

Socioeconomic status of fisherwomen

Women's fishing in Tonga: Case studies from Ha'apai and Vava'u islands

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Introduction

Over the last two decades, women's contribution to the subsistence and artisanal fisheries sectors in the Pacific has increasingly gained recognition. Contributions include not only subsistence but also small-scale, village-based commercial activities. Chapman (1987) showed that the total fishing yield supplied by women fishers is 32% in American Samoa and between 25 and 50% in the Gulf of Papua New Guinea. In Fiji Islands, invertebrate sales averaged 2000 tonnes, worth FJD 4.5 million, over a three-year period. Salt- and freshwater clams, which are exclusively harvested and marketed by women, comprise about 48% of this volume (The Women in Fisheries Network, www.wifn.org.fj, 11 June 2002).

Although considerable efforts continue to target women in fisheries development and management projects, women's contributions at both subsistence and commercial levels have yet been given due recognition by the relevant national and regional institutions. This gender bias is highlighted by the fact that national and regional statistics do not yet reflect women's – and children's – share in the fisheries sector, which has resulted in the characterisation of women as the 'invisible fisherfolk' (Ram 1993).

This paper addresses two issues that have been underestimated and undervalued in the past: the role and magnitude of women's and children's involvement in fishing activities in the South Pacific. Accordingly, this paper examines how Tongan women's fishing practices contribute to the family's seafood consumption and income generation. It aims at reviewing today's behaviour in comparison to documented gender related traditions and customs. Furthermore, an attempt is made to analyse if gender related fishing attitudes are already developed at an early age.

Methods

The results presented here are derived from socio-economic surveys implemented in the framework of an interdisciplinary research project (DemEcoFish¹) assessing the status of reef and lagoon resources in

the South Pacific. Socioeconomic survey methods involved random interviews with men and women of all adult age groups (> 15 years) in four Tongan village communities. Primary school children of both genders were surveyed using participatory scoring and ranking tools.

Four villages were selected (Fig. 1): two each from the Ha'apai and Vava'u island groups. Each pair of villages per island group comprises one more traditional and one more urbanised community. Thus, Lofanga on Ha'apai and Ovaka on Vava'u represent the more traditional communities as they are located on small isolated islands where access to the main island is by motorised boats only. In contrast, Koulo on Ha'apai and Mataika on Vava'u are considered more urbanised villages because they are located in close proximity to the island groups' main centres.

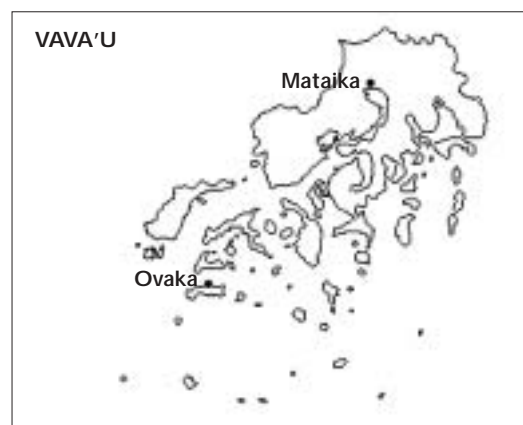
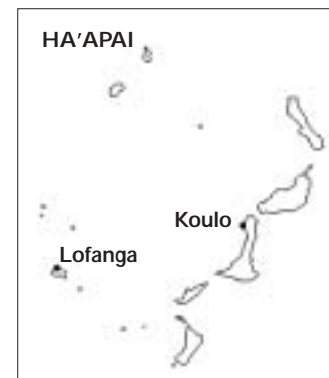


Figure 1
Location of the four villages surveyed in Vava'u and Ha'apai island groups of Tonga



¹ DemEcoFish is an ongoing research project (2001-2003) implemented by SPC's Reef Fisheries Observatory, and funded by the MacArthur Foundation. The major objective is to identify socioeconomic indicators to assess fishing pressure and thus the status of marine resources (reef and lagoon) used for subsistence and small-scale artisanal fisheries in the South Pacific.

Individual questionnaires were used to assess seafood consumption and fishing habits. Information on frequency of fishing activities, main fishing techniques used, target species, and reasons for fishing was gathered through participatory children's surveys. The children's survey results are presented as percentages of three village samples. A children's survey was not carried out in Lofanga due to holidays.

The assessment of women's role and contributions is based on comparisons between answers given by female and male individuals in each village.

In this paper, fishing is defined as the harvesting of all edible seafood. Differentiation is made between finfishing and the collection of other seafood (reef gleaning).

Results

Adult individual surveys

Survey sample

As presented in Table 1 survey samples represent between 25% and 55% of the total adult village population (> 15 years). Sample sizes of women and men per each village survey are comparable.

Seafood consumption

The consumption of finfish and other seafood is important in each village (Table 2). Canned fish is an

established food item in all communities, and seems to be slightly more preferred by women than men. Also, consumption of other (non-fish) seafood is prominent (88–100%). Variations in percentages may be explained by religious taboos² rather than individual or gender determined taste preferences.

Fishing activities

Seafood consumption patterns correspond to the involvement of village people in fishing activities. About half of all women villagers questioned in Ha'apai said they finfished, as did 6% to 21% of the women in Vava'u (Table 3). However, the involvement of women in reef gleaning activities is higher (72% to 92%) and more consistent when comparing all four villages.

By comparison, men's involvement in finfishing is higher but their participation in reef gleaning is substantial, too. In the case of Mataika (Vava'u) the percentage of men reef gleaning exceeds that of women.

As shown in Table 4, the frequency of finfishing trips is only slightly higher for male fishers in the small island communities of Lofanga and Ovaka. Frequency of other seafood collection is comparable and consistent between villages and gender groups. The high number of collection trips by men in Ovaka village is the exception. Duration of finfishing trips by women and reef gleaning trips by either gender group are comparably short, ranging from two to four hours each.

Table 1: Survey data

Village	Total no males surveyed	Age range surveyed	Total no females surveyed	Age range surveyed	Total population surveyed	Total population >15 years	% representation >15 years
Ha'apai							
Koulo	32	15–83	32	11–72	64	146	44
Lofanga	17	17–76	13	22–59	30	114	26
Vava'u							
Mataika	41	16–78	44	15–75	85	339	25
Ovaka	20	15–71	16	15–65	36	65	55

Table 2: Seafood consumption patterns

Village	Eat finfish (%)		Eat other seafood (%)		Eat canned fish (%)	
	males	females	males	females	males	females
Koulo	100	100	94	91	94	94
Lofanga	100	100	92	94	71	85
Mataika	100	98	76	100	98	98
Ovaka	100	100	100	88	80	94

Table 3: Fishing and reef gleaning activities by percentage

Village	Go fishing (%)		Go collecting (%)	
	females	males	females	males
Koulo	50	78	72	66
Lofanga	54	88	92	59
Mataika	21	59	82	90
Ovaka	6	80	75	10
mean:	44	76	80	56

² E.g. members of the Seventh Days Adventist Church do not eat shellfish.

³ Usually lobsters are spearfished by men at night in habitats that require motorised boats.

Table 4: Frequency and duration of all fishing activities

Village	No of finfishing trips/week		Duration of finfishing trip (hours)		No of collection trips/week		Duration of collection trip (hours)	
	females	males	females	males	females	males	females	males
Koulo	2-3	2-3	3	8	2	2	2-3	2-3
Lofanga	2	3-4	3-4	7	1-2	2	<6	<6
Mataika	2	2	4	5	1-2	1-2	3	4
Ovaka	2	3-4	2	3-4	2	4	3	3

Table 5: Time of finfishing

Village	Fishing (%)					
	night		day		night & day	
	females	males	females	males	females	males
Koulo	6	40	81	36	13	24
Lofanga	0	14	100	43	0	54
Mataika	11	8	67	24	22	68
Ovaka	0	0	100	63	0	37
mean:	4	16	87	42	9	46

Table 6: Time of shellfish collection – reef gleaning

Village	Collecting (%)					
	night		day		night & day	
	female	male	female	male	female	male
Koulo	0	0	96	100	4	0
Lofanga	0	0	100	100	0	0
Mataika	0	7	94	73	6	20
Ovaka	8	0	34	45	58	55
mean	2	2	81	80	17	19

Table 7: Fishing techniques

Technique	Koulo		Lofanga		Mataika		Ovaka	
	females	males	females	males	females	males	females	males
reef gleaning:								
iron bar ¹	24	0	54	26	21	11	17	3
collecting by hand ²	56	12	13	0	59	41	47	28
sub-total reef gleaning:	80	12	67	26	80	52	64	31
finfishing:								
catching by hand	3	0	0	0	0	0	0	0
handline	8	18	0	29	5	13	0	22
cast netting	3	9	25	3	3	8	7	15
netting	0	23	0	5	3	2	0	16
group netting	0	5	8	0	5	0	0	0
spear fishing ³	3	28	0	16	0	20	4	12
spear throwing ⁴	0	0	0	0	0	0	0	3
night fishing ⁵	3	0	0	0	4	5	25	1
deepbottom fishing (handline)	0	5	0	18	0	0	0	0
trolling	0	0	0	3	0	0	0	0
sub-total finfishing:	20	88	33	74	20	48	36	69

¹ Includes maka feke, a lure to catch octopus (according to a traditional Tongan legend) that simulates the shape of a rat.

² May involve the use of knives, woven baskets, plastic bags and containers, and using the feet to feel for some shellfish

³ Involves apna (breath-hold diving) and is performed during day and night, at Ha'apai mostly at night.

⁴ Throwing a long spear from mangroves or reefs, or from a boat.

⁵ May involve several techniques used by foot or from a boat, performed using a light (lantern) to attract fish.

Major differences occur in the duration of men's finfishing trips. With the exception of Ovaka — where men spend in average only three to four hours on each finfishing trip — men usually finfish for five to eight hours at a time.

Similarities and differences in fishing activities are highlighted in Tables 5 and 6. Women prefer fishing during the day, whereas most men finfish during the night or the during the day, or exclusively at night. Other kinds of seafood are mostly collected during daytime, irrespective of gender³. However, all Ovaka villagers and, to a lesser extent, Mataika villagers also reef glean during the night and day.

Fishing techniques

The fishing techniques used mainly by women fishers in all villages surveyed, predominantly target invertebrates and shellfish (Table 7). However, while 80% of women in more urbanised villages reef glean, women fishers in isolated and more traditional communities such as Lofanga and Ovaka use such techniques less (~65%) in favour of finfishing. Finfishing techniques vary considerably between women from both villages. Women in Lofanga (Ha'apai) prefer cast netting and to a lesser extent group gillnetting, while night fishing and to a lesser extent cast netting and spear fishing are employed by women fishers from Ovaka (Vava'u). Finfishing techniques used by women in the more urbanised villages of Koulo and Mataika include handlines and catching fish by hand.

In comparison, male fishers use mainly handlines and all kinds of netting techniques in addition to deep-bottom fishing and trolling. Spearfishing is widely practiced in Ha'apai and also in Ovaka (Vava'u).

³ Usually lobsters are spearfished by men at night in habitats that require motorised boats.

Habitats fished

Preferences for certain fishing habitats (as depicted in Table 8) are determined by accessibility and availability. Most women fishers reef glean without using a canoe or boat. Thus, none of the women interviewed said they fished in deep sea areas. However, while both Ha'apai villages are mainly surrounded by reefs, Mataika village on Vava'u has direct access to soft-bottom habitats. These characteristics are reflected in the percentages for either gender group. In the case of Ovaka, however, the balance of both habitats fished is determined by access to the reefs surrounding the isolated island and visits using boat transport to soft bottom habitats around the main island.

Objectives of fishing

The majority of all women fishers surveyed stated that they fished mainly for subsistence purposes, although finfish and other seafood were also collected as gifts. However, women, particularly those based at Lofanga (Ha'apai) also harvested for sale. By comparison, although male fishers concentrate on subsistence finfishing and the collection of seafood they are more commercially oriented. On average, the share of finfish for sale exceeds shares of other seafood sold. The percentage of men finfishing to generate income is particularly high in Lofanga (Ha'apai).

Surveys of children

Results given in Table 10 are average figures for primary school students (7–9 years) surveyed in the three villages of Koulo, Mataika and Ovaka. Data shows that girls go fishing either 'often' (1–3 times a week on a regular basis) or 'sometimes' (e.g. during school holidays and on most Saturdays), while boys mostly opted for sometimes only.

Household consumption was quoted as the main purpose by both girls and boys. However, more girls than boys fish for sale, and their mothers sell the catch.

Girls from all three communities almost exclusively use reef gleaning or general collection techniques. The majority of boys questioned cited primarily finfishing techniques although a considerable percentage of boys were found to also reef glean. However, this seemingly gender-related division of fishing activities at an early age is challenged by the contrasting information on the main species harvested by girls, which includes a considerable amount of finfish. This suggests that girls also use techniques other than just reef gleaning and collection by hand.

Table 8: Habitats fished

Village	Reef		Lagoon (seagrass, sand/soft bottom)		Deep sea	
	females	males	females	males	females	males
Koulo	90	69	10	28	0	3
Lofanga	91	77	9	3	0	20
Mataika	21	31	79	69	0	0
Ovaka	50	52	50	48	0	0

Table 9: Reasons for fishing by percentage

	Koulo		Lofanga		Mataika		Ovaka	
	females	males	females	males	females	males	females	males
finfishing:								
consumption	50	40	0	0	50	23	100	6
sale	0	0	0	0	0	4	0	0
consumption & gift	44	44	71	0	38	30	0	56
consumption & sale	0	4	0	40	12	8	0	0
consumption & gift & sale	6	12	29	60	0	35	0	38
collection:								
consumption	57	41	17	10	50	40	17	10
sale	0	0	0	0	0	0	8	0
gift	0	0	0	0	0	0	0	0
consumption & gift	30	45	58	58	39	26	67	60
consumption & sale	9	0	8	8	3	8	0	10
consumption & gift & sale	4	14	17	17	8	26	8	20

Table 10: Fishing activities of primary school children at Koulo, Mataika and Ovaka villages (%)

		Girls (%)	Boys (%)
Frequency of fishing	often (1–3 times per week)	33	16
	sometimes (during school holidays and most Saturdays)	63	85
	never	4	0
Purpose of fishing	family consumption	80	89
	sale	24	11
Fishing techniques used	reef gleaning	99	43
	finfishing	1	57
Fishing catch	finfish	19	73
	other seafood	81	27

Discussion

Overall, results support the statement that women's participation in fishing activities in the South Pacific region has been underestimated and undervalued (Dye 1983; Ram 1993; Matthews 1991; Vunisea 1997). An analysis of the frequency and duration of fishing trips performed by both gender groups suggests that women's contribution to household supply is at least as regular and reliable as men's. While alternative income sources to fisheries exist in each of the communities surveyed, women's fishing must be considered as a means to secure the household's protein and food provision when financial and agricultural resources are poor. Children's fishing activities give substantial support to women in providing seafood for household consumption (and as a potential source of income). As demonstrated, primary school children in Ha'apai and Vava'u fish between one and two times a week, and about 25% of the girls' catch is sold by their mothers. These figures indicate a much higher participation than found by Rawlinson et al. (1994) in the case of Viti Levu, Fiji.

Results of this study also challenge a number of observations stated elsewhere. The percentage and frequency of finfishing performed by women contrasts with the generally held belief that women are responsible for the collection of invertebrates only (Tonga et al. 2000), or that women only occasionally perform men's fishing (Matthews 1991). It also opposes the often-cited sexual division of labour in fishing (Bataille-Benguigui 1988). This study agrees with statements made by Schoeffel (1985), that Tongan women will use fishing gear if it is available at home (e.g. cast nets, handlines and spear guns). Based on the fact that women's fishing activities stretch far beyond shellfish collection, it is argued that little difference exists between men's and women's fishing activities.

To be successful, women must have as much knowledge of the marine environment and the ecology of marine resources as do men, as well as the expertise and skills in fishing techniques.

Similarly, men's fishing certainly includes octopus fishing (*maka feke*), and the collection of certain molluscs (*hoka fimgota*), which are usually considered as part of women's domain (Tonga et al. 2000). The men interviewed stated they were not selective in the techniques used or species targeted, nor did they feel they were performing women's work when they reef gleaned.

The results of this study indicate there are three substantial differences between women's and men's fishing activities: 1) women tend to prefer daytime fishing, 2) women focus on shallow waters close to shore, and 3) women mainly fish

without using canoes or motorised boats. Possible reasons for these differences are: 1) Oliver (1989) argued that the more fishing habitats that are available, the more stratified the gender roles in fishing become. All fishing communities have access to soft bottom lagoon and coral reef habitats, deep bottom and open ocean fishing grounds; 2) anthropologists and ethnologists argue that gender roles, including fishing activities, are determined by tradition (Vunisea 1997), and by mystical beliefs that are associated with men's fishing (Chapman 1987; Matthews 1991; Bataille-Benguigui 1992).

Traditional gender role definitions and mystical beliefs may explain why women are not actively involved in commercially oriented longline fishing or any of the organised night time spearfishing trips. None of the women questioned went fishing for more than six hours at a time. Also, only very few women take the risk of venturing to reefs and shallow water areas at night time.

This survey also revealed some questions yet to be answered. Conflicting with Matthews (1991) and Tonga et al. (2000), women from isolated and more traditional villages stated that they visit uninhabited atolls by motorised boats to reef glean and fish. Questions as to whether such fishing expeditions are composed of mixed gender groups, whether women organise themselves and thus command motorised boats, and whether women handline or use nets while boating, have not been conclusively answered yet. These answers may further elucidate whether women's preference for fishing in shallow waters is determined by practicability, traditions and customs or maybe simply reflect a lack of motorised transport. In the case of Mataika (Vava'u), changes associated with the introduction of motorised transport are not restricted to motorised boats but include vehicles. Most Mataika households are equipped with a vehicle, which both women and men use to gain access to fishing grounds.

Results indicate there have been substantial changes in the social role of women fishers in rural Tonga. However, education of children and overall social attitudes, regardless of the degree of geographical isolation of communities surveyed, still reflect a close connection to traditions and customs. Consequently, this study prompts the question: How much do traditions and customs continue to determine gender-specific roles and participation in Tongan fishing activities?

Despite a certain amount of urbanisation among the four communities surveyed, it is clear that women's role is still regarded as one of performing domestic duties. Similar to Lal and Slatter (1982) this is surprising as Tongan women have recently extended their production for consumption activi-

ties to bring in income. The women who operate small shop outlets, or receive salaries from employment in nearby urban centres are as much proof for this change in women's social role as those women who do not venture outside their village boundaries but harvest marine resources for sale.

In addition, there is a growing number of female-headed households in rural areas of Tonga due to the overseas emigration of male workers. Taking into account that reliable and regular submitted remittances may not be women's role in ensuring a daily food supply for the family, and generating income to cover school, church and basic monetary requirements, is increasingly important.

The question emerges as to whether Tongan women fishers' activities have expanded or whether even during historical times (when traditional circumstances predominated) Tongan women already informally performed fishing activities socially regarded as men's activities? Since the beginning of the 20th century, fishers have lost social status to farmers (Bataille-Benguigui 1992), and the economy has become increasingly cash based. In addition, social and gender roles have been redefined to accept a wider participation of women in village fishing activities. Deterioration of fishers' general social status may limit the future of small-scale artisanal fisheries in Tonga as more and more focus is given to alternative and financially more attractive income sources such as maritime fisheries, agriculture and other sectors. As a consequence, the importance of reef and lagoon fisheries in Tonga may further decrease. And thus it seems to be impossible to even speculate how far Tongan women fishers may further progress in fishing activities, and whether they may ultimately participate in commercially oriented artisanal fisheries.

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A bleak future: Women of fishing communities in Pakistan face increasing marginalization

By Mohammad Ali Shah, Pakistan Fisherfolk Forum (PFF)

Source: *Yemaya* 9, April 2002

In Pakistan, fishing communities are considerably more liberal than their agrarian counterparts. In earlier times communal property was the norm and personal property was almost unheard of in fishing communities. There was no gender discrimination and women were the virtual heads of the family, responsible for distributing the harvest. Unlike in other rural communities, there was no 'veil system' and women enjoyed a lot of freedom. As men spent more time fishing, women had a greater role in family matters and in dealing with problems of the family.

In fact, several women of fishing communities developed reputations of being the chief of not only the family but also of the locality or caste group. People, including men, were identified by the names of their mothers, not their fathers — a practice that still continues in fishing communities. Similarly, some caste groups engaged in fisheries are also named after women. Even Karachi — the metropolitan coastal city of Pakistan and the provincial headquarter of Sindh province — was named after a woman called Mai Kalochi, who was the chieftain of this small fishing village of earlier times. It is said that she herself used to run the fishing business and engage in other trade activities.

Presently, however, two trends can be discerned. While traditional fishing communities still tend to be liberal vis-à-vis women, this is not the case with the large number of agricultural communities who now derive their livelihood from the fisheries, following their displacement from agricultural activities in the Indus deltaic area. Agricultural societies have usually been rigid with regard to the accepted roles of women.

Women tend to be considered as a commodity whose ownership rests with the male and are often confined within the four walls of the house in the name of morality and decency. Many of these values have now also been transmitted to fishing communities.

Women in fishing

In the past, women often accompanied their male family members on fishing trips. There was no major division of work. The fishermen would take the entire family to fishing trips to remote islands, where they would all engage in fishing as well as in cleaning and drying fish. In the case of big nets,

men and women would jointly throw the net in the water and pull it back.

Back in the village women would sell the fish in local as well as in distant markets while the men would continue to fish. In cases where men left for longer fishing trips of 10 to 20 days, women would stay home and continue to fish on a smaller scale in shallow coastal waters. In the coastal regions of Sindh province, women fished with nets in creeks off the coast. However, with the commercialisation of fisheries and the entry of outsiders (non-indigenous fishermen) into the fisheries, women were gradually pushed out of fishing activities. With the industrialization process, fishing no longer remains a family-based activity in Pakistan and the role of women of fishing communities within the family unit has almost come to an end.

Women as net weavers

In the sub-continent, women of pre-historic times are said to have been the architects of fishing nets, baskets, etc. The earliest nets were made of fibre collected from the jungle. Cotton thread was introduced at a later stage. Even after women of fishing communities more or less withdrew from active fishing and focused more on the home, they continued to make fishing nets. This brought in a steady income. Women who wove nets were paid for it, even within their own families.

Women earned a stable and regular, if modest, income. Earnings depended on the complexity, strength, and weight of the net. When nets were made exclusively of cotton thread, women earned between PKR 5 to 10 per day. The currency then had a very high purchasing power. Income was steady, as work was always available. Buyers of fishing nets gave work to women on a piecemeal basis. Many sections of nets were then pieced together to make a larger net.

However, after the late 1960s, processes of modernization began to affect women net-weavers adversely, ousting them from this profession in the same way as they were ousted from fishing activities. This began with the import of nylon nets into Pakistan. Later, factories were set up in Karachi for the manufacture of nylon fishing nets. These nets quickly started replacing the traditional cotton nets, and, as a result, the demand for cotton nets dwindled, depriving a large number of

women net weavers from this source of livelihood. The governments of the time never gave it a thought or even considered creating alternative means of income for the affected women.

By the early 1970s women had effectively been thrown out of the net weaving business. Today, few of the present generation have any memories of their womenfolk working as skilled, paid craftswomen fashioning fine fishing nets. The impacts of the nylon net on fishing communities are multidimensional. Women have been particularly adversely affected as this income-earning activity came to a standstill.

Post-harvest activities

Women have always been involved with post-harvest activities such as drying and cleaning fish. Women have also been working in fishmeal plants, producing fishmeal or powder sold to poultry farms. They have been involved in processing crabs for export. Crabs are caught from the roots of the mangroves and are kept in baskets covered with mangrove leaves, until they are processed. This involves boiling them, extracting the meat and putting this into plastic bags in ice. Women would extract the meat while the men filled the bags for freezing. However, jobs of local women in fish processing factories and fish cleaning sheds have been taken over by

the arrival of illegal immigrants from Bangladesh and Burma. Desperate for work, the immigrants are willing to work for half the wage, outside the terms of formal employment. Illegal immigrants who have settled along the coastal areas of Karachi have thus affected the earnings of women of local fishing communities.

The role of the government

With the decline in their economic roles within the fisheries, the status and clout of women of fishing communities has decreased. Women no longer manage the business as they once did. A very small number of local women are involved in peeling shrimps, weaving nets, making fish baskets, etc. as wage labourers. Their economic condition has deteriorated and poverty has become endemic. The government has pursued no policies or programmes to improve the socioeconomic condition of women of fishing communities. The complete lack of acknowledgement of the role of women in the fisheries sector can be judged from the fact that women of fishing communities have not gotten a single mention in government policy documents, laws and rules, etc. The Handbook of Fisheries Statistics of Pakistan — the annual publication of Pakistan's Marine Fisheries Department, last published in 1993 — for example, has no mention of women, even though it carries a full chapter on the fishermen population.

As world fish stocks decline, researchers turn to an untapped resource — Women

Source: *Future Harvest*, 04 April 2002

From backyard ponds in Bangladesh to the deep-water fisheries off Africa's Atlantic coast, women's role as 'fisher folk' is fast changing one of the most tradition-bound segments of the world's food supply chain. Changes in fishing practices and in the relatively new field of aquaculture, researchers say, bring with them new challenges and opportunities, but few signposts to provide guidance.

'The international community is paying more and more attention to women and their role in maintaining the health of the world's fisheries,' says Meryl Williams, Director-General of the World Fish Center, a Future Harvest Center based in Penang, Malaysia. 'But our knowledge is sketchy, and our ability to reach out is limited. 'Until quite recently,' she adds, 'the macho image of the fisherman coloured much of our thinking, but that image is changing fast.' Williams estimates that at least 50 million developing country women are employed in the fishing industry, usually in low paying but important jobs such as net making,

processing, and marketing. Already mired in poverty, their circumstances are sure to deteriorate as they come face to face with the challenges of globalisation, declining fish supplies, and competition from modern fishing fleets, she says.

Williams notes that most women involved in fishing lack access to tools and credit, a voice in decision-making, or the opportunity to receive training. 'To succeed in a world where privatisation is on the rise and subsidies for fishing are disappearing, women will need a lot of extra help,' she says. 'Until now, however, the very groups that you would expect to provide support have literally missed the boat.'

Low pay, little security, high rates of AIDS

Stella Williams, an economist from Nigeria's Obafemi Awolowo University notes that gender programmes rarely reach out to women working in fisheries and that fisheries programmes have been slow to take steps to improve their lot. 'In

developing countries,' she says, 'the work of women fishers is mainly found in the informal economy, where they continue to receive low pay and little in the way of job security. Most women lag far behind men in terms of earnings and in the services that would improve profitability.'

'When fishing activities are expanded or mechanized, they are frequently taken over by men, adds Lyn Lambeth, former Community Fisheries Officer with the Secretariat of the Pacific Community in New Caledonia. 'When women find work in the production sector, for example in tuna processing plants in the Pacific, it's usually in low-paid production line work,' she says.

Ironically, one of the few areas where women do not seem to lag behind their male counterparts is in their rate of HIV infection and AIDS. Epidemiological studies show that fishermen are among the groups most prone to be HIV positive and that they are passing on the virus to their partners. The phenomenon is believed to be associated with long absences, visits to commercial sex workers, and drug use. In Tanzania, workers in the fishing industry are five times as likely to die from AIDS as are farm workers.

The good news

Although women working in the fishing industry lag far behind their male counterparts in almost all categories, there is some good news says Ida Siason, Vice Chancellor of the University of the Philippines. Asian women, she says, have made headway as fish farmers. Moreover, expert networks have been established to assist women in Cambodia, Laos, Thailand, Vietnam, and the Philippines. New technology also helps. In Bangladesh, the only country in the world where men have a greater life

expectancy than women, the introduction of farming in backyard ponds is helping thousands of women take greater control of their lives. Fish farming is helping women not only feed their families, but also provides much needed income, and even aesthetic pleasure from growing attractive fish such as silver barb and tilapia.

But progress has been uneven. Community-based management of the country's small, seasonal, inland bodies of water indicates that attempts to empower women through women-only management schemes have largely collapsed because women managers were not respected. Committees involving both men and women have apparently been more successful.

'Working together will be key to overcoming many types of problems,' says Williams. 'New research in the fisheries sector is needed to develop appropriate actions, programmes, and policies that address gender. A focus on women alone will not be sufficient.'

She cautions, however, that women's roles in fishing — as in society as a whole — are changing. As these roles change, it is important to ensure that women not only become more equal partners with men, but that they also expand their work beyond the subsistence level. 'To achieve that objective,' she adds, 'it is essential that more women be brought into decision-making to assure the survival and improved well-being of the world's fishing industry.'

'The world's fish stocks are in decline,' says Meryl Williams, 'and science can provide the technology to help deal with this problem. But even with the best technology, it's going to be increasingly difficult to resolve these problems unless women are given a fair opportunity to compete.'

Changing women's lives: Income women earn from processing crabmeat is leading to socioeconomic and cultural changes in some parts of Pará State in Brazil

By Denise Machado Cardoso, Department of Anthropology of the Federal University of Pará, Brazil

Source: *Yemaya* 10, August 2002

Women's work in fishing communities is little recognized or acknowledged, especially when it involves processing shellfish. This can be explained by many factors, one of them being the division of labour in these communities. Whereas women are shore-bound to 'drudgery' work, men engage in the more prestigious seafaring activities. For example, net repair and maintenance as well as the preparation and salting of fish are frequently relegated to a 'non-work' status. Thus, women's involvement in productive activities is considered of little consequence.

In spite of its significance, the work of women processors in Guarajubal is not recognized by their companions or by the women themselves. Apart from the reasons mentioned above, women themselves do not want to upset the existing social order in their community.

Women processors will not openly admit to the significance of their work because to do so would be tantamount to claiming that their companions are unable to sustain their roles as providers. Within the domestic sphere, one notices that women play

a significant role in decision-making, but upon further investigation one finds that women tend to accede more power to the men in their family.

Residents of Guarajubal, like in other fishing communities, are not strictly limited to fishing as they also farm and hunt to sustain themselves. Situated in the coastal region of Pará state in northeastern Brazil, Guarajubal forms part of the municipality of Marapanim. Marapanim, on the Atlantic coast, is crisscrossed by many rivers and streams, and is home to extensive mangrove areas. Fish, shrimp, crabs and other species of crustaceans and molluscs have been harvested in this region for a long time although harvesting crabs has become an important activity in the last decade.

The work of women shellfish processors starts after the crabs are caught in nearby swamp areas and ends with packaging the crabmeat in plastic wrappers. Crab collection and processing started approximately years ago in Marapanim and, since then, this type of work has led to sociocultural changes in the many towns that comprise this municipal district.

Shellfish processors are predominantly healthy, adult married women, with children, since some income can be earned from this activity without necessarily travelling too far from the domestic space. Concern over reconciling remunerative work as collectors and processors with the non-remunerative activities of housework (childcare, cooking, garden cultivation, livestock raising, etc.) is encountered more among married women, as their single counterparts without children seek working opportunities elsewhere, in the municipal district headquarters or in other municipalities of northeastern Pará.

The work of women shellfish processors begins at daybreak, starting with household chores such as preparing food, washing clothes, childcare, sewing and maintenance of fishing equipment. After lunch, the women head off to begin their work, returning only by the evening. Men, who manually catch the crabs by reaching into their burrows and pulling them out, usually do the physical capture of the crabs. The task of removing the crabmeat from the shell is that of the women. This is stored for delivery to the middlemen, locally known as a *marreteiro*, who usually monopolize this trade.

Women may start off in this work accompanying their relatives or neighbours, ostensibly to help them. Help may not be as much towards production as towards giving company to friends to render their work more pleasurable. Thus, 'help' in itself is more of a leisure strategy among women of Guarajubal than an effort to reduce the overall workloads. Children also engage in shellfish pro-

cessing to help their mothers. It is more the girls who learn these skills, as the boys prefer to engage in work considered more 'masculine'.

To become a shellfish processor in this region requires patience. The amount of crabmeat processed daily depends on the amount of time invested in this activity and can take up to six hours to shell 120 crabs yielding about 2 kg of crabmeat. In addition to taking care of their young children, shellfish processors have to display great perseverance in performing a repetitive task that can also cause injury as they often cut their fingers in the process of separating crabmeat.

Although women do face some risks and adverse conditions in their work, there are hardly any other alternatives for paid work in this region. Despite these problems, therefore, women recognize the positive changes that the processing activity has brought about, both to their lives and that of their families. These changes are evident from a socioeconomic as well as a cultural perspective. The socioeconomic status of working women has improved and, at the same time, women now enjoy more decision-making powers within the family as well.

Nowadays, in Guarajubal, the decision as to how many children a couple will have, rests primarily on the woman. This change is a direct consequence of a married woman's increased participation in the job market and their greater purchasing power. Of course, other factors such as television have influenced behaviour in Guarajubal.

The observation that women now have greater control over the number of children they have is reinforced in other ways. When comparing the degree of domestic violence suffered by women in Marapanim's communities, we can observe that married women processors who have started earning an income are more prone to resisting their companion's aggression than are women who do not engage in this activity.

The processing of crabmeat, known as *massa de carangueijo*, has thus stimulated many changes in the lives of people in northeastern Pará. Until recently, women had few prospects for gaining access to paid labour. They are now able to reconcile earning an income with other activities normally attributed to women, such as being mothers and companions.

People engaged in harvesting and processing crabs are aware that increasing production can eventually compromise the sustainability of this species. Public policy, so far blind to this issue, could eventually see the implementation of a 'closed season' for harvesting crabs.

Proceedings of the Global Symposium on Women in Fisheries now available

The proceedings of the Global Symposium on Women in Fisheries are now available on ICLARM's website (www.iclarm.org/Pubs/Wif/pub_wifglobal.htm) in pdf format.

ICLARM's Director-General, Meryl Williams writes:

All over the world, women contribute in multiple ways to the production, processing, marketing and management of fish and other living aquatic resources. The first ever Global Symposium on Women in Fisheries, held in Kaohsiung, Taiwan on 29 November 2001, generated the present collection of papers on women in fisheries. These published proceedings go beyond the actual Symposium in two ways. First, the papers that were initially presented have been revised and, therefore, more detailed and richer in information content than the short, spoken versions. These written versions have also benefited from the discussions during and around the Symposium. Second, two additional papers, from Africa, are presented in this volume, thus increasing the richness of African material on women in fisheries. The reader of this volume will find in it a wealth of information, albeit in a very heterogeneous form, that the authors have had to draw from many different sources. Some are primary research studies whereas most are historical reviews from first hand experience of the authors or derived from other written materials, often contained in reports of fisheries development projects, newspapers and source materials well outside the fish sectors. Such is the nature of our knowledge in the field of women's, and also gender, roles in fisheries that few of the primary sources were actually designed to address the field in a rigorous and analytical way. They rather addressed other aspects of fish and fisheries and incidentally revealed much of value, at least by description, on women's roles.

The papers for the proceedings are arranged by geographic region and there is an index to the contents so that information can be found by topic.

Documenting fishing practices

Traditional uses of plants for fishing in Micronesia

By Dr Mark Merlin, Biology Program, University of Hawaii at Manoa



Western and other scholars have traditionally divided the massive Pacific region beyond Southeast Asia and Australia into three sub-regions or categories: Melanesia, Micronesia and Polynesia.

More recently, with the elucidation of a suite of characteristics (e.g. linguistics, pottery, island location in the remote, deep Pacific Ocean), Green (1991) and others have suggested that the region be re-divided into two parts: Near Oceania, encompassing Australia and western Melanesia, which was settled as much as 60,000 years ago as part of the world's second great wave of human migration into previously unoccupied lands (Roberts 1998); and Remote Oceania, which encompasses the multitude of islands formerly grouped into eastern Melanesia (from the eastern Solomon Islands to Fiji), and all of islands formerly contained in Polynesia and Micronesia.

The many high and low islands of Remote Oceania were only first discovered and settled by humans 3800 to 1000 years or so ago. These were difficult exploratory discoveries, made by peoples collectively referred to as Austronesians (or in the earlier phases, the Lapita Peoples). They had a common heritage of language (formerly known as the Malayo-Polynesian group), and several other cultural traits, not the least of which has been their relatively similar transported landscape of agro-forests, irrigated swamps and dry field agriculture.

The Austronesians theoretically originated somewhere in Southeast Asia, possibly on or near Taiwan. These seafaring people needed three things to successfully sail long distances, back and forth across broad stretches of the Pacific Ocean.

First, of course, they developed the skills to fabricate durable, seaworthy craft. This involved the use of plant material and stone tools to make canoes that were stabilized by an outrigger, or in parts of eastern Melanesia and Polynesia by large, very sturdy double-hulls. In addition, these long