 Understanding and supporting cocoa exporters

The two farmer workshops sought to be inclusive and to better understand the issues facing cocoa farmers and the cocoa industry in Samoa. SEFOK and Va'ai plantation are both establishing and developing their export businesses, and there may be opportunity to provide technical support so that they can meet the requirements of their markets (for example the design of suitable storage and warehousing facilities or HACCP accreditation). These businesses may also have slightly different interests and priorities to small cocoa farmers due to their links with the export markets. As a follow up to the workshops it would be useful to approach these two businesses individually to understand their views on issues facing the Samoan cocoa industry as well as their business priorities.

3.3 Improving quality and production

3.3.1 SROS Solar drier and fermentation demonstration

The SROS drier is based on a proven design used in the Mekong Delta¹⁵, and its development was also informed by the work that the PHAMA program had undertaken in the Solomon Islands and Vanuatu. The interim report produced by SROS indicates that its design is effective for Samoa. The work by SROS also included work on improved fermentation practices that would benefit Samoan farmers.

During the workshops there was a great deal of interest in demonstrating the solar drier design and fermentation practices to farmers. There was interest in evaluating the dryer to determine how effectively it buyer requirements. There was some discussion about the SROS fermentation method, and the extent to which it was the same or different to the methods being used by the Va'ai plantation. Feedback from the workshop suggests that field testing and demonstration of the dryer and fermentation methods with farmers was a high priority, and would be an important step in generating momentum and maintaining credibility with the cocoa farmers.

Since the completion of the workshops the PHAMA program has provided an Export Development Grant to Melzi Plantation to assist in the construction of a solar drier based on a successful alternative design trialled by the PHAMA program in the Solomon Islands. This alternative design offers potential advantages in price and ease of construction.

3.3.2 Support for farmer groups to improve performance

The workshop discussions indicated that there was interest in continuing farmer discussions about cocoa production begun during the workshops. There are a number of areas where farmers could work with SROS, ministry staff and other experienced farmers to share knowledge. The two regional groups involved in the initial workshops could be involved in developing a program of extension activities over the next 18 to 24 months, and this could be an activity undertaken with the support of an export industry development officer (described above, in section 1.5.5.). It is important to include women in these workshops, who are often involved in cocoa production activities. Examples of possible topics that could be the subject of workshops are set out below, and the timing of these activities could be done to 'pre-empt' seasonal activities:

- Demonstration of solar driers and fermentation methods, possibly done in conjunction with Va'ai plantation to demonstrate and compare their practices.
- Demonstration and evaluation of the Melzi plantation solar drier constructed with the assistance of the PHAMA Export Development Grant.
- Discussion on marketing cocoa crops, including the advantages, costs and risks of different markets (wet beans versus koko Samoa versus processed dry beans).
- Demonstration and discussion about record keeping and how this can be used to assist in managing risks and planning for the future.

¹⁵ http://www.canacacao.org/uploads/smartsection/19_Cocoa_fermentation_manual_Vietnam.pdf
\\auadl1fp001\JOBS\42444251\5 Works\STA Reports Phase 2\Tech Report 92 SAMOA26\PHAMA TR092 Improved Quality of Export Cocoa Samoa (SR02April17).docx
Revision – 15-Sep-2015
Prepared for – Department of Foreign Affairs and Trade – ABN: 47 065 634 525

In developing relevant activities and information materials it may be useful to draw upon the experiences and networks of PHAMA staff who have worked with cocoa farmers and on cocoa quality issues in Vanuatu, the Solomon Islands and Papua New Guinea.

In addition to extension activities and workshops there may be scope to involve the groups in participatory research related to improving quality, production and understanding markets. There could be a range of demonstration activities undertake to show how to improve production, such as pruning and plantation management. There may also be new research or demonstration activities, such as examining options to reduce production variability caused by drought or cyclones. Identification of research priorities should be done in consultation with the farmers.

3.3.3 Communication materials

The workshop discussion highlighted differences in practices between farmers and also illustrated an interest in improving quality to meet the requirements of export buyers. To assist in improving awareness on quality issues it may be useful to develop communication materials to help illustrate quality requirements for export as well as common faults. These sort of materials may also assist in promoting practise to improve consistency of bean quality, particularly practises related to harvesting, fermentation and drying. The communication materials should be appropriate for all of those involved in cocoa production systems, including farmers and family members who might work on cocoa farms.

In the process of developing communication materials it may be useful to approach cocoa export buyers to discuss their experiences with Samoan cocoa, and use these as examples to illustrate market feedback and highlight areas where quality needs to improve. It is also important that any communication materials produced is appropriate, and can be used and accessed by the different people involved in cocoa production.

3.3.4 Understand other programs being proposed

During the workshops and in subsequent discussion it was noted that there are a number of different groups currently considering work to promote cocoa production and improved cocoa quality in Samoa. The New Zealand Ministry of Foreign Affairs and Trade (NZMFAT) and the European Union are both report to have indicated interest in developing programs to assist in the development of the Samoa cocoa industry. As part of planning PHAMA activities it would be useful to fully understand the scope of these new programs. It would be useful to consider the sustainability of any activities to promote the development of farmer groups and how these activities might continue with the conclusion of PHAMA in mid-2017. It might be possible for PHAMA work to inform these new programs, and consistency with any new programs would help build credibility with farmers.

3.3.5 International exposure for Samoan cocoa

The workshop discussion focussed on improving quality of Samoan cocoa on the basis that improved quality would lead to access to new markets through approaches by buyers. Once there has been an opportunity to get the farmer groups established and they have some level of ownership over activities and priority setting it may be useful to develop and undertake work to better understand market opportunities. This could include work on market surveys as well as possible outwards trade missions and inward buyer missions to provide exposure to the Samoan cocoa industry to international markets.

Another option for providing international exposure to Samoan cocoa, as well as benchmarking quality and providing a focus for cocoa quality work is participation in the International Cocoa Awards¹⁶. These awards are held every two years, with the next awards to be held in 2017. PHAMA has recently supported participation by the Solomon Islands in the 2015 International Cocoa Awards. These awards would provide an opportunity to showcase Samoan cocoa, but would also provide a target for activities to improve consistency in quality and production.

¹⁶ <http://www.cocoaofexcellence.org/>

4.0 Prioritisation of Activities

The workshops highlighted an interest by farmers in improving quality of Samoan cocoa to improve access to export markets. The recent interaction with Devonport chocolates by farmers in Upolu and the relationship between Whittaker chocolates and the Va'ai plantation have raised expectations within the industry and the farmers are wanting to take action on this opportunity.

There are a number of activities that could be undertaken, and there appears to be a logical progression for work on the issue. Three areas of activity are suggested, these are:

4.1 Demonstration of solar drying and improve fermentation practices

The work by SROS on an improved solar drier and fermentation practices needs to be demonstrated to farmers with field trials in order to realise the value of the work. This demonstration work should be done in partnership with SEFOK and Va'ai plantation to ensure there is engagement and buy-in from these leading businesses. In planning the demonstrations in Upolu and Savai'i it would be useful for Va'ai plantation to be involved so that they can demonstrate the fermentation and drying technique they have developed for cocoa being supplied to Whittaker. It would also be useful for Va'ai plantation to share their experiences working with Whittaker, and for them to explain how fermentation and drying influences quality.

This is a high priority and should be done as soon as possible, ideally before farmers start to get busy with cocoa harvest in November.

4.2 Further scoping of work to inform PHAMA's Samoan cocoa activities

The workshops were an excellent opportunity to understand the views and priorities of a cross section of Samoan cocoa farmers. It became apparent that it would be useful to better understand the interests of current and potential buyers of Samoan cocoa, particularly Devonport chocolates and Whittaker chocolates, so their experiences with and insights into the Samoan cocoa industry can be used in the design and prioritisation of future activities. It would also be useful to understand if these groups would be interested in being involved in future activities, and their willingness to share their expertise and experiences with Samoan farmers.

It would also be useful to understand the interests and potential involvement of current and future donor programs so that PHAMA activities can be better planned, and underpin the sustainability of any activities beyond the life of the current PHAMA Program.

Direct discussions by PHAMA with Va'ai plantation and SEFOK to understand their activities, potential information gaps and opportunities for PHAMA to assist, through EDGs and other technical support, would also be useful.

This is a high priority and should be completed before any further work to develop the farmer groups is undertaken. This work would provide a stimulus for discussions by the cocoa farmers on their priorities, as well as informing PHAMA work with the cocoa farmer groups and the Samoan cocoa industry.

4.3 Support for farmer groups

The farmers involved in the workshops showed an interest in continuing to work together as two separate regional groups. When the demonstration of the solar drier and fermentation practices are arranged, it would be useful to provide the groups with some next steps to ensure they continue to be engaged. This could be a program for two or three workshops or demonstrations, which could potentially be organised and run by PHAMA, SROS and/or the ministry.

As part of the program of workshops or demonstrations time should be set aside for the farmers to discuss how each group should operate in the future and the types of activities they would undertake. It may be useful for this discussion to be facilitated by an appropriate person to ensure that the groups can develop clear plans for their future operation and the participants come to agreement and understanding. For the groups to be sustained over the longer term, and for external support to be provided, the groups need to identify a clear purpose.

This is a moderate priority that needs to be undertaken once there is a clear plan for the demonstration of the solar drier and fermentation practices.

Table 4-1: Summary of possible future activities relevant to cocoa production in Samoa and suggested priorities

Building farmer groups (3.1)	
Building farmer groups (3.1) <i>(medium priority 4.3)</i>	<i>Support development of regional farmer groups to encourage improved quality and productivity.</i>
Understanding markets (3.2)	
Interview buyers (3.2.1) <i>(high priority 4.2)</i>	<i>Understand market opportunities and requirements and market perspectives on the Samoan cocoa industry.</i>
Understand production potential (3.2.2)	<i>Understand current production and export volumes to better understand the opportunity and inform future program design.</i>
Understanding and supporting cocoa exporters (3.2.3) <i>(high priority 4.2)</i>	<i>Work with existing exporters to understand areas requiring technical support.</i>
Improving quality and production (3.3)	
SROS solar drier and fermentation demonstration (3.3.1) <i>(high priority 4.1)</i>	<i>Support the demonstration of current best practise fermentation and drying in Samoa to improve quality.</i>

<p>Support for farmer groups to improve performance (3.3.2) (medium priority 4.3)</p>	<p><i>Consult with farmers and others involved in cocoa production to develop a program of extension and participatory research activities to improve cocoa productivity and quality.</i></p>
<p>Communication materials (3.3.3)</p>	<p><i>Develop appropriate communication materials to illustrate market feedback on quality issues and how to improve quality.</i></p>
<p>Understand other programs being proposed (3.3.4) (high priority 4.2)</p>	<p><i>Meet with other donor programs to understand their proposed design to ensure PHAMA work is complimentary and sustainable.</i></p>
<p>International exposure for Samoan cocoa (3.3.5)</p>	<p><i>Work with Samoan farmers to identify export opportunities and raise the profile of Samoan cocoa in high quality markets.</i></p>

5.0 Standard Limitation

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Appendix A

Summary of Discussion
with Upolu Cocoa
Growers

Appendix A Summary of Discussion with Upolu Cocoa Growers

Agronomy. *Are there agronomy issues that need to be addressed in expanding or establishing new gardens, varieties, garden management? Are improvements currently underway?*

It is not common practise for farms to establish their own nurseries, although some industry leaders have been propagating their own seedlings. The Ministry of Agriculture and Fisheries (MAF) operates a nursery, and there have been concerns amongst farmers about the consistency of the plant stock produced including variability in bean size and colour and varieties not being consistent with expectations. There has not been assistance from buyers in determining preferred plant selections (the Trinitario variety is grown, but it has not been maintained and there is now some variability in the plant stock).

Experience with quality/fermentation and drying. *Are there constraints or risks that need to be overcome/managed? Are improvements currently underway?*

It is recognised that fermentation practice and consistency could be improved. There is a large degree of variation in the fermentation practices used by farmers. Fermentation boxes are not used, and farmers still use baskets and sacks, and temperature is not monitored. There is also variation in mixing practice and the volumes being fermented. This results in significant variation in the quality of fermented beans between farmers. The work that SROS is currently doing could help to provide guidance to growers, particularly with greater involvement by the farmers and an effective strategy for communicating results. There has not been feedback from buyers on fermentation.

As with fermentation there are differences in the approaches used by farmers to drying, resulting in variation in quality. Drying tends to be done outside in the sun on mats, tarpaulins or concrete slabs, and different approaches are used in managing the drying beans. One farmer had been working with a potential buyer, and moisture content and variation had been identified as one issue by the buyer. However, moisture meters are not available to farmers to check dried beans. As with fermentation, the work that SROS is currently doing could help to provide guidance to growers, particularly with greater involvement by the farmers and an effective strategy for communicating results.

The farmers were interested in the work being done by SROS, and saw the opportunity to increase the scale of the drier and demonstrate the use of fermentation boxes as being an opportunity for farmers to improve their practices. The farmers saw the opportunity for increasing the scale of the SROS drier through a PHAMA Export Development Grant (EDG), although the model for delivering this grant (including issues such as its co-funding, location and ownership) were not discussed.

Strategy for increasing production. *Are there constraints or risks that need to be overcome/managed? Can farmers manage the expansion in production themselves? Are improvements currently underway?*

The primary strategy for increasing production was seen as better management and maintenance of the cocoa plants. To meet demands from an export market it was recognised that the farmers would have to work together as a group to ensure there was more consistent management of the cocoa plants across farms. Part of responding to this issue would require leadership within the group to be developed to galvanise support and provide direction to the group. There has been no indication from buyers about the volumes that might be required and how production would have to respond.

Strategy for managing consistency of supply and quality. *How is the demand being met at present? Is supply adequate, is quality appropriate? How are variations in quantity/quality being managed? What needs to be done? Are improvements currently underway?*

There is very limited understanding about production volumes and sales in the current year, and very few farm records kept to understand past farm production and variability. One farmer has supplied approximately 5 tonnes for export to two buyers, and this same farmer has records of production for previous years that could be used to extrapolate an estimate of regional production and variability. It seems unlikely that any records of consistency in crop quality exist.

Farmers are mainly producing cocoa for the manufacture of koko Samoa which is consumed domestically, but also exported to Australia, New Zealand and the United States of America for consumption by Samoan expatriates. It is not clear how reliable records of this trade are, or if they exist.

In addition to Whittaker and Devonport a third export buyer, Nora, was mentioned. It is understood Nora is a new buyer in the market with links to Australia, and is looking to purchase high quality cocoa.

As with the development of a strategy to improve productivity, it was recognised that meeting the quality and consistency requirements of an export market would require the industry members to work together. The industry, as a group, would need to understand and meet the standards demanded by the market, and be able to provide guidance to industry members on how to meet market standards.

The work currently being done by SROS and PHAMA on improving quality of production was seen as an important step in helping to address these issues in the future. It was felt that the lessons from this work would need to be carried through into any expansion of the industry.

As the industry considers expansion it was observed that donors should be involved and made aware of industry priorities, plans and activities. Donor support was seen as a useful strategy for achieving the ambitions of the group to develop a high-quality cocoa export industry.

Strategy for farmers meeting demand or working together to meet demand. *Is supply being met by individual farmers? Are farmers working together to meet demands, what is the basis for the farmers working together? How would farmers prefer to work together?*

At present farmers are not working together, and whilst there has been some informal cooperation industry members have tended not to work together. The farmers in the meeting saw that there was an opportunity to improve coordination and cooperation, and that this would require further work.

The group recognised that Saena had been working on his own and invested significant time, energy and resources into improving cocoa production and quality for the benefit of the industry. The farmers were grateful for this leadership and recognise that Saena has been working on his own initiative. It was recognised that the whole group now needed to be involved to learn from his experiences and grow the industry.

The meeting was the first opportunity for many of the cocoa growers to come together, and they had not been aware of the extent of the work being done by PHAMA and SROS, or of the work being done by Saena. After the PHAMA meeting had concluded the farmers met informally to consider the PHAMA meeting discussion and the opportunity of the farmers working together in the future as a group.

Volumes of production required by market. *What is the volume and quality of cocoa beans required by the market? How does this change over time?*

The volumes being demanded by the buyer, and how this might change over time, is not known. Devonport has not purchased from the group, and some cocoa has been supplied to help meet the Whittaker order but there has been no indication as to what the buyer demands are. The farmers know that production has changed over time.

Is there a strategy for production growth to meet market demands? *What is the strategy for meeting increased demands for volume and quality?*

There has been no work by the farmers to change supply to meet future demands, and there has not been any tracking of production to understand how production has changed.

What is the future nature of demand/commitment from markets? *Are there contracts or plans known by the farmers to assist with planning and production? How might the increase in demand change over time?*

There are no agreements in place. The trade that has gone on has been on a cash for product basis, and the farmers indicated that (at least some of them) would prefer to supply on the basis of contracts to understand the volumes and quality requirements.

Capacity to meet different grades and volumes required by markets. *What is the capacity of the farmers to meet demands for volume and quality? What proportion is making the grade? What happens to lower grade crop?*

There is no grading of beans for market, with the exception that small beans would be sorted by the farmer as rejects and they would be used to produce koko Samoa.

Capacity of farmer to invest in production? *Is pre-finance or credit available in the market that might allow improvements and investment in production by farmers?*

Cash has only ever been paid on delivery, and no pre-finance has been made available. A pre-finance arrangement would be useful to the farmers.

To what extent do monopolies exist in the marketplace? *Will this create difficulties for the farmers?*

The farmers understand there are a number of markets, and would not like to be in a position where there is no opportunity for negotiation and the potential to discuss prices and options.

Known issues with supply chain? *Are there issues in the supply chain from farm gate to export point? Specifically, are there issues with transport or storage that might require assistance, and is any assistance being provided?*

Issues with fermentation and drying and the variation in these practices, and the variability it creates in quality, have been outlined elsewhere. The farmers observed that these were areas that they needed to work on as a group to establish a consistent approach.

Only one of the farmer has established storage facilities and is of sufficient scale to feel that he could be involved in direct export, but in the absence of a buyer this would need to be tested. Developing

cocoa exports would also require coordination between the farmers to satisfy volume and quality requirements, and this coordination within the industry needs to be developed.

Are there issues with consistency of supply that need to be managed? *Is there a need to manage supply, either pooling crops to make up consignments for exports or to manage seasonal peaks? Who is responsible? What arrangements exist? Are there facilities in place?*

It is recognised that cocoa has some seasonality in its production, and that there is also likely to be variation in production between seasons. Because there is no understanding of demand, or an understanding of production on farms, there is not a perceived need to manage supply. It is recognised that there is variation in the local price of koko Samoa, and at time when prices are high it is good to be selling but from the discussion it did not seem that farmers held stock so that they could respond and take advantage of these price fluctuations, even in local markets. The concept of potentially managing supply into international markets was recognised, but in the absence of a market it was not seen as an issue by the majority of farmers.

Are there issues with the export pathway that need to be managed? *Are there possible issues with the export pathway and landing cocoa beans in the destination country that need to be managed? Are there particular issues that may require assistance?*

There are no biosecurity concerns that cannot be met through good practice. The concerns lie in the entire shipment being able to meet the quality requirement of the buyer. These have been discussed elsewhere.

To what extent are middlemen involved in the export of cocoa? *Are there risks associated with this that might need to be managed?*

There is not a large export of cocoa beans, and middlemen are not involved in the trade that does occur. In some cases farmers contribute to shipments being put together by other farmers, and in this situation (where the other farmer is a middleman) the issues of not being aware of how prices are determined or receiving feedback on quality are a concern. The farmers involved in this trade would like to better understand their position in the market.

Is there a need for farmers to be involved in the marketing of cocoa? *Is there a need for farmers to be involved in managing supply to buyers, or to coordinate production volumes and quality across farms?*

Without an understanding of the market it is difficult to determine if there is value in working collectively on issues such as quality, quantity and managing supply. In principle there is interest, but more information is needed to understand what would be required for farmers to service these markets.

Is there a role for a group to consolidate harvests into shipments? *Is there a role for a group to operate fermentation and drying facilities to ensure consistency of post-harvest treatment or consistency of supply (warehousing)?*

At present this is not being done because there is no market and no demand for this type of capacity. It is understood that SEFOK has some warehouse capacity. Smaller farmers might store cocoa for short periods to better manage supply into the local koko Samoa market.

Is there a need to coordinate increasing production across a number of farms to meet market requirements? *This could include improving production and farm productivity, as well as taking care to manage expectations and avoid potential oversupply.*

As with the issues discussed earlier, the current production levels and potential demand is not understood. In this context, it is not possible to understand the extent to which this might be required.

Is there information that needs to be shared between growers (prices, management of pests, production improvement, markets)? *This could include the production of communication and extension material to help improve practices. Is this a function of a grower group?*

Providing information and improving the understanding of farmers about cocoa production is an important function and should be the function of an industry group. To meet demands from an export market it was recognised that the farmers would have to work together as a group to ensure there was more consistent management of the cocoa plants across farms. Leadership from industry to highlight issues that farmers need to pay attention to and provide direction to the group is required.

Is there a need for industry leadership? *Would a farmer group play a useful role in this?*

There is interest in developing better coordination within industry and for some direction to be provided to industry members on issues like improving quality and methods for doing this. For such a group to work commitment, trust and confidence needs to be developed within the farmers involved. If this can be done then industry would like to see pro-active leadership that could help provide direction to the industry and develop better coordination and consistency amongst farmers.

During the discussion it was felt that a local group would be the best way to start, focussing on a region and then building larger more formal groups over time as confidence was improved. Ideally there could be coordination and discussion between these regional groups early on and this alignment could become more formal over time.



Appendix B

Summary of Discussion
with Savai'i Cocoa
Growers

Appendix B Summary of discussion with Savai'i Cocoa Growers

Meeting notes, Thursday 1 October 2015

Agronomy. *Are there agronomy issues that need to be addressed in expanding or establishing new gardens, varieties, garden management? Are improvements currently underway?*

Farmers believed that there were many challenges to growing cocoa, from ants being attracted to Ane to dry weather. Farmers were interested in support where it is available. Farmers also felt that they had significant experience in growing and producing cocoa, and questioned the need to change practices.

Experience with quality/fermentation and drying. *Are there constraints or risks that need to be overcome/managed? Are improvements currently underway?*

Individual farmers felt that they had the experience and understood how to do these practices appropriately. However, variation in fermentation and drying practices and inconsistency in the product produced across the farms was recognised as an issue for buyers who were looking for a consistent product. Farmers were interested in working to a particular standard, but there was no common industry standard set by government, industry or buyers. Farmers were interested in the SROS work and that it could assist in helping provide greater consistency.

The Va'ai plantation was working to develop a fermentation and drying practise that could produce consistent quality cocoa suitable for use in large scale manufacturing. This process is still being developed with some technical assistance, and it requires more sophistication and effort than can be typically achieved by local growers in order to reduce variability between each fermentation and between the consignments sent to market (such as precise temperature monitoring of fermentation and an accompanying mixing regime). In order to produce the consistent quantities of quality cocoa required by its market, the Va'ai plantation has been moving to centralise fermentation and drying of the beans it is processing for export.

Strategy for increasing production. *Are there constraints or risks that need to be overcome/managed? Can farmers manage the expansion in production themselves? Are improvements currently underway?*

There are large numbers of cocoa plants in the district, and improved management would allow these existing plants to be brought into production. Outside of the relationship between Va'ai and Whittaker there is no information about the volumes of production that are required and the extent to which farmers will be involved in production for that particular market. It was noted that growing production to meet the demands of its buyer was the responsibility of Va'ai, and that they would be managing that expansion. In the short term Va'ai was having to develop its processes so that it could consistently meet the quality requirements of its market, and it was not appropriate to expand production before this occurred.

It was noted that the relationship with Whittaker is providing Samoan cocoa with a profile that it would not have had, and new buyers and markets are likely to approach Samoan farmers.

Strategy for managing consistency of supply and quality. *How is the demand being met at present? Is supply adequate, is quality appropriate? How are variations in quantity/quality being managed? What needs to be done? Are improvements currently underway?*

Farmers were interested in a standard that would help them produce more consistent cocoa for their markets, and improve the price they could receive for their cocoa. The work of SROS and PHAMA in improving fermentation and drying would assist in this.

The Va'ai plantation is moving to centralise its fermentation and drying so that it can implement a method of fermentation and drying that would allow the cocoa it sells to consistently meet the requirements of its buyer and reduce variability between consignments. Part of this strategy is to collect pods or wet beans from its farmers, which is a change from historical practise.

Strategy for farmers meeting demand or working together to meet demand. *Is supply being met by individual farmers? Are farmers working together to meet demands, what is the basis for the farmers working together? How would farmers prefer to work together?*

There is general interest in farmers working together to meet market requirements and to bring farmers together.

At present the Va'ai plantation is only working with a small number of farmers in order to meet its market demand. The Va'ai plantation will be increasing the size of this group of farmers over time as its market grows in order to meet the supply demands.

Volumes of production required by market. *What is the volume and quality of cocoa beans required by the market? How does this change over time?*

The volumes of cocoa being produced by Va'ai plantation for its market now or in the future is the subject of a commercial agreement with its buyer, and it is not appropriate for this information to be shared.

For local growers selling to traditional markets it is understood that volumes have remained relatively consistent. It was observed that fruiting of the cocoa seems to have become more consistent through the season, rather than having two annual peaks, and that this may be related to changing climate conditions.

Is there a strategy for production growth to meet market demands? *What is the strategy for meeting increased demands for volume and quality?*

At present there is no information about strategies for increasing production volumes.

What is the future nature of demand/commitment from markets? *Are there contracts or plans known by the farmers to assist with planning and production? How might the increase in demand change over time?*

Va'ai plantation has a contract with Whittaker which is confidential. It was noted that the relationship with Whittaker is providing Samoan cocoa with a profile that it would not have had, and that this may result in increased demand as with buyers potentially approaching Samoan farmers.

Capacity to meet different grades and volumes required by markets. *What is the capacity of the farmers to meet demands for volume and quality? What proportion is making the grade? What happens to lower grade crop?*

Va'ai is working with its buyer to produce beans of the best quality, and it is working to ensure that these beans are of consistent quality. To produce the volumes of the consistent quality required has taken a great deal of effort by Va'ai. The requirement for consistency means that Va'ai is unlikely to accept processed beans from small farmers.

The work by SROS and PHAMA can assist in improving the quality of cocoa from small farmers. The use of an improved solar drier also is of interest to Va'ai.

Capacity of farmer to invest in production? *Is pre-finance or credit available in the market that might allow improvements and investment in production by farmers?*

In general, trade is done on a cash basis.

To what extent do monopolies exist in the marketplace? *Will this create difficulties for the farmers?*

The emergence of the partnership between Va'ai and Whittaker has potentially diversified markets for farmers. As it develops further, the wet bean market to Va'ai is likely to require consistent volumes at a consistent price, giving the opportunity for a stable income. Farmers still have an opportunity to access the local market with koko Samoa which can provide relatively high, but fluctuating, prices.

Known issues with supply chain? *Are there issues in the supply chain from farm gate to export point? Specifically, are there issues with transport or storage that might require assistance, and is any assistance being provided?*

As the volumes being handled and exported by Va'ai increase there will be an interest in appropriate storage facilities in order to accumulate loads. Similarly, alternative transport options may need to be considered. These are commercial decisions for Va'ai that would need to be discussed directly with them.

Farmers undertake some storage of beans in order to produce koko Samoa, with beans stored so that they can be processed in a timely way to capture good market prices.

Are there issues with consistency of supply that need to be managed? *Is there a need to manage supply, either pooling crops to make up consignments for exports or to manage seasonal peaks? Who is responsible? What arrangements exist? Are there facilities in place?*

Consistency of quality is the primary concern, and issues related to volumes are secondary at present. We understand that Va'ai plantation is considering the need for suitable packing space in the future as the volumes being exported increase.

Are there issues with the export pathway that need to be managed? *Are there possible issues with the export pathway and landing cocoa beans in the destination country that need to be managed? Are there particular issues that may require assistance?*

There are no biosecurity concerns that cannot be met through good practise. The concerns lie in the entire shipment being able to meet the quality requirement of the buyer. These have been discussed elsewhere.

To what extent are middlemen involved in the export of cocoa? Are there risks associated with this that might need to be managed?

There is not a large export of cocoa beans, and middlemen are not involved in the trade that does occur. In some cases farmers contribute to shipments being put together by other farmers, and in this situation (where the other farmer is a middleman) the issues of not being aware of how prices are determined or receiving feedback on quality are a concern. The farmers involved in this trade would like to better understand their position in the market.

Is there a need for farmers to be involved in the marketing of cocoa? Is there a need for farmers to manage supply to buyers, or to coordinate production volumes and quality across farms? Is there a need to consolidate harvests into shipments? Is there a role for a group to operate fermentation and drying facilities to ensure consistency of post-harvest treatment or consistency of supply?

This is not an issue for most farmers, however the shipments being handled by Va'ai plantation mean that sourcing cocoa, processing it and storing for shipment has the potential to become an issue as export volumes increase.

Is there information that needs to be shared between growers (prices, management of pests, production improvement, markets)? This could include the production of communication and extension material to help improve practices. Is this a function of a grower group?

The farmers indicated that there was an interest in sharing information and also an interest in learning from the experiences of others, particularly Va'ai plantation.

Is there a need for industry leadership? Would a farmer group play a useful role in this?

The farmers involved in the discussion indicated that they were interested in developing better coordination between farmers, particularly around improving quality and production.

Farmers felt that a local group would be the best way to start, focussing on issues for the region.