

“Capacity building Training for SROS staff and community women on value added agricultural produce.”



Processing of frozen breadfruit fries, baked slices and taro fries.

Siope Pele (Principal Research Scientist, FSTD), Notise Faumuina (Principal Research Scientist, FSTD), Tualupetu Togafau (Senior Research Scientist, FSTD), & Kuinimeri Finau (Scientific Research Leader, FSTD)

Food Science and Technology Division (FSTD)

Scientific Research Organisation of Samoa (SROS)

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Food and Agriculture Organization

Activity 4: Train 4 community groups on breadfruit processing (2 communities in Upolu and Savaii)

Background

Breadfruit and Taro are the most abundant and commonly consumed staples in Samoa. Breadfruit has only in the past couple of years been added as an exported commodity (frozen) in addition to taro and other crops to New Zealand and Australia. SROS has successfully developed and confirmed the optimum procedures for processing three frozen breadfruit products, the uncooked slices, fries and baked slices.

The local exporters have up taken the breadfruit slices due to ease of processing. The fries on the other hands has been taste tested by many visitors to SROS as well as during national consultation planning workshop, with very good feedback for it be substitute for potato fries and a possible exports products. The baked breadfruit products due to its convenience (just microwave) has great opportunity for both local and overseas market and in particular for fast food caterers. The differences in processing attributes of varieties used, have also been identified along with the best variety to focus on when producing the different breadfruit products. Taro fries was also developed last year and taste tasting has also indicated the product to be well received. Both fries were also delivered to local bars and restaurants with great feedback and one bar is wanting to exclusively provide only the local fries to promote local food. Thus there is economic opportunity for families and communities if they can process french fries for our local bars and restaurants and even school canteens using our own locally available staples.

The Food Science and Technology Division (FSTD-SROS) hosted a value added and food processing training for young farmers in January this year, also funded by FAO. From this training a common comment and feedback from the ladies who attended indicated the opportunity they see for their families if they can process the breadfruit fries and sell it considering it is an abundant and underutilised crop.

This new LOA with FAO has now presented the opportunity for women groups to be trained on how to value add and process breadfruit and taro to a product they can sell for income generation. The Ministry of Agriculture and Fisheries (MAF) assisted in identifying the women groups for training and the rest was organised by the SROS team. Four women committees were selected, 2 from Upolu and 2 from Savaii with a target of 15 women per group.

This training consisted of three parts- theory presentation, practicals or hands on training for processing the frozen products and lastly, taste testing.

Training Objectives

The main focus of the training was for the selected women groups to;

- Understand the importance of food safety and hygienic practices,
- Understand the theory and importance of food preservation methods with a focus on Freezing,
- Be trained on how to process quality frozen breadfruit and taro products,
- Taste test final products and understand the importance of consumer feedback and;
- To understand the economic opportunities for families and communities when value adding to agricultural produce.

Training Materials/Consumables

The following equipment and training consumables used were either provided by SROS or bought under the LOA. The items highlighted red were gifted to the communities at the end of each training to assist the groups start their value adding activities.

- Fresh breadfruit/ taro
- Vacuum Machine / vacuum pack equipment
- Stove /Onion bags/Gas cylinder
- Drainage stands/ tables/containers
- Presentation materials / printed handouts
- Chest freezers
- Deep Fryer
- Knives /peelers/Chopping boards
- Sealable bags/ aprons
- Box gloves



Figure 1 :Training equipment, utensils and gifted items.

Due to size of equipment and training consumables needed to be transported, the SROS van and pickup were used for all training.

Training Part 1 –Theory

The training was split to two days for theory and practicals on the first day and product tasting and evaluation on the second day. This also allowed product to be well frozen before cooking.



Figure 2: Samatau Women Community



Figure 3: Faleasiu Women Community (Upolu)



Figure 4: Fagamalo Women Community (Savaii)



Figure 5: Faiaai Women Community (Savaii)

The first day of training focused on presentations for the introduction of concepts on Product Development, Food Safety and Good Manufacturing Practices and Food Preservation (Freezing). The presentations were in Samoan and also included an introduction of the Food Act to stress the legal implications of producing and selling contaminated food to the public. The last presentation involved going through in detail the value addition processing steps for breadfruit and taro fries to be implemented in the practical sessions.

The participants were allowed to ask questions after every presentation and a common comment from the women was their great appreciation of the food safety information which they found very useful for their own everyday food preparations.

Hands on training session (practical)



Figure 6: Peeling the breadfruit and taro



Figure 7: Chopping



Figure 8: Blanching in hot water



Figure 9: Draining and Cooling



Figure 9: Packaging the fries



Figure 10: Baked breadfruit vacuum packed



Figure 11: Storage (Freezing)

The hands on practical session was the most important part of the training and the women from each group were very enthusiastic to learn and implement the processing of the frozen products. The theory session gave them some understanding of the processing steps starting from the point of harvest, processing, packaging and storage of the frozen products but the practicals clarified the process in detail.

Due to the different fruiting seasons of breadfruit some communities like Faleasiu in Upolu and Fagamalo in Savaii did not have breadfruit available so SROS had to pre-collect breadfruit from other villages. The Puou variety is the best for fries processing and was collected from a neighbouring village for Fagamalo training. For Samatau in Upolu and Faiaai in Savaii the women were able to provide *Maafala* and *Momolega* varieties for their training. For Faleasiu community in Upolu the *Aveloloa* variety was used. Fresh Taro was purchased from the markets and provided for each training. Initially the training started with a demonstration by the SROS team for processing of breadfruit and taro fries and the women continue and finish it off. Each community was also provided with baked breadfruit slices for vacuum packing demonstration using the vacuum packaging machine. All 3 frozen products of breadfruit fries, baked breadfruit slices and taro fries were processed, packed and frozen overnight or more for the second day.

Faleasiu and Samatau groups were not available to have their training for two consecutive days so had separate weeks for days 1 and 2 for training.

Taste testing the frozen products

The second day was the cooking and sensory evaluation of the frozen products. The day started with a re-cap of the theory as well as feedback on the practical sessions conducted on the previous day. The ladies were shown how to use the 5L capacity fryers and they cooked the samples themselves



Figure 12: Women cooking the fries using fryers and showing ready to eat product



Figure 13: Women showcase cooked frozen fries

The frozen breadfruit and taro fries were fried in the deep fryer with vegetable oil and baked frozen breadfruit were heated in the microwave for 10 minutes. All products were taste tested by each group and most if not all women were very delighted with the results.

Training feedback

During the tasting of products the ladies were given evaluation forms for written feedback on the training and at the same time discussions on how they saw such training could be used within their communities. The ladies were generally highly appreciative for such an opportunity to be trained and particularly to be taught on alternative ways to utilise their crops.

It is worth noting that some men were present during the training at Samatau and Faleasiu.



Figure 14: Samatau group included several men



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Samatau Community

25th & 01st May 2018

Activity/Rating	(Excellent)	(Good)	(Average)	(Poor)	(Very Poor)
(Theory)	17	2			
(Practical)	19				
(Organising)	19				

NOTE: 19 participants not including the men who were present

Faleasi'u Community

27th & 02nd May 2018

Activity/Rating	(Excellent)	(Good)	(Average)	(Poor)	(Very Poor)
(Theory)	13	2			
(Practical)	15				
(Organising)	15				

NOTE: 15 participants signed but a lot more were present

Fagamalo Community

08th – 9th May 2018

Activity/Rating	(Excellent)	(Good)	(Average)	(Poor)	(Very Poor)
(Theory)	20				
(Practical)	20				
(Organising)	20				

NOTE: 20 participants each day

Faiaai Community

10th – 11th May 2018

Activity/Rating	(Excellent)	(Good)	(Average)	(Poor)	(Very Poor)
(Theory)	15	1			
(Practical)	14	2			
(Organising)	16				

NOTE: 16 participants on the first day and 20 on the second day

The compiled evaluation results show most communities rated the training as excellent with common feedback (Appendix 3) being very useful and hoping for more training of similar nature.

Gifting of Training packs

The communities at the end of the programme were gifted with the following;

- -one 450L chest freezer,
- -two 5L deep-fryers,
- -two chopping boards,
- -two knives,
- two aprons,
- -two boxes of gloves and
- -50 sealable bags.

The items will greatly assist the women groups start small business activities for producing frozen fries which they can sell directly to restaurant and hotels, or cook and sell in village schools and community gatherings like bingos. Some ladies have noted they will freeze their baked breadfruits for family consumption during off season.

The gifts were presented after the training evaluation to ensure the ladies were honest with their feedback of the training.



Figure 15: Faiaai women group presented with their training packs.

The ladies were usually at a loss of words when presented at the end of the programme with the training packs. They noted that it was a concern not having the tools to implement the new ideas but with the given gifts they don't see a reason why the committees cannot start producing and selling breadfruit and taro fries as soon as possible.



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CONCLUSION

To train people on new ideas and methodologies is good, but to train and equip them with the necessary tools makes a world of difference. These community trainings achieved both in that it not only provided the understanding but also the tools to allow application of this know how.

The training achieved its targeted objectives as set out with the theoretical understanding and practical training for processing frozen products. The ladies expressed much appreciation on the content of the training with it being relevant and applicable to everyday life. They indicated that the new ideas and methodologies are things maybe as individuals they cannot do, but as a group such as women's committees, are possible and easily achievable particularly now they have been presented with the required equipment. The community groups were all thankful and hopeful similar training will come their way again.

The SROS team only hopes these women groups will lead the way in using simple value addition techniques to process products from agricultural produce such as breadfruit and taro for income generating opportunities. We also hope the food safety and basic hygienic practices will go hand in hand and complement the processing of all products.

Appendix 1: Training Participants

Faleasiu Community

Kilisitua T	Koro.
Telemi Mose.	Ami.
Taliri. Vaeluaga	Alani.
Eti. Taeto	Eti
Alfa. Ali	Alfa
Alfiri. Aukuso	Ami.
Jaime. Fisona	Ami.
Ami.	Alani.
Telemi Lualoto	Telemi Lualoto.
Ami. Leafa	
Fualino. Moli	Justina Moli.
Hisoria	Hisoria.
Faalele. Vitale	Haeha.
Ruta. Tuiata	Ruta.
Fou. Vaega	Haega.
Talaiga. Matafela	Imatafela.



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Samatau Community

NAME :

Lava. Ali.
Karite. Asoone.
Marena. Lepoa
Faima. Faamanu.
Letau. Lavasani -
Suelin. Teagari
Sikola. Saito
Aiulu. Lepoa
Sanelva. Asoone.
Pulega. Faiva.
Issa. Faiva.
Olive. Tulia.
Mau - S.
Utouto - Samuelu
Lopepe - T.
Sefo - S
Tulia -
Lui. Luka
Faiblele.

SIGNATURE

Ali



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Faiaai Community

ATTENDANCE!!

DAY 1

FAIAAI

<u>NAME</u>	<u>SIGNATURE</u>	<u>P. NUMBER</u>
1. Sio. F		7634009
2. Penei		7792419
3. Selina R.		7268359
4. Lesina S		8845934
5. Vaimauga T.		8485107
6. Seira, P.		7607719
7. Rebecca A.		7750978
8. Lees Fale		7734962
9. Elisa. Sa		845-5934
10. FUALLAU ETEREI.		
11. Tui. Andrew.		
12. Monika. Fiapule		7264048
13. Tulu - Peasolo. JP.		
14. Faafetai. F.		7723263
15. Telesia T.		7617578
16. Alan. F. Tapu.		
17.		
18.		



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Fagamalo Community

ATTENDANCE !!!

DAY 1

08/05/

<u>NAME</u>	<u>SIGNATURE</u>	<u>VILLAGE</u>
FOUA-KORENE	FK	Fagamalo
CEHALOFA-LAMULA	Conatfe	Fagamalo
Mafutaga-Takavau	MA	Fagamalo
Solemu-Famatai	SL	Fagamalo
Esa-Pua	Esa-Pua	Fagamalo
Aisi S faga	AF	Fagana
Luti Tini	Luti	Fagamalo
Falefoe Kapiotogi	FC	Fagamalo
Ote Figaeser	Ote	Fagamalo
FULAI TINI	Fulai	Fagamalo
Alomai Aloaiua A	Alomai	Fagamalo
Fono Seni Piai	Fono	Fagana
Ionise Alavai	Ionise	Fagana
Taele Faoa	TF	Fagana
Fule Lena	Fule	Fagana
Fenitani Fagana	FF	Fagana
Lauaga/Lesala	Lauaga	Fagana
Muana Tini	MT	Fagana
Arvale Aloaiua Ro	Arvale	Fagana
Faamaga Enoka	FE	Fagana
Mefoia & S	Mefoia	Fagana

Appendix 2: Community Pictures Training activities

Upolu - Samatau training session.

Photo 1. Theory on -food-safety, preservation. Photo 2. Cutting ulu & taro fries



Photo 3. Blanching the cuttings



Photo 4. Packing into plastic bags-1kg



Photo 5. Packed & ready for freezer



Photo 6. Tasting of ulu & taro fries



Upolu - Faleasiu training session

Photo 1. Theory on -food-safety, preservation. Photo 2. Cutting ulu & taro fries



Photo 3. Blanching the cuttings

Photo 4. Packing into plastic bags-1kg



Photo 5. Frying ulu & taro fries

Photo 6. Tasting



Savaii – Fagamalo training session

Photo 1. Presentation



Photo 2. Chopping



Photo 3. Blanching



Photo 4. Packaging



Photo 5. Freezing



Photo 5. Frying



Photo 6. Fried fries



Photo 7. Sensory evaluation





Faiaai Training Sessions



Photo 1 : Presentation



Photo 2: Practical session



Photo 3: Cooking products



Photo 4: Tasting of products



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Appendix 3: Evaluation Form Summary

'Community Value Adding and Food Processing Training – April-May 2018

SROS, Food Science Technology Division

Please indicate your level of agreement with the Table below using a tick.

Activity/Rating	Excellent	Good	Average	Fair	Very Poor
Theory	64	6			
Practical	69	1			
Organising	70				

1) *What did you like most about this training?*

- Extensive knowledge gained on the use of **locally available resources** in Value-Adding and Food Processing purposes

i.e.

Use of breadfruit & taro to make fries/chips (potato fries is expensive)

Preserving methods: freezing /blanching

- Highly appreciate the good service from the staff
- Practicals: Provided a great chance for higher learning

2) *What aspects of the training could be improved?*

- Two days are not enough (eager to learn even more)

Other than that, all is GREAT already

3) *What additional 'Youth Value Adding and Food processing training' would you like to have in the future?*

- Put into practice what has been learnt to generate income to help meet the family's needs and wants

i.e. Fries: sell/deliver to the village stores/schools

4) *Please share other comments or expand on previous responses here*

- Wish the Staff could stay longer (eager to learn even more)
- Staff service is highly appreciated
- Hope SROS could help find us markets to deliver our produced products