



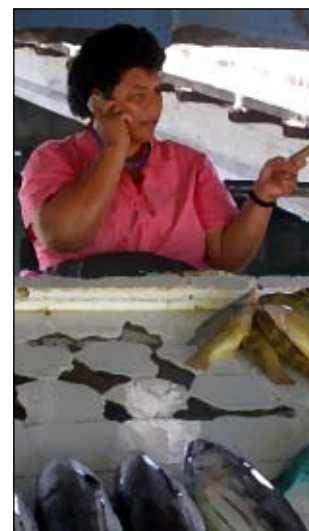
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Women

in Fisheries

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Introduction

In this issue we look at various areas of women's participation in fisheries, including commercial participation, fish handling and processing, involvement in the maritime industry and working with children in village fisheries. Women in Fiji, as is the case in other Pacific Island countries, are increasingly moving away from traditionally defined areas of fisheries participation and are taking on commercial and post harvest activities, and setting up small-scale businesses. Through their seafood marketing activities, women secure buyers and establish networks to facilitate selling. Women are however, faced with the task of fulfilling traditional obligations and expectations, and at the same time meeting the challenges of the modern market economy. Women in many cases must deal with dual or triple day work programmes, fishing, processing, selling and domestic chores.

Over the last two decades there has been minimal improvement in women's inclusion in government fisheries planning and development. The lack of acknowledgement of women's fishing participation or of the significant contribution to the livelihoods of coastal people is due, in part, to the non-remuneration of their fishing activities. The lack of data and appropriate economic valuation of subsistence fisheries result in women's fishing activities not being included in most official statistics. Women's small-scale economic activities are also not seen as independent economic ventures, for in most cases, their marketing participation is viewed as part of their daily chores of meeting family needs.

Mecki Kronen's article highlights the significant role children play in community fisheries. Children accompany their mothers or elders when they go fishing and little attention is given to their activities and their contribution to family fishing and collection activities. The article underlines the dynamic nature of the village fishery and how subsistence fisheries involve a diverse range of users.

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The article on Tokelau is an example of traditional community fishing. The *inati* is a fishing venture organised regularly to ensure that all families have sufficient food. The *inati* is also organised when there are visitors to the islands and this is an example of a strategy people use in different communities to cater for communal obligations. Traditional practices are rife in Pacific Island countries and some practices have been modified and some lost, but those that are still known are revered.

The two papers from the International Maritime Organization meeting held in Samoa at the end of 2003, bring to our attention new work areas women are involved in. Women's involvement in the maritime industry can be in a wide range of areas and this include maritime safety, aviation and marine search and rescue, the protection of the marine environment from ship sourced pollution, and customs and immigration related work. Work in ports is not easy but not impossible for women. Women breaking into the maritime field face numerous challenges, especially when on board vessels, but women at the meeting shared experiences of how crew and officers were always willing to help. These experiences definitely indicate the opportunities that exist for women in the maritime industry.

Tony Chamberlain's paper on fish handling and processing training in Tonga, highlights the importance of training women in new areas of interest and work. Women are increasingly involved in the processing industry and in the setting up of cottage industries in many island countries, thus it is timely they receive training on quality handling.

Chandrika raises some concerns on the involvement of women in the Asian fisheries that are not only relevant but important for Pacific Island women fishers. This includes the lack of accurate statistics on women's roles in fisheries in any developing country, the need for market research to assist in the understanding of the role women play in fish marketing, and the problems they face in transport, in accessing market facilities, in accessing credit, etc. This issue highlights challenges that women face in their different fishing participation. One of the main areas that needs to be addressed is linking up women involved in the different areas of the fisheries or marine sector.

Aliti Vunisea

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The challenges of seafood marketing in Fiji

Aliti Vunisea¹

Seafood marketing is becoming one of the major occupations for women in Fiji and other Pacific Island countries. As home keepers or home budgeters, women have transferred skills associated with home budgeting and planning to assist in their seafood marketing activities. Marketing is not just sitting at the market beside a pile of shellfish or a string of fish. It is hard work and involves post harvest or preservation skills, plus a series of networks and processes to get the products to the market. A decade ago, Ram (1993), pointed out that, “planners have assumed that it is only the men who are seriously involved in all aspects of the fishing industry, while women basically fish to feed the family and are responsible for housekeeping and children, thus women become the ‘invisible fisher folk’ who do not appear in the statistics of island countries”. Unfortunately women’s status has not significantly improved in the region since then.

Currently, women are moving into new fishing areas, with women captains on tuna long liners (such as in Tahiti), or have broken the trend and are in some cases working alongside men in ports and offshore fisheries (such as in the cases of Solomon Islands and Fiji). Women are also, in some cases, moving into previously male dominated fishing areas, such as beche-de-mer diving and deep-sea fishing in open boats. But can technological improvements increase women’s fishing participation? A comparison of men’s and women’s fishing participation progress cannot be restricted to advances in technology and gear, but should include changes in areas of fishing emphasis, fishing trends and patterns and how these affects their roles. Most of the constraints and disadvantages that hindered women’s full participation in fisheries development 10 years ago still exist today. Cultural and social norms and attitudes have contributed in part to the still-passive roles women play in society and the subordinate

roles they play alongside men in nearly all areas of fisheries development.

Past studies of Fiji’s subsistence fishery have noted the significant reliance on the subsistence fishery, in particular the enormous contribution of women (Rawlinson et al. 1997; Veitayaki 1998; Vunisea 1996). A survey of the subsistence and artisanal fisheries in rural areas of Viti Levu (Rawlinson et al. 1997) established that 99.3% of households interviewed consumed seafood once a week. These were mostly coastal Fijian villages, as opposed to inland villages. Given that the majority of people in the semi-urban and rural areas of Fiji still lead a subsistence lifestyle, this high reliance on seafood should not be surprising. Of the sampled population, Fijian adult females (45.3%) were the most active fisher groups, whereas Indian adult females undertook the least amount of fishing. This can be explained by the cultural context of fishing in Fiji where Indo-Fijian women are involved in fishing preparation and post harvest activities to some degree, but are not part of the harvesting, whereas for Fijian women, this is a way of life in villages. Despite the documentation of the high involvement of women, they are still marginally involved in fisheries development.

This study focused on Viti Levu, however, patterns or trends in fishing would not differ much in other locations in Fiji. Marketing effort may also be less in Vanua Levu and other areas of Fiji compared with Viti Levu. A study on those islands, which do not have access to any major markets on the mainland, may come up with very different fishing patterns and emphasis. Fishing in these areas is still primarily seasonal, sporadic and flexible in nature.

Up to 2000, the subsistence fishery estimates for Fiji were still based on a survey undertaken in 1978 by the Fisheries Department, with the addi-

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tion of 200 t/year to cover population growth. With the lack of specific figures and data on the value of the subsistence fisheries, a breakdown of specific subsistence and semi-subsistence activities at the village level cannot be determined. As a consequence of this, women's fishing participation will continue to fall within the unremunerated or informal sector, thus the undermining of the value of their fisheries participation. Women's fishing activities however, continue to increase rapidly, with very little effort or commitment by officials on monitoring their activities. Fisheries Department programmes and policies are increasingly directed to reducing fishing effort in coastal areas by diverting fishing activities to the outer lagoon and oceanic areas. The move has not put a check on women's fishing participation but has effectively shifted the focus away from their activities, thus the consistent lack of reliable data, and of social and scientific surveys on their fishery.

In Fiji's municipal markets, seafood is available throughout the year. Apart from seasonally harvested species, most seafood comes from fishing villages with access to municipal centres. In the Suva market for example, these comprise coastal villages and fishing communities in the Tailevu and Rewa provinces, the major provinces within the immediate Suva area. In some coastal communities, fishing has been more intense over the past 6-10 years due to consumer and market demands. In some cases, the opening up of roads and transportation to rural fishing locations has triggered intense fishing activities. This is the case of seafood marketing from Muaivuso, for example, a district directly opposite the Suva peninsular. Road construction in the last decade has enabled increased marketing and exchange of various seafood.

The selling of undersized crabs, fish and shellfish is not uncommon in these markets. Measures to specifically address women's fishing participation and the depletion of resources within their target areas, is almost non-existent. Where there are management initiatives in place, women are usually the least involved and the least informed. Information and communication on stock depletion, threats to fisheries, or the need for sustainable approaches, reach those who are already aware of the problems and not those who are using resources in rural areas. From experiences through working with women in communities in Fiji, difficulties in getting women involved in projects arise from social and traditional obligations of women. During community training and meetings, women normally

attend to the necessary chores of the household and village, catering for visitors and totally missing out on any organised activities. In the process, they are unaware of development and management issues and concerns and at the same time, their fishing knowledge and skills are left out of decision-making processes.



Photo: Timoci Gaunavinala

Selling seashells and other invertebrates

The lack of training in fisheries development is due in part to social and traditional attitudes. This results in women's participation in fisheries regarded as just gleaning and collecting, with no credit given to their skills, wealth of knowledge, traditional understanding of species, habitats, seasons and other fisheries issues women possess. In fact, an understanding of women's indigenous technical knowledge with regards to women's fishing activities is still largely lacking.

Selling seafood is not confined to municipal markets, women also sell on roadsides, to restaurants and shops, and to people in settlements and communities. In some of these activities, women are assisted by children or by men. Distribution of catches is not an entirely foreign concept because in the past, women were responsible for food exchange through barter systems. This was where the exchange of food between coastal and inland villages took place, especially during special fish or shellfish seasons. Current exchange of seafood, which is practised to a small extent, is still along kinship lines and especially between rural coastal dwellers and relatives in urban areas. The subsistence fishery therefore supports small-scale commercial fishing operations and also the continuous exchange of seafood between rural dwellers and their urban relatives.

Marketing involves women travelling through provincial, town and island boundaries to get products from all over the country to the main markets on Viti Levu. In the Suva market, sellers are from various provinces and coastal communities. One female fish seller interviewed at the Suva market (pers. comm. December, 2003) explained that her husband travelled weekly to the other main island, Vanua Levu, to buy seafood. Clams and other seafood that he bought from villages in the Bua district were shipped to Suva on the inter-island ferry, and the woman sold the seafood from Thursday to Saturday each week at the Suva market. This was not an isolated activity, as other people were also involved in buying from the islands to sell in the main city market.



Photo: Timoci Gaunavivaka

Selling kai

There are also instances of vendors travelling by boat from the smaller islands to different points on the main island of Viti Levu, from where they catch buses or carriers (open trucks) to Suva. Interviews with men and women at the Suva market on a Saturday (pers. comm. December 2003) revealed that people who came to the Suva market from Moturiki and other outlying islands in the Lomaiviti group, arrived the day before in Waidalice, a village on the east coast of Viti Levu. They then either boarded with relatives or slept outside the market, waiting to sell their products (mostly crabs and land crabs). Thus, most travelling is from Thursday each week. Women from Verata, Namara, Noco, Nakelo, Kaba and other villagers from within the immediate Nausori area,

who were at the Suva market stated that they preferred to sell in Suva although Nausori town was closer to them because there were more customers, and goods can be sold at a higher price. These women start coming to the market as early as midnight on Fridays so they can secure a good selling spot. They spend the whole night outside the Suva market and return home only after selling their seafood, which is usually late the next afternoon (Saturday). Women from villages closer to the main markets also leave early in the morning to be able to secure good selling points.

Institutional structures to support seafood marketing activities are non-existent, and the dynamics of the markets, networks and coping strategies that exist are only known to people that use them. The transfer of seafood between islands and towns is hardly monitored. Rural coastal people, in the bid to participate in the market economy, have exploited traditional kinship and ties to enable transportation of goods across islands. These activities, although receiving no formal support mechanism, boom alongside formally organised activities. These transportation and marketing links and networks provide support systems for the many women involved in seafood trading.

Many techniques and routes are used to distribute seafood around Fiji. Rural women have made inroads into urban markets. Women from the western islands and villages of Fiji are selling seafood in the east and vice versa. This two-way trade involves not only seafood but fruits and food crops. During the orange season, oranges from the east flood the western markets. During the mango season, the western mangoes flood the eastern markets.



Photo: Timoci Gaunavivaka

Selling oranges, mangoes and other products

A steady stream of seafood such as sea grapes, fish, seaweed and clams, which are sold at the Suva market, are from the Yasawa islands to the west of Lautoka. Road travel from Lautoka to Suva is about four hours on mini buses that travel daily between the two cities.

Women from the Yasawas also sell weekly at the Lautoka market. In some cases, Yasawa women living in Lautoka act as brokers who order and purchase seafood from the islands. In other cases, Yasawa women fish, preserve their catch, transport it to the mainland and board with relatives in Lautoka while they sell their products. Much of the abundant seafood in the Lautoka market, including seaweeds, clams, crabs and smoked fish, are from the Yasawas. Fish is smoked because of poor transportation services and problems with freezers. Most of the women interviewed had to leave Yasawa on Thursday and sell their seafood on Friday and Saturday before returning home.



Photo: Timoci Gaunavinaka

Women in carriers

In Labasa on Vanua Levu, fish is sold fresh almost daily by small-scale boat operators from nearby villages and by commercial boat owners while women sell seafood only on Saturdays. Because of transportation problems, the women on the northeast coast of Vanua Levu come to the town market only once a week. Fish sold by them are mostly smoked because of the lack of refrigeration facilities in their villages. They also sell crabs, shellfish, seaweed and other marine products.

Women from Udu, who are the usual weekend vendors, come into town on the morning bus and return home on the afternoon bus the same day. Most of the women vendors at the Labasa market travel to town on Thursday evening from their villages and sleep in the market to await marketing the next day. Most of these women travel with their families.

In Ba town, in western Viti Levu, women are not major fish or marine food sellers but they can be seen almost daily diving for freshwater mussels

and selling their goods at the market. Women from Votua in Ba for example, come on the early morning bus to town and dive for the mussels in the stretch of the Ba River closest to town. From the river, the mussels (*kai*) are taken directly to the market to be sold. In the village, women depend significantly on marine resources for their subsistence livelihood, and selling marine products occurs only with special species during specific seasons. For example, well known to the people of Votua, is a certain season when tiger prawns appear in large numbers from the sea and travel inland through the Ba River. The people are familiar with the seasons when this happens (when the mangoes start to flower) and they await their arrival, having nets ready. When the prawns appear, they are caught in the hundreds and sold from the village to buyers who usually come down to the village to get them.

In the Nausori market in eastern Viti Levu, women from the inland villages sell *kai* almost daily. Women in several villages of Naitasiri province that sell *kai*, take turns at selling at the market on weekends. The eight villages have an arrangement where women from four villages take turns in selling on alternate weeks. *Kai* gathering is done nearly daily, with selling also conducted daily.

The need for institutional support

In spite of women's increasing participation in marketing resources, there are no support institutions to assist them. There are no available credit facilities, resulting in women taking out unsecured, small amounts of credit from shops. Therefore there is little opportunity for long-term planning or financial development. In Verata, Vunisea (1996) recounts coping strategies that women use to assist in their fishing and marketing activities. Women buy groceries and other goods on credit from village shops, and use other services on credit, which are paid after marketing. This includes transportation costs to the outer reefs, carriers or trucks costs to town and market costs for the products that they bring in to be sold. These costs are only settled after women sell their products. At the end of the market day, after all the costs and debts are paid off, the profit made is very small. Consequently, women are locked in a vicious cycle where they are pushed to continually fish in order to pay off credit they accumulate, but the result is that they have no real profit at the end of the day. In addition, the need for money has prompted women to sell most of their catches and at the end of the marketing to buy cheap meat and tinned food for the family. Increasing reliance on inferior quality foods has resulted in poor nutrition in areas where people rely significantly on marine resources for their economic livelihood.

In the case of Verata, women belong to different groups in the village. Within these groups, women organise themselves and pay boat owners to go fishing together, and take turns at taking goods to the market. Through this sort of arrangement, women are able to save on costs and time when going fishing and when marketing products.

Transportation to markets is not only at irregular hours, but is in most cases very unsafe, as trucks are usually overloaded and women are subjected to travelling without proper safety standards. In the case of women from the Yasawas and other outer islands travelling to Viti Levu, travel is usually in open powered boats. Because they live in rural coastal villages, travel to the market could take between six to eight hours on the boats and four to five hours on trucks.

At the markets, women rush to secure good selling locations, so they leave early in the morning, and as a result lose proper sleep and meals. Most women forgo meals for up to half a day to try and sell off their products. After continuous fishing and selling, women can, over time, develop nutritional and other health problems. In most instances the nutrition and health of their families also suffers, when more time is taken up by fishing and marketing. In most of these fishing and marketing activities, women use older women or sisters to look after their families, thus the burden of increased fishing and selling again falls on women.

vation techniques before leaving their villages. As explained earlier, most services used are settled after selling. Women in their marketing activities, exploit kinship ties or *veiwekani* to secure boarding places in urban areas. Selling, setting prices and ensuring a profit margin is another challenge. These women walk the fine line between the two worlds of tradition and modern market demands. This is where they are expected to meet all traditional obligations and social expectations in their everyday village activities, and at the same time compete in the market economy. Modern challenges of economising, progressive planning and budgeting are realities that women are addressing through their marketing activities.

Despite the involvement of women, their roles and the value of their work are not fully acknowledged. This is because there is an assumption that women's fishing participation, especially commercial related activities, are part of their everyday work and are not regarded as independent economic activities.

The challenges

On one hand, women have attained empowerment and independence through participating in fisheries, but on the other hand, they face many constraints and difficulties. There are several areas where governments and women's organisations can assist the Fiji fisherwomen.

Institutions and networks that are used by women as coping strategies at the village level should be recognised and used by development practitioners working with fisherwomen. Rural networks could provide enhanced avenues for trade. For example, instead of women working through middlemen in distant markets, they could exchange or buy seafood from other women's groups.

Such networks could also facilitate the transfer of information and technologies related to improved fishing, processing and preservation. The networks can be used to facilitate awareness and education work that specifically targets women. Improvement of their knowledge base could assist women in addressing problems related to the use of destructive fishing methods, overharvesting, and long-term impacts of resource depletion.



Photo: Timoci Gaunavimaka

**Securing good selling points:
Villages have their usual spots where they sell from every weekend.**

Selling is only a small part of the whole dynamics of marketing for women must secure transportation, accommodation, gifts, selling spots and preser-

vation techniques before leaving their villages. As explained earlier, most services used are settled after selling. Women in their marketing activities, exploit kinship ties or *veiwekani* to secure boarding places in urban areas. Selling, setting prices and ensuring a profit margin is another challenge. These women walk the fine line between the two worlds of tradition and modern market demands. This is where they are expected to meet all traditional obligations and social expectations in their everyday village activities, and at the same time compete in the market economy. Modern challenges of economising, progressive planning and budgeting are realities that women are addressing through their marketing activities.

Fijian Administration, women's NGOs, municipal authorities and business organisations. The introduction of technologies to ease work burdens and improve the health of women engaged in harvesting and processing should also be seriously considered. The traditional knowledge, skills and understanding that women have of their fisheries, should be documented and preserved. Such knowledge will be useful for the sustainable use of resources and could enhance coastal management initiatives.

Proper evaluation of the subsistence fishery is essential. In particular, the participation of women should be accurately assessed to provide data for consideration by those who lead fisheries development efforts. Availability of accurate data on their commercial activities could also support the bid by women fishers to be considered for loans and small-scale financial assistance.

Proper training and assistance should be provided to women engaged in the expanding trade in cooked seafood so that the foods meet national health standards. There is also a need to educate women about the value of the fresh foods they sell and the relatively inferior nutritional quality of many of the foods that women purchase with their fishing incomes.

The Department of Women and Culture and women's NGOs in Fiji could work towards setting up a national fisherwomen's organisation that would include fish sellers and look after the welfare of female fishworkers. Another area requiring attention from such an organisation is how to deal with surpluses in seafood so that these can be preserved for sale.

The future

Women's participation in fishing has expanded to include postharvest, distribution and marketing activities. Because these activities are poorly documented and unrecognized, women have difficulty organising themselves officially as fish workers. Their fishing activities are considered a part of their household chores rather than as serious economic ventures. As a consequence, women are still expected to attend to all their domestic chores even when fishing and marketing consumes large portions of their work week. In traditionally organised, rural Fijian societies, the roles of men and women are defined, and women, despite their many other activities outside their homes, must meet traditional and household obligations. These women are caught between trying to meet both their traditional and modern roles through their seafood marketing activities.

Globalisation has forced fishing communities to develop strategies for securing their livelihoods. Women rely on their village groupings and networks to survive in the competitive market economy. Women still lack negotiating power because they are excluded from decision making at the village level. They also lack control over assets that might enable them to set up proper economic ventures. Yet, in spite of all these challenges, women function as "invisible participants" in the modern market economy in order to meet obligations to provide for basic household security. For this situation to change in the context of a strongly patriarchal culture, governments will have to set in place an enabling legal environment that recognises, protects and strengthens the rights of women in Fiji.

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Alu toutai - Na laki qoli - Fun or duty: School children's involvement in subsistence fisheries in Tonga and Fiji

Mecki Kronen¹

Introduction

Subsistence fisheries plays an important role for food safety, social networking and cash income generation in coastal communities in the Pacific. While access to and use of marine resources is equally shared by all members of the community, particular fisheries are often gender specific. Men are more likely to fish during both the day and night, and to target more distant fishing grounds and deeper waters, which requires them to be away for longer periods of time. Men are also more likely to use boat transport. Women, on the other hand, are generally engaged in reef gleaning, targeting invertebrates and less frequently finfish by mostly walking along habitats close to shore (Matthews 2002; Matthews and Oiterong 1995). However, in some Pacific societies (e.g. Fiji), women and men share equitable access to marine resources and fishing techniques (Thompson 1940; Quinn and Davis 1997). Introduction and widespread access to modern fishing tools and gears, and lifestyle changes among Pacific Island communities have also contributed to erode or overrule some of the traditionally defined gender roles in fisheries (Kronen 2002a; Des Rochers 1992; Chapman 1987).

Over the last decade, there has been a growing awareness of gender roles in subsistence and small-scale artisanal fisheries in the Pacific. At the same time, fisheries has also been acknowledged to comprise both finfish and invertebrate harvesting. Research has, and continues to be, undertaken to better understand how traditions and modern society determine today's gender roles, especially women's role in coastal fisheries. Women's fisheries — although subject to constant societal changes — continues to be a complementary activity to household and family chores, particularly child rearing (Tungpalan et al. 1991). As a result, traditionally as well as nowadays, children very often accompany their mothers while fishing. However, little is known about the role children play during such fishing trips, their possible contribution in providing seafood for the family's consumption or even sale. Furthermore, little is known about the extent to which gender specific roles are

imposed on young children, or if they developed at a much later time.

A regional research project² aiming at identifying the relationship between use and status of coastal marine resources was undertaken in two Pacific Island countries: Tonga and Fiji. While research on fishing impacts focused on adults (people \geq 15 years of age), the role of children in this context was raised. This paper presents a summary of the results obtained from a study developed to specifically learn more about the degree of children's engagement in fisheries, fishing strategies used, the major purpose of children's fishing, and if there are major differences between boys and girls. This paper discusses the approach used and the reliability of information obtained from children attending primary school.



Fijian kids playing with their fishing gear

Methods

The two Pacific Island countries of Tonga and Fiji were selected in order to capture possible differences between Polynesian and Melanesian cultures, respectively. Within each country, three major regions of coastal reef and lagoon communities were chosen. In each region, two communities (assumed to be dependent on coastal fisheries) were surveyed, with one being more traditional

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2. The DemEcoFish project is funded by the MacArthur Foundation and implemented by the Secretariat of the Pacific Community (SPC)'s Reef Fisheries Observatory in cooperation with the Institut de Recherche pour le Développement (IRD). The project began in 2001.

and the other of a more urbanised character. Geographical isolation and distance from major urban markets were used as proxies for a higher degree of traditional lifestyle.

These selected regions are believed to be comparative in ecological terms, and hence as far as habitats, biodiversity, biomass, and density of fish and invertebrates are concerned.

Fisheries was distinguished into fishing (i.e. fin-fishing) and collecting (i.e. harvesting of invertebrates).

Surveys of children’s fishing practices targeted the eldest primary school children in each of the six communities in both countries. Surveyed school locations are shown in Figures 1 and 2.

School children were selected by their headmasters and surveys were implemented with the support and assistance of the teacher. A participatory approach was adopted using scoring and ranking techniques. The same set of questions (Box 1) was used in each class. Although primary school children are supposed to be fluent in English, the local language was used for communication. Translation was performed by the teacher and/or an accompanying extension officer from the country’s Fisheries Department.

Box 1

Set of school children survey questions:

1. do you go fishing?
2. do you go collecting/gleaning?
3. how long do you go fishing?
4. how long do you go collecting/gleaning?
5. why do you go fishing?
6. what fishing techniques do you use?
7. what species do you catch?

Results

Average figures (Fig. 3) for all school children surveyed in Tonga and Fiji show that Tongan children harvest more marine resources than Fijian school children. Family consumption is the major purpose for all school children fishing activities, about 25% also catch for sale, and even less to give as gifts. Tongan girls show the highest involvement in the selling and non-monetary exchange of catches.

Comparison of fishing and collection trip frequencies reveals slight differences between countries and gender groups (Fig. 4). Patterns of fishing and collecting by Fijian boys are comparative to those of Tongan girls, and Tongan boys fish and collect almost as frequently as Fijian girls. In general, fishing and collection trips take longer for Fijian children, except for similar length of finfishing trips performed by girls from either country (Fig. 5).

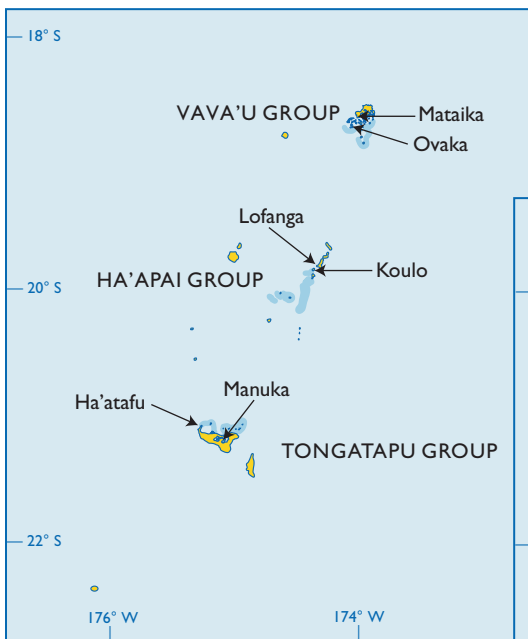


Figure 1. Locations of communities and primary schools surveyed in Tonga

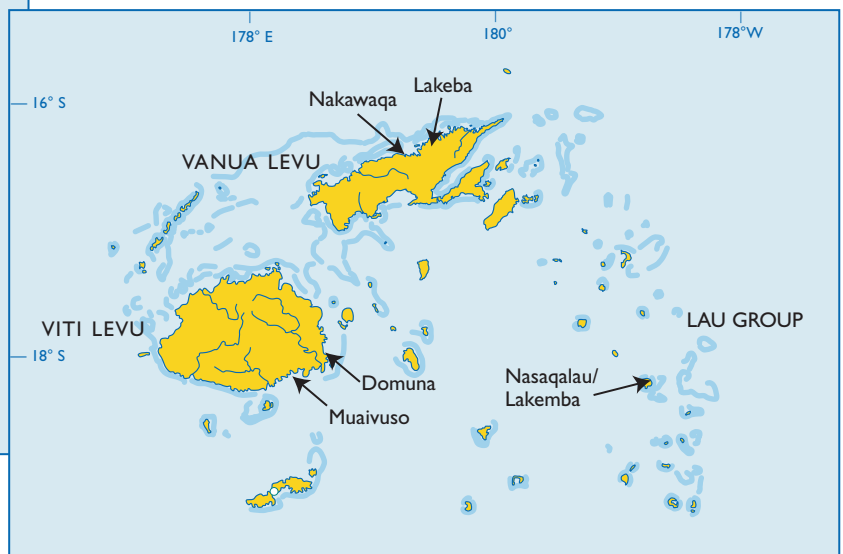


Figure 2. Locations of communities and primary schools surveyed in Fiji

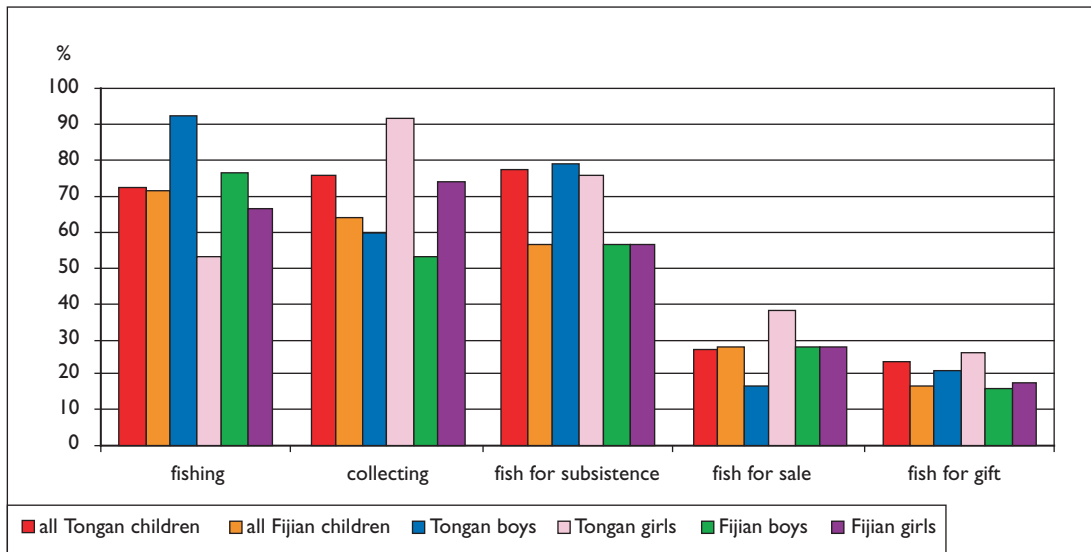


Figure 3. Participation and purpose of school children's fishing activities (all figures are averages for Tonga and Fiji)

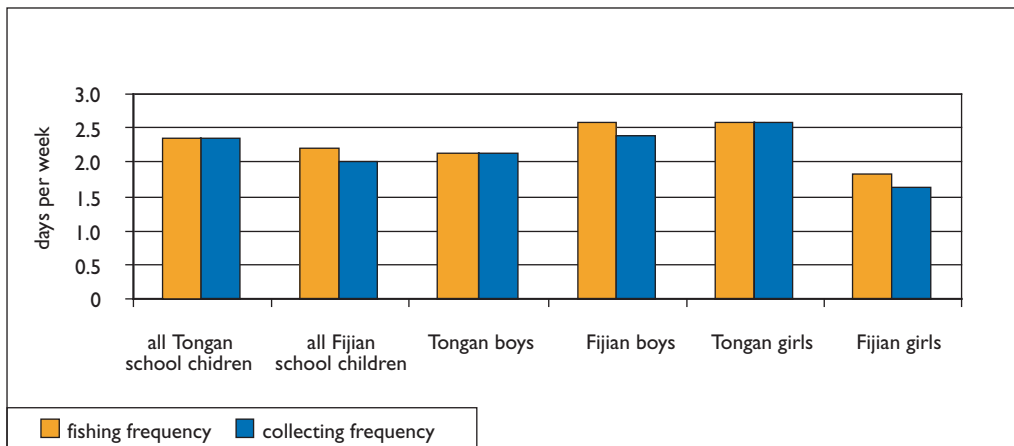


Figure 4. Frequency of school children's fishing trips

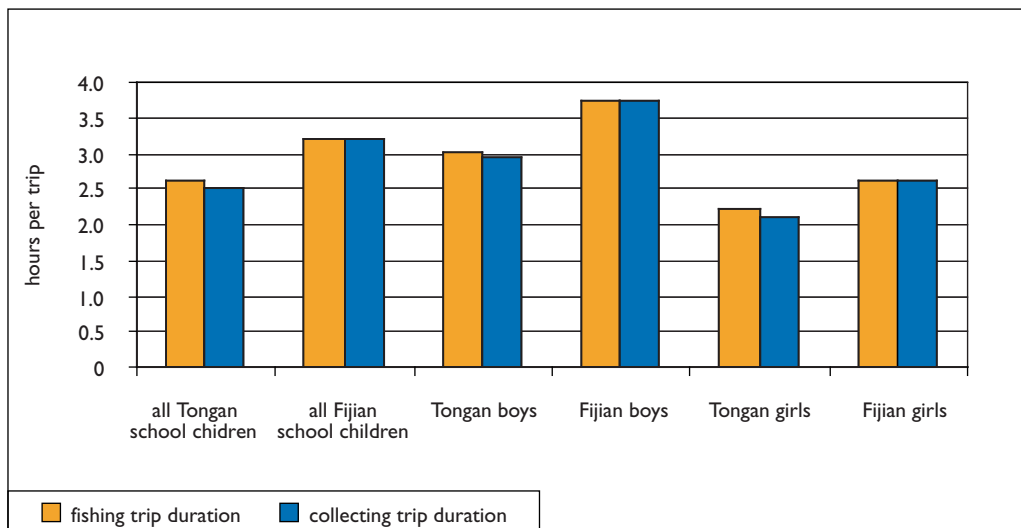


Figure 5. Duration of fishing trips for Tonga and Fiji school children

An assessment of school children's fishing techniques revealed that Fijian boys and girls use more techniques than Tongan school children (Fig. 6). Girls, focusing more on invertebrate collection, vary their techniques less than boys who are engaged in both finfishing and invertebrate harvesting. While the fish species that are frequently caught are much more diverse in Fiji, invertebrate species collected are more numerous in Tonga (Table 1). Patterns of species diversity caught by gender groups are similar for both countries: boys catch more species of fish than girls, and girls harvest more invertebrate species than boys. Lists of species caught by school children from each country and region are provided in Tables 2 and 3.

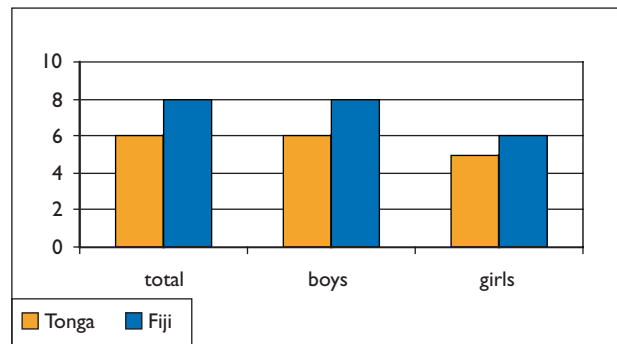


Figure 6. Total number of fishing techniques used by Tongan and Fijian school children

Table 1. Number of species harvested by Tongan and Fijian school children

	Tonga			Fiji		
	total	boys	girls	total	boys	girls
# finfish species	11	10	4	13	13	9
# invertebrate species	18	14	18	10	5	10

Table 2. Index and frequency (scores) of finfish and invertebrate species frequently caught by Tongan school children

FINFISH		Tongatapu		Ha'apai		Vava'u	
local name	scientific or common name	boys	girls	boys	girls	boys	girls
taa	<i>Sargocentron</i> spp.	0	0	4	1	2	0
humu	<i>Rhinecanthus aculeatus</i>	0	0	3	0	4	0
o	<i>Siganus spinus</i>	1	3	4	1	0	0
lapila	freshwater fish	0	0	0	0	24	0
tanutanu	<i>Lethrinus amboinensis</i>	14	3	0	0	11	0
hapi	<i>Acanthurus guttatus</i>	0	0	0	0	1	0
ngatala	grouper	0	0	0	0	1	0
manini	<i>Acanthurus triostegus</i>	0	0	0	0	1	0
sokisoki	<i>Diodon</i> spp.	0	1	0	0	0	0
kavakava	<i>Therapon jarbua</i>	4	0	0	0	0	0
unomoa	<i>Mugil cephalus cephalus</i>	6	0	0	0	0	0
INVERTEBRATES		Tongatapu		Ha'apai		Vava'u	
local name	scientific or common name	boys	girls	boys	girls	boys	girls
hulihuli	chiton	2	1	3	5	0	0
elili	<i>Turbo</i> spp.	1	3	3	3	1	3
feke	octopus	1	3	2	2	0	0
topulangi	<i>Turbo chrysostomus</i>	0	0	3	5	0	0
matamata	holothurian	0	0	2	2	0	0
ngoua	seahare	0	1	3	1	0	0
mulione	seahare	0	3	3	1	0	0
kaloaa	<i>Anadara</i> spp.	1	13	0	0	0	24
too	<i>Gafrarium</i> spp. (<i>Timoclea marica</i>)	0	2	0	0	3	13
paka	crab	5	1	0	0	0	0
kevikivi	gastropod	1	3	0	0	0	0
tukumisi	sea urchin	0	15	0	0	0	0
mehingo	bivalve	0	3	0	0	0	0
loli	holothurian	0	2	0	0	0	0
vasuva	<i>Tridacna</i> spp.	0	1	0	0	0	0
mama	seahare	0	0	0	0	1	5
holokau	n/a	0	0	0	0	1	3
mula	n/a	0	0	0	0	1	3

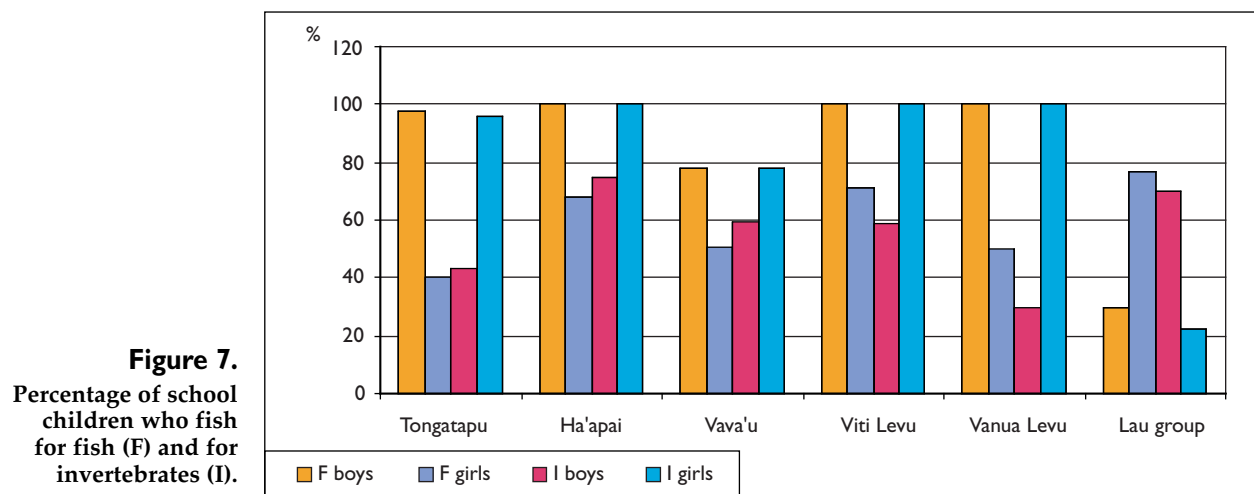
Table 3. Index and frequency of finfish and invertebrate species frequently caught by Fijian school children

FINFISH		Viti Levu		Vanua Levu		Lau Group	
local name	scientific name	boys	girls	boys	girls	boys	girls
qitawa	<i>Therapon jarbua</i>	0	0	3	0	6	2
kanace (bu)	<i>Valamugil seheli</i>	0	0	10	2	17	7
nuqa	<i>Siganus</i> spp.	4	15	0	0	11	5
kabatia	<i>Lethrinus harak</i>	31	31	12	8	6	6
matumatu	<i>Gerres macrossoma</i>	0	0	0	0	1	9
yawa	<i>Chanos chanos</i>	2	0	0	0	0	0
salala	<i>Rastrelliger</i> spp.	5	5	4	11	0	0
tanabe	<i>Lutjanus fulvus</i>	2	2	5	0	0	0
damu	<i>Lutjanus argentimaculatus</i>	0	2	1	3	0	0
busa	<i>Hemirhamphus</i> spp.	7	0	0	4	0	0
kasala	<i>Epinephelus microdon</i>	0	0	4	0	0	0
donu	<i>Plectropomus leopardus</i>	0	0	2	0	0	0
uluba	n/a	0	0	0	0	4	0
INVERTEBRATES		Viti Levu		Vanua Levu		Lau Group	
local name	scientific or common name	boys	girls	boys	girls	boys	girls
kaikoso	<i>Anadara cornea</i>	5	8	2	12	0	2
gera	gastropod	8	6	0	0	5	3
nama	sea grapes	0	0	26	12	0	4
lumi	seaweed	0	0	0	0	1	1
octopus	octopus	0	1	0	0	0	0
qari	green mangrove crab	0	0	0	1	0	0
lairo	land crab	0	0	0	5	0	0
kuku	mangrove mussel	5	5	0	0	0	0
sici	holothurian	0	3	0	15	0	0
sagosago	holothurian	0	0	0	11	0	0

In addition to certain differences between school children's fishing practices in Tonga and Fiji, and between boys and girls, this study also aimed at clarifying whether or not school children's fishing practices varied across different regions in each country.

Figure 7 illustrates commonalities and differences in the proportion of elementary school children who fish. Patterns for finfish and invertebrates harvesting are similar. In Tonga, the lowest involvement of children in fishing is found in Va'au, while

fewer school children fish in Fiji's Lau group. Reasons for fishing seem not to be linked to the overall involvement of children in fishing. Highest commercial contributions in Tonga are from girls from Ha'apai, and to a lesser extent, both boys and girls in Tongatapu. In Fiji, girls contribute slightly more to the selling of catches, although there are only slight differences between boys and girls and between regions, with the highest proportions of sales among school children from Viti Levu (Figs. 8a and 8b).



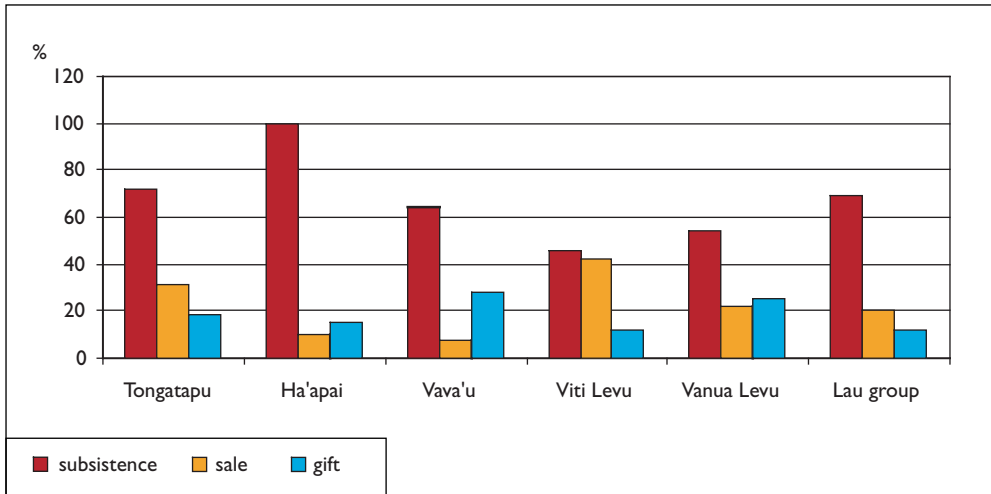


Figure 8a.
Reasons why Tongan and Fijian boys fish

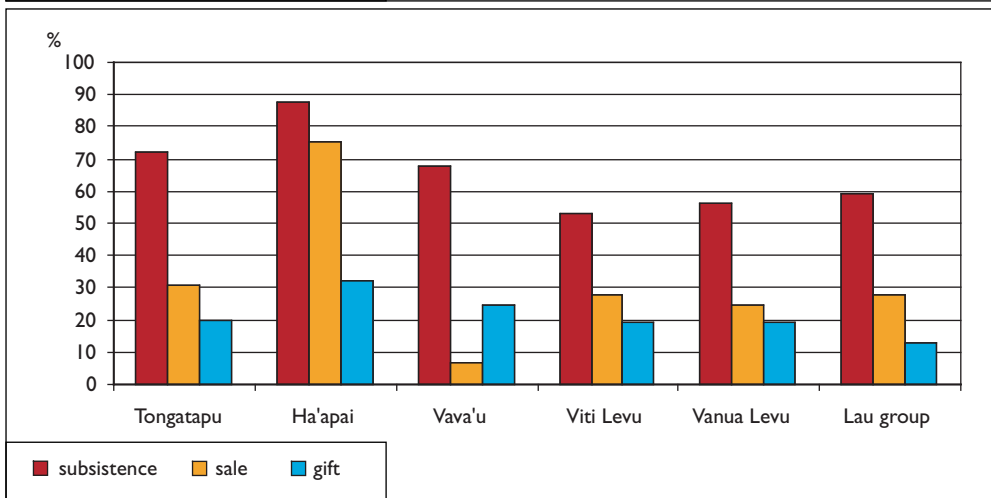


Figure 8b.
Reasons why Tongan and Fijian girls fish

Frequency and duration of children’s fishing and invertebrate collecting trips vary considerably in Tonga. School children from Vava’u go fishing nearly twice as often as school children from Tongatapu and Ha’apai (Fig. 9). In Fiji, children from Viti Levu fish twice as often as those from Vanua Levu and the Lau Group. In both countries, data show that the highest frequencies are combined with the shortest trip durations (Fig. 10).

Discussion

Field experiences and results from this survey show two major issues. First, the approach taken to investigate school children’s participation in fishing rendered useful and reliable data. Second, regardless of gender, elder primary school children (~10 years of age) are actively involved in fisheries for subsistence purposes and, to a certain degree, for income generation.

Methodologically, it was found that the success rate of collecting useful and reliable data from primary school children depends mainly on communication. Experiences highlighted that the support of teachers is crucial for effectively communicating

with the students. Ease of participation and children’s willingness to provide information depended very much on the explanations, patience and engagement of their respective teacher. Tutors were also useful to question, and thus clarify, unreliable information.

The lively approach using scoring and ranking methods, the short duration of the survey in each class, the limited number of short questions that could be clearly answered were useful in keeping the school children aware, focused and actively participating. These observations are comparable to a case study made with Samoan students to collect subsistence fisheries data (Hosch 2000).

It was also found that school children are less inhibited than adults with their answers. For instance, fish poisoning, a destructive technique that is illegal or “officially” banned, was frankly reported on. Fish poisoning is a traditional technique frequently used, for instance, by some Fijian women (Kronen 2002b). It is also known that this technique is still used by certain fisher groups (Ministry of Fisheries Tonga et al 1996; Des Rochers 1992) and, as shown in the framework of this study,

Figure 9.
Frequency of finfishing trips (F trips) and invertebrate collecting trips (I trips) of Tongan and Fijian school children.

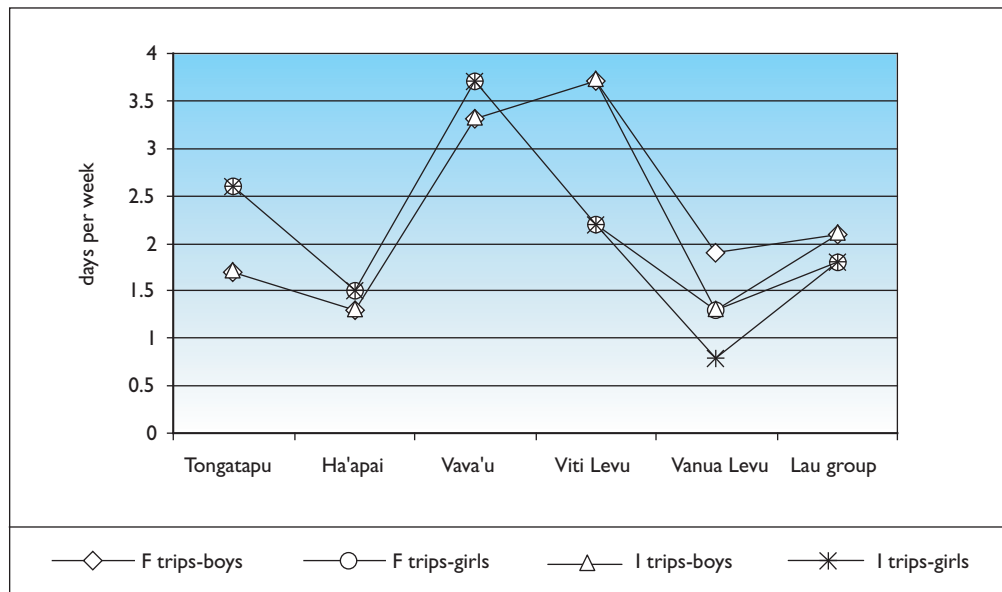
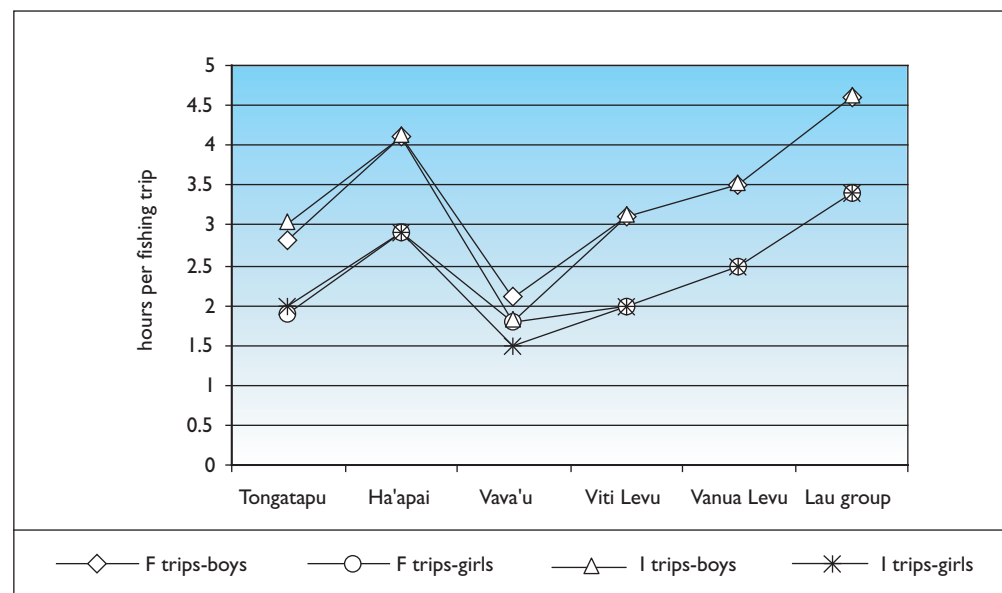


Figure 10.
Duration of finfishing trips (F trips) and invertebrate collecting trips (I trips) of Tongan and Fijian school children.



passed on to younger generations. However, adult fishers are aware of legal and community rules and restrictions and are therefore likely to suppress any compromising information from fisheries surveys.

The aim of the approach used in this study was to retrieve quantifiable information according to selected key parameters that were assumed useful for assessing children's role in coastal fisheries. Key parameters involved overall participation, fishing strategies, and the range of species frequently caught. Although little has been published on children's fishing activities results contest the general opinion that it is at least difficult to obtain accurate and qualitatively sound data from children as they tend to overestimate dimensions (Hosch 2000).

The results of this study demonstrate that the majority of children are involved in fisheries by the

time they enter elementary school. The level of engagement is not due to gender but reflects the overall dependency on marine resources of the respective communities. This study targeted fishing communities and thus there is a much higher percentage of school children who fish than found on average in the whole of rural Viti Levu (Rawlinson et al. 1994). The fact that school children represent the communities they live in may further explain differences found in the share of children's catch aiming at subsistence or commercial purposes.

Children living in regions where agriculture plays a major role, such as in Vava'u, Tonga and Fiji's Lau Group, are less involved in fisheries. The proportion of the catch sold increases with less distance to major urban markets, and thus an increasing influence on cash based economy. This argument may explain why children living near Fiji's

capital Suva, and Tongan school children living near Nuku'alofa, are more involved in selling their catch than elsewhere.

The different fishing activities of boys and girls support the traditional social roles of women's and men's fisheries. While there are no exclusive fin-fishing or invertebrate fishing group amongst elementary school children, boys are more engaged in finfisheries while girls tend to target invertebrates. Differences between boy's and girl's fishing are more obvious in Tonga than in Fiji. Surprisingly, results suggest that the remoter a community, the more likely that girls are involved in finfisheries, and boys in invertebrate collection, as shown for the more remote areas of Tonga and Fiji, Ha'apai and the Lau Group, respectively.

Substantial variation was found in the frequency of fishing trips, regardless of whether finfishing or collecting invertebrates. Generally, children go fishing on Saturdays when there is no school. Distance to school and fishing grounds also determine whether children are able to fish on school days. This argument supports the high frequency of fishing trips found among children from Vava'u and Viti Levu. In both regions, elementary schools are based at the respective villages, and the distance to the seashore or fishing grounds is short. The relationship between frequency of fishing and distance to fishing grounds also explains why school children who often fish spend less time per trip than those that fish less frequently.

The results of this study indicate that, regardless of gender, children first learn about fishing techniques from their mothers or guardians. It can be assumed that gender roles are not imposed at an early stage but that the degree of exposure to fishing strategies depends on the guardian's skills and knowledge. However, elder primary school children also confirmed that they begin venturing out fishing in small groups of their own. Although not mandatory, boys prefer to do so with other boys, and girls also prefer to stay among themselves. At this age, boys are keen to accompany their fathers on extended fishing trips, including night trips and fishing from boats, lending a hand with gillnetting and spear fishing. Such interest and engagement was also reported but to a much lesser extent from Fijian girls.

The fact that boys are "helpers" rather than fishers on these trips may explain why their contribution is not recognised as a significant input to the catching for sale, and explains the low percentage of boys fishing commercially. Girls, on the other hand, collect invertebrates independently. Thus their contribution to earn cash income is recognised.

This survey did not attempt to quantify school children's fishing. However, information collected gives reason to assume that children around 10 years of age substantially contribute to the family's seafood subsistence needs. It is apparent that school children surveyed in both countries regularly provide seafood, finfish and/or invertebrates, for weekend consumption. Observations made in a remote fishing community in Vanuatu support these assumptions (SPC's PROCFish/C socioeconomic field survey). School children in Malakula Province fish for their lunch in the early morning before school starts; the surplus catch contributes to the family's meals. Although not documented, it is commonly known that at the beginning of each school semester, Fijian children help their mothers to raise the school fees by selling fish and invertebrates along the roadside.

Conclusions

While this study does not claim to be exhaustive, results suggest that children play a certain role in rural fisheries that is apparently neglected by most fisheries surveys. Data collected does not allow to quantify catch rates and volumes, however, data on the regularity and frequency of fishing trips suggest that school children may cover a significant proportion of at least the family's seafood consumption at the weekend.

Findings indicate that participation and fishing strategies employed by children follow the patterns of their respective community. Gender roles were found not to be imposed at an early stage, but presumably a product of socialisation within the community they live.

This study highlights the need to further research the role of Pacific Island children in coastal fisheries, including quantification of catch and assessment of productivity. Further, such knowledge may help to target children at the appropriate age to get informed and actively involved in the equitable and sustainable use of marine resources.

Acknowledgements

This article would have not been possible without the kind support and cooperation of the Tongan Ministry of Fisheries, and the Fisheries Division of the Fijian Ministry of Agriculture, Fisheries and Forestry. My appreciation is due to 'Ulunga Fa'anunu, Acting Secretary Fisheries, 'Apisake Soakai, Deputy Secretary Fisheries, and Siola'a Malimali, Officer in Charge, as well as Malakai Tuilua, Acting Director Fisheries and Stanley Qalovaki, Acting Senior Research Officer for Tonga and Fiji Fisheries respectively.

Special thanks are due to the headmasters and teachers of the participating schools and classes who have, with great enthusiasm, approved and supported the implementation of the survey: GPS Kanokupolu Primary School in Ha'atafu, GPS Vanutoka Primary School in Manuka, GPS Primary School in Mataika and Ovaka, and GPS Primary School in Koulo. The Uluiqalau District School at Vakano, Lakemba with Headmaster Kameli Vuiyasawa, Namuka District School at Lakeba with Headmaster Joeli Wesele, Mali District School with Headmaster Lawrence Nikotemo, Waiqanake District School with Headmaster Anare Tawake, and Kaba Fijian School at Dromuna with Headmaster (acting) Paula Daunivalu.

The greatest credit, however, goes to all Tongan and Fijian school children, girls and boys of classes 7 and 8, who not only participated in the survey, but shared their fishing knowledge and experiences.

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Harvesting *nama* (seaweed)



Selling a fish bundle at the Suva market, Fiji

Communal fishing in Tokelau: The *inati*

Aliti Vunisea¹

One of the unique characteristics of life in Tokelau is the strong traditional institutional structure and the many customary practices that people still practice. Gender roles are still strictly followed and, in spite of modern influences and entertainment, tasks and obligations are still organised traditionally. Fishing in particular is still highly influenced by tradition, customary practices, fishing lore and skills. The *inati*, a communal fishing and distribution practice, is an example of such a system. This fishing ritual, as will be described in detail later, is well known to Tokelauans, even though there is no written rule that defines the activity. The people, however, understand their roles and know what is expected of them when such communal functions are implemented. A decision to hold the *inati*, or any other communal fishing activity, comes from the *aumanga* (men's group) in collaboration with the *taupulega* (Council of elders). It is then the duty of the *pulenuku* (village mayor) to get the message out to the people and organise the activity.

Traditional institutions and associated rules and norms that regulate life on the islands are known to and respected by people. The *taupulega* (chiefs) hold the ultimate authority in decision making in the islands. Although composition of the *taupulega* varies on each island, the authority held is nearly similar. The *faipule*, or elected chief of each island, heads the *taupulega*. Unlike the case in other Pacific islands this position is not hereditary and the *faipule* can be any of the elders who are members of the *taupulega*. Matters of national interest are considered at the General Fono level, the highest-decision making body in the country. The *pulenuku*, who also participates in the *taupulega* meetings, is the mayor of the village, and is responsible for the day-to-day running of village affairs. There is no specific divide between traditional roles and public roles in Tokelau. The *ulu* for example, is also the Minister for Environment on the islands. Thus, traditional leadership thrives alongside publicly held offices, and those in the *taupulega*, the General Fono and the *ulu* of Tokelau make decisions that involve both tradition and modern public services. Tokelau in this regard, has a unique system of leadership where the traditional system and its associated customary laws and regulations have as much influence as modern national laws.

Tokelau is a patrilineal society with men as heads of households responsible for decision-making. Changes in family composition due to migration have resulted in many female-headed households. In these cases, women are expected to look after the children and to attend to domestic chores for the family's welfare. Men make decisions and perform most communal tasks around the village. As in other Polynesian islands, women are protected and not expected to participate in physical work outside of their homes. Women spend most of their free time involved in handicraft making.

Fishing is central to the lives of the Tokelau people. Men are especially involved in most fishing activities and fish nearly daily. Fishing continues to be important for subsistence consumption, and, to a certain degree as exchange items for relatives living in Samoa and New Zealand. Because of their regular fishing participation, younger men are as familiar with traditional knowledge, skills and seasons, fish behaviour, effects of tides, winds and moons as the older people.

The men are expert fishermen, and through generations of fishing they have accumulated fishing lore and skills. Most of the fishing activities on the islands are still traditionally practised: best locations for fishing and times of fishing are still dependent on studying lunar phases, tides, weather and understanding fish behaviour. Skills, rituals and knowledge still remain but methods used in fishing have changed with time. Use of modern lures, large nets and diving torches at night are now common.

Women are not usually engaged in fishing. There were, however, instances where women accompanied husbands on fishing trips. Because men went out fishing almost daily, and because there was an abundance of fish, there was no urgent need for women to also fish or look for food. There is however, documentation on women's fishing activities in the past, such as when they went in search of reef fishes, edible crustaceans, sea eggs, crabs and squids (Bishop Museum 1937). Also recorded were a range of fishing gear and activities, including fish traps, spear fishing, bow and arrow, scoop nets, dip nets, seines, flying fish nets and turtle fishing.

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Trevally fishing

In September, 2003 I accompanied men on an early morning fishing trip for trevally around Nukunonu. There were stories of people still relying primarily on their knowledge of the tides, winds, and behaviour of fish, and I decided to see this for myself. I stood in knee deep water at five thirty in the morning at a pass in the reef. This was where passages or migration channels from the ocean opened out into the lagoon. This was our position for almost half an hour, unmoving, watching the waters come in and waiting for signs of the fish schools that we were expecting to come our way. The men had already closed off the passage to the lagoon with three large nets, they then took up strategic positions around the net. The nets were placed in a semi-circle, one adjacent to another, forming the semi-circle, with another net placed at the back of the nets. The semi-circle opened out into the direction of the opening from the reef channel to the lagoon. The men had maintained that during the initial phases of the moon at the in-coming tide in the early hours of the morning, fish would travel through the reef channels from the ocean side to the lagoon. While waiting for the trevallies to appear, the men pointed out a school of sharks feeding close to the edge of the reefs on the ocean side, and a school of bone fish that was making its way through the channels to get to the lagoon. Black terns were perched precariously on the black rocks lining the divide between the ocean and lagoon, also looking out for fish. The birds sat quietly watching the channels and would signal where the fish were by flying around and making a lot of noise.

At a signal from one of the men, we could see silvery tails on the top of the waves, coming in through the passage and closing in fast. As they neared where we were standing, the men on the sides of the already set nets closed in. At the same time, two men standing at the sides of the nets kept on beating the water with sticks. This was to help herd fish that may try to escape back into the nets. The school of trevally headed straight for the middle of the waiting nets and the men immediately closed off the nets, then diving and lifting up the bottom end of the nets to keep the fish in. The trevallies were caught, killed and the nets quickly put out again. In each such capture there were 12-16 large trevallies. The next time around, the wait was not for long, as it took about 10 minutes between each school to come in. The amazing feature of this activity was their knowledge of where to put the nets out and which channel to close off, because while there was a school of bonefish that passed close by, the trevallies came through the one we were at.

The *inati* system

This is a traditional community fishing and distribution system that is still being practised today in all the three islands of Tokelau. The system ensures that all households in the village have some fish. All men of the village (*aumanga*) are required to take part in this fishing activity and the specific fishing activity pursued is communicated to them before they go fishing. This is usually done a day or two before the *inati* takes place to give men time to re-arrange plans to suit the fishing time, and also to prepare and get bait, lines, and other necessary gear. Targeted fish is sometimes tuna and other deep ocean fish, the species in season or specific reef fish. Men are notified of what the targeted species is beforehand. Men go out fishing in groups at a specified time, and then on their return the catch is pooled and brought to a common distribution place. Whatever time of the day and night the men return, distribution starts. While men are out, women prepare tea and food for them. This is served to men on their return.

The catch is shared equally amongst the villages. The village *pulenuku* is in charge of the distribution. All members of households are counted, and the sharing of fish depends on the number of people in households. Before distribution starts, fish is sorted into different species and sizes. Bigger families get bigger shares, and smaller sized families have smaller portions in terms of number and type of fish. Most of the younger men that take part in the fishing activity, end up having the smallest amounts because they have smaller families. But tradition and respect dictates the process, and it was evident that the men and everyone in the village were very happy with whatever they were allocated. Every head of household name is listed then after the distribution, their names are called out and mostly children and women come with their buckets or basins to collect their portions.

While in Atafu, the *inati* targeted tuna and other deep-sea fish. The *inati* was performed during the meeting of the *fatupaepae* from all the islands in Tokelau. In Fakaofu, the target species was a species in season at the time. The *inati* was performed during our stay there and one of the reasons was to catch fish for the visitors to take back to Samoa. In Nukunou, the *inati* targeted tuna. Discussions with people in the village revealed different perspectives on such activities. The men said it was custom and they liked taking part in the village communal fishing or *inati*. Women, especially the older ones looked forward to these *inati*, and stated that it was a way of taking care of women and also the older people who can no longer fish. Some children that were questioned said that it

was a good system that ensured that everyone had enough food to eat. Traditional written regulations that relate to fishing state that in cases where any man or fisher person catches more than he needs, this was to be shared. Catches of turtles and other such species were required to be shared to other people in the village.

Traditionally organised fishing activities such as the trevally fishing and *inati* are a unique feature of life in Tokelau. In addition to these, specific areas to

look for certain species are well known. People are familiar with their fishing ground and know which areas are for which species, and the times they could be fished, the best times to go fishing and what types of moon phases or tides to wait for. These are knowledge that people still possess and use when fishing.

Photo: Aliti Yunisea



Young boys in the village usually help to sort out the catch.

Photos: Aliti Yunisea



Catch usually include different sizes of the target species and many other species.



The target species is sorted out first, then other fish is sorted and distribution starts.

International Maritime Organization Regional Seminar for the Pacific: The role of women in the maritime sector — opportunities and challenges

Megan Streeter¹

Over 30 participants attended this regional seminar, which was held in Apia, Samoa from 8–10 October 2003. Honourable Faumuina Liuga (Minister for Works, Transport and Infrastructure, Samoa), who gave the keynote address, stressed the important role women play in the Pacific region and discussed opportunities for women in the maritime sector. Other presentations covered institutional perspectives and arrangements, personal experiences and examples from Samoa.

Presentations on institutional perspectives and arrangements were given by Ms Pamela Tansey (Technical Co-operation Division - IMO), Captain John Hogan (SPC's Regional Maritime Training Adviser), Ms Annaleise Caston (Senior Adviser – Policy and Enforcement, Environment Protection Standards - Australian Maritime Safety Authority (AMSA)), Ms Twila Waqasokolala (Executive Secretary – Association of Pacific Ports) and Ms Louise Deehan-Owen (Lecturer – New Zealand Maritime School)

In her presentation, Ms Tansey highlighted that the integration of women into all levels of development had gained ground within the UN system over the past 20 years. In 1988, IMO published its first Strategy for the Integration of Women in the Maritime Sector. This policy structure identified access to training and employment for women as two priority objectives. The Women in Development Programme was subsequently launched in 1989.

Ms Tansey also identified constraints facing women in the maritime sector and the difficulties of overcoming perceptions and stereotypes. She outlined IMO's global programmes to integrate women into mainstream activities, such as promoting the participation of women in maritime training, short term consultancies, regional seminars, fellowship programmes for women and in-house gender training.

Captain John Hogan presented a brief overview of regional approaches to gender issues in the Pacific and spoke of the work of the United Nations Development Programme (UNDP) and the Council of Regional Organisations of the Pacific

(CROP). His presentation focused specifically on SPC's contribution and commitment to empowering Pacific Island women in general. He spoke of the involvement of Pacific Island women in the region's fisheries and the work of SPC's Coastal Fisheries Programme in managing community based projects on sustainable livelihoods for women in fisheries.

He stated that all of SPC's Regional Maritime Programme (RMP) activities were available to women and the participation of women was encouraged. At the same time he stressed that in the Pacific, gender differentiation seemed to be based on cultural gender roles and active participation of women in decision-making lagged far behind men.

Ms Annaleise Caston reiterated that the maritime sector was not necessarily limited to seagoing activities. She explained the work of AMSA and its broad responsibilities in maritime safety, aviation and marine search and rescue and the protection of the marine environment from ship sourced pollution. Ms Caston is a team member of the Environment Protection Standards section.

Ms Twila Waqasokolala presented a paper entitled "Cultural Barriers to the Participation and Employment of Women in the Maritime Sector in Fiji", where she discussed her role as the Executive Secretary to the Association of Pacific Ports.

Ms Waqasokolala said that in Fiji, Transport and Communication Sector, of which Maritime is a part only 17% of the workforce were women. She acknowledged, that practical considerations made some jobs in the sector more suitable for men, however operational functions in the ports were also always performed by men and women were only employed in administrative positions. She said that the classification of women who were in ports, as prostitutes, did not encourage women to seek employment in the maritime field!

She also acknowledged that there had been changes since the 1980s. The presence of women at the docks was becoming more commonplace because govern-

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ment agencies providing port services, employ women. The Customs Department, for example, employs 400 women, out of a total staff of 900 and 10% of these women are involved in clearance of vessels at ports. The Immigration, Port Health and Quarantine Departments have women Boarding Officers who carry out their work on vessels.

Ms Louise Deehan-Owen became a Fulltime Master in 1990. At that time, she became interested in crew training and developed safe ship management systems and vessel operating manuals for her company. She also spent two years working as vessel engineer. For her last three years in commercial shipping she trained and certified masters on the larger vessels and became a duty operations manager.

Ms Deehan-Owen began her career in maritime education by running the first course for young Maori people entering the maritime industry at the Mahurangi Technical Institute. She then became a lecturer at the New Zealand Maritime School. She has maintained a strong industry contact, often advising commercial operations on training and safety matters. She is also an executive of the Maritime and Seafood Educators' Association of Aotearoa.

Personal experiences were presented by Viti Whippy (President - Fiji Ship-owners' Association, President – Fiji Marine Board) and Captain Liz Datson (Pilot – Queensland Pilot Authority)

Mrs Whippy is a member of the Chartered Institute of Transport, representing the shipping fraternity. In June 2002 she was employed as a Manning Agent for C F Sharp who operate cable ships around the world. In August 2003 she was appointed President of the Fiji Marine Board.

Captain Liz Datson presented a personal perspective of her career at sea. She attributed her interest in the merchant navy to meeting her seagoing father's friends and being familiar with ships and the sea from a young age. During her cadetship, she was the only female employed in the industry. Despite the difficulties, she felt she was lucky to have found officers and crew on every ship who were willing to teach her so much. She believed that doing what she was asked to do, asking questions when she didn't understand, and her forthright nature got her through. Captain Datson completed a year at the Australian Maritime College (AMC) and achieved her Second Mate Foreign Going.

She was satisfied with her job and suffered little if no discrimination at all when performing her duties. She still encounters, however, strange looks as she

boards a vessel, generally because of cultural differences and the scarcity of female harbour pilots.

Samoa examples were presented by Mr Fagaloa Tufuga (Legal and Corporate Services Manager - Samoa Ports Authority), Ms Lalotoa Mulitalo (State Solicitor - Attorney General's Office, Samoa), Ms Kerryn Kwan (Principal Legal Officer - Ministry of Agriculture and Fisheries, Samoa), and Dr Emma Kruse Vaai (Academic Director/Deputy CEO Samoa Polytechnic).

Mr Fagaloa Tufuga was a former student of the International Maritime Law Institute (IMLI). IMLI was established in 1988 in Malta under the auspices of IMO and offers developing countries unique facilities for postgraduate training in international maritime law and legislation.

To promote the integration of women from developing countries, 50% of the places on the course are reserved for qualified women candidates. However, during Mr Tufuga's year, there were eight women students out of a class of 24, and that was the highest female intake since its inception. Numbers of women students from the Pacific region are very low. The first director for IMLI was a woman named Professor Patricia Birnie, an expert, and arguably a world authority, on international environmental law. He conceded that there was a lack of human resources in maritime law and male domination of maritime affairs was a stereotype in this field.

Ms Lalotoa Mulitalo and Ms Kerryn Kwan presented a joint paper entitled "The Samoan perspective of women in the maritime (or professional) sector". Their address covered Samoan culture and Samoan women. A Samoan woman is referred to as "ioimata o le tuagane" ("the pupil of the eye") of the male members of family, but the importance was, however, limited to the confines home. They also highlighted the seafaring history of Samoans. They referred to factors such as lack of physical strength or the possibility of sexual assault as reasons for stopping women from a seagoing career. But increased mechanisation had made physique redundant and sexual assault was not limited to the female gender — homosexual assault was not an unknown concept at sea. They believed that the continued discrimination against women in this area was due to the difficulty Pacific Islanders have in changing their cultural perceptions.

Dr Emma Kruse Vaai stated that education, both formal and informal, was the key to success for a woman. Dr Vaai outlined the short history of Samoan women in the maritime programme at Samoa Polytechnic. Very few women enrolled and

very few made a career at sea afterwards because of difficulties getting their sea time. In 2003, three students, one a female, started higher level courses in the School of Maritime Training with the NZ Maritime School. On conclusion of these courses the young woman could not get "sea time". The request to the captain of local vessels for training the female student, met with negative response. This was despite support from parents and families. These perceptions, which were largely based on fear, should change. Safety issues were an international issue, and were the same for men and women. Following the presentations discussion was on the following issues: accessibility of maritime training for women, employment in the maritime sector for women, access to decision makers, advocacy systems to assist in the maritime sector. The groups then came up with resolutions to be presented at the next IMO Council meeting.

One of the main outcomes of the meeting was the request for the SPC Regional Maritime Programme to assist in setting up a Pacific Islands Maritime Women's Association.



Photo: Peter Heathcote

Women now work alongside men in ships.

Photo: John Hegan

Women performing practice sutures for their advanced first aid at sea training.

Women in the maritime industry¹

LCDR Janine Narbutas

Whilst my experience is from a Navy perspective, there are a lot of issues common to both the civil and defence maritime environments. I'll be sharing some of my own experiences, especially the time spent at sea and I will also discuss some rather general aspects of the employment of women in the maritime industry.

Historically, the maritime industry has not been an attractive career path for women. It was one of the most male dominated careers that you could find. In the past, jobs in maritime involved a good deal of physical strength and culture prohibited women from participating at the operational level. The biggest issue of all was that of social acceptability. It was not acceptable 30 or 40 years ago for women to serve alongside men in such an isolated environment. There were also some very persuasive

folk tales like "having a woman on a ship would bring bad luck". It is not surprising that there are no historical role models for women in maritime roles in a professional capacity.

Technology has changed the boundaries of our lives and what used to be limitations are now mere challenges. Women have a lot more freedom with access to areas that were previously prohibited but the introduction of women into this very traditional environment has been a slow and sometimes difficult process.

I joined the Navy in the early 1980s when women officers and sailors were still recruited largely for administrative duties. The complaint we had at the time was related to our training programme. It didn't take all that long to learn administration special-

1. From a lunchtime presentation to the Samoa Association of Women Graduates, October, 2003, during the IMO Regional Seminar for the Pacific.

ist skills but our male counterparts had a whole raft of courses and skills they needed to develop so women could not be let loose on their first postings ahead of their male counterparts. The trainers at the time made the 8 females in the class do all the same training as the males. This included seamanship, weapons training, coastal and astronomical navigation and cruise training. The only difference was that the women would not follow up their theoretical training with practical consolidation and seetime. A few years after much complaining, the senior poster at the time called up asking for a female volunteer to be posted at sea. This came at a time when the women were all happily entrenched in their administration jobs, had social lives, fiancés or boyfriends and were generally living a fairly normal existence for a young twenty something female.

The ships that were open to women were the non-combatants – these were the transport or auxiliary type ships. In 1986 I took up a trainee position on the hydrographic survey ship *HMAS COOK*. It was a very comfortable ship with nice open passages, good bathrooms and cabins and plenty of room because it was built along civilian rather than military lines. At the same time, a female electrical engineer was posted to the *Cook* and we became the first billeted officers to undertake a sea posting — guinea pigs!

My first commanding officer was a very mature, professional man with lots of sea experience who clearly remembered his days as a trainee officer of the watch. It was his task to prove that posting women to sea was not a mistake. He certainly was not going to be accused of giving a girl a ticket who didn't deserve one. He made what I was in for quite clear and stressed that I would be well qualified by the end of my posting. After 18 months at sea, I was a better person and quite a good ship driver. In the course of my training, I lost my leave about 8 times for not getting the wardroom newspapers delivered on time, for leaving the harbour lights on 1 minute after sunrise, for being three cents down in the wardroom accounts – all good junior officer stuff. I think I reduced more morning and evening stars with a sextant than any other trainee at the time. But in the end, my engineering counterpart and I succeeded in getting our competency certificates and achieved what I guess was the ultimate aim at the time – to set a precedent.

In the meantime, the defence force was grappling with the issue of rising attrition rates and poor recruitment. On those grounds and with the help of the introduction of national equal employment opportunity legislation, the combatant and non-combatant issue was finally being debated. In the early nineties, legislation was changed and women

were allowed to be engaged in combat related roles. That meant that women were now allowed access to almost all positions on warships. Before this new policy could be implemented, there were some quite serious issues to be dealt with:

- There was the whole question of domestic arrangements.
- Security and safety were also thrown up as serious concerns.
- Some wives held protest rallies and formed action groups to object to their spouses being subjected to temptations whilst they were out at sea.
- Where were the females going to sleep and who was going to give them a shake when they were due to go on watch
- The “strength” issue was a big one with many suggesting that women couldn't do the heavy rope work.

Some of these issues were valid and needed some serious debate to resolve. Alternatives like “let's give them a whole ship” were discussed but thankfully never pursued. Suitability of accommodation was the most difficult issue and challenging impediment, so much so that only significant modifications in their subsequent refits could address this issue and dedicated female accommodation areas were built. The combined single-sex crews quarters were working very well and became the norm rather than the exception. A lot of the restrictions were limited to the sailors and NCOs because officers were accommodated in a different area of the ship and occupied single, double or quad cabins, depending on the size of the ship and the rank. The female officers could be accommodated much easier than the sailors and of course, their jobs were more brain than brawn. The argument of insufficient physical strength then became less of an issue. This remains true to this day. On patrol boats and landing craft, due to crewing accommodation, there is no scope for female sailors so the smaller ships are limited to employing only male officers.

Females are now employed in naval aviation wings, submarines or major warships as principal warfare officers, commanding officers of minor warships or executive officers of the frigates. Most of the male population accepted the fact and got on with the job albeit with some reluctance but some senior NCOs and officers could not entertain the thought or reality of women at sea. They would tell you quite proudly that one of the reasons they went to sea was to get away from women. With the introduction of women at sea were a whole raft of new policies and regulations to overcome the initial resistance and get everyone used to working in a different environment. There were policies ranging from the basic equal employment training,

good working relationship briefings, the instruction of two females at a time (whereby a woman could not serve at sea as the only female on board) and lots of other initiatives. These policies whilst necessary were restrictive – they presented very real management challenges.

Being a commanding officer at sea in the 21st century has brought with it some new and interesting management challenges and almost all of these challenges are mirrored in the civil environment. In the late 1980s, the International Maritime Organization recognised the need to increase the numbers of women in the global maritime profession and produced its first strategy paper on the subject. As two of its priority issues, this paper identified the need for providing access to training and employment for women. This paper also recognized the difficulties faced by women in the maritime sector, many of which were caused by stereotypes and outdated perceptions.

In the greater Asia Pacific region, this initiative has been successful in that the IMO has achieved its objective providing access to training. However, the training is not and will never be the big issue – the issue will be access to training bunks and then positions at sea for the practical consolidation of that training. Local women who choose a career in maritime cannot consolidate their training unless they go outside to the US, NZ, Australia or Asia. Unfortunately, this is

unlikely to change unless more women become interested in a career as mariners.

To overcome these difficulties, new policies need to be implemented, decisions about simple domestic modifications at the next refit or slipping need to be made and only vessels that can accommodate both men and women need to be purchased. Training programmes can be conducted to teach people what is expected in a shared work environment and how to implement practical employment guidelines.

Even though men have been traditional seafarers, the global maritime community will continue to be challenged to recruit academically qualified and suitable people. This is where countries with a strong maritime history will eventually leave their mark on the world. However the challenge is always going to be consolidation – whether it is for males or females. There are no shortcuts to sea experience. Attention needs to be paid right now to the implementation of policies that incorporate a more gender equitable maritime industry to address issues such as accommodation, ship design, policies and strategies and thereby minimize the angst that goes with any major change.

I don't think the maritime industry will ever be a leading employer of women but there is no reason why those who choose a career in the field should not be allowed to pursue their ambitions.

Photo: Megan Streever



Female recruit and other trainees using the ship simulator at the Fiji School of Maritime Studies

Tonga fish handling training

Tony Chamberlain¹

Introduction

In September 2003 under New Zealand's development assistance programme with Tonga, I was contracted via People and Projects Ltd, to conduct in-country fish handling and processing training in the outer islands of Tonga. Training was conducted in Niuatoputapu from 11 to 17 September 2003 and Neiafu, Vava'u from 19 to 25 September 2003. The goal of the project was to enhance the utilisation of marine resources in Niuatoputapu and Vava'u. The objectives of the project were to develop locally-appropriate fish handling, preservation and processing techniques; to improve local business skills.

The training was coordinated locally by Mr Tatafu Moeaki and Ms Fatai Soakai from the Tongan Training Centre, Ministry of Education. The local training counterpart, Ms Silika Ngahe, Director of Fisheries for Vava'u, was exceptionally valuable and instrumental in the coordination and implementation of this training and it would have been very difficult to conduct the training in both locations, especially in Niuatoputapu, without assistance.

Workshops

In Niuatoputapu 16 participants attended: 10 women and 6 men. Six participants were from NGOs, mostly church groups, and the remaining ten were from the private sector. Participants in Niuatoputapu were particularly interested given the recent concerns on food supply caused by Cyclone Waka in January 2002. Participants were taught how to build appropriate technology fish processors (smoker and solar dryer) using locally available materials. In Niuatoputapu a number of participants indicated that they were going to build their own processors. The only material not readily available is the UV-treated plastic (that stays subtle for extended periods of time). It was recommended that they use regular transparent plastic, but that this would need replacing every few months as it becomes brittle or they could use readily available glass panels.

Simple preservation and processing techniques were demonstrated. In Niuatoputapu, participants were more interested in preservation methods such as salting and drying or hot smoking. The most

popular product was fish jerky, especially chilli flavour. A rough market trial was conducted on several persons from cruising yachts in the area and they indicated they would pay 10 pa'anga for 100gm bags of good quality jerky. Locally available materials were encouraged for the formulation of jerky marinades.

In Vava'u 21 participants attended the training: 4 women and 17 men. Three participants were fisheries officers, two were educational officers and fifteen were from the private sector. Vava'u participants were less interested in preservation probably because of the availability of electricity and refrigeration. There was particular interest in smoked fish products and business skills perhaps because of the significant tourist market in Vava'u. The majority of participants were fishermen who appeared less interested than Niuatoputapu participants in value-adding but were very interested in the session on Business Skills which demonstrated how they could increase their profit considerably by value-adding.

Interest in utilising sea plants as a dietary supplement and to help with health ailments was of particular interest to participants in both locations.

Through the training it was obvious that locally-appropriate fish handling, preservation and processing techniques is necessary to improve local business skills. Men and women in rural locations have access to fish and other marine species, which could be developed through proper processing and preservation techniques to facilitate business development and income generation opportunities.



Photo: Tony Chamberlain

Tonga workshop participants

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The impact of fisheries development and globalization processes on women of fishing communities in the Asian region

Chandrika Sharma¹

Adapted from: Asia Pacific Research Network, 2004. <http://www.aprnet.org/journals/8/v8-2.htm>

Introduction

This paper looks at the impact of fisheries development and globalization processes on women of fishing communities in the Asian region and the responses of women of these communities to these developments. Given the lack of information or statistics on the issues involved, the paper proposes areas for future research. It is divided into the following sections: (1) Fisheries in Asia (2) The role of women in fisheries in Asia, (3) Impact of fisheries development and globalization processes on women of fishing communities, (4) Women's participation in organizations, (5) A feminist perspective on fisheries: a need for clarity, and (6) Important research issues.

Fisheries in Asia

Fishers and fishworkers

Millions of people depend on fisheries for a living in the Asian region and undoubtedly, the sector is a major source, of employment, income and food security. Majority of these are small-scale, artisanal fishers eking out a living from coastal and in-shore resources. Official figures do not include those involved in other fisheries-related activities, such as marketing, processing, net-making, boat building etc. A conservative estimate would, therefore, place the total number of people involved in fisheries-related activities in Asia at about 150 m.

Fisheries and fisheries development

Important fish producing countries in the region include China, Thailand, Indonesia, Korea, India, Philippines, Malaysia and Vietnam. In 2001, nine Asian countries were among the top 20 countries in terms of production from marine capture fisheries. Attracted by the possibilities of higher foreign exchange earning, countries like Thailand, India, Bangladesh and Indonesia provided incentives to export-oriented intensive shrimp culture. Government initiatives, along with higher earnings potential, prompted numerous coastal farmers to shift their production from rice to shrimp.

Cultured shrimp made up 70 per cent of the total yield produced in 1999.

At the same time, the aggressive economic growth in other sectors being pursued over the last couple of decades has had consequences for the fisheries sector. For example, an Economic and Social Commission for Asia and the Pacific (ESCAP) study in 1992 identified the following among the main marine environmental problems in the region: (i) pollution and/or siltation of coastal waters from industrial effluents, domestic sewage, and agricultural and surface runoff; (ii) pollution of some regional seas and straits from sea traffic operations, and from mining and oil exploration and exploitation; (iii) destruction of sensitive coastal ecosystems, such as mangroves and coral reefs, through cutting, reclamation, conversion, exploitation, and pollution.

Exports are mainly to markets in Japan, EU and the US. For developing countries in Asia and elsewhere, fish trade is clearly a significant source of foreign exchange.

The role of women in fisheries in Asia

Women take on a range of work within the fisheries and within fishing communities, in Asia and elsewhere as outlined in Table 1.

In general, while the exact nature of the work of women differs by culture and region and between rural and urban areas, the common factor is that it is rarely seen as 'productive'

The manner in which development impact on women engaged in fisheries-related activities, women of fishing communities and women who are workers in processing plants are discussed below.

Women engaged in pre-harvest work such as net-making

Traditionally, nets were woven locally using cotton yarn or other natural fibre. The introduction of synthetic yarns and net-making machines has led to

Table 1. Women's range of work within the fisheries and within fishing communities.

As workers within the fisheries (paid and unpaid)	Women may work in fish marketing, in the preparation of bait, making and repairing nets, collecting crabs and shellfish, gathering and cultivating seaweed and algae, in smoking, salting and drying fish, and, in rare case, fishing. They may also work in aquaculture farms. Often ignored is the 'liaison work' many wives of fishermen undertake on behalf of their fishermen husbands, such as dealing with financial institutions for credit for fisheries operations
As workers in processing plants	Women are very active in the processing sector, as either part-time or full-time workers in processing plants, or workers under sub-contracting systems.
As those responsible for the family and community	Women, as everywhere else, are almost entirely responsible for the care and nurture of the family. Where the men stay away fishing for long periods, women run the household in the absence of their husbands.
As workers outside the fisherie	Often, women of coastal fishing communities take on activities outside of the fishery, that give them some form of stable monetary income, since the income from the fishery is inherently unstable and unpredictable.

the displacement of thousands of people traditionally involved in these activities, many of whom were women. In Kanyakumari district of Tamil Nadu, India, for example, the introduction of these machines reportedly led to the displacement of 20,000 women employed in this work at one stroke. (ICSF 1997).

Women engaged in fish processing and marketing activities

Traditionally, women of fishing communities in many Asian countries have been playing important roles in marketing fresh fish, and processing surplus catch for sale at a later date. However, with modernization of the sector, the growth of the industrial fleet and the expansion of domestic and export markets, the situation has fast changed.

Women engaged in gleaning and collection activities in inshore areas and intertidal zones

Thousands of women are working in intertidal areas and inshore zones, collecting crabs, shellfish, seaweed etc. for income and domestic consumption. Their work and incomes are rendered highly vulnerable by increasing levels of pollution and destruction of coastal habitats.

Women responsible for the family and community

Women of fishing communities have crucial roles in the care and nurture of their families and communities. Artisanal and small-scale fishermen allege that non-selective fishing deplete and degrade resources and that large catches by large fleets depress market prices. For women of fishing communities, this has often meant a decline in the income available to run the family. And finally,

there are many cases where fishing communities have been uprooted and displaced, or face displacement, to make way for 'development' (industry, urban growth, tourism...). Ironically, even as fishing communities are victims of environmental degradation, they are now increasingly victims of conservation efforts.

Women as workers in processing plants

Exports markets are highly competitive and the Asian region, with cheap labour and relatively good access to resources, tends to enjoy a competitive edge. At one level, fish processing plants provide employment to thousands of workers, particularly women. However, reports indicate that women tend to be employed in low-paid jobs with low levels of job security, often under poor conditions of work with long-term implications for their health, as has been reported in India (Nishchith 2001).

Women's participation in organizations

At a recent meeting of fishworker organizations (FWOs) and NGOs in the Asian region held in Thailand (Sharma 2002), it was noted that in most countries of the region, efforts at developing fishworker organizations are relatively recent. It was further noted that even where fisherfolk have organized, women are often not part of such organizations. In some cases, where women have organized and have been given the space to represent their interests within FWOs.

Important research issues

Given this background, future research, should, in the final analysis, lead to a better understanding of women in the fisheries sector and to policy out-

comes that support not only women in the fisheries sector, but a form of fisheries development that is more sustainable and equitable. The following research areas are proposed:

Accurate data

There are no accurate statistics on women's roles in fisheries in any developing country. The starting point of any data collection exercise must change: rather than asking 'do women of fishing communities work?', the starting question has to be 'what work do women of fishing communities do?'. This can provide a holistic picture of the time women put in and the problems they face. It will also clearly indicate that, through their close interaction with the coastal ecosystem and through their work fishing, collecting water, firewood, fruits etc., women are likely to have a broader 'ecosystem perspective' and they have a lot to contribute in bringing ecosystem considerations into fisheries management.

The landing centre

Research on the work women are doing in landing centres, the niches they occupy, the problems and competition they face, the organisations they are part of, and how things have changed over time, would bring out also the dynamism of women in coping with the massive changes they have had to deal with over the last 2 decades. It would provide useful information for policy initiatives.

The market

Research in this field will assist in the understanding of the role women play in fish marketing and the problems they face in transport, in accessing market facilities, in accessing credit, etc. This will also help throw light on marketing chains for different kinds of fish, and the role that women play in these different chains.

Women within organisations

A better understanding of whether women are part of organisations within communities and at the regional and national levels, the constraints they face in participation, the different perspectives they have brought in, and ways in which their meaningful participation can be strengthened, would also be highly relevant. As would a better documentation of the responses of communities to adverse developments, and positive initiative taken by them.

Women in fish processing plants

Given the importance of the sector in the Asian region, it would be useful to study the conditions of work in the sector, wages and gender-based differentials in wages, the changing nature of employment (e.g. increasing casualisation), the impact of changes in technology and markets etc.

Women in aquaculture

there is no information about the level of employment and conditions of work in aquaculture units in the region. Given that aquaculture is growing at such a rapid pace, it is important to look at this dimension and to monitor trends

While all these remain important areas for research, the paper demonstrates that the importance of process cannot be over-emphasised. Any research should be undertaken in a participatory manner, in ways which clearly benefits and empowers those at the community level, particularly women.

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News from the SPC Coastal Fisheries Management Section

Work in the last six months has been related to the implementation of community-based management in Tokelau and Niue. It included training and general capacity building at the national level. There has also been reviews of work done in American Samoa and Niue.

Samoa Training of Trainers Workshop

This training involved fisheries officers from American Samoa and community facilitators from Tokelau.

The one-week training was an intensive exercise where the fisheries officers and community facilitators tried to grasp the whole process of community facilitation, establishing contact at the village level, conducting meetings and the development of village based fisheries management plans. The main components of the training were as follows:

- Principles of community-based management.
- The importance of including all stakeholders and to involving resource owners and users in the management of fisheries resources.
- Familiarising officers with techniques of dealing with communities. How to hold discussions and meetings and collect required information,

and the importance of facilitation at the community level.

- Use of participatory learning activities (PLA) and the need for interaction and sharing of views in such situations.
- Tools to get information from people. The use of the problem solution tree as an example.
- Developing a village management plan form information gathered.
- Undertakings and commitments specified under the management plans.
- Setting up a village management committee and the role of the committee.
- Legislations relating to coastal fisheries management and the need for by-laws where appropriate.
- MPAs and other forms of management.

Photo: Aliti Yunisea



Participants facilitating during the Samoa workshop

An attentive audience at the Samoa workshop

Photo: Aliti Yunisea



Community-based fisheries management plans for Tokelau

Following the Samoa fisheries officers training, the Coastal Fisheries Management Officer, and three Samoa Fisheries Department officers, went to Tokelau to work with communities on developing their management plans. The work, which took three weeks, involved the SPC officer travelling to all three atolls and working with local counterparts

and the Samoa fisheries officers. At the end of the three weeks, the three atolls had each developed their management plans. This was done in the vernacular language, so that people knew what the contents of the plans were. This was important, as they had to understand the undertakings they had indicated in the plans.

Photo: Aliti Yunisea



A aumanga meeting

Photo: Aliti Yunisea



A fatupaepae meeting

Photo: Aliti Yunisea



The two community trainers from Fakaofu checking up the marine reserve.

Vanuatu: Socioeconomic considerations assessment of the aquarium trade

This was a collaborative activity with Being Yeeting, SPC's Live Reef Fisheries Specialist, who is working closely with the Vanuatu Fisheries Department, with the Assistance of the Marine Aquarium Council in developing a management plan for its aquarium industry. Discussions were held with various stakeholders. Two workshops were held before discussions and interviews with stakeholders were conducted. The workshops were on the aquarium trade and a workshop with fishermen around the country on their role in the fisheries sector.

The work of the section focussed on looking at the socioeconomic benefits of the industry to the people and also assessed likely implications and constraints in developing the management plan. Following the work in Vanuatu, the fisheries management officer for Vanuatu Kalo Pakoa worked on finalising the management plan while on attachment to SPC.

PROCFish roundtable discussions

From 3-6 July a scientific roundtable was held at SPC. Representatives from SPREP, USP, IRD, as well as other personnel were involved in the roundtable. Both staff members of the Coastal Fisheries Management Section attended this meet-

ing. A socioeconomic manual that is being developed for use in the region was discussed and finalised at the meeting. The meeting also focussed on regional approaches to fisheries management.

Pacific Islands Regional Oceans Forum (PIROF)

The PIROF in Suva was attended by Aliti Vunisea from the section. The meeting, which involved regional representatives, governments, NGOs, the private sector, and academics was an attempt to

set in place a framework and guidelines to address identified issues. The primary focus was to set the direction for the sustainable use of marine resources in the future.

Kim Des Rochers

Kim, who has been the coordinator of this bulletin since April 2002, has handed the responsibility back to the Coastal Fisheries Management Section. This is because of the demands of work

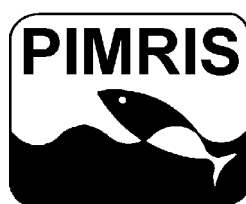
from the Publications Section at SPC, where she works full time. The splendid work done by Kim in the last few years putting together issues of the bulletin is commended.

Review of the American Samoa Project

The Coastal Fisheries Management Section Adviser conducted a review of the American Samoa Community-based Project. This is in line with commitments from the section at SPC when

projects are implemented in countries. Follow-up work is conducted to check on the progress of work done, and to identify areas that need to be formed or supported.

PIMRIS is a joint project of five international organisations concerned with fisheries and marine resource development in the Pacific Islands region. The project is executed by the Secretariat of the Pacific Community (SPC), the South Pacific Forum Fisheries Agency (FFA), the University of the South Pacific (USP), the South Pacific Applied Geoscience Commission (SOPAC), and the South Pacific Regional Environment Programme (SPREP). This bulletin is produced by SPC as part of its commitment to PIMRIS. The aim of PIMRIS is to improve



Pacific Islands Marine Resources Information System

the availability of information on marine resources to users in the region, so as to support their rational development and management. PIMRIS activities include: the active collection, cataloguing and archiving of technical documents, especially ephemera ("grey literature"); evaluation, repackaging and dissemination of information; provision of literature searches, question-and-answer services and bibliographic support; and assistance with the development of in-country reference collections and databases on marine resources.