VEGETABLE PROTECTIVE CROPPING AND CONTRACTUAL FARMING IN SAMOA
Samoa is a small island developing state located in the South Pacific with a total population of just over 195,000 people, most of whom are concentrated on the two main islands of Upolu and Savai'i. Agriculture is a critical component of the Samoan economy with more than 97% of households participating in some form of agricultural production, and 19% being reliant on the sector for their key source of income (SBS, 2016). The vast majority of Samoa’s agricultural production is based on horticultural crops grown for subsistence or home consumption, with only around 4.4% of households producing crops for sale (SBS, 2016). Overall horticultural productivity is dominated by five key crops, taro, coconut, cocoa, breadfruit and banana, with 42% of the production systems considered organic in nature.

Given the importance of the horticulture sector, the Samoan Government and International donors have long sought to diversify and expand horticultural production in Samoa. While much of this effort has been driven by concerns over food and nutritional security (AAACP, 2009), declining vegetable production in recent years has further reinforced the need for action (SBS, 2015). The 2009 Samoan Fruit and Vegetable Strategy created much needed focus, leading to several horticultural enterprise development initiatives. Poutasi Gardens is one of the few such initiatives that, combining production intensification, an emphasis of sustainable production practice, co-operative based community engagement, innovative market development, and sound postharvest handling practice.

In this case study, we discuss the challenges that Poutasi Gardens needed to overcome, the benefits of adopting a more holistic approach to smallholder farming development, and key learnings.
Established in 2009, through the support of the Tindall Foundation, the Poutasi community, the Poutasi Development Trust (PDT), and the New Zealand Volunteer Service Abroad, Poutasi Gardens is a community-based farm enterprise that employs *intensive and protective cropping* production practices to produce leafy vegetables and herbs. Poutasi Gardens is one of several Poutasi Development Trust’s projects. Other PDT projects include activities such as promoting local handicrafts for the expanding domestic tourism market. Poutasi Gardens operates through a local project supervisor who reports directly to the High chief of the Poutasi village, and the PDT committee. The PDT committee provides financial management of the projects, effectively deciding where to spend the generated income from Poutasi Gardens. At present, Poutasi Gardens has five staff, a farm supervisor and three labors all of whom are fulltime employees, and a part-time marketing officer.

![Figure 1: Seedling preparation in the Poutasi Gardens](image)

Poutasi Gardens is notable in that it does not follow the agricultural norms often seen in Samoa. Located in the south-eastern part of Upolu Island, Poutasi Gardens is based in one of the wettest parts of Samoa with frequent and high-intensity rainfall. It is remote from the major fruit and vegetable markets in Apia, as well as from the established vegetable production centres around Alesia, it is poorly serviced by local agricultural transport systems, located in a community with little historical experience in growing western leafy vegetables, and produces crops that traditionally have low domestic consumer-demand. Such challenges would normally
constitute serious agri-business impediments, however, in the case of Poutasi Gardens they have be critical to its business success.

Poutasi Gardens is one of the few commercial farming enterprises in Samoa to produce leafy vegetables under a *protective cropping system*. Using a series of large poly-tunnels, Poutasi Gardens is not only able to produce leafy vegetables in a location where high-intensity rainfall would normally make this impossible, but it further benefits from the added opportunities of extended and counter-seasonal production. In the Pacific, *protective cropping systems* are often considered high-risk. The set-up costs can be prohibitive for many smallholder farmers, infrastructure is often impaired during frequent cyclones, and there is an elevated need to adopt good pest, disease and nutritional management practices. In the case of Poutasi Gardens, the protective cropping infrastructure, water tanks and associate farm equipment were initially provided by the donor, negating much of the initially capital costs. The involvement of key individuals from Volunteer Service Abroad then provided essential ongoing technical assistance to work with the Poutasi community to develop appropriate production practices, and pest and disease control strategies. These two start-up investments (infrastructure and capacity building) were critical.

*Figure 2:* Leafy vegetable tunnel houses in the Poutasi Gardens
PDT and Poutasi Gardens have now become self-sustaining and are currently not receiving any ongoing support from the donors and foreign aid agencies. Poutasi Gardens receive some technical assistance from the local extension officers within Ministry of Agriculture and Fisheries (MAF). As is commonly the case in Samoa critical farm inputs such as such seeds are imported from overseas markets, with garden’s equipment sourced locally.

Producing a mixture of early-harvested (based on a three and half week harvesting rotation) young leafy vegetables and herbs, Poutasi Gardens has side-stepped the challenge of being remote from the municipal fruit and vegetable markets, and instead it supplies direct to the local resorts and restaurants many of whom are in close proximity. A part from its own produces, Poutasi Dardens also helps Poutasi village farmer’s cooperatives in marketing their produce. Its remoteness from traditional vegetable production centers and municipal markets has been turned into a business competitive advantage. Not only are there few alternative suppliers, but the type of commodities produced by Poutasi Gardens are in high demand by the resort and restaurant sector. Many of Samoa’s best restaurants and resorts now selectively source from Poutasi Gardens. Given the need for consistency of supply and quality, this has necessitated Poutasi Gardens to adopt contract farming-type informal agreements with its key customers. In doing so, they have become one of the few examples of smallholder contractual farming in Samoa. The emergence of various buy-locally initiatives in the Pacific, has also seen many of Poutasi Garden’s customers actively promoting that they source locally-grown Poutasi Gardens product to their guests. In some high-end restaurants in Samoa, Poutasi Gardens sourced-vegetables are specifically mentioned on the menu.

In practice this involves the Poutasi Gardens marketing officer preparing a list of available products from Poutasi Gardens and local farmers cooperative. Once the list is prepared it is texted to the potential buyers along with associated commodity prices. Once an order is received, product is harvested and transported based on a two day (Tuesday and Friday) supply roster. Harvesting is undertaken in late afternoon and transported the following morning. Where product is sourced from local farm cooperatives in the area, Poutasi Gardens charges a small fee to for its marketing services.
Figure 3: During harvesting of leafy vegetable in the Poutasi Gardens
The need to ensure product quality and freshness has led to Poutasi Gardens adopting a series of innovations in their postharvest handling systems. While most smallholder farmers transport product to the Apia fruit and vegetable markets in locally made woven baskets or sacks normally by public bus, Poutasi Gardens instead uses re-usable 25 kg foam boxes with ice-blocks, with product first sorted, weighed and placed into sealed plastic bags. Poutasi Gardens then use a minivan (owned by the Poutasi Development Trust) to transport product directly to each resort or restaurant based on a set weekly timetable. While there are similar examples of contractual farming, direct supply, and improved packaging evident amongst the larger-scale commercial farms in Samoa, *Poutasi Gardens is relatively unique in putting all these elements together within the one value chain.* It is not surprising then, that their postharvest loss is often <2% (unpublished data – Underhill 2015), compared to the industry average in Samoa of 12 to 15% (Underhill *et al.*, 2017). Recently, PDT has been secured a refrigerated van from an overseas aid agency, which will further improve postharvest product quality and may also create additional agribusiness opportunities for the community.

*Figure 4:* Packing and transport leafy vegetable in the Poutasi Gardens
One of the ongoing challenges for Poutasi Gardens has been balancing community-wider engagement and benefit, and ensuring a profitable business practice. This challenge is particularly difficult in Samoa, as family, village, cultural and religious obligations can place significant constraints on smallholder or community enterprises. One of the main challenges mentioned by the PDT manager is the work ethics of their employees, in that it is really hard to find committed workers. In Samoan culture or fa’asamoa, family and village participation are based on distribution and sharing (Glass, 2012). For example, in Samoa it is not unusual for young farm workers to be expected to provide up to 90% of their wage to the family. Socio-cultural obligation take absolutely priority, often clashing with the needs of maintaining an effective agri-business enterprise. Viewed through a western-lens such factors are often considered major impediments to entrepreneurship and agribusiness development. In the case of Poutasi Gardens there is no doubt such factors have and will continue to shape business operations. To be successful agri-business enterprises in Samoa need to operate in harmony with these realities of Samoa life. Often this means developing a strong engagement with the local community and religious leaders, elevated staffing to account for short-term or unpredictable staff and skill shortages, and longer-term or multiple donor-funded support.

The importance of local socio-cultural and religious obligations is not unique to Samoa, and there are some wider learnings from other successful Pacific agricultural enterprises, such as Mainstreaming of Rural Development Innovation Tonga Trust (MORDI TT) and Nature’s Way Cooperative in Fiji (NWC). Firstly, there is a critical need for a local value chain champion to drive the enterprise and ensure ongoing wider community engagement and benefit. Both MORDITT and NWC have benefit from strong and consistent leadership. Secondly, farming in the Pacific can be very challenging and all agri-businesses will sometimes need assistance. In the case of NWC this has involved forming various technical advisory committees, a strong engagement with the Fijian Government, and a close partnership with Pacific Island Farmers Organisation Network (PIFON). Finally, we need to accept the Pacific agribusinesses, no matter how initially successful they are or have been, often undergone deep cycles of business effectiveness. In recent years, Poutasi Gardens has slowly transformed itself into a successful agri-business community based enterprise. However, no matter how notable the achievements of Poutasi Gardens are, they do not necessarily infer greater enterprise resilience or sustainability. Larger commercial farms in Samoa may seek to under-cut and supply into the resort sector. The cessation of donor support would test the resolve of the Poutasi community
engagement and commitment. Volatile and often unpredictable land tenure issues within the Poutasi community, could necessitate a relocation of the business.

To achieve sustainable crop production practices, we need to consider two core challenges; how to assist agri-businesses to become more viable and profitable, and equally how to support them to better manage their risks and in doing so improve business resilience. In the Pacific, these two elements don’t necessarily mean the same thing. Poutasi Gardens provides a good example of how to turn commercial challenges into competitive business advantage. It also shows that innovation in one part of the value chain, can often create new competitive advantaged elsewhere along the chain. The unknown for Poutasi Gardens is how well it will tackle the next stage of its agri-business life cycle to hopefully become a self-sustaining and enduring community enterprise.

**Figure 5:** Packing leafy vegetables in the Poutasi Gardens

Even if we effectively address all these issues, success can come with its own burden. In the case of Poutasi Gardens, profit generated is increasingly being spent to subsidise other PDT project initiatives. While such actions are understandable, there is a real risk this may inadvertently undermine the long-term viability of the gardens. The protective cropping systems used by Poutasi Gardens requires relatively frequent critical farm inputs, such plastic poly-tunnel covering. A delay in replacing this equipment, as is currently the case, increases production risk due to damage from heavy rain and reduces overall productivity.
The learning here, is that viable and sustainable enterprises not only need to be sympathetic to local social and cultural considerations, have a strong agribusiness framework, an element of competitive advantage, and but also operate in harmony with concurrent ventures within the community.

The community impact gleaned from Poutasi Gardens is more than just economic benefit. As a community operated and run venture, Poutasi Gardens has re-enforced community identity, given rise to further agribusiness opportunities, and assisted other farm cooperatives in the area to better access markets.

References


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