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## IMPROVING THE CAPACITY OF FARMERS TO MARKET A CONSISTENT SUPPLY OF SAFE, QUALITY FOOD

March 2019

SDGs:



Countries:

Samoa

Project Codes:

TCP/SAM/3601

FAO Contribution:

USD 376 000

Duration:

17 March 2016 – 31 October 2018

Contact Info:

FAO Representation in Samoa

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### Implementing Partners

Ministry of Agriculture and Fisheries, Scientific Research Organisation of Samoa, Samoan Chamber of Commerce & Industry Inc., The University of Queensland, Australia and Fundação Arthur Bernardes, Brazil.

### Beneficiaries

Fruit and vegetable smallholder farmers, market vendors, large fruit and vegetable commercial farmers, national institutions and agencies.

### Country Programming Framework

Priority Area B: Value chain facilitation and promotion.

Output 1.2: Models for contract farming developed and promoted.

Output 1.3 Enhanced capacity of small farmers to produce consistent quality supply to meet market demand.

Output 1.4: Strengthened capacity of private sector in HACCP and ISO standards.

Output 1.5: Strengthened capacity in Good Agricultural Practices.



### BACKGROUND

Although over 80 percent of Samoa's population is considered as residing in rural areas, the contribution of the agriculture sector to the country's GDP has continued to shrink in recent years, from a proportion of approximately 50 percent in 1980 to 10.4 percent in 2013. The overwhelming majority of those employed in the agriculture sector are small-scale, subsistence farmers. The composition of the sector has made accurate estimation of the value of agricultural production a difficult and costly venture, while policy and planning for the agriculture sector have become a difficult proposition. As a result, the relatively small commercial agricultural sector in Samoa has struggled to maintain its export and domestic competitiveness, with a resultant increase in dependence upon food imports and rising household consumption of high-calorie, non-traditional foods. This has had a significant adverse impact upon national health and rates of Non Communicable Diseases (NCD) in the country.

In this context, the proposed project was designed to assist Samoan farmers in the consistent marketing of top-quality produce through targeted capacity-building within communities, the private sector and local institutions. The project sought to introduce practical tools and systems to reduce risks and post-harvest losses among smallholders, as well as assessing the costs and benefits of more advanced systems designed to reduce losses among upstream processors and exporters.

The project also aimed to invest in the developing the capacities of institutional stakeholders, such as the Ministry of Agriculture and Fisheries (MAF), the Scientific Research Organisation of Samoa (SROS) and the University of the South Pacific (USP), to support the delivery of post-harvest training and assistance beyond the lifetime of this project.

### IMPACT

The project produced a series of important technical outputs, including manuals, academic publications, and technical reports. The project also provided important practical strategies and policy recommendations to the Government of Samoa, with a view to further enhancing domestic food distribution systems and reducing food loss.

### ACHIEVEMENT OF RESULTS

The outcome of the project was that Samoan farmers benefited from a reduction in financial losses caused by post-harvest quality degradation and loss. This was achieved through the outputs outlined below and their associated activities.

Output 1: Capacity of small and medium-size farmers to market quality fresh agricultural products improved

- ✓ Greater capacity for smallholder fruit and vegetable farmers to adopt improved post harvest management and food safety practices.
- ✓ Commercial fruit and vegetable farmers trained to adopt improved post-harvest management and food safety practices.
- ✓ Train market vendors to adopt improved food safety and retailing practices.
- ✓ Assess socio-economic factors influencing the current post-harvest management of small farmers.
- ✓ Socio-economic factors influencing the current food safety practices of fruit and vegetable vendors.
- ✓ Production of training materials to support post-harvest management and food safety training.

Output 2: Improved capacity of national institutions agencies (MAF, SROS and USP) to produce food-safe agricultural products

- ✓ Institutional post-harvest management capacity assessed.
- ✓ Training of trainers study tour on international post-harvest management.
- ✓ SROS trained to provide improved food safety testing capacity.
- ✓ Analysis of biological and chemical contaminants in fresh produce.

Output 3: Capacity of commercial farmers to adopt low-cost post-harvest handling strategies improved

- ✓ Public and private sector stakeholders trained to understand the costs and benefits of adopting improved low-cost post-harvest handling strategies.
- ✓ Low-cost practical tools to reduce existing levels of wastage assessed.
- ✓ Commercial enterprises assisted with adoption of improved post-harvest management systems.
- ✓ Adoption of improved low-cost post-harvest handling strategies facilitated.

Output 4: Facilitation of improved farmer linkages to market through the adoption of service contracts

- ✓ Post-harvest loss analysis of additional value chains undertaken.
- ✓ Contract farming training conducted for agro-exporters and processors.
- ✓ Field-level practical contract farming capacity-building delivered for selected agro-enterprises.

## IMPLEMENTATION OF WORK PLAN

All project activities were completed on time and within budget.

A series of extensions were granted for the project's end, in order to accommodate delays associated with FAO procurement and the impact of Cyclone Gita in February 2018. These delays were unforeseen and could not be have been influenced by the team implementing the project. In spite of these events, all activities were achieved according to the contracted milestone delivery dates.

The designated FAO team responsible for this project provided excellent assistance to the technical specialists, ensuring that any potential minor issues were avoided or addressed in a timely manner.

## FOLLOW-UP FOR GOVERNMENT ATTENTION

While the project has successfully raised awareness of the need for good post-harvest handling and food safety practice among Samoan smallholder farmers and market vendors, stakeholders and beneficiaries require further assistance in implementing a range of best practice activities – in order to prepare new policies and strategic documents – as well as further capacity-building (in particular targeting female market vendors).

There are a number of clearly defined follow-up actions. For instance, there is currently no strategy or policy framework focuses on improving Samoa's domestic fresh food marketing systems, which would be urgently required to assist potential future remediation efforts. The follow-up actions have been discussed with other donor agencies, such as the World Bank and the International Fund for Agricultural Development (IFAD), who have demonstrated their interest in investing in them.

## SUSTAINABILITY

The Samoan Food Safety Act 2015 provides a legal framework to support better health outcomes in Samoa. The Samoa Fruit and Vegetable Strategy 2009, meanwhile, highlights the importance of post-harvest handling in achieving sustainable sector development. With the training materials developed under the present project, there has been a strengthening on in the capacities of national institutions such as SROS, USP and MAF, which are expected to provide further technical support to farmers.

The project had a strong gender focus, with female market vendors accounting for 90 percent of the stakeholders benefiting from capacity-building. In addition, two of the five participatory-based post-harvest trials were designed and undertaken specifically to assist women (namely cool boxes to improve overnight product storage in the market and new portable roadside vendor stalls suitable for use by female vendors).

Socio-economic studies also specifically sought to document the issues and challenges faced by women within the supply chain, ensuring that they might be addressed in the design of participatory trials and capacity-building activities.



New gender opportunities and improved labour conditions were created as a result of the project. Training was provided to female market vendors in the promotion of new agribusiness value-adding opportunities in an attempt to reduce food loss. In addition, the design and testing of on-farm equipment, such as wash station equipment and female roadside vendor's stalls, was aimed at reducing occupational risks associated with excessive handling practice.

Significant efforts were made to ensure the appropriateness and effectiveness of the technologies introduced to the supply chains. A series of stakeholder workshops were undertaken in order to identify and prioritize post-harvest technologies for subsequent on-farm or in-market evaluation. The selected technologies were then tested under commercial conditions using participatory engagement.

### DOCUMENTS AND OUTREACH PRODUCTS

- ❑ Six-monthly report. S.J.R. Underhill. June 2016. 16 pp.
- ❑ Post-harvest training report. S. Molimau-Samasoni. October 2016. 8 pp.
- ❑ Horticultural value chain report. S.J.R. Underhill. 2016. 12 pp.
- ❑ FUNARBE – LOA inception report. C.A. Da Silva. 2016. 4 pp.
- ❑ FUNARBE – LOA terminal report. C.A. Da Silva. 2016. 18 pp.
- ❑ Samoa Chamber of Commerce. 2016. LOA terminal report. 7 pp.
- ❑ Back-to-Office Report – Savai'i. S. Sherzad. 2016. 5 pp.
- ❑ Back-to-Office Report – Savai'i. S. Sherzad. 2017. 5 pp.
- ❑ Six-monthly report. S.J.R. Underhill. January 2017. 18 pp.
- ❑ Mission report. S.J.R. Underhill. February 2017. 2 pp.
- ❑ National steering progress report. S.J.R. Underhill, L. Singh-Peterson, S. Molimau-Samasoni. February 2017. 17 pp.
- ❑ Mission report. S.J.R. Underhill. March 2017. 15 pp.
- ❑ Report on Dr. Seesei Molimau-Samasoni's attendance at the University of California-Davis Short Course on Post-harvest Technology, California, U.S.A (18 June 2017 to 2 July 2017). S. Molimau Samasoni. 4 pp.
- ❑ Six-monthly report. S.J.R. Underhill. December 2017. 4 pp.
- ❑ Trip report for attendance at UC-Davis Short Course on Post-harvest Technology. 2017. 3 pp.
- ❑ Collated trip report – Samoan nationals attending the UC-Davis Short Course on Post-harvest Technology, California, U.S.A. 12 pp. S.J.R. Underhill. 2017.
- ❑ Assessment of socio-economic factors influencing the current post-harvest management of smallholder farmers. Assessment of socio-economic factors influencing the current food safety practices of fruit and vegetable vendors. L. Singh-Peterson. 2017. 30 pp.
- ❑ Procurement items in support of Samoan Post-harvest LoA (TCP/SAM/3503). S.J.R. Underhill. 2017. 8 pp
- ❑ Trip report for attendance at UC-Davis post-harvest short course. F. Amosa. 2017. 3 pp.
- ❑ University of the Sunshine Coast – LOA terminal report. S.J.R. Underhill. October 2018. 12 pp.
- ❑ Report on key findings of post-harvest trials to assess practical technologies. S.J.R. Underhill. October 2018. 12 pp.
- ❑ SROS – LOA terminal report. S. Molimau-Samasoni et al. November 2018. 42 pp.
- ❑ Contract farming – For improved access to market and resources. S. Sherzad . Apia, Samoa. 2016. <http://www.fao.org/3/a-i6600e.pdf>
- ❑ Vegetable protective cropping and contractual farming in Samoa. S. Sherzad and S.J.R. Underhill. 2018.. Apia, Samoa. <http://www.fao.org/3/ca1179en/CA1179EN.pdf>
- ❑ Horticultural post-harvest loss in municipal fruit and vegetable markets in Samoa. S.J.R. Underhill, Y. Zhou, S. Sherzad, L. Singh-Peterson and S. M. Tagoai. 2017. Food Security 9(6): 1373-1383 (DOI: 10.1007/s12571-017-0734-7).
- ❑ A practical guide to better post-harvest handling for Samoan smallholder farmers. S.J.R. Underhill. University of the Sunshine Coast. 2017. 76 pp. <http://research.usc.edu.au/vital/access/manager/Repository/usc:22202>
- ❑ Value-adding for Samoan fruit and vegetable market vendors: Waste less and sell more. S.J.R. Underhill. 2017. <http://research.usc.edu.au/vital/access/manager/Repository/usc:25225>



## ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

<b>Expected Impact</b>	Improved capacity of Samoan farmers to market a consistent supply of safe, quality food	
<b>Outcome</b>	Samoan farmers benefit from reduced rate of financial losses caused by post-harvest quality degradation and loss	
	<b>Indicator</b>	<ul style="list-style-type: none"> <li>• Number of fruit and vegetable small and medium-sized farmers adopting improved post-harvest management and safety practices.</li> <li>• Number of fruit and vegetable large-scale commercial farmers adopting improved post-harvest management and safety practices.</li> <li>• Number of national institutions/agencies seeing their capacities in post-harvest management practices developed through training.</li> <li>• Number of market vendors/agro-enterprises adopting good hygienic practices</li> </ul>
	<b>Baseline</b>	<ul style="list-style-type: none"> <li>• 10-15% of all fresh horticultural produce in Samoa removed from the supply chain due to post-harvest deterioration.</li> <li>• Samoan smallholder farmers and market vendors had received little post-harvest handling and food safety capacity-building assistance.</li> </ul>
	<b>End Target</b>	<ul style="list-style-type: none"> <li>• 313 smallholder farmers and market vendors receive training in improved post-harvest management and food safety.</li> <li>• New post-harvest handling equipment developed, tested and commercially adopted by Samoan farmers.</li> <li>• Post-harvest technical capacity of three national institutions (MAF, SROS and USP) improved to support small and medium-sized farmers with post-harvest loss and quality reduction management.</li> <li>• Ten commercial-scale growers were provided with post-harvest and food safety training.</li> <li>• One contract farming training workshop for 27 participants and eight one-on-one technical field trainings were delivered.</li> <li>• Technical brief “Contract Farming – For improved access to market and resources” developed and disseminated.</li> </ul>
	<b>Comments and follow-up action to be taken</b>	<ul style="list-style-type: none"> <li>• Post-harvest awareness workshops provided to 313 smallholder farmers and vendors.</li> <li>• 243 pieces of post-harvest equipment distributed to Samoan smallholder farmers or market vendors to improve and adopt post-harvest handling practices.</li> <li>• New post-harvest equipment provided to large-scale farmers currently being commercially used.</li> <li>• Post-harvest technical capacity at the USP, SROS and MAF enhanced.</li> <li>• New post-harvest technical resource material designed for Samoan smallholder farmers prepared and distributed.</li> <li>• Training materials of contract farming, including technical brief, developed.</li> <li>• Capacity of farmers and agro-processors on contract farming operation improved.</li> </ul> <p>Follow-up activities are outlined below:</p> <ul style="list-style-type: none"> <li>• Better policies that improve local consumer access to fresh fruit and vegetables in Samoa.</li> <li>• Further strengthen the capacity and efficiency of fruit and vegetable market vendors in Samoa.</li> <li>• Improve access to fruit and vegetable markets for marginalized and remote farmers.</li> <li>• Improved wider smallholder farmer participation in contractual-farming in Samoa.</li> </ul>

Capacity of small and medium-sized farmers to market quality fresh agricultural products improved	
Indicators	Target
<p><b>Output 1</b></p> <p>Train small farmers and market vendors on improved post-harvest management.</p>	<ul style="list-style-type: none"> <li>• A total of 313 smallholder farmers and market vendors received training in improved post-harvest management and food safety.</li> <li>• Five smallholder farmer post-harvest and food safety training workshops undertaken.</li> <li>• Ten municipal market vendor training workshops based on daily seminars.</li> <li>• A post-harvest book for Samoan smallholder farmers (73 pages) prepared and 200 copies distributed.</li> </ul>
<p><b>Baseline</b></p> <p>Samoan smallholder farmers and market vendors had received little post-harvest handling and food safety capacity-building assistance.</p>	<p><b>Achieved</b></p> <p>Yes</p>
<p><b>Comments</b></p> <ul style="list-style-type: none"> <li>• A total of 243 pieces of post-harvest equipment distributed to Samoan smallholder farmers or market vendors to improve post-harvest handling practice in Samoa (including 220 collapsible plastic crates, 3 ladders, 3 picking poles, 3 harvesting baskets, 2 wash stations, 2 roadside stalls and 10 cool boxes).</li> <li>• A total of 38 smallholder farmers and market vendors participated in commercial trials to assess low-cost post-harvest equipment.</li> <li>• Extensive post-harvest training material (manuals, posters, handouts and PowerPoint presentations) produced and distributed to stakeholders.</li> <li>• Six post-harvest handling and food safety workshops and a further two refresher workshops held in support of capacity-building Samoan farmers.</li> <li>• Three Samoan nationals received intensive post-harvest training through their attendance at the University of California post-harvest short course.</li> <li>• Four stakeholder workshops undertaken to identify and prioritize low-cost post-harvest research interventions.</li> <li>• Five participatory-based trials to assess low-cost post-harvest equipment undertaken.</li> <li>• One end-of-project technical workshop to communicate key findings and lessons learned to stakeholders.</li> </ul>	
<p><b>Activity 1.1</b></p> <p>Improve the capacity of smallholder fruit and vegetable farmers to adopt improved post-harvest management and food safety practices</p>	
<p><b>Achieved</b></p>	<p>Yes</p>
<p><b>Comments</b></p>	<ul style="list-style-type: none"> <li>• A total of 313 smallholder farmers and market vendors received training in improved post-harvest management and food safety.</li> <li>• Five post-harvest and food safety training workshops were undertaken for smallholder farmers. These were held in Lepa, Savai'a and Alesia (on Upolu Islands), as well as in Vaisala and Lata (on Savai'i Island).</li> <li>• Two refresher post-harvest and food safety trainings for smallholder farmer workshops were undertaken in Upolu and Savai'i islands.</li> <li>• Hard copies of post-harvest resource materials were supplied to MAF, Samoan farmers' organizations and local extension staff in attendance.</li> </ul>
<p><b>Activity 1.2</b></p> <p>Train commercial fruit and vegetable farmers to adopt improved post-harvest management and food safety practices</p>	
<p><b>Achieved</b></p>	<p>Yes</p>
<p><b>Comments</b></p>	<ul style="list-style-type: none"> <li>• Ten commercial-scale growers were provided with post-harvest and food safety training.</li> <li>• A refresher post-harvest workshop was held in Alesia for commercial farmers.</li> <li>• A presentation on improved post-harvest handling practice was given to members of the Samoan Chamber of Commerce.</li> </ul>
<p><b>Activity 1.3</b></p> <p>Train market vendors to adopt improved food safety and retailing practices</p>	
<p><b>Achieved</b></p>	<p>Yes</p>
<p><b>Comments</b></p>	<ul style="list-style-type: none"> <li>• 10 municipal market vendor training workshops based on daily seminars were undertaken at the Fugalei and Afega markets.</li> <li>• Refresher training was provided for the Fugalei and Afega market vendors at the SROS conference room.</li> </ul>
<p><b>Activity 1.4</b></p> <p>Assess socio-economic factors influencing the current post-harvest management of small farmers</p>	
<p><b>Achieved</b></p>	<p>Yes</p>
<p><b>Comments</b></p>	<p>Focus group discussions and follow-up semi-structured interviews to document how socio-economic factors influence smallholder farmers' current food safety practices were completed in June 2017.</p>

Activity 1.5	Assess socio-economic factors influencing the current food safety practices of fruit and vegetable vendors		
	Achieved	Yes	
	Comments	Focus group discussions and follow-up semi-structured interviews to document how socio-economic factors influence current food safety practice by market vendors were completed in June 2017.	
Activity 1.6	Production of training materials to support post-harvest management and food safety training		
	Achieved	Yes	
	Comments	<ul style="list-style-type: none"> <li>• A post-harvest book for Samoan smallholder farmers (73 pages) was prepared and 200 copies distributed to smallholder farmers, Samoan farmers' organizations, SROS and MAF.</li> <li>• An e-copy of the book was made available to members of FAO's Sustainable Crop Production Intensification (SCPI) of horticultural crop-based systems.</li> <li>• A new book written for Samoan market vendors – "Value-adding for Samoan fruit and vegetable vendors – Waste less and sell more" (37 pages) was prepared and 100 copies distributed to Samoan market vendors in support of the refresher training undertaken in March 2018.</li> <li>• Extensive additional post-harvest training material (posters, handouts and PowerPoint presentations) were produced and distributed to stakeholders.</li> </ul>	
Output 2	Improved capacity of national institutions agencies (MAF, SROS and USP) to produce food-safe agricultural products		
	Indicators	Target	Achieved
	<ul style="list-style-type: none"> <li>• Three of Samoa's national institutions agencies have their capacity developed in post-harvest management practices.</li> <li>• Gas chromatography-mass spectrometry (GC-MS) system in SROS upgraded and capacity of existing SROS staff built on improved chemical and microbial testing protocols.</li> </ul>	<ul style="list-style-type: none"> <li>• Post-harvest technical capacity of three national institutions (MAF, SROS and USP) to support small and medium-sized farmers with post-harvest loss and quality reduction management is improved.</li> <li>• FAO upgraded the SROS laboratory with expendable and non-expendable equipment needed for chemical and microbial testing protocols.</li> </ul>	Yes
Baseline	0		
Comments	<ul style="list-style-type: none"> <li>• Three Samoan nationals received intensive post-harvest training through their attendance at the University of California post-harvest short course.</li> <li>• FAO procured expendable and non-expendable equipment required to undertake testing of pesticide residue contaminant sample, as well as contaminant samples of <i>E. coli</i>, Salmonella and Listeria.</li> </ul>		
Activity 2.1	Assess institutional post-harvest management capacity		
	Achieved	Yes	
	Comments	Assessment of the institutional post-harvest capacities, based on interviews with senior staff at SROS, MAF and USP, was completed and the selected attendees approved on the Project Steering Committee.	
Activity 2.2	Training of trainers on international post-harvest management: study tour		
	Achieved	Yes	
	Comments	<ul style="list-style-type: none"> <li>• Three Samoan nationals from SROS (Dr. Seeseei Molimau-Samasoni), USP (Mr. Falaniko Amosa) and MAF (Mr. Tanu Toomata) successfully attended the University of California, Davis Campus post-harvest short course from 17 June to 2 July 2017.</li> <li>• One collated trip report for the three Samoan nationals was prepared.</li> </ul>	
Activity 2.3	Train national institution (SROS) to provide improved food safety testing capacity		
	Achieved	Yes	
	Comments	<ul style="list-style-type: none"> <li>• SROS staff were trained by a senior expert from Shimadzu Scientific Instruments in Australia, in order to build the capacity of SROS analysts in multipesticide residue analysis. The training lasted two weeks and focused mainly on pesticide residue analysis using the Quick, Easy, Cheap, Efficient, Rugged and Safe (QuEChERS) method, combined with GC-MS.</li> <li>• The capacity-building also involved the installation of the PVT, an extra component to upgrade the GC-MS system in SROS, so that the injector might be able to inject a large volume of samples for analysis.</li> <li>• FAO procured the extra component (PVT) to upgrade the GC-MS system for pesticide analysis. The consumables required for analysis of <i>E.coli</i>, Salmonella and Listeria contaminants analysis were also purchased by FAO.</li> </ul>	

Activity 2.4	Undertake analysis of biological and chemical contaminants in fresh produce		
	Achieved	Yes	
Activity 2.4	Comments	<ul style="list-style-type: none"> <li>Collected field samples of potential pesticide residue contaminants at 3 different points along each of 10 different horticultural value chains, with 2 repetitions of the test for each sample (60 pesticide residue contaminant sample tests in total).</li> <li>Collected field samples of potential <i>E. coli</i> contaminants at 3 different points along each of 5 different horticultural value chains, with 2 repetitions of the test for each sample (30 <i>E. coli</i> contaminant sample tests in total).</li> <li>Collected field samples of potential Salmonella contaminants at 3 different points along each of 5 different horticultural value chains, with 2 repetitions of the test for each sample (30 Salmonella contaminant sample tests in total).</li> <li>Collected field samples of potential Listeria contaminants at 3 different points along each of 5 different horticultural value chains, with 2 repetitions of test for each sample (30 Listeria contaminant sample tests in total).</li> </ul>	
		Capacity of commercial farmers to adopt low-cost post-harvest handling strategies improved	
Output 3	Indicators	Target	Achieved
	New post-harvest handling equipment developed, tested, and commercially adopted by Samoan farmers.	<ul style="list-style-type: none"> <li>Four stakeholder workshops were held to identify, discuss and prioritize low-cost post-harvest handling tools and strategies for evaluation.</li> <li>Five semi-commercial participatory trials undertaken.</li> <li>Results and findings of the evaluated low-cost post-harvest handling technology shared.</li> </ul>	Yes
Baseline	0		
Comments	<ul style="list-style-type: none"> <li>Two low-water use vegetable washing stations to improve on-farm food safety practice and one portable roadside stall provided.</li> <li>All low-cost post-harvest equipment for on-farm or in-market testing was supplied to participating farmers and vendors.</li> <li>Following the on-farm trials, associated equipment was donated to the participating smallholder farmers and market vendors.</li> <li>Participating farmers reported back their experiences and lessons learned.</li> </ul>		
Activity 3.1	Train public and private sector stakeholders to understand the costs and benefits of adopting improved low-cost post-harvest handling strategies		
	Achieved	Yes	
Activity 3.1	Comments	<ul style="list-style-type: none"> <li>Four stakeholder workshops were held to identify, discuss and prioritize low-cost post-harvest handling tools and strategies for evaluation. These workshops were held in Alesia, Savai'a and Afega markets (Upolu Island) and in Vaisala (Savaii Island).</li> <li>Two low-water use vegetable washing stations and one portable roadside stall were locally constructed to improve on-farm food safety practice.</li> </ul>	
		Assess low-cost practical tools to reduce existing levels of wastage	
Activity 3.2	Achieved	Yes	
	Comments	<ul style="list-style-type: none"> <li>All low-cost post-harvest equipment for on-farm or in-market testing was supplied to participating farmers and vendors.</li> <li>Five semi-commercial participatory trials were undertaken to assess equipment, based on the following work plan: (i) the Ah Liki farm in Alesia assessed locally constructed low-water use vegetable washing stations to improve on-farm food safety practices, (ii) female roadside market vendors in Savai'a assessed portable roadside stalls, (iii) fruit and vegetable vendors in Afega market assessed the use of large cool boxes for overnight produce storage, (iv) Asau community citrus farms assessed three different types of harvesting aids and (v) Alesia smallholder fruit and vegetable farmers and Afega taro farmers assessed the use of collapsible plastic crates.</li> <li>Following the on-farm trials, associated equipment was donated to the participating smallholder farmers and market vendors.</li> <li>Participating farmers reported back their experiences and lessons learned associated with the post-harvest semi-commercial trials.</li> </ul>	



Activity 3.3	Assist commercial enterprises with the adoption of improved post-harvest management systems		
	Achieved	Yes	
	Comments	<ul style="list-style-type: none"> <li>Two commercial business enterprises (a smallholder pineapple farmer in Alesia and Natural Foods International) were evaluated, using a detailed assessment of biophysical handling and storage practice to assess their post-harvest handling.</li> <li>One technical report –“Horticultural value chain report” – was produced.</li> <li>Both enterprises were revisited in March 2018 to discuss research findings and to provide further recommendations on how to improve post-harvest handling practices.</li> <li>The smallholder pineapple farmer also participated in one of the post-harvest trials.</li> </ul>	
Activity 3.4	Facilitate adoption of improved low-cost post-harvest handling strategies		
	Achieved	Yes	
	Comments	<ul style="list-style-type: none"> <li>An end-of-project workshop was held in Apia (at the FAO Subregional Office) in August 2018 to allow participating farmers and vendors to share and reflect on the usefulness of the training workshops and report back on the low-cost post-harvest equipment trials. This half-day workshop also reported TCP findings and recommendations to key stakeholders.</li> <li>With the assistance of the FAO media unit, a series of local press releases were prepared throughout the project (leading to local and television coverage), further promoting key lessons learned from the project.</li> </ul>	
Output 4	Facilitation of improved farmer linkages to market through the adoption of service contracts		
	Indicators	Target	Achieved
	<ul style="list-style-type: none"> <li>Training materials for contract farming, including technical brief, are developed.</li> <li>Capacity of farmers and agro-processors improved on contract farming.</li> </ul>	<ul style="list-style-type: none"> <li>Contract farming training workshop arranged and 27 participants trained.</li> <li>Eight one-on-one field technical trainings on contract farming provided.</li> <li>Technical brief on contract farming prepared and disseminated.</li> </ul>	Yes
Baseline	0		
Comments	<ul style="list-style-type: none"> <li>Two commercial farmer supply chains (breadfruit and pineapple) assessed.</li> <li>One contract farming training workshop and eight one-on-one field trainings delivered.</li> </ul>		
Activity 4.1	Undertake post-harvest loss analysis of additional value chains		
	Achieved	Yes	
	Comments	Two commercial farmer supply chains (breadfruit and pineapple) assessed to identify and communicate post-harvest remediation strategies.	
Activity 4.2	Conduct contract farming training for agro-exporters and processors		
	Achieved	Yes	
	Comments	<ul style="list-style-type: none"> <li>Training materials revised and expanded.</li> <li>A technical brief entitled “Contract Farming – For improved access to market and resources” was developed and published online.</li> <li>A case study entitled “Vegetable protective cropping and contractual farming in Samoa” was developed and disseminated.</li> <li>A training workshop on “Design and Analysis of Farming Contracts” was organized and attended by 27 participants.</li> </ul>	
Activity 4.3	Deliver in-field practical contract farming capacity- building for selected agro-enterprises		
	Achieved	Yes	
	Comments	<ul style="list-style-type: none"> <li>One-on-one technical support to eight smallholder farmers and agro-processors provided.</li> <li>Developed technical materials and contract farming case studies shared with participants.</li> </ul>	

Outreach, Marketing and Reporting Unit (PSRR)  
Business Development and Resource Mobilization Division (PSR)

For more information please contact: [Reporting@fao.org](mailto:Reporting@fao.org)