INNOVATION BRIEF

Smoking Fish in Shortland Islands

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A woman checking the cooked fish in the smoker.

MFMR Diake, 2022.

Background

Smoking has been used for hundreds of years for preservation or to improve taste and flavour of fish[1]. Fish smoking is a common practice of preserving seafood in parts of Solomon Islands and is a traditional form of food preservation among the coastal communities in the Shortland Islands. In other Pacific Island countries fish smoking is also practiced and has been common in Vanuatu, particularly in Malakula, for many decades[2].

The transition and development of smoked fish in Shortland Islands has evolved over time. In the past the production was purposely for household consumption and cultural uses. With the increasing need for livelihood and food security, smoked fish production has developed into an income generating activity for the Shortland Islands coastal communities.

The Ministry of Fisheries and Marine Resources (MFMR) fisheries policy aims to facilitate sustainable use of inshore and inland fisheries for rural men and women that access, use and benefit from them, through improved preservation, market access and enhanced livelihood opportunities. Accordingly, the MFMR has carried out research to identify challenges and opportunities in the smoked fish value chain. This brief summarises some of the findings, including the origins and development of Shortland Islands smoked fish production from a traditional subsistence form to a marketable commodity. The focus is on the process from fish landing through to sales, and the gender differentiation of roles in production and marketing.

Methodology

There are four activities that we have drawn information from for this brief. Initially a baseline assessment (survey) was carried out by a team from the MFMR at seven communities in the Shortland Islands, namely Toumoa, Samanagho, Komaleai, Harapa, Gaomai, Aleang and Nuhu. 23 men and 18 women participated. Secondly, there was a post harvesting handling training conducted in the Shortland Islands for 12 women from seven communities. As part of the training the women shared their experiences in transforming the development of fish smoking and preservation toward being a marketable commodity. Finally, there was a seafood safety training and seminar conducted as part of an "Islands Food Forum" that was hosted by Kastom Gaden Association, WorldFish, SINU, FAO and MFMR in Honiara. Three women from the Shortland Islands were supported to attend by MFMR (FAO project). One of them was a guest speaker at the forum presenting the challenges and the opportunities for developing fish smoking as a business and as a supplementary livelihood for women in Shortland Islands.



Fish placed in the smoker.

MFMR Diake, 2022.


A fish being smoked.

MFMR Diake, 2022

History and development

Fish smoking in Shortland Islands has a long history. Culturally and socially it is a form of food preservation for the people to have a sufficient source of protein and nutrition for their livelihood and food security. Smoking fish is a daily activity when there is an abundance of fish within households and communities. The survey results indicated that smoking fish is a cultural lifestyle that has continually been passed on by generations. Smoking fish within the outer and inner Shortland communities is a household business involving men, women, and children.

With the increasing population and the need to generate small income from the smoked fish products, the subsistence-based practice has changed as there is a growing demand for basic livelihood and food security. This has been a driver for the coastal communities to concentrate more on smoked fish production and marketing to Bougainville on the Papua New Guinea border (see map) as there is a high demand for the product.

Processing and marketing

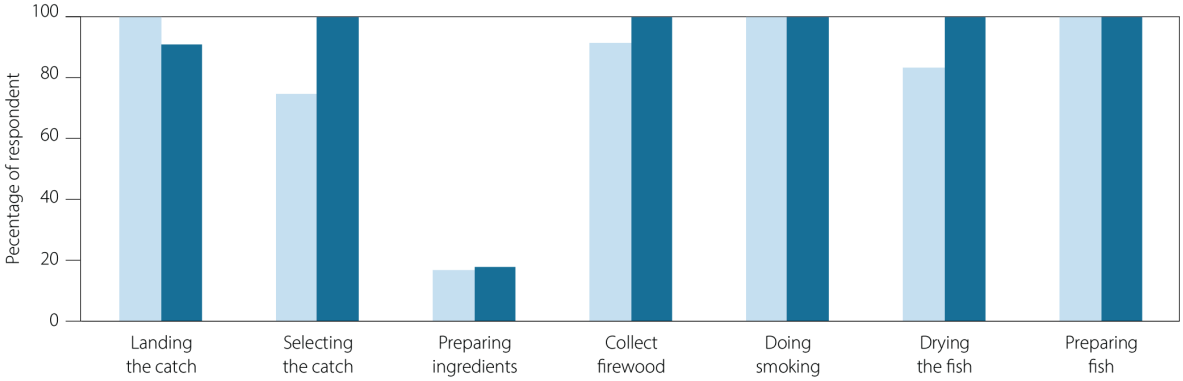
The stages of smoked fish processing and marketing in the Shortland Islands were identified from the point of landing of fresh fish to sale of the final smoked product. The initial stage consists of cleaning, gutting and filleting the fish before arranging and putting them in the smoker to smoke. There are also various stages within this process when the fish are left in the sun to dry, to remove the water content.

It takes two to three hours to get the fish cooked through the smoking process, depending on the fish size and species, and the types of firewood they used. Smoked fish are either packed directly into plastic containers or are packaged in fresh coconut leaves. The leaves are placed on the fire to soften and then are woven around the fish.

Marketing involves transporting to the market site to be displayed and then selling the smoked product in various markets. While some smoked fish are sold within the local community or sent to Honiara, the core market access is in Bougainville, due to its closeness relative to urban markets in Solomon Islands.

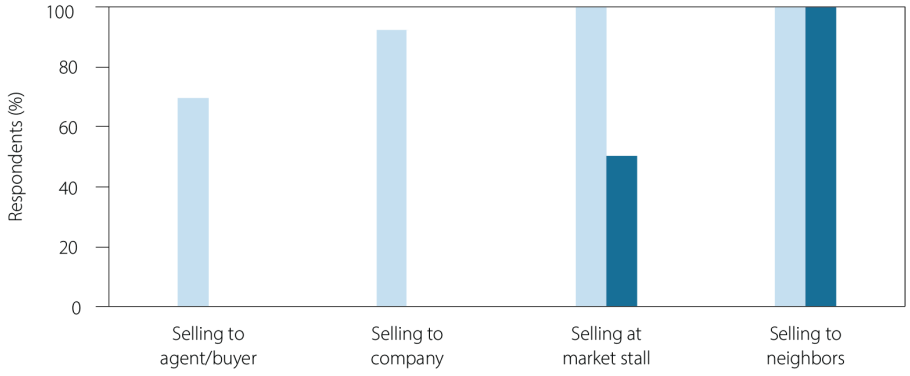
Gender Involvement

There are responsibilities placed on men, women, and children in the production of smoked fish. In general, more men than women are fishers (Figure 1) but both



	Landing the catch	Selecting the catch	Preparing ingredients	Collect firewood	Doing smoking	Drying the fish	Preparing fish
Male	100	75	17	92	100	83	100
Female	91	100	18	100	100	100	100

Fig 1. Activities carried out by women and men in the production of smoked fish from landing the fresh catch through to post-smoking drying and preparing (packaging) fish for market.



	Selling to agent/buyer	Selling to company	Selling at market stall	Selling to neighbors
Male	69	92	100	100
Female	0	0	50	100

Fig 2. Accessible markets for smoked fish vendors. The agent/ buyers represent 'middlemen' who purchase product from multiple producers and then transport to Bougainville or Honiara for sale. Company refers to logging companies operating around the islands.

men and women participate in all steps of the process. The survey data showed that women tended to play a bigger role in selecting the catch, collecting firewood and drying the fish.

There is a difference in how men and women engaged with different markets. Male respondents have access to all available markets while women were focused on selling at local market stalls and to neighbours (Figure 2). Men are mostly responsible for transporting and trading smoked fish products to the Bougainville market.

Benefits

Fish smoking has since the earliest time been regarded as a form of food preservation, food security, exchange (barter) and a form of subsistence for coastal communities in Shortland Islands. Now the motive for smoking fish has changed as an opportunity to generate income to support household basic needs. Smoked fish has socially and economically benefited Shortland Islands communities in several ways. It is regarded as a substitution for tinned food as a daily source of fish for communities, as a form of business income for household expenditures such as school fees and contributes toward community developments such as clinics and schools.

Challenges

Accessing a market apart from Bougainville is challenging. Unreliable flight and shipping schedules are common in Shortland Islands due to weather and distance from Honiara. This makes it difficult to sustain a consistent supply of smoked fish to Honiara market.

Food safety and quality also needs to be of a high quality for an urban market. There is currently a lack of proper storage sites and enough equipment such as freezers in the community.



A locally designed smoker used for smoking fish.



This innovation is based on tradition and has grown from the community. It is yet to receive substantial external support.

Future potential

- The traditional fish smoking practiced in Shortland Islands contributes to food security and nutrition, and the livelihood of these subsistence-based communities. Evolving this practice into an income generating activity can contribute to improved socio-economic development of the coastal communities and will bring spill over benefits to the local economy.
- Expanding to new markets with product upgrading and improved food safety will give public the assurance of how safe the product is to new customers. This will open up markets for smoked fish producers.
- Opportunities to build capacities in areas like food safety and business development will give the people of Shortland Islands the confidence to utilise their knowledge and skills to venture into seafood businesses.
- The smoked fish techniques described here use relatively accessible technology and so could be replicated elsewhere in coastal communities in Solomon Islands.



A smoked fish wrapped in coconut leaves, ready to be taken to the market.



Smoked fish ready to be packed and transported for sale.

Notes:

1. David, G., 1987. The Role of Women in post Harvest Fisheries activities in Vanuatu. Fisheries News Letter, Issue #50, pp. 23-27.
2. Arvanitoyannis, I.S, Kotsanopoulos. K.V 2011. Smoking of Fish and Seafood: History, Methods and Effects on Physical, Nutritional and Microbiological Properties, Department of Agriculture Ichthyology and Aquatic Environment, Faculty of Agriculture, University of Thessaly, Fytokou Str., Nea Ionia Magnesias, Food Bioprocess Technol (2012) 5 pp. 831–853

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