

Global Symposium on

WOMEN IN FISHERIES

Sixth Asian Fisheries Forum
29 November 2001
Kaohsiung, Taiwan

Edited by

• M.J. Williams • N.H. Chao • P.S. Choo • K. Matics
• M.C. Nandeesh • M. Shariff • I. Siason • E. Tech • J.M.C. Wong

GLOBAL SYMPOSIUM ON WOMEN IN FISHERIES

Sixth Asian Fisheries Forum

29 November 2001

Kaohsiung, Taiwan

GLOBAL SYMPOSIUM ON WOMEN IN FISHERIES

Sixth Asian Fisheries Forum

29 November 2001

Kaohsiung, Taiwan

Edited by

M.J. Williams, N.H. Chao, P.S. Choo, K. Matics,

M.C. Nandeesh, M. Shariff, I. Siason, E. Tech and J.M.C. Wong



DFID



Global Symposium on Women in Fisheries

Edited by

M.J. Williams

N.H. Chao

P.S. Choo

K. Matics

M.C. Nandeesha

M. Shariff

I. Siason

E. Tech

J.M.C. Wong

2002

Published by ICLARM – The World Fish Center

PO Box 500 GPO

10670 Penang, Malaysia

Williams, M.J., N.H. Chao, P.S. Choo, K. Matics, M.C. Nandeesha, M. Shariff, I. Siason, E. Tech and J.M.C. Wong. 2002. Global Symposium on Women in Fisheries: Sixth Asian Fisheries Forum, 29 November 2001, Kaohsiung, Taiwan. 209 p.

Perpustakaan Negara Malaysia. Cataloguing-in-Publication Data

Global Symposium on Women in Fisheries

Global Symposium on Women in Fisheries / [edited]

M.J. Williams ...[et al].

ISBN 983-2346-10-X

1. Fisheries–Congresses. 2. Women fishers–Congresses. I. Williams, M.J. II. Title. 639.2082

Managing editor: Janet-Maychin

Copyeditor: Angela Kuga Thas

Cover design: Catherine Tan Lee Mei

Layout and design: Bold Inspiration

ISBN 983-2346-02-9

ICLARM Contribution No. 1663

Printed by Print Resources, Penang, Malaysia

Disclaimer:

These proceedings attempt to present a faithful record of the 2001 Global Symposium on Women in Fisheries. We, the editors, have retained the style and 'voice' of the contributors as carefully as possible, rather than striving for uniformity of style as is more usual in other scientific publications.



ICLARM – The World Fish Center is one of the 16 international research centers of the Consultative Group in International Agricultural Research (CGIAR) that has initiated the public awareness campaign, Future Harvest

CONTENTS

Foreword	v
Women in Fisheries: Pointers for Development	vii
Opening remarks	01
<i>I.C. Liao</i>	
Asian Fisheries Society: An Historical Perspective of Women in Fisheries	03
<i>M. Shariff</i>	
Women's Role in Fisheries – Putting the Pieces Together	05
<i>M. Sunderarajan</i>	
Women in Fisheries Activities of the Asian Fisheries Society – Have They Been Able to Make an Impact?	07
<i>M.C. Nandeesha and E. Tech</i>	
From Women in Fisheries to Gender and Fisheries	13
<i>M.J. Williams, S.B. Williams and P.S. Choo</i>	

CONTRIBUTIONS

ASIA

Women in Fisheries in Asia	21
<i>I. Siason, E. Tech, K.I. Matics, P.S. Choo, M. Shariff, E.S. Heruwati, T. Susilowati, N. Miki, A.B. Shelly, K.G. Rajabharshi, R. Ranjit, P.P.G.N. Siriwardena, M.C. Nandeesha and M. Sunderarajan</i>	
HIV/AIDS among Fishers: Vulnerability of Their Partners	49
<i>M. Huang</i>	
Networks for Women and Gender in Fisheries Development in the Mekong Region and the Philippines	55
<i>K. Matics, O. Poeu and I. Siason</i>	
Responding to Globalization Trends in Fisheries: Assets of Professional Taiwanese Women	65
<i>N.H. Chao, C.F. Chang and E.Y. Chang</i>	
Women in Aquaculture: Initiatives of Caritas Bangladesh	77
<i>A.B. Shelly and M. D' Costa</i>	
Women-led Fisheries Management – A Case Study from Bangladesh	89
<i>P. Sultana, P.M. Thompson and M. Ahmed</i>	
Alternative Livelihoods in a Coastal Village	97
<i>R.H. Asong, Ma. L. Mabunay, D. Aure, E. Seraspe, R. Braganza and D.E. Corda</i>	
Working Wives in Philippine Coastal Fisheries	113
<i>M. Bañez-Sumagaysay</i>	

OCEANIA

An Overview of the Involvement of Women in Fisheries Activities in Oceania	127
---	------------

*L. Lambeth, B. Hanchard, H. Aslin, L. Fay-Sauni,
P. Tuara, K.D. Rochers and A. Vunisea*

AFRICA

Making Each and Every African Fisher Count: Women Do Fish	145
--	------------

S.B. Williams

Women and Gender Participation in the Fisheries Sector in Lake Victoria	155
--	------------

M. Medard, F. Sobo, T. Ngatunga and S Chirwa

Women do fish: A Case Study on Gender and the Fishing Industry in Sierra Leone	169
---	------------

P.B. Browne

LATIN AMERICA

Women in Fisheries in Latin America	175
--	------------

G. Pereira

NORTH AMERICA

Perspectives on Women in Fisheries in North America	183
--	------------

L.A. Howell

EUROPE

Women in Fisheries in the European Union	191
---	------------

K. Rana and P.S. Choo

APPENDIX

Program	197
----------------	------------

Press release	199
----------------------	------------

INDEX	203
--------------	------------

FOREWORD

We organized the Global Symposium on Women in Fisheries through the recommendation made in the International Symposium on Women in Fisheries held four years ago in Chiangmai, in conjunction with the 5th Asian Fisheries Forum. We are pleased to see the number of participants involved in women in fisheries issues growing. The Symposia have also attracted interested men and women who participated actively in the discussions. From women issues at the Asian level, which was the main focus of the Chiangmai Symposium, we have moved towards issues at the global level in the Kaoshiung Symposium. This time, participants from all corners of the earth met to discuss this very important topic.

After the failures in many of the development projects planned by international agencies in the 1960s and 1970s, where women were excluded in the planning and implementation phase, experts realized that the sustainability of projects require the participation from both women and men—not as woman and man per se, but as a community. This Symposium and the earlier one, although largely focusing on women, also raised several gender issues, among which were the involvement of communities in the *sapyaw* fishery in the Philippines, and the vulnerability of fishers and their families to HIV/AIDS.

The next logical step is to move towards gender and fisheries (GAF), instead of focusing just on women. The methodology developed in gender and development (GAD) programs could be utilized for GAF studies, so that the constraints and inequity among men and women may be better understood, and recommendations made to overcome the inequity. The next Symposium in Penang in 2004, will definitely see more papers devoted to issues of gender inequity in the fisheries sector and means to address them.

This Symposium, like the last one, would not have materialized, if not for the generous support of our sponsors. We would like to extend our deepest gratitude to the Department for International Development (DFID), United Kingdom, Ministry of Foreign Affairs and Trade/New Zealand Agency for Overseas Development (NZAOD), and the Swedish International Development Cooperation Agency (Sida).

This Proceedings is by no means the definitive work on women in fisheries at the global level. We feel that such a work is not yet possible given the dearth of data and lack of developed methods for studying the field. Nevertheless, we hope that it will be another waypoint along the road, and it will contribute towards better comprehension of some of the issues.

N. H. Chao-Liao

K. Matics

M. C. Nandeesha

M. Shariff

I. Siason

E. Tech

M.J. Williams

Co-convenors

Global Symposium on Women in Fisheries

WOMEN IN FISHERIES: POINTERS FOR DEVELOPMENT

M.J. Williams
ICLARM - The World Fish Center, Malaysia

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.

To help the reader better access the wealth of material in these Proceedings, we have assisted in three ways. First, by arranging the papers into different sections, mainly by geographic region. Second, by providing an index to the contents so that topics, e.g., post-harvest processing, countries, localities and projects/initiatives, can be located in the different papers. Third, by providing this overview and drawing out the key pointers for development from all the papers, we provide a short guide to what each paper contains, the approach it takes and, across all papers, the main messages for human development. In the conclusion of this overview, we summarize these messages into 10 key pointers for development.

Setting the Scene

The Proceedings begin with messages from the co-conveners of the Symposium, the then-President (Dr I.C. Liao) and the then-past President (Prof. M. Shariff) of the Asian Fisheries Society, setting in context the Society's involvement in the issue of women in fisheries. The Asian region, the largest producer of fish in the world, has now strongly recognized the fact that women make very important contributions to fisheries. This is reflected in the Society's sponsorship of the Symposium and to real changes in gender balance of the Society's office bearers. Indeed, I would reflect that the society has sent a dramatic signal with its new woman president and with 5 of 16 women councilors. In a region not noted for leading the world in women's issues, contrast this with, for example, the still nearly all male composition of the Boards of companies in the OECD countries, despite years of efforts to redress this.

We then present a short personal summary of the Proceedings by Sunderarajan, who participated in the Symposium and reflected on the major threads from the perspective of a professional working in a non-government organization (NGO) movement in southern India.

Nandeesh and Tech explore in some depth the sorts of impact women are making in the Asian Fisheries Society (AFS), a scientific society founded in 1984 for fisheries professionals to communicate, share information and cooperate. Noting the genesis of the women in fisheries professional meetings and symposia which the Society has become associated since 1994, the authors conclude that significant advances have been made in raising awareness of the issues. This has been achieved through the publishing of the proceedings, the photography competition at the AFS forums every three years (sponsored by PADEK in Cambodia) and the maturing understanding of the issues, signaled by the shift to a gender and not just a women's focus. Small but powerful signals, such as ensuring that women are included as keynote speakers at conferences and encouraging more women on the Council, have also helped. Several networks at the national level, e.g. in Indo-China countries and in Philippines, have been generated by the AFS action and it is perhaps here that the greatest hope for real impact in the lives of women will occur. This paper also tracks the recommendations of the AFS symposia.

Williams, Williams and Choo make a case for the fisheries sectors to follow the lead of other international actors, especially in the development assistance community, and to shift focus from 'women in fisheries' to 'gender and fisheries'. The authors argue that, although gender imbalances remain formidable against women, this cannot be resolved only by focusing on women nor can it be tackled by thinking of women only within the current realities of the sectors but through bringing about change in these realities. Research and research organizations are urged to become more rigorous and aware in their research and data gathering on gender and fisheries. Research is particularly critical at this point in history because real knowledge is hampered by a dearth of basic information and data on gender roles. The authors note that most of those enlisted by the Society in the women in fisheries events are not professional social scientists or gender specialists but have been drawn in variously through personal commitment. The authors are particularly indebted to Dr M.C. Nandeesh (a man and, by training, a biologist) who has been the unselfish catalyst and champion of the issue since the early 1990s when he worked in Cambodia.

Asia

These above general background papers precede the regional sections, the first of which is on Asia. Not surprisingly, this is the largest section, with eight papers. This section begins with a major overview paper that was coordinated by Professor Ida Siason, the Chancellor of the University of the Philippines in the Visayas and a member of the AFS council. Thirteen other authors from Bangladesh, India, Indonesia, Japan, Malaysia, Nepal, Philippines, Sri Lanka and Mekong River Commission Secretariat contributed to this paper. Due to the scope of the material from the authors, the following 15 countries were covered: Bangladesh, Cambodia, Kuwait, India, Indonesia, Iran, Japan, the Lao PDR, Malaysia, Nepal, Philippines, Saudi Arabia, Sri Lanka, Thailand and Vietnam. Although not complete, China being a notable exception among the large fish producing countries, it does present a very valuable picture of the women (and gender) dimensions of fisheries and aquaculture in developed north Asia, Southeast Asia, south Asia and west Asia.

In their overview paper, Siason et al. provide background geographic and demographic material for the 15 countries, grouped as Mekong, Islamic and south Asian countries, Philippines and Japan. The country groupings follow approximate cultural rather than geographic lines, as befits the gender lens. The paper includes a valuable review on the legal status of women in the 15 countries. The paper then describes the situation of women in fisheries in each country or country group, and the relative importance of fish in the economies and lives of the people, from the oil rich or generally affluent nations such as Kuwait and Japan, to the populous archipelagic nations such as Indonesia and Philippines.

From their wealth of personal knowledge, the authors draw on many sources of information, most of which was not collected to allow detailed studies of women in fisheries. Good examples of these are the information on types of women fish traders in eastern India taken from the DFID Post Harvest Fisheries

Project - namely 'head loaders', petty fish traders and dry fish traders - and the household information on women's participation in the fresh fish trade in Bangladesh conducted through the Bay of Bengal Programme. Many of the differences between countries in women's roles are also due to different patterns and scales of production, even within a sector such as aquaculture. For example, in the Philippines, the paper reports studies which show that 18.5% of oyster growers are women compared to only 2.4% of mussel growers. Oysters are grown in the more shallow parts of rivers and mussels are farmed in deep bays.

The paper also analyses the membership of the AFS according to country and gender, and reveals large differences in the national percentages of women members, from the lowest two countries—none in Korea and 4.6% in Japan—to the highest two countries, 35.7% in Brunei Darussalam and 40.5% in the Philippines.

The paper concludes with identifying issues for each country/country group to address in the field of women in fisheries.

Huang's paper on the emerging issue of HIV/AIDS among fishers and the vulnerability of their partners refers mainly to the Asian situation but also draws widely from information on Africa and other parts of the world. Huang, who is from the Department of Community Health of Universiti Putra, Malaysia, was drawn to the conference by her research that had highlighted the greater risk of contracting HIV posed by fishers' lifestyles. To many of us, this was a particularly new and serious issue that had not been on the horizon in fisheries sector. Fishers are more vulnerable due to the frequent periods far from home, working hard and long hours and tending to be more likely than workers in other occupations to use commercial sex workers and take intravenous drugs. The risk to partners is often compounded by religious and cultural taboos, women's lack of assertiveness and the marginalization of fishing communities that are not in close contact with mainstream health services and education programs.

In the time since the Symposium, I have learned, through anecdotal evidence only, of several other fisheries projects beginning to note high HIV/AIDS rates among the participants. The gravity and impact of this pandemic on people in their most productive years warrant urgent studies and programs be developed to better understand the nature and cause of the apparent high rates among fishers and fishing communities and enroll these people in the multi-sectoral approaches that are needed to address this problem.

Matics, Poeu and Siason report on women and gender in fisheries networks that had commenced in the 1990s in the four lower Mekong Basin countries (Cambodia, Lao PDR, Thailand and Vietnam) and the Philippines. These are important fishing countries where women's roles are significant. In the Mekong countries, the networks are not only linking with each other but also integrating their work with that of mainstream gender and women's departments and services, e.g. health and women's affairs, thus bringing greater mainstream capacity to bear on the problems and opportunities for women in the sector.

From Taiwan, Chao, Chang and Chang built on the work of Chao and Liao (2001) in the Asian Women in Fisheries Symposium. The earlier work studied the views of women researchers and teachers in fisheries professions in Taiwan. For the present study, the researchers conducted a survey, using a semi-structured questionnaire, to gain an understanding of the views of more than 50 professional women in fisheries education, administration, research and private industry. The study examines women's knowledge of and likely responses to the apparently inevitable globalization in the fisheries sectors. The study finds that women, and most probably men as well, are in a good position to reap many advantages because of their awareness of trends, ready access to information and adaptability. However, the authors conclude that due to heavy workloads, the structure and small size of family business units means that industry, associations and the Government need to do more to help the sector cope.

The next two papers deal with women's conditions in Bangladesh, the first by Shelly and D' Acosta is on the aquaculture sector and the other by Sultana, Thompson and Ahmed, is on women's roles in community-based capture fisheries management.

Shelly and D'Acosta describe, as background, the current fisheries situation in Bangladesh and then, in some detail, the evolution and experience of the Caritas initiatives in involving women in aquaculture. Both authors are staff of Caritas, a multi-sectoral NGO with a mission to enhance the welfare of people in Bangladesh and to contribute to national development. The Caritas activities in aquaculture began in 1981 and experienced positive growth throughout the 1980s as the technology developed and people were motivated to take it up when they saw the good results. However, most of the beneficiaries were men and Caritas wanted women to benefit as well. In other sectors served by Caritas, 65% of all groups formed were women's groups. From the early 1990s, therefore, women were much more of a focus in Caritas' activities. Entering the current decade, Caritas is taking an even more comprehensive approach to the management of aquatic resources and the full range of support services to help groups meet their needs, promoting such gender sensitive policies as access to credit for women as well as men, and assisting women to more readily access seed and feed so that they can continue their home-tied nurturing roles as well. This paper is yet another illustration of the co-evolution of fish sectors and the organizations that serve them. As a related paper showed in the earlier symposium Proceedings (Debashish et al. 2001), institutions have to undergo internal transformations to serve their beneficiaries when the profile of those beneficiaries changes, e.g. from predominantly men to women and men.

Sultana et al. describe the development of a women-led beel (seasonal water body) management committee in Goakhola-Hatiara, Bangladesh, from its inception as a women-only group formed by a women's NGO, Banchte Shekha, in 1997 to a more inclusive and women-led management committee in 1999. The study documents the complexities of the changing aquatic resource situation. For example, technology and market developments led to increasing demands for snails for feeding to ducks and prawns, greater women's employment in snail collecting and breaking and the consequent overexploitation of snails. Seasonal fish production includes the women's own fishing from the beel and its interconnected canals and rivers. Despite the progress and the good support and cooperation from the Department of Fisheries, and a supportive community setting, outstanding institutional issues remain, such as the inability of the beel management committee to obtain the necessary formal control over the canal supplying the beel. Such rights could enable the committee to greatly improve the overwintering capacity of the aquatic resource system and thus enhance production.

Moving from one country where many people's lives are centered around water and fish to another, the next two papers, from the Philippines, examine a somewhat different situation. Both papers are based on empirical studies. In the first, Asong of the University of the Philippines in the Visayas and five co-authors document the gender differences among livelihoods of the low-income coastal people of Barangay Rizal, in the municipality of Buenavista, island province of Guimaras, Western Visayas Region. The paper describes the gender differences in occupations of the population which does not have a high dependence on fishing. Since Spanish times the area has been known for its model boat making and the districts (puroks) that carry such names as galley, frigate, yacht. The men work in transportation on land and sea (taxi drivers, tricycle drivers, pump boat operators, boat crew), model boat making, carpentry and farming and the women in vending, storekeeping, laundry, housekeeping and as beauticians. Fishing is a sideline activity for many, at sea and in the local fishponds. The children also gather clams, crablets and other shoreline invertebrates at times. The paper describes cash and non-cash means of support, and the impacts of the changing market for products such as model boats, which has become more difficult since the closure of the United States naval bases in the Philippines in the early 1990s. Incomes have dropped since the closure. Barter of goods such as the model boats is an important means of household support.

The paper also documents gender dimensions of the local credit and loan systems and the general support system including education and training, environmental awareness and cleanup campaigns. Both government and non-government agencies are active. Overall, the paper provides a sense of the social resilience of a community that is poor but not destitute and the complexity of the interlocking livelihoods - interlocking within the community, between genders and between the community and the outside markets.

The second paper on the Philippines, by Bañez-Sumagaysay, specifically addresses the question of why women in three fishing communities around Carigara Bay, Eastern Visayas choose to work in paid fisheries sector employment. The author used a time-allocation model from labor force studies to explore demographic, economic and psychological-social factors for married women. The results were complex, indicating the need for more research to further explore the relationships. For example, the presence of a mother substitute in the household did not affect the hours worked, probably because women are able to bring their small children into the workplace such as in vending. Household size positively influenced the number of hours worked and presence of children under six negatively affected working hours.

Oceania

From Asia, the Proceedings moves to Asia's nearest geographic neighbor, Oceania, with a single overview paper coordinated by Lambeth, who was then of the Secretariat for the Pacific Community (SPC) but who has since returned to commercial fishing in northern Australia. She is joined by five other authors from the Pacific and one from Australia. Their paper covers the Pacific islands, Australia and New Zealand.

Fish are a mainstay of the diet and livelihood of Pacific islanders, 80% being used for subsistence and only 20% going to commercial markets. It is estimated that women catch about a quarter of the total seafood in the Pacific. Lambeth et al. describe the roles of women in Pacific fisheries as mainly segregated from those of the men, both inshore and offshore. Of course, many ethnic and sub-regional differences occur and the authors describe some of these for Polynesia, Micronesia and Melanesia and in the industrial tuna fisheries sub-sector where women perform the majority of the shore jobs. Lambeth et al. document the issues for women in Pacific fisheries, starting with the common problem of lack of access to useful information. Development projects (especially outside the fisheries sector) increasingly demand a gender analysis and some projects and training programs for women in fisheries are beginning to emerge.

In Australia and New Zealand, also covered in this paper, employment is generally low due to the highly mechanized nature of the fisheries. Women do not have a large participation in the catching sector but are often very active in the shore-based activities. Fishing by indigenous Australians has often involved women, using traditional methods and also as divers in the early pearl fishery. Women and girls make up about one third of the recreational fishers of Australia, a large group given that about 20-30% of Australians participate in this activity.

Similar patterns apply in New Zealand. Maori have strong traditional ties to fishing and these rights are recognized in law. In the commercial fisheries, including onshore jobs, one third of the total workforce is made up of women. More women are having a voice in the politics of fisheries management.

The authors finally explore the recent evolution of approaches to assistance for women in fisheries. They find that gender specific programs have not succeeded. The reasons include problems over which department should lead projects, e.g. the fisheries department or the social or women's departments, and a related complacency that women in fisheries issues had to be addressed because a special section or project exists. Putting fisheries projects in the social and women's departments also does not appear to work well as they lack technical support and appreciation. The more recent approaches are therefore more integrated through community programs in fisheries. In the future, however, the authors feel that more attention must be given in development projects to women fisheries development activities. This will not be done by continuing with business as usual but rather through approaches such as 'family and development' and promoting equal opportunities for women and men through the fisheries sector.

Africa

Women in fisheries in the African continent are addressed in three papers, the first of which is a conceptual overview by Professor Stella Williams. Williams explores the masculine origins of life on the rivers and seas of the world, now by extension embodied in the heroic male image of fishing even though many fishers are poorer than other rural people and many inland fishers are women. Fisheries crises around the world have tested the resilience of rural political economies that depend on natural resources such as fisheries and the burdens fall heavily on women as well as men. Williams' overview highlights that many women in fishing families also have family backgrounds in the sector. She points out that in Africa, as elsewhere, the inland, i.e. not offshore, fishing pursuits of women are particularly under recognized.

The second paper on Africa is by four Tanzanian authors, Medard, Sobo, Ngatunga and Chirwa who focus on gender issues in the famous Lake Victoria fisheries. This paper effectively 'dispels the notion that women are only minimally involved in the fishing industry'. The review draws on Lake Victoria studies, which show that the fishery sector (fishing, processing, transport and marketing) is characterized by a higher than average population rate of single, divorced and widowed women. Again, as Williams noted, the present fishing occupations of the women are often linked to their family/clan backgrounds in fishing. Many have few other alternatives even as fisheries related incomes decline.

In Lake Victoria, women play a major role in post harvest processing of fish and men dominate the producing sector. Post harvest, sun-drying, smoking, preserving, frying, etc of the small *dagaa*¹ are critical to preserving the catch and therefore its value and in permitting transport to distant markets. When fish are transported to the buyers, women tend to be restricted to fresh fish, which have lower value because of their poor keeping quality, because they lack the capital to purchase bicycles and other transport. When training and credit are available, men dominate as recipients. An interesting insight into access to greater benefits comes from the statistics on the Nile perch (*Lates niloticus*) swim bladder trade, in which women's participation is low. The swim bladders are expensive and not often affordable for the women. The review also touches on the roles of women in beach seining for which women provide much of the labor; men may aspire to marry several wives to provide for this, and women as fishing gear owners (in some matriarchal societies) where they are most likely to be cheated by those who hire their gear because they are absentee vessel and gear owners.

The third paper on Africa, by Browne, who is from a humanitarian organization in war-torn Sierra Leone, documents the impacts of war on the artisanal fisheries, ironically against a background of comprehensive and recent national fisheries legislation. The war affected 80% of the coastal area, driving away, killing and maiming men or removing their fishing gear. What fish was caught was often channeled to the fighters. Against this bleak picture, Browne's paper describes the stories of five women who have succeeded in establishing businesses in fishing, fish processing and marketing. They are all involved in industrial scale fishing that employs others, earns foreign exchange and makes them better off financially.

The Americas

Pereira, from the Latin American intergovernmental agency, INFOPESCA, portrays the situation in her region with the benefit of information gathered through the Focal Points of the Network of Latin American Women of the Fishery Sector. The picture produced is of women fish factory workers, self-employed fish workers, mainly in processing, various roles in the artisanal fisheries, small scale aquaculture, inland and river fishing, and professional positions in quality assurance, fish product inspection, research and development and in private sector management and administration. In Latin America, as indeed

¹ *Dagaa*: www.fishbase.org lists *dagaa* as the common name in Tanzania and nearby southern African countries for a number of sardine, herring and cyprinid species. They are eaten dried by poor and middle-income people in eastern and southern Africa

in most other regions, mainstream gender programs do not reach women in fisheries. The paper makes recommendations from the Network for more knowledge to better understand women's roles and to better target assistance programs, training to build skills and capacity and credit and loans to really help the poor in fisheries.

For North America, Howell, of Spinney Creek Shellfish, Inc., based her paper on interviews with more than 25 women in the fish sectors as well as literature reviews. She describes the traditional but tough and multi-talented support-partner role of the fisher's wife as well as the less traditional roles of women as active fishers, women taking responsibility in emergencies, women in the seafood business and women in research and lobbying. She recounts the impression that women researchers in government service have few problems since they are protected by the 'mantle of government credibility' whereas those representing private interests have to personally gain respect for their roles. Through her research and interviews, Howell addresses the issue of why there are so few 'women on the water', concluding that it could be aversion to the at-sea working conditions, onshore family commitments and reduced opportunities due to fisheries cutbacks. In aquaculture, women may be working harder than men to gain respect.

Europe

Rana and Choo write on the situation in the European Union countries. Women's roles in fisheries are predominantly in the fish processing and marketing sectors and little has changed in this regard over the last two centuries. European Union statistics show that more than half the workers (59%) in fish processing are women, although this varies across countries. Women have a relatively high participation rate in marine aquaculture (28%). Women's roles in the family and support industry sides of fisheries are usually unpaid and these roles become especially crucial in times of crisis when women are key to keeping communities and families together. Women rarely venture into management and other industry organizations as this conflicts with the perceived correct family division of labor along gender lines. Overall, even in this region where women's rights are protected under the law, they play mainly traditional roles in the fish sectors.

Others

For the record, this volume of Proceedings appends the program of the Global Symposium on Women in Fisheries and the press release issued shortly after the Symposium. A news feature on the outcomes of the symposium can also be found at the following web address: http://www.futureharvest.org/people/fish_farming.shtml.

Development Pointers

Within this volume and its predecessor (Williams et al. 2001) are diverse papers that contain a wealth of information that is highly relevant for development assistance agencies, nationally and internationally. We believe that, even in this rather raw form, the volume contains many pointers for development action. Williams et al. (2001) went into a second printing shortly after its release, and is also available on the Internet.

The final section of this introduction to the present Proceedings distills the key pointers for development action.

1. Active networks have an impact on the ground: Networks at national level, with links to mainstream women's and gender programs, can bring a chance of lasting impact. For additional impact, national networks and their focal points could benefit from regional linkages. Fisheries specialists, especially researchers have raised awareness of the importance of women in fisheries and this has led to a few such networks being formed, e.g., in the 4 riparian countries of the lower Mekong Basin, the

Philippines and in Latin America. New technology such as the Internet, and facilitation by international bodies can help. The co-convenors of the Global Women in Fisheries Symposium are soon to launch a gender and fisheries listserve (GAF@cgiar.org).

2. More hard facts are needed to target action: Every country lacks hard facts on women's roles and contributions in fisheries, thus hampering targeted development assistance to improve women's contributions. Much of the knowledge that is being generated is only incidental to other research and development efforts such as household and post harvest processing projects. Research on women and gender in fisheries requires more rigorous methodological and analytical tools, many of which are being developed or already exist in mainstream gender analysis. Part of the reason for the lack of facts on women's roles and contributions is that much of the work is not remunerated or is poorly remunerated and so little valued in financial terms.
3. Evolve your organization's culture to match gender strategies: Development assistance agencies, research organizations, development projects and professional societies must co-evolve with the needs to incorporate gender dimensions into their strategies and work programs. Organizational development will have to look to workforce composition, internal culture, partnership and relationship management policies.
4. Women's roles match resource and industry characters: Women's roles in fisheries and development are matched to the pattern and scale of aquatic resources, their uses and state of exploitation. Even the legal and constitutional status and rights of women and the stage of economic development of the country seems to have little effect on these relationships. One dominant pattern in the fish sectors is the predominance and sometimes even dominance of women in post harvest activities - processing, marketing, trade, quality assurance, inspection and transport of fish. Development assistance to women here has multiple benefits for them, their families and their countries and for maximizing the economic and nutritional value from fish production.
5. Undertake gender programs in the fish sectors: Women and gender programs in fisheries cannot be left to mainstream gender and social welfare agencies as these seldom give priority to fisheries. Fish sectors must develop their own gender approaches and seek the best links to mainstream actors, such as in health to tackle the HIV/AIDS threat, in education, financial assistance, housing and sanitation. In addition, within the fish sectors, family and community-based approaches rather than women's activities are more likely to succeed and last.

10 Pointers for Development



6. Women need extra help to access assistance: Creative schemes are needed to allow women access to the means for their improvement, including access to capital equipment and technology, credit and loans, training and education. Women's access to all of these enabling factors lag far behind those of men in fisheries in every society.
7. Globalization affects women in fisheries: Development agencies should keep abreast of the globalization trends that are impacting the fish sectors and are changing, positively and negatively, the options and roles of women in fisheries, especially in post-harvest, marketing and technology use.
8. Women must have roles in resource management: Women should be targeted to play a role in fisheries resources management, especially as this becomes more participatory and inclusive.
9. Women are vital in times of fisheries crises: Women's roles are critical and become broader in times of crises in fisheries-dependent communities. This is true irrespective of the economic development status of the country.
10. Women need rights to fish resources too: Rights and access to and the means of control of resources, are central to successful fisheries development; and women's entitlements are frequently ignored. This situation must be addressed explicitly in order for women's contributions to be improved.

References:

- Chao, N.H. and I.C. Liao. 2001. The role of women researchers and teachers in Taiwan fisheries in the last 30 years, p. 111-120. In M.J.Williams, M.C. Nandeesha, V.P. Corral, E. Tech and P.S. Choo (eds.) Proceedings of the International Symposium on Women in Asian Fisheries, 5th Asian Fisheries Forum, Chiang Mai, Thailand, 13 November 1998.
- Debashish, K.S., M. Shirin, F. Zaman, M. Ireland, G. Chapman and M.C. Nandeesha. 2001. Strategies for addressing gender issues through aquaculture programs: approaches by CARE Bangladesh, p. 147-156. In M.J.Williams, M.C. Nandeesha, V.P. Corral, E. Tech and P.S. Choo (eds.) Proceedings of the International Symposium on Women in Asian Fisheries, 5th Asian Fisheries Forum, Chiang Mai, Thailand, 13 November 1998.
- Williams, M.J., M.C. Nandeesha, V.P. Corral, E. Tech and P.S. Choo, Editors. 2001. International Symposium on Women in Asian Fisheries: Fifth Asian Fisheries Forum, Asian Fisheries Society, 13 November 1998, Chiang Mai, Thailand. 156pp. http://www.iclarm.org/pub_WIF.htm

OPENING REMARKS

Dr. Meryl J. Williams, other Symposium convenors, distinguished participants, ladies and gentlemen,

It is a great honor for me to provide the opening remarks for the Global Symposium on Women in Fisheries.

Addressing gender issues is increasingly being recognized as an important development component. It is encouraging that the contributions of women, particularly in fisheries, are being documented and given due recognition.

The theme of the 6th Asian Fisheries Forum - Asian Fisheries: Diversification and Integration - encompasses the need to address all relevant issues and put them into a perspective where contributions from all sectors would be duly respected and honoured.

I believe Asia has come a long way in giving women their due respect and recognition in various fields. In politics, Asian women have excelled exceptionally well in recent years. Here in Taiwan, we have a woman Vice President, our guest of honor during the opening ceremonies. In the Philippines and Indonesia, the current Presidents are women. Perhaps some of you joined the optional tours yesterday and you met Dr. Chen Tzyy-Ing, the woman Director of the Tungkang Marine Laboratory. Dr. Chen is the first woman to become a Director of one of the branches of the Taiwan Fisheries Research Institute. I am very honored to inform you that there are five women out of sixteen seats in the seventh Asian Fisheries Society council and a woman has been elected as President. Evidently, women are becoming more involved in decision-making of the Asian Fisheries Society, indicating that we are quick to respond to positive and constructive changes of our society in general.

I congratulate the convenors of this symposium for their unwavering initiative to pursue and address the global issues on women in fisheries. I believe Dr. Williams and ICLARM-The World Fish Center deserve the credit for leading this particular endeavour.

I am confident that your goals will be achieved and accordingly recognized. Who knows, maybe in the future, a global symposium may be held on men in fisheries.

Thank you all very much. I wish you a very successful symposium.

I.C. Liao

President, Asian Fisheries Society

ASIAN FISHERIES SOCIETY: AN HISTORICAL PERSPECTIVE OF WOMEN IN FISHERIES

M. Shariff
Universiti Putra Malaysia, Malaysia

It all began at the Bati Fish seed production and Research Centre, Cambodia in 1994, when a three-day National workshop on Women in Fisheries was organized by Partnership for Development in Kampuchea (PADEK) together with the Ministry of Agriculture and the Ministry of Fisheries of Cambodia.

The Asian Fisheries Society (AFS) became involved when I visited the Bati Station and met Dr. M.C. Nandeesh, just after he had organized the first meeting at the station in 1994. It was there that we planned the women in fisheries photographic competition. PADEK came forward to provide funds for the first competition that was subsequently held in Beijing in conjunction with the Fifth Asian Fisheries Forum in 1995 during my tenure as the president of the AFS. It was also at this meeting that Dr. Nandeesh and I requested Dr. Meryl Williams to participate in the Regional Women in Fisheries Meeting held in 1996 in Cambodia.

In 1996, the regional meeting on "Women in Fisheries in Indochina" was held in Cambodia with participants from Lao PDR, Thailand, Vietnam and the host country, Cambodia. Dr. Meryl Williams gave a keynote address at this meeting, which was also graced by the Princess Her Royal Highness Marie Ranariddh of Cambodia. This meeting, which was organized by PADEK and the Ministry of Agriculture in partnership with several other regional organizations, brought out several issues and participants suggested to organize a meeting at the Asian level to provide greater opportunity for wider participation from within the region.

In 1998, together with the second photographic competition on women in fisheries in Asia, the AFS held the first women in fisheries in Asia in Chiangmai, Thailand. This meeting saw a greater participation of women from several countries in the Asian region. This meeting was funded by ICLARM-The World Fish Center, PADEK, the Norwegian Agency for Development Cooperation (NORAD), and the AFS. The Department for International Development (DFID) helped fund the publication of the proceedings.

So here we are today, at the first global meeting on women in fisheries, which is being attended by participants from Asia, Africa, North America, Latin America, Europe and the Oceania. This meeting is sponsored by ICLARM-The World Fish Center, DFID, the Swedish International Development Cooperation Agency (Sida) and the New Zealand Overseas Development Authority. We acknowledge all our supporters with gratitude.

WOMEN'S ROLE IN FISHERIES – PUTTING THE PIECES TOGETHER

M. Sunderarajan

Tamilnadu State Non-Government Organisations and Volunteer Resource Centre, India

The role of women in fisheries has often been looked at from a post harvest perspective. The notion that women are not just marginal players but active participants in the fisheries production process is not new. However, the fact that there exists little information about women and their existing roles in the fisheries sector is something that cannot be denied. Further, the shift in thinking from women in fisheries to gender in fisheries is also an area that deserves attention. It was with the idea of examining these issues and addressing gender related concerns in the sector that a Global Symposium on Women in Fisheries was convened by the Asian Fisheries Society as part of the 6th Asian Fisheries Forum held in Kaohsiung, Taiwan between 25 to 30 November 2001.

While most of the papers presented provided baseline information on women in fisheries across the world, this Symposium provided opportunities for discussion on the pertinent issues, and planning the way to take these issues forward.

"Making Every African Fisher Count: Women Do Fish" from Africa deals with the generalizations that prevail, resulting in sweeping statements being made with respect to women involved in fishing. It brings out the situation in Africa where women are involved in active fishing and aquaculture. The Bangladesh experiences focus on development program interventions where traditional aquaculture practices are introduced to communities as livelihood options. The gender concerns in these programs and the strategies used to address them are discussed in detail. These issues are easily identifiable from an Indian perspective, as patriarchy in both countries has taken on similar dimensions.

Other papers in this volume deal with the more traditional roles of women - as fish processors. The paper on Women in Fisheries in Latin America examines the problems faced by women as sea food processors and processors within the artisanal sector. The lack of awareness of governments to the role and concerns of women in fisheries is cited as one of the major problems.

The Asian situation is fairly homogeneous within the South Asian region where women are only involved in the artisanal sector-their role being limited to traditional processing and marketing. The increasing mechanization of coastal fisheries and the resulting marginalization of women is highlighted.

While most of the papers presented are country-status papers, one of the interesting highlights is a paper from the Philippines "Working wives in Philippine coastal fisheries" which deals with the question of women's participation in fisheries from a supply end. It examines the variables that influence married women's involvement in the fisheries sector. The paper addresses the question of how women are able to improve their access to economic resources such that their labor supply decisions become favorable towards more paid work without their reproductive roles being compromised. The paper suggests that gender-responsive policies and legislation regarding fishing technology, storage, preservation and marketing would help in enhancing women's participation. Additionally, better access to the means of production will also increase and improve women's participation in this sector.

Although many issues were raised and the situations differed from country to country, the common thread running through all the papers is that provision should be made for women to be involved in production-related activities using aquaculture as an option. The Bangladesh experiences reinforce the fact that aquaculture as a livelihood option for women can be a successful intervention.

Another issue discussed in detail is the shift in perspective - from women in fisheries to gender in fisheries. Although this concept is not new to development, the symposium is probably the first forum in the fisheries sector which addresses these concerns. It was stressed that if program interventions in fisheries targeted only women, it would not elicit complete participation from the community as a whole. Also, men often look at these programs as "women's programs". The essential and strategic approach therefore is to look at gender in fisheries from a community angle-focusing on the power relations between men and women in the community-and planning the interventions with the community in a manner that promotes egalitarian relationships between men and women. The Bangladesh experiences show how this can be done effectively. Some of the program management questions in shifting from women to gender are also highlighted. As one of the participants from Oceania succinctly adds, " Having programs focused only on women in fisheries excludes and often gives the impression that it is a special program, which is the responsibility of one [women] staff member[s]". It is therefore vital to mainstream gender issues and build them into development interventions.

Another issue raised during the Symposium was that planners and senior fisheries personnel were often not clear about gender issues. Participants of the Symposium emphasized the importance of orientation and training of planners, fisheries personnel, and policy-makers as essential components to gender in fisheries.

The paper from Malaysia highlights the prevalence of HIV/AIDS among fishermen. Epidemiological studies on HIV/AIDS by occupation show that fishermen are among the group most prone to infection, probably due to the peculiarities of their jobs. Unsafe sex and unsafe seafaring have much in common - such as drug addiction, long periods away from home, visits to commercial sex workers and the hard work. Various studies have cited HIV prevalence levels among fishermen in Asia from 7% to as high as 15%. In Tanzania in Africa, fishers were 5 times more likely to die from AIDS than were agricultural workers.

The issue of credit options for micro enterprises such as aquaculture for women was discussed. This was seen as a major constraint by many. However, in India with the success stories of micro credit through self-help groups this is not a limiting factor. In the State of Tamilnadu in India, there are numerous experiences of women who are very successfully using micro credit through their self-help groups for such activities. Where women's role in coastal fisheries is being marginalized and food security for the poor is being threatened, these efforts are worth replicating.

Another issue that cuts across continents is the limited information on women's roles in fisheries. Experiences of the Mekong River Commission in networking highlighted the advantages of networking efforts towards building an information database.

In India, there is tremendous scope for networking. Considering the fact that the NGO sector is active and has made successful interventions, there is a need for further collaborations with NGOs in the fisheries sector. Very few NGOs work with fishing and coastal communities. It was only after the disastrous efforts of shrimp monoculture farms that they paid more attention this sector. It is also observed that, often, attention to the fisheries sector tends to be only technical in nature. There is therefore a need for a flow of information across specializations and to look at the fisheries sector holistically.

To conclude, the Taiwan symposium on Women in Fisheries was one major step towards taking stock of the status of women involved in fisheries. It is however vital that this initiative moves forward and further work/research is initiated in the area of gender and fisheries - the inter relationship between men and women in the sector and their combined roles in natural resource management.

WOMEN IN FISHERIES ACTIVITIES OF THE ASIAN FISHERIES SOCIETY – HAVE THEY BEEN ABLE TO MAKE AN IMPACT?

M. C. Nandeesha

Central Agricultural University, College of Fisheries, India

E. Tech

Asian Fisheries Society, Philippines

Abstract

The initiative of the Partnership for Development in Kampuchea (PADEK), in organizing a National Symposium on Women in Fisheries in Cambodia in 1994, received overwhelming support from the Government of Cambodia. This resulted in the organization of a regional seminar on the same issue involving all the countries in the Mekong Basin in 1996. The involvement of the Asian Fisheries Society (AFS) helped in scaling up the activities to the Asian level, leading to the organization of the Women in Asian Fisheries Symposium in 1998, which coincided with the 5th Asian Fisheries Forum in Chiang Mai, Thailand. The AFS also joined hands with PADEK in organizing the triennial photographic competition. A number of these activities have stimulated both national and regional interests, motivating various groups to organize discussions/meetings on the increasing role of women in the fisheries sector. Following the recommendations from these events, efforts are underway with the implementation of new approaches and better strategies, which will bring forth gender equity in a wide array of developmental activities.

The publication of the proceedings of the meetings and the photographic competitions have contributed to increased awareness and changes in attitude. Major changes at the policy level, however, have yet to be seen. While there is a need to intensify awareness in this area, more concrete steps are needed to translate awareness into actions. This paper summarizes the impacts observed in the different gender-related activities. It will put forward suggestions on ways to strengthen activities in this area.

Background

The Food and Agriculture Organization (FAO) of the United Nations organized the first global workshop on Women in Aquaculture in 1987 in Rome. The vision of FAO in recognizing the increasing role played by women in the development of aquaculture - now the fastest growing food producing sector in the world - has led to the establishment of gender-sensitive aquaculture policies. The Indian Branch of the AFS organized the first national workshop on Women in Fisheries in 1990. This workshop identified key issues affecting women in the Indian fisheries sector. It also brought together heads of various concerned organizations involved in fisheries research, education, and training and development. The workshop proceedings served as an important document, and stimulated further discussions and development of appropriate programs in India. The workshop stressed the importance of education of women and increase in their awareness to various issues in fisheries, provision of credit facilities and the need to develop women-friendly technologies. These were identified as key issues that require attention (Gadagkar 1992).

The Cambodian Initiative

PADEK, with the support of the Government of Cambodia, took the initiative in organizing the first National Workshop on Women in Cambodian Fisheries in 1994. In Cambodia, women constitute the majority of the population. In the fisheries sector alone, women play a major role in bringing forth progress and development. The workshop recognized the contribution of women in the different areas of fisheries, identifying key issues that need to be addressed. The workshop was successful in bringing awareness and putting forward changes that require developmental and strategic approaches. The recommendations from the workshop formed the basis for the development of a country resource paper on women in Cambodia, covering agriculture and fisheries. This paper was presented at the Fourth World Conference on Women in Beijing. The workshop also recommended the organization of a regional seminar on Women in Fisheries in the Indo-China countries. There are many common issues in the region and sharing of information would help greatly in speeding up the development process (Nandeesh and Heng 1994).

In 1995, UNDP organized a workshop at the Asian level aimed at preparing a background paper on Women in Asian Fisheries for presentation at the Beijing Conference. The results of the Cambodian National Workshop were presented in this workshop. The Network of Aquaculture Centres in Asia (NACA) newsletter, *Aquaculture Asia*, dedicated a special issue to women in fisheries. These efforts were helpful in setting up priorities for addressing gender in fisheries issues at the Beijing Conference on Women.

Impact at the Indo-China Level

Following the recommendations of the 1994 workshop in Cambodia, PADEK again with the support of the Cambodian Government, took the initiative in organizing a regional seminar on Women in Fisheries in the Indo-China countries from 6 - 8 March 1996. The seminar brought together not only interested participants from the four countries (Cambodia, Lao PDR, Vietnam and Thailand), but also attracted the involvement of regional/international organizations like ICLARM-The World Fish Center, Asian Institute of Technology, Network of Aquaculture Centres in Asia-Pacific, etc. Being the first woman Director General not only of ICLARM-The World Fish Center, but of all other CGIAR (Consultative Group on International Agricultural Research) institutions, Dr. Meryl Williams' participation helped the seminar derive inspiration, as she is seen as a role model for setting up new directions in the fisheries sector. The seminar recommended the formation of national networks in the region in order to strengthen the activities at the national level. In addition to this, it also suggested the participation of women in various training programs and the provision of credit to help women initiate activities within their fields of expertise and trade (Nandeesh and Hanglomong 1997). The participants also felt that the experience and the impact created at the Mekong region should be shared at the Asian level. Since AFS had shown interest in this area, it was suggested that with the upcoming Asian Fisheries Forum, efforts should be made towards organizing an international seminar covering the Asian region.

Impact at the Asian Level

In November 1998, AFS organized an International Symposium on Women in Asian Fisheries, coinciding with the 5th Asian Fisheries Forum in Chiangmai, Thailand. The Symposium provided insights into the status of women in fisheries in different countries of the region. It also identified common issues among these countries that need to be addressed. ICLARM-The World Fish Center and the AFS jointly published the proceedings with financial support from the Norwegian Agency for Development Cooperation (NORAD) and Department for International Development (UK) (DFID) (Williams et al. 2001). Table 1 shows the specific and general recommendations that emerged from the said symposium. Efforts were made not only to disseminate and make known these recommendations, but also to follow up on its implementation by the concerned agencies.

Table 1: Recommendations from the International Symposium on Women in Asian Fisheries held in 1998.

RECOMMENDATIONS	STATUS
Specific	
• AFS should Continue Photographic Competition.	• Third Photographic Competition was organized during the 6th Forum in Taiwan with PADEK support.
• Sponsor Women in Fisheries Session during the 6th Asian Fisheries Forum.	• Global symposium on Women in Fisheries was held in Taiwan coinciding with the 6th Asian Fisheries Forum.
• Select both Men and Women Keynote Speakers.	• Dr. Meryl Williams was chosen as the first woman keynote speaker of the 6th Forum held in Taiwan.
• Ensure Gender Equity in Selecting Chairpersons for conducting scientific sessions during fora/ scientific meetings.	• Many sessions had men and women as Chairpersons during the 6th Forum.
• Strive for Gender Equity in the council.	• There are Five Women Council Members in the 7th Council. President and Secretary of the Society are Women.
• Investigate forming a Gender in Fisheries Section of the Society.	• Society is willing to support, if someone is willing to take the leadership and organize the section.
General	
• Training and Extension Programs should Specifically Target Women.	• Many agencies are taking action and targeting women.
• Initiate Micro credit programs to Benefit Women Along the Successful Patterns Adopted in India.	• Some NGO's and Projects have demonstrated the necessity and benefit of targeting women. Self Help Groups (SHG) have become successful in Cambodia.
• Formation of Networks at National Levels.	<ul style="list-style-type: none"> • All the Mekong basin countries have active networks. (Cambodia, Thailand, Vietnam and Laos) • Philippines - Established • India - In Progress • Bangladesh - Initiated

Most recommendations have been implemented by different agencies. Within AFS, some changes have already taken place. At the 6th AFS Forum General Assembly where the 7th Council was elected, the number of women in the Council increased from two to four—the President and Secretary are both women (Table 2). This is a significant development and it is hoped that AFS will continue its efforts to further promote gender equity in the Council without compromising on quality.

The AFS also made a noteworthy move by inviting a woman, Dr. Meryl Williams to deliver a keynote address of the Forum for the first time. This was a landmark presentation in the history of Asian fisheries as it provided a roadmap of mainstreaming gender for fisheries development. In addition, the AFS also took steps to involve both men and women in conducting several scientific sessions during the 6th Asian Fisheries Forum. However, it is apparent that while more attention is being given to gender equity, efforts should be made to encourage participation of more women in the forthcoming fora.

Development of Networks and their Impact: Dr. Kathleen Matics, one of the more active participants who took part in the Indo-China seminar on women in fisheries followed closely the recommendations related to network formation. With the support of the Mekong River Commission (MRC), she played a key role in the establishment of national networks in all the four countries within the Mekong region (Cambodia, Vietnam, Thailand and Lao PDR). These networks have proved to be beneficial in increasing information exchange and encouraging good research. Inspired by the results achieved by the networks in the Mekong belt, several other countries have shown interest in setting up similar networks. The Philippines Network on Women in Fisheries has already been established under the leadership of Dr. Ida Siason from the University of the Philippines in the Visayas. A number of other countries are also making efforts towards this direction. It is hoped that the success of the existing networks would encourage the formation of new networks in other parts of the world.

Impact of the Photographic Competition: PADEK provided support to AFS for the organization of the photographic competition on the theme "Women in Asian Fisheries". This coincided with the 4th Asian Fisheries Forum in Beijing, China, in 1995. This first photographic competition had more than fifty entries and among them, four photos garnered awards (Table 3). The first prize photograph was won by the MRC. This impressive photograph that depicts the involvement of women in fishing was the cover

photo of the 10th Anniversary Commemorative Volume of AFS. The second prize was won by Dr. Yip Hoi Kee of the Department of Zoology, National University of Singapore. The photograph, representing the involvement of women in fish processing was used to produce a greeting card. The third prize was won by Dr. Thieu Thi Tao Mado, who is an active member of the Vietnam Network on Women in Fisheries. She has taken the lead in organizing several programs on women in fisheries. The third prize was also shared by Mr. Nao Thuock from Cambodia. He is now the Director General of Fisheries and has been active in promoting gender-sensitive fisheries activities in the country. Currently, he is also in the Council of AFS. Recognizing the impact of the first photographic competition, PADEK has continued its support for the organization of subsequent photographic competitions.

The second photographic competition was held in Chiangmai, Thailand (1998) coinciding with the 5th Asian Fisheries Forum. This also attracted a large number of entries. Mr. Peter Degan, a well-known social scientist working with the MRC capture fisheries project in Cambodia, won the first prize. He is known for using various audio and visual systems to address social issues where gender is a main area of focus. The second prize winner, Mr. Dewey Sergio, is a local photo enthusiast from the Philippines. The third prize winner, Dr. Mohinder Singh Kohli, has been actively involved in conducting research on gender issues. He organized an International Symposium on Women in Fisheries in Mumbai, India, in December 2001.

The third Photographic competition held in Kaohsiung, Taiwan, in conjunction with the 6th Asian Fisheries Forum in 2001 also attracted a good number of entries and most of the winning photograph entries focused on women in aquaculture activities. Here again, the winners have shown strong interest in gender issues in fisheries. The First Prize photo, "Knitting a hole for better yield" was won by Dr. Rubiyanto Haliman of Indonesia and the second, "Women in aquaculture-A nurse and conservator" was won by Dr. B.B. Sahu of the Indian Council for Agricultural Research (CIFA), India. Two photos were awarded the Third Prize: "We grow fish for our family: Women with their fish harvest", won by Dr. P.K. Sahoo of the National Research Centre for Women in Agriculture, India; and "The women fish farmers are harvesting fish in Bangladesh with the help of their husbands", won by Dr. Md. Ghulam Kibria, who is involved with the Northern Upland Aquaculture Development Project in Vietnam. It is anticipated that these individuals would continue to stir interest and provide leadership in bringing forth gender equity.

The prize-winning photos were featured in a number of fisheries magazines, newsletters and websites thereby contributing to increased awareness. In view of its successes, PADEK has agreed to continue supporting the organization of the 4th photographic competition, which will coincide with the 7th Asian Fisheries Forum in 2004, in Penang, Malaysia, with the theme "Gender and Fisheries".

Table 2: Women Council Members of the AFS from 1st to 7th Council.

Name	Country	Council
Dionisia Rola	Philippines	First
Elvira Tan	Philippines	Second
Meng Qingwen	China	Second
Jahara Yahaya	Malaysia	Fifth
Angela Arthington	Australia	Fifth and Sixth
Kamonporn Tonghuthai	Thailand	Fifth, Sixth and Seventh
Roshada Hashim	Malaysia	Seventh
Fatima Md. Yusoff	Malaysia	Seventh
Ida Siason	Philippines	Seventh
Clarissa Marte	Philippines	Seventh

Table 3: Winners of the three Photographic Competitions conducted by AFS with PADEK Sponsorship.

First Photo Competition	Prize Winner	Prize Type	Country
Women fishing along Mekong River	Mekong River Commission	First	Thailand
Labor of love	Yip Hoi Kee (National University of Singapore)	Second	Singapore
Handless woman in fish processing	Thieu Thi Tao Mado (Institute of Tropical Biology)	Third	Vietnam
Woman weaving fish net	Nao Thuock (Department of Fisheries)	Third	Cambodia
Second Photo Competition			
Smoking fish in Tonlesap river	Peter Degan (Mekong river Commission)	First	Cambodia
Woman fishing in Laguna de Bay	Dewey Sergio (Fisheries Department)	Second	Philippines
Chinese dipnet operation by woman in NE India	M.P. Singh Kohli (Central institute for Fisheries Education)	Third	India
Third Photo Competition			
Knitting a hole for better yield	Rubiyanto W. Haliman	First	Indonesia
Woman in aquaculture-a nurse and a conservator	B.B. Sahu (Central Institute of Freshwater Aquaculture)	Second	India
We grow fish for our family	P.K. Sahoo (National Centre for women in Agriculture)	Third	India
Women harvesting fish in Bangladesh	Md. Gulam Kibria (UNDP project)	Third	Vietnam

Global Symposium on Women in Fisheries

Based on the recommendations of the Asian level symposium, initiatives were taken by ICLARM-The World Fish Center and AFS to organize the Global Symposium on Women in Fisheries which was held in November 2001, Kaohsiung, Taiwan. The symposium attracted participants from many parts of the world where review papers highlighted women in fisheries in the different continents. The symposium also identified major issues that had to be addressed. It was noted that there is a need to train more staff on gender issues so that they may serve as resource persons in their respective countries/territories. The need to carry out a study to understand the existing knowledge level of AFS members on gender issues, and the formulation of development strategies based on the results was recognized and identified as another area requiring immediate action. In addition, the Global Symposium highlighted additional recommendations (Table 4) which will create an impact on key issues affecting fisheries development at a global scale.

In the same symposium, a resolution was made to shift the focus from women in fisheries to gender and fisheries with a view to address the issues more holistically—involving both men and women in the sector. It is hoped that through follow-up actions on these recommendations, measurable progress will be seen and felt before the global forum on Gender and Fisheries, scheduled to be held in April 2004 in Penang, Malaysia, during the 7th Asian Fisheries Forum.

Conclusion

The women in fisheries activities carried out so far has had significant impacts and has brought about greater awareness. There is now an opportunity to heighten this awareness through the exchange of information and research results in the different countries. The proposed setting up of electronic networks on gender in fisheries will help speed up information exchange among collaborators.

To achieve gender equity, changes have to occur at several levels. The existing gender-related programs have resulted in awareness on gender issues. This awareness needs to be translated into more visible actions. Continued and coordinated efforts are necessary to bring about long-lasting changes in the area of gender. It is hoped that AFS and ICLARM-The World Fish Center will continue their efforts in this field and provide leadership towards gender equity in the fisheries sector.

In addition, the major role of women in small-scale aquaculture activities is noteworthy, considering that aquaculture has been recognized as an alternative to meet the increasing demand for fish of the growing population. A global workshop held in 1984 visualized and called for the development of aquaculture through the formation and promotion of gender-sensitive programs in aquaculture. The Global Symposium recognized the role of women in aquaculture while highlighting the need to sustain production from capture fisheries. Education of women and the provision of financial support to enable women to undertake income-generating activities are the two basic needs that may bring about changes in the various sectors. More partnerships and alliances among women's groups worldwide will effectively bring about progress, development and success to the future efforts in gender in fisheries.

Table 4: Recommendations from the Global Symposium on Women in Fisheries held in 2001.

RECOMMENDATIONS	STATUS
• Publish proceedings of the current symposium.	• Funding has been secured. ICLARM and AFS are making arrangements to publish the proceedings in about six months time.
• Establish electronic network on gender issues.	• ICLARM is taking steps in establishing the network.
• Promote formation of national networks using local resources.	• Participants of the Global symposium should take lead in their continents to promote formation of national networks.
• Encourage national networks to develop locally appropriate research and development programs.	• ICLARM and AFS would provide support.
• Train more people through national networks to serve as resource persons on gender issues in fisheries.	• AFS would support national networks.
• Publish an educational brochure on gender issues in fisheries.	• Prof. Ida Siason/Dr. Stella Williams will work on this idea and develop a brochure.
• Strengthen knowledge of AFS members on social issues with focus on gender.	• AFS will conduct a survey and develop plans to help members.
• Use ICLARM quarterly publication-Naga offer to provide space for publication of articles on gender issues.	• Stella Williams has agreed to assist. Also Dr. Kuperan Viswanathan has agreed to give priority for publication of articles on gender issues in the Social Science section of the NAGA Newsletter.
• Provide wide publicity for good examples of gender sensitive programs.	• AFS to compile and publish such good practices.
• Influence policy changes to promote gender sensitive developments.	• More research is required to generate quality data to assist in policy changes.
• Recognize the growing importance of aquaculture and role of women in aquaculture development.	• Asian Fisheries Society would coordinate with various organizations involved in aquaculture development programs in aquaculture.
• Organize Global forum on gender and fisheries in April, 2004 coinciding with the 7th Asian Fisheries Forum in Penang, Malaysia.	• ICLARM and AFS to take lead in the organization of this event. Encourage research and attract good research papers for presentation.

References

- Gadagkar, S.R., Editor. 1992. Women in fisheries in India. Proceedings of the Workshop on Women in Fisheries in India. Asian Fisheries Society, Indian Branch. Special publication 8. Mangalore, India. 51p.
- Nandeeshha, M.C. and N. Heng, Compilers. 1994. Women in Cambodian fisheries. Proceedings of the National Workshop on Women in Fisheries. Bati Fisheries Station, PADEK, Cambodia. 128p.
- Nandeeshha, M.C. and H. Hanglomong, Editors. 1997. Women in fisheries in Indo-China countries. Proceedings of the seminar on Women in Fisheries in Indo-China countries. Bati Fisheries Station, PADEK, Cambodia. 167p.
- Williams, M.J., M.C. Nandeeshha, V.P. Corral, E. Tech and P.S. Choo, Editors. 2001. Women in Asian fisheries. Proceedings of the International Symposium on Women in Asian Fisheries. ICLARM Contribution No. 1587. Penang, Malaysia. 181p.

FROM WOMEN IN FISHERIES TO GENDER AND FISHERIES

M.J. Williams

ICLARM - The World Fish Center, Malaysia

S.B. Williams

Obafemi Awolowo University, Nigeria

P.S. Choo

ICLARM - The World Fish Center, Malaysia

Abstract

This paper traces the sequence of events leading to the involvement of the Asian Fisheries Society and ICLARM-The World Fish Center, in the Women in Fisheries program and to the move towards Gender and Fisheries initiatives. Some gender issues besetting the fisheries sector highlighted in the paper include: poverty; division of household labor; health; access to education and other rights; organizational culture; and raising awareness and sharing knowledge. The lack of unbiased gender data on the role and contributions of men and women may hinder the actions taken to address critical problem areas identified in the Beijing Platform for Action. Research and research organizations have a role to play in guiding the actions towards addressing issues of basic human rights for women, and issues of gender inequity.

Introduction

Women's issues loomed large on social and political agendas in the 1960s and entered the development agenda in the late 1960s and 1970s when several international aid agencies recognized that the failure of many of their developmental projects was due to the exclusion of women in the design and implementation of the projects. Even though women play important roles and contribute significantly to the impact and sustainability of development projects, their contribution to society had often been undervalued and unappreciated. The earlier initiatives emphasized women in the development context (WID), of which, women in fisheries (WIF) is a particular case, because initially the immediate goal was to ensure women's involvement and their integration into development programs from which they were denied active participation in the past (Ostergaard 1992).

Since the 1975 United Nations World Conference on Women held in Mexico City, a series of international conferences/events has helped sustain the focus on women's involvement (see Table 1). In the fisheries sector of development, the first major event was the Global Workshop on Aquaculture, which was held in 1987, almost eight years before the Workshop on Women in Fisheries in the Asia-Pacific region, which was organized as a prelude to the Fourth World Conference on Women.

Table 1. Chronology of events related to women in development.

Date	Events
1975	The United Nations World Conference on Women (Mexico City)
1975 - 1985	United Nations Decade for Women
1980	Second World Conference on Women (Copenhagen)
1985	Third World Conference to Review and Appraise the Achievements of the United Nations Decade for Women (Nairobi)
1987	The FAO Global Workshop on Women in Aquaculture (Rome)
1995	Workshop on Women in Fisheries in the Asia-Pacific region (Philippines)
1995	Fourth World Conference on Women (Beijing)
2000	Beijing +5: Women 2000 - Gender, Equality, Development and Peace for the 21st Century - Special Session of the General Assembly (New York)

Development agencies, however, recognized that targeting women as special beneficiaries could be counter productive or at least insufficient to improve their contributions to and benefits from development. An intermediate step in development thinking was therefore to consider the changes needed in the development agenda to better incorporate women and thus the focus switched to 'women and development'. However, even considering changes in the development agenda was found to be too narrow as programs focused on women and development ran the risk of alienating men and simplifying the complex relationships between the different roles played by man and woman in the community. From about 1995, therefore, programs began to recognize that success in development depends on the community and the interrelationship between people in it, and not on women and/or men per se, hence giving rise to gender rather than women's programs (Levy 1996).

Gender, which is constructed socially, is defined as the relationship between man and woman. Biological characteristics are not significant. Gender roles of women and men are defined by society. They vary among different societies and cultures, classes and ages, and may change through history. Development activities can only be made sustainable by changing the overall structural factors such as rules and practices of the household, community, market and the state, which sustained women's subordinate roles in society (see also <http://www.fao.org/waicent/faOINFO/susTDEV?Wpdirect/Wpdoe001.htm>).

This paper documents the sequence of events beginning with the involvement of the Asian Fisheries Society (AFS) in the WIF program to the move towards Gender and Fisheries (GAF) initiatives. Some gender issues besetting the fisheries (including aquaculture) sector and challenges to uplift the status of women in line with the blueprint from the Beijing Platform for Action are also discussed.

The Evolution of Women in Fisheries Symposia

In 1994, the Partnerships for Development in Kampuchea (PADEK) held a very successful "National Symposium on WIF in Cambodia" (Nandeeshha and Heng 1994). A "Regional Seminar on WIF in Indo-China Countries" followed this in 1996 (Nandeeshha and Honglomong 1997). The Indo-China Regional Seminar called for urgent attention to be directed at gender issues in the fisheries sector and suggested that the issues be followed up at the full Asian regional level. Participants in this Seminar identified the AFS and ICLARM as the most suitable institutions to stimulate this effort. Subsequently the AFS held two very successful symposia: the International Symposium on Women in Asian Fisheries in 1998 in Chiang Mai (Williams et al. 2001) and the Global Symposium on Women in Fisheries in 2001 in Kaoshiung. These two symposia attracted many participants and highlighted the involvement of women in fisheries activities and in many instances their multiple roles and their need to contribute to the family income in poverty stricken households. Although these two symposiums were specifically on women's roles, gender issues were often raised by the participants. Examples include the social relations among men, women and children in the sapyaw fishery in the Philippines (Sotto et al. 2001) and the HIV/AIDS issue among fishers and the vulnerability of their partners (Huang 2002 in this Proceeding).

The fisheries sector in developing countries is recognized as one of the most economically depressed sectors in society. The two AFS Symposia and their precursors brought home several messages - women (wives or daughters) from fisher households in Southeast Asia, Africa and Latin America do actually fish as well as take part in many other fisheries sector activities and are often depicted as:

- Overworked, with their contribution unrecognized, unvalued or undervalued;
- Lowly-paid and exploited by employers;
- Illiterate;
- Undernourished and sickly, with poor productivity;
- Lacking opportunities for skills upgrading and access to training.

Although a substantial number of women are involved in the technical professions, the number of women holding managerial posts with decision-making powers is insignificant. Chao and Liao (2001) noted that most women in the technical professions in Taiwan have low self-esteem and this probably could apply to women elsewhere. Primavera and Bueno (2001) suggested that this perception could reflect social values that hold men superior. In some countries, women do not enjoy basic rights (right to vote, choice of career and even dressing), which many from the developed countries take for granted.

Merely involving women in development programmes without delving into issues of culture and the state will not contribute to sustainable development and correct the disparities between the sexes, hence the need to consider gender.

Gender and Fisheries

The symposia held to date have given general overviews and highlighted some specific women's issues in the fisheries sector. However, they do little more than start to raise awareness of the issues and barely permit a glance at what might be the key gender issues. The time is ripe for the key gender issues to be drawn out and the co-convenors of and participants at the latest symposium believe that this is the logical next step. Even at this point, some gender issues begin to emerge from the papers and discussions. A few are highlighted here.

Poverty

In the fisheries sector, widespread poverty is among the most pressing issues, especially among traditional fishers trying to make a living from the paltry catches of over-exploited waters. Policy changes and better management are called for to change this condition. A range of problems, many with gender dimensions, accompany the poverty of many fishing families and communities (Binkley 1995; FAO 1995a; Gittinger 1990; Neis 1996; Williams 1996; Williams and Awoyomi 1998).

Division Of Household Labor

Household labor studies have shown that women with dual working roles consistently spend two or three hours more than men every day in work-related activities (Levine et al. 2001). Malnourishment and long working hours may have sociological, economic and health implications for women (FAO 1990; FAO 1995b; IFPRI 1995; Tully 1990; Quisumbing et al. 1995).

Health

One of the greatest health challenges confronting the fishers and their families may become HIV/AIDS. Fishers appear to be particularly vulnerable because of their ignorance of the disease and the time spent away from their families. Access to affordable treatment and education on safe sex is therefore imperative for both the fishers and their wives, and the latter must be aware of their rights to protect themselves.

Access To Education And Other Rights

Access to general education is often denied children, especially girls, from fishing families.

Other issues include violence, recognized as the key factor that prevents women from exercising their rights (AusAID 1997), and lack of credit and decision-making opportunities for women. Community - based fisheries management (CBFM) programs involving the participation of both men and women may be a platform providing women the opportunities to actively involve themselves in the decision-making process, and therefore these programs and the gender elements of them should be actively promoted (Jallow 1997; Williams 1997; CGIAR News 2002).

Organizational Culture

Gender issues are generally undertaken from a community angle with interventions directed to promote an egalitarian relationship between men and women. To enhance gender equity, gender mainstreaming in the delivery organizations should be applied as well as the use of the gender analysis framework for development projects. In CARE Bangladesh, efforts were made to establish gender equity within the organization, and to increase awareness of staff on gender issues (Debashish et al. 2001). Actions adopted by CARE Bangladesh to improve gender equity include:

- Creating a working environment for women that is free from discrimination and harassment;
- Increasing the number of women especially in senior positions to achieve a more equal gender balance;
- Providing training and counseling to staff to overcome gender barriers;
- Providing advice and assistance for planning, implementation and monitoring of gender sensitive projects;
- Bringing forward new ideas about gender equality.

The gender analysis framework is generally used as a tool for collecting and analyzing gender disaggregated data at all stages of a project. The use of this tool enables us to better understand the gender factor in many of the development projects, and to develop mechanisms for gender mainstreaming.

Raising Awareness, Sharing Knowledge

One of the first actions needed to redress gender inequities is to increase awareness of gender issues and to dispel perceptions that women are weak and helpless. Sebastian Junger (1998) in his book "The Perfect Storm" recognized Linda Greenlaw as "one of the best sea captains, period, on the East Coast". Greenlaw said of herself: "I never anticipated problems stemming from being female, and never encountered any" (Greenlaw 1999).

The AFS together with ICLARM-The World Fish Center plan to give more coverage to gender issues through the ICLARM quarterly magazine - NAGA, and to encourage networking through a listserver to link interest groups on gender issues. ICLARM -The World Fish Center, which practices gender sensitive policies, strives to ensure that all programs have taken into consideration gender issues in the project and program formulation phase. The Center will actively develop more projects involving gender and seek funding for these studies.

Challenges and Conclusion

According to Madeline Albright, a former U. S. Secretary of State, the biggest challenge to the 21st Century will undoubtedly be the conferment of basic human rights to women, and of all the forces that will shape the world, the movement to recognize and realize the rights of women will be the most powerful (USAID, undated). Utilization of the GAD approach to solve gender issues will require the adoption of a gender analysis framework, which seeks to understand the inequities in the historical, political and cultural situation between man and woman and the processes that reinforce these imbalances (Itzin and Newman 1995).

These imbalances remain formidable. The 1995 UNDP Human Development Report on the status of women (UNDP 1995) indicated that:

- 70% of the 1.3 billion people living in poverty are women;
- Among the world's 900 million illiterate people, women outnumber men two to one;
- More women than men are malnourished;
- In many poor countries pregnancy complications are the largest single cause of death among women in their reproductive years;
- Wages of women are 30-40% less than men for comparable work;
- Women constitute less than one-seventh of administrators and managers in developing countries;
- Women hold only 10% of the seats in the world's parliaments and 6% in national cabinets.

Sustainable development cannot occur without equal opportunities for women in the economic, social and political spheres (Young 1993).

However, the lack of unbiased gender data on the nature and role of men's and women's contributions, especially from developing countries, may hinder the actions taken to address critical problem areas identified in the Beijing Platform for Action.

Research and research organizations have a role to play in guiding the action but to fulfill this role will need to do the following:

- Develop research and gender analysis methodologies;
- Collect unbiased, disaggregated gender data;
- Help formulate fair policies, programs and legislation;
- Provide training to assist scientists and development specialists in research and program implementation;
- Develop sustainable institutional frameworks for gender mainstreaming;
- Sustain continuity in gender sensitive development research and strategic interventions;
- Increase gender sensitivity in research and policy design and management.

Through the work of the symposia and related activities reported in these and earlier proceedings, a small but growing group of research and development specialists have begun their commitment to follow this path as part of their contribution to sustaining development in the fisheries sector. Most of us are not women's specialists, gender specialists or even social scientists but through the prompting of our colleagues, especially Dr M.C. Nandeesha, we have begun to realize the demands for gender equality in all dimensions of our fields.

References

- AusAID 1997. Gender and Development: Australia's Aid Commitment. AusAID Public Affairs.
- Binkley, M. 1995. Lost Moorings: Offshore Fishing Families Coping with Fishery Crisis. *In* M. L. McConnell and Dawn Rusell (eds.). After the Collapse: The Process of change, special issue of the Dalhousie Law Journal, 18 (1): 82-95.
- Buvinic M. and R. Mehra. 1990. Women in Agriculture: What Development Can Do. Washington D. C.: ICRW.
- CGIAR News, January - March 2002. Where are the Women in Fisheries? p. 8.
- Chao, N. S. and I. C. Liao. 2001. The role of women researchers and teachers in Taiwan fisheries in the last 30 years. p.111-120. *In* Williams, M. J., M. C. Nandeesha, V. P. Corral, E. Tech and P. S. Choo (eds.). International Symposium on Women in Asian Fisheries. 156p.

- Debashish, K. S., Shirin, M., Zaman, F. and Ireland. 2001. Strategies for addressing gender issues through aquaculture programs: approaches by CARE Bangladesh. p 147-156. *In* Williams, M. J., M. C. Nandeesha, V. P. Corral, E. Tech and P. S. Choo (eds.). International Symposium on Women in Asian Fisheries. 156p.
- FAO. 1990. Women, Agriculture and Rural Development: Gender issues in Rural Food Security in Developing Countries. Rome, Italy.
- FAO. 1995a. Issues in Rural Poverty, Employment and Food Security. D/V514E/2.95/2000.
- FAO. 1995b. 1995. Development Policy and Strategy for the Benefit of Rural Women. D/V2715E/1/9.95/1000.
- Gittinger, J. R. 1990. Household Food Security and the Role of Women. World Bank Discussion Papers No. 96. Washington DC. World Bank.
- Greenlaw, Linda 1999. "The Hungry Ocean: A swordfish captain's journey", Hyperion.
- Huang, M. 2002. HIV/AIDS among fishers: vulnerability of their partners. *Ibid*.
- IFPRI 1995. Feeding the World to 2020: What Role Will Women Play? News and Views, Washington D. C., IFPRI.
- Itzin, C. and J. Newman (eds.). 1995. Gender, Culture and Organisational Change: Putting Theory into Practice, Routledge.
- Jallow, A. M. 1997. Gender Sensitive Measures in Fisheries Sector. IDAF Publications, Cotonou, Benin.
- Junger, Sebastian 1998. "The Perfect Storm", Mass Market Paperback.
- Levine, J. A., R. Weisell, S. Chevassus, C. D. Martinez, B. Burlingame and W. A. Coward. 2001. The work burden of women. *Science* 294: 812.
- Levy, C. 1996. The Process of Institutionalising Gender in Policy and Planning: The 'Web' of Institutionalisation. The Development of Planning Unit, The Barlett, University College London. Working Paper No. 74.25 pp.
- Nandeesha, M. C. and Heng, N. (Compilers). 1994. Women in Cambodian Fisheries. Proceedings of the National Workshop on Women in Fisheries. Bati Fisheries Station, PADEK, Cambodia. 128pp.
- Nandeesha, M. C. and Hanglomong, H. (Editors). 1997. Women in Fisheries in Indo-China countries. Proceedings of the seminar on Women in Fisheries in Indo-China countries. Bati Fisheries Station, PADEK, Cambodia. 167pp.
- Neis, B. 1996. Cut Adrift, *Samudra Report* 16: 35-39.
- Ostergaard, L. 1992. Gender. *In* Lise Ostergaard (ed.). Gender and Development: A Practical Guide. Routledge, London and New York, 220 pp.
- Primavera, J. and P. Bueno. 2001. Summary of the Symposium. p.13-18. *In* Williams, M. J., M. C. Nandeesha, V. P. Corral, E. Tech and P. S. Choo (eds.). International Symposium on Women in Asian Fisheries. 156p.
- Quisumbing, A. R. et. al. 1995. Women: The Key to Food Security. Food Policy Report. Washington D. C. IFPRI.
- Tully, D. 1990. Labour and the Adoption and Impact of Farm Technology. In Labour, Employment and Agricultural Development in West Asia and North Africa. Dennis Tully (ed) pp. 3-23. The Netherlands; Kluwer Academic Publishers for ICARDA.
- UNDP. 1995. UNDP-Human Development Report 1995.
- USAID. Undated. Women 2000 Beijing Plus Five: The USAID Commitment. (http://www.genderreach.com/pubs/beijing_textonly.htm).
- Williams, M.J., M.C. Nandeesha, V.P. Corral, E. Tech and P.S. Choo (Eds) 2001. International Symposium on Women in Asian Fisheries: fifth Asian Fisheries Forum, Asian fisheries Society, 13 November 1998, Chiang Mai, Thailand. 156pp.
- Williams, Susan. 1996. Our Lives are at Stake: Women and the Fishery Crisis in Newfoundland and Labrador ISER Report No. 11, St. John's Nfld; ISER Books.
- Williams, Stella 1997. Economic Role of Women in Fishing Communities: A Case Study of Koko, Nigeria. IDAF Publications, Cotonou, Benin.
- Williams, Stella and B. Awoyomi. 1998. Fish as a Prime Mover of the Economic Life of Women in a Fishing Community. Proceedings of the IXth International Conference of the International Institute of Fisheries Economics and Trade (IIFET), Tromso, Norway, pp.286-292.
- World Food Day Report. 1994. The President's Report to the U. S. Congress. Washington D. C. USAID.
- Young, K. 1993. Planning Development with Women: Making a World of Difference. Macmillan Press.



ASIA

WOMEN IN FISHERIES IN ASIA

I.M. Siason

University of the Philippines, Visayas

E. Tech

Asian Fisheries Society, Philippines

K.I. Matics

Fisheries Programme, Mekong River Commission Secretariat, Cambodia

P.S. Choo

ICLARM - The World Fish Center, Malaysia

M. Shariff

Universiti Putra Malaysia, Malaysia

E.S. Heruwati

Central Research for Product Processing and Socio-economic of Marine Affairs and Fisheries, Indonesia

T. Susilowati

Bojonegara and Assessment Installation for Agricultural Technology, Indonesia

N. Miki

Research Institute of Fisheries Management and Technology, Japan

A.B. Shelly

Caritas Fisheries Program, Bangladesh

K.G. Rajabharshi

Nepal

R. Ranjit

Department of Fisheries, Nepal

P.P.G.N. Siriwardena

NARRD, Sri Lanka

M.C. Nandeesha

Central Agricultural University, College of Fisheries, India

M. Sunderarajan

Tamilnadu State Non Governmental Organisations and Volunteer Resource Centre, India

Abstract

This paper begins with a review of the cultural and political background of selected Asian countries (Bangladesh, Cambodia, Kuwait, India, Indonesia, Iran, Japan, the Lao PDR, Malaysia, Nepal, Philippines, Saudi Arabia, Sri Lanka, Thailand and Vietnam). The focus of the paper is on the importance of the fisheries industry in these economies and the involvement of women in the fisheries industry. Women in most of these countries do not enjoy the basic human rights that their male counterparts enjoy. Issues pertaining to gender inequality in the fisheries sector, and solutions to overcome some of these issues are also discussed.

Introduction

The degree of participation of women in the fisheries sector is an overall reflection of the cultures, the laws of the country and the priority given by the state to ensure gender equity. Generally, women in Asia, especially those from depressed fisheries households, participate actively in many fisheries activities, including aquaculture. However, the lower status accorded to women in many Asian societies means that their contribution to fisheries is undervalued and unrecognized.

This paper examines the situation and prospects of women in fisheries in selected countries in the Asia Region. Although a more complete inclusion of the Asian countries would have been ideal, the non-availability for this engagement of colleagues in non-included countries did not make this possible. Therefore the snapshots on women in fisheries will cover: the Mekong Region which includes Cambodia, the Lao PDR, Thailand and Vietnam; the Islamic countries of Indonesia, Malaysia, Saudi Arabia, Kuwait, Iran; and South Asia which includes India, Bangladesh, Sri Lanka, Nepal; the Philippines; and Japan.

Background on the Countries Selected for Asia

Mekong Region

Cambodia: Cambodia has a population of 12 million. The population growth rate is 3%. The economy and political stability are improving year by year. Cambodia was recently invited to join ASEAN.

Lao PDR: The Lao PDR is a small land-locked country that is bordered by Cambodia, China, Myanmar, Thailand and Vietnam. Out of a population of 4.5 million, 80% live in the countryside. There are three main ethnic groups: Lowland Lao people, Midland Lao and Highland Lao. Within these three large groups are 68 distinct groups. Geographically the Lao PDR is very mountainous and only about 4% of its land is suitable for wetland rice production.

Thailand: Thailand has a population of 63 million, with a very low birth rate. It is still recovering from the economic crisis of July 1997.

Vietnam: This country has a population of approximately 81 million with about half under 25 years of age. Females make up more than half of the population. The population growth rate is 1.5%.

Islamic Countries

Indonesia: Indonesia is the world's largest archipelago, with a land area of 1,904,000 sq km. It comprises approximately 17,500 islands and has a coastline of approximately 82,600 km. Indonesia has a population of 216 million, comprising 365 ethnic and tribal groups. The population consists of 87% Muslims, 9% Christians and 2% Hindus.

Malaysia: Malaysia has a land area of 328,550 sq km and a total coastline of 4,675 km. Malaysia has an estimated population of 22 million, consisting of different ethnic groups, mainly the Malays and other indigenous groups (58%), Chinese (27%), Indian (8%) and others (7%). Around 6.8% (1997 estimate) of its population lives below the poverty line.

Iran: Iran is an Islamic country with an area of 1,648,000 sq km. It has a population of 66 million, with 89% professing to be Shi'ite Muslim, 10% Sunni Muslim, and the remaining 1% comprising Zoroastrian, Jewish, Christian and those professing the Baha'i faith. Iran's economy relies predominantly on its oil revenue and it holds 9% of the world's crude oil reserves, and is the second largest oil producer in the Organization of Petroleum Exporting Countries (OPEC). The Iranian economy continues to face budgetary pressures and growing problems of a young population faced with high levels of unemployment.

Kuwait: Kuwait is an oil-rich country with an area of 17,818 sq km. Its territorial waters include nine islands and a coastline that is 290 km long. It has a population of 1,817,000 (1995 estimate). The

population is predominantly Arab and Sunni Muslims and is the only Arab Gulf state with an elected parliament. Before the Iraqi invasion in August 1990, less than 40% of the population and less than 20% of the workforce were Kuwaitis. After the Gulf War, plans were taken to ensure that Kuwaitis remain a majority in their country and by 1992, the population had fallen to less than half its number in August 1990. The economy of Kuwait is based almost exclusively on oil, and ranks third in the Middle East in proven oil reserves. In per-capita terms, Kuwait has one of the highest incomes in the world.

Saudi Arabia: Saudi Arabia occupies an estimated area of 2,331,000 sq km and is the largest country in the Middle East. It has a population of 22.7 million (2001 estimate) comprising 90% Arabs and 10% Afro-Asians. Saudi Arabia's economy is heavily dependent on oil, and is the world's largest oil producer, possessing one-fourth of the world's oil reserves. It has an estimated 7.2 million foreign workers in the country and is attempting to reduce this dependence by the introduction of the "saudization" policy, which aims to replace at least 60% of the foreign workers in the near future.

South Asia Region

The South Asian Region is an area that enjoys similarity in heritage and many of the countries were former British colonies.

India: India has a land area of 3.29 million sq km and a coastline of 8,111 km. The total population is estimated to be 1,002.1 million and more than one million people are engaged in fishing either on a full or part-time basis. The literacy rate is 62.4% and it is a country where several religions are widely practised - Hinduism, Islam, Christianity, Buddhism, Jainism, etc. Fisheries contribute up to 1.3% of the total Gross Domestic Product (GDP) and 4.6% of the agriculture GDP.

Nepal: Nepal is a landlocked country situated in between two big countries China and India. It covers an area of 147,181 sq km and bears a population of 23.9 million of which women represent over 50%. It is an agricultural country where 94% of the population is engaged in agriculture to derive about two-thirds of the GDP and 80% of commodities. About 90% of the economically active female population is engaged in the agriculture sector. The literacy rate is 27%. Hinduism is widely practiced followed by Buddhism, Islam, etc.

Bangladesh: Bangladesh, with an area of 148,393 sq km, has a population of about 128 million. The literacy rate is 38% and the majority of the population is dependent on agriculture. Islam, Hinduism, and Christianity are the prevailing religions. Fisheries contributes more than 4% of the GDP and it is considered to be an important food source for the entire population.

Sri Lanka: Sri Lanka, with an area of 65,610 sq km, has a population of about 19.2 million. Buddhism is widely practised followed by Hinduism, Christianity, Islam, etc. With a coastline of 1,800 km, fisheries is a livelihood for many in the population and it contributes to about 2% of the GDP.

Pakistan: Pakistan, with an area of 96,095 sq km, has the highest population density with 150.6 million people. Islam is the state religion. The literacy rate is 38%. The southern part of the country is surrounded by the Arabian Sea. Fisheries potential in the country is yet to be harnessed.

Philippines

Philippines: The Philippines is an archipelagic country of 7,100 islands with a land area of 300,000 sq km and a coastline of 17,460 km. It has a population of approximately 78 million. The population is predominantly Catholic (85%). The average simple literacy rate is 93% (1990).

Japan

Japan: Japan has a population of 127.29 million (October 2001) with a land area of 377,863 sq km, and a coastline of 34,951 km. Fisheries contributes only 0.2% (2000) of the GDP.

Table 1: Selected Features of Countries Surveyed

Country	Population (Million)	Land Area (Km ²)	Coastline (Km)	Fisheries Contribution To GDP (%)	Fish Consumption (Kg/Yr)	Population Employed In Fisheries (M)
Cambodia	12	181,036	435	7	20	2.3
Laos	4.5	236,800	landlocked	2	8	na
Thailand	63	513,115	2,614	2	32.7	na
Vietnam	81	329,556	3,200	3	8	3.4
Indonesia	216	1,904,000	82,600	2.4	17.9	1.8
Malaysia	22	328,550	4,675	1.62	55.7	1.536
Iran	66	1,648,000	3180		5	na
Kuwait	1.8 (1995)	17,818	499	na	12.5	na
Saudi Arabia	227	2,331,000	2640	na	6.5	na
India	1000	3,275,198	8,111			
Bangladesh	113	142,776				
Nepal		140,797				
Sri Lanka		66,000	1,561	2.8		
Philippines	68.614	300,000	17,460	3.7		806,927
Japan	127.29	377,863	34,591	0.2	69	277,042
China				na		

Situation of Women in Fisheries

The Mekong Region

Women participate in almost all activities in the fisheries sector including the construction of fishing gears, fish sorting, fish handling, and fish processing. Some women participate directly in fishing activities with their family members in lakes, rivers and streams. Fish selling is almost exclusively the domain of women. However, despite their pervasive involvement, women's invaluable contribution is often overlooked and undocumented, such that women do not benefit from adequate working conditions, facilities, training and access to information. Many of the landless women in the Mekong Region are the "poorest of the poor" in fisheries.

Cambodia: Women comprise more than half of the 12 million people in Cambodia. The fisheries sector plays an important role in the alleviation of poverty, achievement of food security and enhancement of economic growth. Inland fisheries in Cambodia contributes over 7% of the national GDP (where previously this was only 3%).

Women constitute an important workforce in fisheries and contribute to the sustainable use and management of fishery resources. They play a larger role than men in aquaculture, although a lesser role in capture fisheries. They play a primary role in fish processing and marketing, which generate income for family maintenance.

To sustain the utilization of fisheries resources, the Government decided on the reduction in the area and number of fishing lots. Co-management, under the leadership of the Mekong River Commission (MRC) Fisheries Programme, is well accepted by both men and women.

The number of highly educated females is far below that of males. Cambodian women have limited education and lack basic skills. They receive minimal assistance in terms of training and extension services compared to their contribution to the country's overall fish production, processing and marketing potential. Moreover, it is a well-recognized fact that information on women in fisheries in the country is limited and unreliable.

Lao PDR: Fisheries production constitutes 3% of the Lao GDP; it is estimated that women contribute one half of this figure. In both capture fisheries and aquaculture, women participate in all the related activities, e.g. fishing, culture, harvesting, post-harvesting, marketing and fish processing. Traditionally, the Laotians catch fish from rivers throughout the country. This is more concentrated in the southern provinces where full-time fishers predominate. In both the north and south of the Lao PDR, many people supplement their living through fishing activities. This augments both their food intake and income earnings.

In the Lao tradition of fishing, both men and women have clear roles, although there can be overlap. For example, in capture fisheries, men primarily make nets and catch fish. Women repair nets and catch fish. Lao women process the fish for preservation, eating and for selling at the markets.

In 1999-2000, there were 13 fish processing training courses for fishers in Vientiane Province and Vientiane Municipality. Of a total of 264 participants, 80% were women. The Lao Government supplied materials and equipment to improve household fish processing activities in villages near the Nam Ngum reservoir. More than 50% of the population in this area are women engaged in fisheries and fish culture activities.

The Department of Livestock and Fisheries promotes aquaculture. The Food and Agriculture Organization (FAO) of the United Nations, United Nations Development Programme (UNDP) and the MRC Fisheries Programme support extension and research in fish aquaculture, especially for silver carp, common carp, grass carp, tilapia and Indian carp. Women's involvement in fisheries and aquaculture activities include pond cleaning, fertilising, feeding the fish, fish capture, fish selling, etc. They also cook and preserve fish for domestic purposes. Women are included as team members in the Department of Livestock and Fisheries, which conducts laboratory research on artificial breeding of fish, spawning and fry nursery. Women clearly dominate specific activities in aquaculture and post-harvest technology and they can play a major role in extension services.

With the assistance of the MRC Fisheries Programme, the Government established the Lao Women in Fisheries (LWIF) Network in October 1999. Although a number of problems related to both social and technical issues are encountered by women involved in fisheries activities, there is a lack of appropriate programs to meet the needs of women and their families. Like Cambodia, the Lao PDR lacks the information and technology to improve traditional practices that can add value to fish products.

Thailand: Fisheries is important for food security and represents a major development sector in Thailand. The sector is significant as a source of animal protein for most rural people, generating income and employment, and providing a major source of livelihood especially in rural communities.

Fisheries production has increased from about 1.9 million tonnes in 1981 to 3.5 million tonnes in 1996. This growth is attributed to the rapid development of technology, especially in both brackish and freshwater aquaculture. Yet, despite the growth of the sector and its significant contribution to the national economy, there is little knowledge and information about the fisher population of which about half are women. Up to now, there is no clear policy direction on promoting women in the fisheries sector in Thailand.

Owing to the paucity of research in this area, awareness of women's activities in fisheries is lacking. There is only some recent recognition that women as well as men are key players in the success of fisheries management and production. In October 2001, the Department of Fisheries agreed to serve as the focal point of the Thai National Women in Fisheries (TWIF) Network in Thailand. It paved the way for the Department of Fisheries to empower women at both organisational and operational levels with support from other concerned agencies in Thailand.

Vietnam: Fisheries constitutes one of the most important economic sectors in Vietnam, contributing significantly to the export turnover of the country and supplying the main protein nutrition for the population. Over 3.4 million people are involved in capture fisheries, fish farming, transporting, processing, distributing and marketing of fish and fishery products. More than half are females living in rural areas and coastal fishing villages.

The Vietnamese Women in Fisheries (VWIF) Network established in March 1999, is operating under the guidance of the Committee for the Advancement of Women in Fisheries. It is an integral component of the Network for Women and Gender in Fisheries Development in the Mekong Region. In its first meeting in Hanoi, the VWIF agreed to gather baseline data pertinent to female labor in fisheries and socioeconomic conditions of these women, work conditions, and to develop special projects to improve post-harvest technology to add value to fishery products and improve the natural resources. Recently, the national network members participated in the study on gender and seafood processing industry. Research teams interviewed some of the managers and workers (male and female) of 19 fish processing factories and four landing sites according to a set questionnaire prepared by the research team. The network likewise carried out a study on the hygiene and safety conditions of laborers in the seafood industry, where the majority of the workers (84 %) are female.

Islamic Countries

Presently, the degree of women's rights, gender equality and job preferences in the Islamic countries vary. In countries which practice very conservative Islamic religion, for example in Saudi Arabia and Iran, women do not have rights to make all decisions regarding personal choices and careers, which are often largely decided by the State and its interpretation of religion. In countries where women are required to be veiled, the more physical aspects of fishing and aquaculture may not be suitable for women, but they may contribute in other ways, such as providing ideas and thoughts on fisheries issues. In the more liberal Islamic societies such as Malaysia and Indonesia, women generally have more career choices. Moreover, gender equality is also protected by the State.

Indonesia and Malaysia: Fisheries production (see Table 2) is considerable in Indonesia and Malaysia, contributing 2.4% and 1.62 % to the GDP (2001) respectively. In Indonesia, an estimated 1.8 million people are employed as fishers with 100-200 thousand workers involved in fish processing (Indonesian Fisheries Statistics 1996). In Malaysia, of a labor force of 9.6 million, 16% are employed in the fisheries sector, attesting to the importance of fisheries production.

Both Indonesia and Malaysia are net exporters of fish. Indonesia ranked fourth in terms of world aquaculture (fish, crustaceans and molluscs) production for 1998 and 1999 while Malaysia ranked eighteenth. The fish consumption pattern in these countries also reflects a higher consumption from the two South East Asian countries. Per caput consumption (kg/year: average from 1995-1997) in Indonesia and Malaysia reported by the Food and Agriculture Organisation (FAO) are relatively higher than the Middle Eastern countries as shown below (FAO 2001c):

- Indonesia: 17.9
- Malaysia: 55.7
- Iran: 5.0
- Kuwait: 12.5
- Saudi Arabia: 6.5

Fish consumption patterns in Indonesia vary with locality and the difference in per caput consumption is attributed to cultural preferences. In the eastern part of the country (Sulawesi, Maluku and Irian Jaya), per caput consumption is about 40 kg/year while per caput consumption in the province of Java is less than 10 kg/year.

Iran, Kuwait, Saudi Arabia: Except for Iran, fisheries production (see Table 2) from the other two countries is not significant. Fisheries contribution to the national GDP in Iran, Kuwait and Saudi Arabia is insignificant, when compared to the contribution of their oil and petroleum industries, which play pivotal roles in their economy. In terms of value, these three countries are net importers of fish and fishery products.

Table 2. Capture and aquaculture fisheries (fish, crustaceans, molluscs and aquatic plants) production in 1997, 1998 and 1999 for Indonesia, Malaysia, Iran, Kuwait and Saudi Arabia.

Country/Year		Capture (mt)	Aquaculture (mt)	Total (mt)
Indonesia:	1997	3,888,290	777,547	4,665,837
	1998	3,683,565	669,797	4,353,362
	1999	4,157,250	689,640	4,846,890
Malaysia:	1997	1,172,922	107,984	1,280,906
	1998	1,149,093	133,635	1,282,728
	1999	1,251,768	166,974	1,418,742
Iran:	1997	342,287	30,279	372,566
	1998	243,800	33,237	277,037
	1999	387,200	31,800	419,000
Kuwait:	1997	7,826	254	8,080
	1998	7,799	250	8,049
	1999	6,271	264	6,535
Saudi Arabia:	1997	49,314	4,690	54,004
	1998	51,329	5,101	56,430
	1999	46,897	5,052	51,949

Source: FAO 2001a and 2001b

In Indonesia and Malaysia, women who are involved in small-scale fisheries activities are usually wives or daughters of fishers. In many cases, they work to supplement the family income and in some cases may not receive a wage if it is a home-based family business. Some may help their husbands to market the catch, accompany their husbands out to sea and help to mend nets. Women are often involved in aquaculture, especially if the activity is a small-scale business involving low technical input, with the harvests meant mainly for home consumption or sale to neighbors. In Indonesia, women provide the workforce in seaweed, pearl oyster, shrimp, freshwater and paddy cum fish culture systems. In Malaysia, they often prepare the feed and tend to fish cages or fish/prawn ponds.

In these two South East Asian Islamic countries, as aquaculture becomes more intensified and more commercialized, there is a corresponding decrease in the involvement of women (Felsing et al. 2000). Women generally carry out routine, non-technical activities passed on to them by family members. Many lack the highly technical skills and basic understanding on ecological and biological requirements of the intensive commercial systems; these skills and knowledge are crucial in many cases to the success of commercial farms. Upgrading of skills is frequently made available by extension courses organized by the Government. Training courses, however, are attended mainly by men because most women may have domestic duties, which prevent them from staying away from home for a period of time. There were only 18 women of a total of 952 persons trained at the aquaculture courses on the culture of penaeid prawn, giant freshwater lobster, mussel and fish conducted at the National Prawn Fry Production and Research Centre in Kedah, Malaysia from 1996-2001.

Marketing of fish is also a traditional role of many women from the lower socio-economic group. In Peninsular Malaysia, women in the east coast states especially Kelantan, are more actively involved in the marketing of the catch than women in the west coast. Similarly, in Indonesia, women in some areas are more active than in other areas. In Bali, women are actively involved in fish marketing but this activity is carried out by men in South Sulawesi (Felsing et al. 2000).

Women are also involved in activities such as the traditional processing of dried, salted or smoked fish or in factories involved in fish canning or prawn processing. In Malaysia, more than 80% of the workforce in the canning and prawn processing factories are women working mainly as operators in the processing lines.

The seafood processing industries in Indonesia can be divided into four categories, mainly the traditional, small, medium and commercial scale. The industry is dominated by small and medium scale operations, which are mainly located close to fish landing sites where women are employed as manual workers. These factories produce products such as salted-dried, salted-boiled, smoked, fermented products, fish/shrimp crackers, frozen fish, canned fish and fish meal. While the more traditional fisheries products

are produced by women from fisher households, Heruwati et al. (1998) reported that 80-90% of the young female workforce in the canning and fish meal factories are usually not from fisher households. Modern mechanized fish processing factories, which are highly commercialized usually employ men workers. The female workforce in fisheries-related jobs (such as the canning industry, transportation, shipping and net repairing) has declined in numbers over the last three decades from 48,000 in 1971 to 2,900 in 1980 and 2,200 in 1990 (Indonesian Statistics 1972, 1981, 1992).

A study carried out by Sitorus (1995) among fisher households in Indonesia showed that women are predominantly involved in fish processing and marketing jobs while few of them are involved in capture fisheries (Table 3).

In Malaysia, no census or documentation on the actual numbers of women involved in the various fishing activities has been carried out (Yahaya 2001). General observation shows that, similar to Indonesia, very few Malaysian women are involved in capture fisheries activities (except for those using traditional small gears such as the bintoh for catching crabs, fish traps or bubu for catching fish and some may accompany their husbands out to sea. The majority are involved in post-harvest activities with a smaller number involved in aquaculture.

Table 3. Percentage of men and women from fisher households in Indonesia participating in various job activities related to fisheries.

Activities	Main Job Male (%)	Main Job Female (%)	Supporting Job Male (%)	Supporting Job Female (%)
Freshwater fish culture	12.2	10.1	54.5	41.9
Marine Capture	79.6	18.1	27.6	9.3
Processing	2.7	42.3	5.7	23.3
Marketing	2.3	26.2	3.3	16.3
Others	3.2	3.3	8.9	9.3

Source: Sitorus 1995

Coastal fishers in Indonesia and Malaysia practising traditional fisheries rank among the poorest in society. In Malaysia, there has been a surplus of artisanal fishers since the early 1970s and the Government has implemented many schemes to siphon away the excess. Fisheries resources in the coastal zone have dwindled over the years leading to poor catches. Rough seas and frequent breakdown of engines are common reasons for less frequent trips to sea, resulting in lower monthly income. Women's contribution is critical in these families as they provide the needed labor in the family business, supplementing the family income, which in many cases, is below the poverty line. Children of fishers very often lack the interest for education and thus their social mobility is low. Wives and children of trawler owners are, however, a more fortunate lot. The owners of these vessels can normally afford to employ laborers (usually the wives and children of the less fortunate inshore fishers) to sort and clean the fish when the trawlers come home with their catch.

In Indonesia, coastal fishers in Java are ranked poorer than rice farmers and freshwater fish farmers. They often have very poor living conditions without the basic amenities. Similar to Malaysia, social mobility is low and children of fishers normally follow their parents' footsteps, and those from very poor families are forced to work before they attain the legal age to enter the workforce. Dwindling catches have, however, forced some of these children to seek jobs outside the fishing sector. It has been observed that women workers involved in padi planting look for jobs in fisheries-related sector when planting padi became mechanized and new technology was introduced. A study carried out by Upton and Susilowati (1992) showed that there is a positive relationship between the need for women to work and the poverty status of the household. Women from poorer households will have a greater need to shoulder extra responsibilities apart from domestic duties compared to those from more well off families.

Women's involvement in fisheries at the professional level is becoming increasingly important in Malaysia. In the early 1970s, women researchers in the Fisheries Research Institute in Malaysia comprised less

than 10% of the total research workforce. In 2001, the percentage of women researchers has risen to 22%. Professional societies related to fisheries like the Malaysian Society of Marine Science has about 50% women members. The Asian Fisheries Society has 98 Malaysian members of which 18 or 18.3% are women. Enrolment of female to male students in institutions of higher learning in Malaysia stands at 65% to 35%. In the near future, the percentage of female to male fisheries researchers will very likely increase due to the higher percentage of female graduates entering the job market. Officers employed as researchers in the Fisheries Research Institute in Malaysia require only a basic degree, and higher degrees are pursued while the officers are already in employment. To date, none of the female researchers have doctorate degrees as opposed to three male officers who obtained their Ph.D degree while in employment. This could be due to the fact that once a woman is married, plans for academic advancement may be difficult and are no longer a priority to most of them. Culturally, it is her role to manage the house and look after the children. The extra role of managing the family and pursuing a degree can be very demanding. Women still face some obstacles getting into top management positions. No females occupy the top positions (Director-General, Deputy Director General, Heads of Division) in the Department of Fisheries, Malaysia, and only one out of the 14 state fisheries directors' posts (middle management position) is occupied by a woman. Some women occupy middle-level management and technical positions in commercial fish and prawn farms in Malaysia, but their numbers are very small (less than 5%) when compared to men.

Similarly in Indonesia, the top professional and managerial positions are dominated by men. Overall, there are more males than females in the total work population employed in various fisheries research institutions, with men holding 81.4% of the top positions and 68.8% of the middle-level posts (see Table 4). Out of a total of 32 professionals with doctorate degrees, only two are women. Of the 175 Indonesian members of the Asian Fisheries Society, 25 or 14.3% are women.

Table 4. Total male and female workforce from various institutions involved with fisheries research (rank 1 is the lowest position).

Sex	I (%)	II (%)	III (%)	IV (%)	Total (%)
Male	94 (100%)	216 (81.8)	207 (68.8)	83 (81.4)	600 (78.8)
Female	0	48 (18.2)	94 (31.2)	19 (18.6)	161 (21.2)
Total	94	264	301	102	761

Middle Eastern Countries: Iran, Kuwait and Saudi Arabia are three oil-rich countries and the proportion of the abject poor living in Kuwait and Saudi Arabia is probably lower than in Indonesia and Malaysia. Iranian society is strongly structured into three main classes: the wealthy upper class, the middle class and the lower or disinherited class. In this latter class, women may have to work outside the home because of poverty, despite the advocacy by the post-revolutionary Government that ideally women should devote their time to the home and family, and not engage in work outside the home.

Seas bordering these countries include the Red Sea, the North Arabian Sea, northern parts of the Indian Ocean, Gulf of Oman, Caspian Sea and the Arabian Gulf. The Gulf of Oman and the North Arabian Sea have been described to be still under-exploited, except for shrimps (Feidi 2001). Coastal fishers in these areas may still enjoy good catches and income. The North Western Indian Ocean is also rich in invertebrate resources such as cephalopods, bivalves, crabs, sea cucumbers and gastropods, which have poor market demand among the locals who also lack the knowledge on processing and marketing these products for exports. Species exploited are limited and include the cephalopods in the Arabian Gulf and a seasonal exploitation of the pearl oyster in the Iranian coast. In many countries, invertebrates are normally harvested by women with their bare hands or with the use of small traditional gears. Women's involvement in the collection and processing of these invertebrates would be very insignificant in Kuwait and Saudi Arabia since these resources are not exploited to any significant extent. Aquaculture, where women's involvement is common, is an emerging industry in Kuwait and Saudi Arabia. Owing to the scarcity of fresh water, there is little scope for freshwater fish culture, but there are plans by the Government of both these countries to encourage research in mariculture and to transfer new technology to the locals.

A growing number of species are being successfully bred and cultured in Kuwait, although commercial aquaculture production is still very small totaling only 264 mt in 1999 (FAO 2001b). Saudi Arabia, on the other hand, has made steady progress in shrimp culture.

The authors are unaware of any documented works describing the involvement of women in fisheries in Iran, Kuwait and Saudi Arabia. Kuwait and Iran, which has a Gender Empowerment Measure (GEM) ranking of 75 and 87 respectively, have a substantial number of its women (36.8% and 32.6% respectively) who are professional and technical workers. It is likely that some of these professionals may work as fisheries scientists and managers. Out of the total of seven Iranians in the Asian Fisheries Society (AFS), two are women. Kuwait has nine members, but only one is a female but of Filipino nationality. All the 25 members from Saudi Arabia are men.

Kuwait and Saudi Arabia are relatively rich nations and rely heavily on foreign labor. It is unlikely that there is a significant population of economically depressed fishers where their wives and daughters have to work alongside them to supplement the much-needed family income like in Indonesia and Malaysia. Women in Saudi Arabia moreover have very little personal freedom and are not allowed to work outside their homes. Iran has quite a substantial production from freshwater aquaculture and women from the lower class participate in activities related to freshwater aquaculture and fish trading if forced by necessity. Better educated women work as teachers and researchers in fisheries-related fields. Women's movements in Iran are becoming increasingly more vocal in advocating for more personal freedom among women and the right to work outside their homes, as in the pre-revolutionary days.

South Asia

In countries like India and Bangladesh, fish is often a secondary source of food. Under such circumstances, fishing communities are a marginalized group occupying a lower priority in state policies relating to food. The priority given to fisheries in state policy is further attenuated when it comes to women. Their role in the fisheries sector is invisible, with their labor going unrecorded in the computation of work participation rates.

The fisheries sector has seen significant change over the last couple of decades in the South Asian region. State policy has been directed at increasing exploitation of fish resources through the use of large mechanised craft and gear combinations, leading to the centralisation of fisheries and the absence of state policing of mechanised fishing activities in inshore waters. This has resulted in the marginalisation of traditional fishing communities who either sell their labor in fishing vessels owned by others or move to non-fishing related occupations. The mechanisation of fisheries has in no small measure been encouraged by Government subsidies that distort the capital and operating costs of adopting such methods. Sri Lanka adopted this strategy in the early 90s while India and Bangladesh in the late 80s and early 90s respectively. Each of these countries has been facing reduced fish catch and longer voyages to fishing grounds as a consequence of existing policies. As men from the fishing communities in the region moved from being producers to laborers, women also began to be displaced from their traditional occupations as post-harvest workers and processors.

Women in Fish Production: Women's role in fishing communities in the countries of India, Sri Lanka and Bangladesh is mostly related to fish processing and fresh fish marketing at a small scale. Anthropological studies of fishing communities along the Kanyakumari coast of Southern India relate how fishing communities have evolved systems of keeping women away from the primary occupation of fishing by various social conditioning systems. This has deprived them of knowledge with respect to fishing technology. In parts of India and Bangladesh, where women are involved in fishing, it is only through activities such as shrimp seed and fish fry collection. In Sri Lanka and India, women's participation in fishing as an activity only forms part of community fisheries in coastal villages where they use shore/beach seines. Over the years, the use of these shore/beach seines has also been on the decline. A study done by UBINIG Policy Research for Development Alternatives in Bangladesh found that even in such a condition, it is only women from the poorest families who get involved as fry collectors.

Women in Bangladesh play a significant role in the small-scale fisheries sector. About 30% of women in rural and coastal areas are directly or indirectly engaged in small-scale fisheries. Of the total employed in the fisheries sector, about 10-12% are women. The major areas of women's involvement are aquaculture, shrimp culture, fish processing, net, gear and craft making. Though women in Bangladesh, similar to their counterparts in the region, are not involved in active fishing from the sea, they participate in certain forms of fishery as a family along with the men. This is usually seen in the estuarine areas where set bag nets are employed for fishing. However, a study of the set bag net fishing communities also revealed that though women work as a family in the set bag net fishery, their work remains largely unrecorded. In any case, set bag net fishery as an occupation is very low paying and most fishers involved supplement it with other occupations.

In the case of Nepal, the domestic production of fish is largely from capture fisheries (52.64%) and aquaculture (47.35%). Government policies encourage women's involvement in fisheries. Capture fishery in rivers, lakes and reservoirs, paddy fields and marginal lands and swamps are widely scattered throughout the country and is not organized. Most of the fishers involved in capture fishery are widely dispersed along rivers and other water bodies. They use mostly their traditional boats and fishing gears and thus generate only marginal economic benefits.

Traditionally, rural women are involved either in fishing or fishing-related activities. To enhance fish production, a number of inland water bodies, e.g. lakes, reservoirs and swamps have been stocked with selected species of indigenous as well as exotic carps in collaboration with local fisher communities. In these inland water bodies, women are actively involved in mending nets, laying out the fishing gears, harvesting and marketing of the catch. Women farmers participate in various fields of inland fisheries as shown in Table 5.

Table 5. Participation of Women Farmers in Inland Fisheries.

	Descriptions	Participating Farmers (No.)	
		Total	Women
A.	Fisheries Programs		
1.	Rearing in Ponds	35,000	14,000
2.	Rearing in Paddy field	400	160
3.	Cage Culture	400	160
4.	In enclosure	40	16
5.	Rearing in Other Water Bodies	400	160
6.	Fish Farmers using Improved Varieties	500	200
	Sub - Total	36,740	14,696
B.	Fisheries in Natural Water Bodies		
1.	Rivers and Lakes	58,600	14,650
2.	Other Water Bodies	10,000	2,500
	Sub - Total	68,600	17,150
C.	Others		
1.	Seasonal Fishing	8,000	2,000
2.	Storage and Marketing	6,000	1,500
	Sub - Total	14,000	3,500
	Grand Total	119,340	35,346 (29.62%)

Source: Women Farmer Development Division, Singh Durbar, Kathmandu, Nepal, 1995.

Women of definite communities, e.g. Tharu, Majhi, Mukhiya and others, follow the traditional practice of catching fish with traditional gears in ditches, swamps, canals and paddy fields in small or large groups at their leisure time. The catch is mostly used for domestic consumption and any surplus is sold in local or adjacent markets.

In aquaculture, rural women are deeply involved in manuring fish ponds, feeding fish, harvesting and marketing farm products. In the case of Pakistan the involvement of women in fisheries is negligible.

Women in the fish marketing sector: While fish processing is a female-dominated activity in the South Asian region, marketing of the processed product as well as selling of fresh fish is often seen as undesirable activities, usually a last resort for a poor family.

Retail fish marketing is often best achieved through individual small-scale enterprise. In India, owing to the lack of an established marketing infrastructure and the demand for cheap fish, women have created a niche for processing and marketing fish at very low costs. A study undertaken by the Department for International Development (DFID) Post-Harvest Fisheries Project along the east coast of India, documents the heterogeneity among women who are involved in fresh and processed fish marketing (Post-Harvest Fisheries Project, Department (no year given)). The three categories identified are:

- **Head loaders:** These are women who deal in small quantities of low value species, which are sold in inland villages. Their investment levels are the lowest and hence their risk-bearing abilities. Most of these women are young and have taken up this profession because of their social and economic status (they might be widows or destitutes). They often have young children and in a community that has imbibed taboos related to the mobility of women from agrarian communities, they occupy a very low level in the social hierarchy. They are a group of people who have been virtually wiped out of the centralized fishing systems of today.
- **Petty fish traders:** These are women who deal with medium value species and have considerably higher investment capacities and are therefore considered credit worthy by non-institutional credit sources. They often move out of their villages, have access to suburban markets and use the public transport systems. They are usually middle-aged and have grown-up girl children who are able to take care of the household in their absence. This group is struggling and surviving only in areas where they have links to men in the centralized production systems who in turn provide them with some space within it.
- **Dry fish traders:** These are older women who are primarily involved in fish salting and drying in a large scale. Fish for processing is procured during "glut" landings of a particular species and they usually employ family labor (including their own) for processing activities. These women access weekly markets and are usually wholesalers. They enjoy a relatively higher status in the community and their families when compared to their younger counterparts. However, with the increasing use of ice and consequent movement of fish in its fresh form, this group is affected.

While women in the post-harvest fisheries sector in India are more visible in fresh fish trade, their participation in this sector in Sri Lanka and Bangladesh is limited. In Bangladesh, women who are involved in the fresh fish trade are usually old or divorced and almost all of them belong to the Hindu fishing communities. A study undertaken by the Bay of Bengal Programme (BOBP) in 1981 in the Jaldia-Shamipur area of Chittagong showed that of the 114 households dependent on small-scale fishery, 67.5% were very poor with no assets. Of the 62 persons who were engaged in fish marketing in the village, 43 (more than 70%) were women of which 21 (that is 50%) were widows. Another study undertaken in Bangladesh by BOBP indicated that participation in selling of fish is the last option for women as a means of earning an income. Women engage in tasks of fish selling mainly because "female-headed households leave poor women with little options so that these women are forced to engage in whatever work that may be available." (Feldman et al. 1982) The above observations suggest that women's participation in fishery is limited. The first of the above-mentioned studies also documents the problems that are encountered by women engaged in fish marketing. With the centralization of fishing operations, resulting in fewer fish being landed at the village, women walk long distances to the fishing harbor to buy fish and sell it as head loaders from door to door.

On the southern coast of Sri Lanka, women control the money (Sriwardena 2001). Among migrant fishing families, women play an important part in fish sorting, cutting and processing and in

dragging the boats ashore. In the northern and north-western coastal regions and on the east coast, women are engaged in similar activities. In some fishing villages in Puttalam (north-west coast), women are engaged in fishing with beach-seines, while in the same region a few women own beach-seines and boats. Others are involved in wholesale and retail fish marketing. In the fishing communities of Negombo on the west coast, and Chilaw and Kalpitiya on the north-west coast, an estimated 25% of the women are engaged in activities related to fishing, while the percentage for Mannar, Trincomalee and Batticaloa on the east coast is estimated at 75%. It was observed that no woman is engaged in demersal fisheries in Negombo on the west coast. However, women are engaged in fishery-related activities formally or informally. In most instances, marketing and processing are done by women as unpaid family labor. Women are involved in supervising and marketing their catches, especially in areas on the west coast where there is predominant bottom trammel net fishing. On average, about 13 % of the crew members' wives are engaged in income-generating activities but a relatively higher percentage (18%) of boats owners' wives are employed as hired labor in the factories in nearby areas.

The north-western regions of the country such as Mannar, Trincomalee and Batticaloa, which are closer to India culturally see greater involvement of women in fresh fish marketing. These are also the regions where artisanal fisheries still survive. However, in the southern regions of Negombo and Chilaw, women are less involved. These are areas of centralized fishing. The few women (the fish 'mamis' of Sri Lanka as they are known) who are involved do so only on account of the fact that their men are involved in this sector. However, fresh fish marketing of a small and medium scale in Sri Lanka today is only done by cycle traders who are primarily men.

Substantial numbers of vendors are involved in retailing dried fish at the weekly markets known as 'Pola' in Sinhala. Two scales of marketing were observed which varied in volume and species composition, gender, spatial and temporal aspects. This was observed in a study on vendors in Galgamuwa and Anamadawa of the North-western. The women vendors come from nearby coastal areas to inland areas to sell the smallest dried 'trash' component of their husband's catch, which they process themselves. An alternate strategy adopted by many women vendors involved the purchasing of some or all of their stocks from wholesale traders. For most of the women vendors, this is a part-time occupation, which is highly seasonal.

The role of credit in small-scale fish marketing: While cultural constraints remain one of the reasons for the low participation of women in fish marketing, another major reason is the lack of access to institutional sources of credit. The artisanal fisheries sector has long been exploited by non-institutional sources of credit, which accounts for more than 60% of the credit with the cost of credit varying from 120-800%. The common sources of non-institutional credit in all three countries include: large traders, boat owners, moneylenders and wholesalers. Therefore in a situation where the entire artisanal fisheries sector suffers from poor access to institutional credit sources, women are further marginalized. Women in India deal with it by short-term loans from middlemen and fish traders, which they then invest in buying fish and ice. Other forms of informal credit include pooling together of individual savings and auctioning the interest rate to the person who is willing to pay. This particular method is usually practised in parts of Tamilnadu, Andhra Pradesh and South Orissa. Despite these coping mechanisms, debts of fishing families to moneylenders remain a common phenomenon.

A study undertaken in Bangladesh in the 1980s documents the nature of fish marketing loans. "Fish sellers usually require very short-term, small loans to initiate participation in fish processing. Loans from money lenders are therefore available at daily rates." (Feldman et al. 1982) Women engaged in fish marketing in the region often resort to group loans so as to access a larger amount. The above-mentioned study shows that although the purchase of this group may not significantly increase the daily return to each fish seller, it does however, enable them to purchase better quality fish since they are able to better compete with individual large sellers, and thus reduce their losses or sell their catch more quickly.

The NGO strategies in Bangladesh towards development of women in fisheries have met with more success than those of the Government. One reason is the involvement of women begins with activities

such as savings, credit, etc. which are organized in groups. Women are provided appropriate skills development training before they embark on different schemes such as poultry-rearing, duck-rearing, fisheries etc. Work is integrated in such a way that, besides undertaking different schemes, women are also able to bring in the much-needed nutrition in the family diet. It would be pertinent to note that 95% of the beneficiaries of Grameen initiatives are women. With regard to the fishery program of Caritas Bangladesh, almost 46% are women beneficiaries. This was possible because Caritas Bangladesh very meticulously created a condition that is conducive for women to actively take part. Most extension workers are women, which makes it easier for the beneficiaries to interact. The credit system has been made women-friendly thus ensuring guaranteed access for women to enjoy the benefits of the schemes.

A study done in Sri Lanka by BOBP showed that in the areas surveyed, only 7% of small-scale fishers took institutional loans. It goes on further to document that the large percentage of fisher folk taking credit from non-institutional sources usually did not borrow more than Rs.5000 (approximately US\$ 100), a scale of borrowing which institutional sources often find uneconomical to service.

The above observations highlight the fact that artisanal fisheries in general has not been serviced by the institutionalized credit sources. Most credit institutions have not been able to recognize them well enough to cater to their specific needs. Under such circumstances, the credit needs of women for fish marketing often get ignored. This keeps them dependent on exploitative non-institutional credit sources, which eventually prevent them from making a decent living.

However, with the advent of micro credit movements in the region, small-scale credit for women has become more readily available. In India, NGO interventions have led to the formation of 'self-help groups' with institutional credit linkages. But these interventions are linked to imposed savings and work well only in cases where women are able to generate surplus income. In the case of women petty fish traders, this is a barrier since most of them often reinvest the little profit they make into the business leaving very little surplus that can go into savings. Besides, these groups are not always made up of women who are involved in fish marketing. Therefore their specific needs are often not met when the group wants to start a venture together.

An alternative strategy to tackle the problem of small-scale credit was the approach used by BOBP in Juldia-Shamipur, Bangladesh, where small interest free amounts were advanced to group members on condition that members would repay on days when they sold fish. Besides this, group loans were also advanced to members for fish processing. This resulted in the entire amount being repaid in 10-16 months.

Although the BOBP initiative did away with savings, it must be noted that the concept of interest-free loans is essentially unsustainable. It must also be noted that micro credit groups through their internal lending make available credit at lower interest rates. What is therefore essential is a combination of both methodologies. While savings build a stake for the borrower in the program, it must be taken into account that the amount and the time given to build the requisite savings should be flexible enough to address the concerns of women involved in fish marketing.

In Nepal, women are encouraged to undertake fish culture through leasing water bodies collectively. Training inputs and seed money are provided by the District Agriculture Development Office under the Special Program on Food Production in Support of Food Security in Nepal (SPIN-SOFO/NEP4501) Project. The income generated from their fisheries activities is recycled into the community in the form of new projects and loans, which are given to group members to start a new income-generating activity. These women's groups have demonstrated tremendous potential in making meaningful, long-lasting contributions to their communities, their families and most importantly, themselves. Presently, these women's groups are in a number of districts and there have been many success stories. One significant success story is from the District Nawalparashi, where more than 40 women's groups were formed. With the experiences gained, these women's groups are not only intensifying fish culture activities but also diversifying their activities beyond fish culture. The participation of women is rapidly increasing. However,

low literacy rate, social discrimination of females and other social and religious limitations in rural areas remain major constraints to women's participation. Therefore, at its early stage of development, the groups need close administrative as well as technical support. Today, 14,596 women farmers or about 40% of the total farmers are involved in aquaculture.

It is important to recognize that credit plays a crucial role in fish marketing activities. To enable the participation of women in this sector, credit should be made easily available at affordable interest rates to better address the needs of women in fish marketing.

The role of transportation: One of the problems that has emerged with centralization of fishing has been the increasing distances to landing sites, as village landings have decreased. Women involved in fish marketing today have to travel long distances to buy fish and from there move further out again to sell it. Considering that most fishing villages are often poorly linked by roads, access to public transport becomes a question of primary importance.

Studies done by the DFID Post-Harvest Fisheries Project in the state of Tamilnadu along the East coast of India, document the problems faced by women in accessing public transport. One of the major constraints is the fact that culturally, women with fish are considered unclean and not allowed to travel in the buses. Secondly, there are no adequate bus services that link women to landing centers and markets at the right time. Consequently, women lose out on good quality fish, prices and consumers. NGOs working with fisherwomen have attempted to solve the problem by providing alternative low-cost transportation systems, which are managed and operated by women's groups from the fishing villages. There have also been instances of NGOs helping grassroots organizations of fisherwomen to influence state-run public transport systems to cater to their needs. These are some models that could be replicated. However, that which is essential is strong collaborations between NGOs and the Government with large outreach through state-sponsored interventions complemented by the flexibility of micro-management by women's groups.

Women and the organized processing sector: The organized processing sector such as the shrimp processing units, usually employ women as laborers. In Bangladesh, these units are located in Khulna and Chittagong. In India, these are found along the coasts of Veraval, Mangalore, Goa, Mumbai, Calcutta and Bhubaneshwar. Studies done in India show that it is usually migrant women between the age group of 18-25 who are preferred as laborers in these units, which are mostly export-oriented and exploitative. They are usually housed under very unhealthy conditions and made to work 12-15 hours for very low wages, between Rs.500-600 (US\$ 10-12) per month. Besides, this employment is seasonal and carries with it a large number of health hazards. While the large curing sheds along the coasts may not be as exploitative as the shrimp freezing and canning units, they pay very low wages and the working conditions are bad.

Philippines

The Philippines is a significant fish producer, ranking twelfth among the largest fish producers in the world and the fourth biggest producer of seaweeds and other aquatic plants in 1995 (FAO 1995). The fishing industry contributes 2.3% and 3.7% of total GDP (BFAR 2000), at current and constant prices respectively. Fish is the major source of animal protein in the diet, constituting 12% of total annual food intake.

Estimates from surveys of fishing households indicate that the women have completed on the average 4 to 6 years of education or lower, which is not very different from the men, but lower than the average among women in urban areas (6.9 years). Employment in the fisheries sector in 2000 was reported at 806,929, approximately 5% of the country's labor force. The 1995 census of population reports that 91.7% of those employed in fishing are male and 8.2% are female, proportions that differ from the aggregate rural work force of 70% male and 30% female. The participation rates of women in fisheries appear underestimated when one considers the pervasive presence of women in all types of fisheries.

Unfortunately, census statistics are not gender-disaggregated within the various subsectors of fishing, except for the Annual Survey of Establishments that is limited to enterprises that register with the Securities and Exchange Commission. In this survey, only the industry sub-sector is indicated, e.g. commercial fishing, coastal fishing, fishpond operation, fry gathering, etc. There is no category for post-harvest activities. The proportion of unpaid labor among female workers is 6.8% compared to 2.9% for males.

In most cases, women in fishing communities do not go on fishing expeditions because of the need for them to remain within the premises of the household where their primary responsibilities have been socially assigned. Thus, their role in fish capture is limited to mainly near-shore activities: shell and fry gathering/gleaning, spearfishing in rivers, reef fishing using scoop nets, traps and fish baskets (Villacorta 1998, Lachapelle 1997). Although less common, Israel (1993) has reported on fishing villages in Davao where Muslim women actually go on fishing expeditions with their fisher husbands. In one village in Bantayan Island, Cebu (Sotto et al. 2001), women actively participate in an offshore fishing operation called *sapyaw* or haul seine. The women participate in the setting, retrieving and mending of the nets. In the organizational structure, the women occupy the two lowest positions in the boat hierarchy and they handle the lightest tasks. Consequently, their share of the catch and their profits are also less compared to the male crew. The chance of a female occupying the highest position of maestro or chief crew is slim because to qualify for this position, one needs to have the necessary skills such as engine repair, which women generally have not been trained to do. Other studies have documented women installing and maintaining stationary gear (Rodriguez 1996) and joining their husbands in hauling nets and lines (Villacorta 1998).

The participation of women before and after fish capture activities has been given little importance, leading to the near invisibility of women as contributors to this sector (Siason 2001). These activities of net-mending, fish sorting on shore, vending, trading and market retailing, preservation, and processing, nevertheless, have significant economic and social value, if given proper valuation. In terms of post-harvest activities, Legaspi (1995) has estimated that 40% of workers are women.

In terms of credit, men are the recognized borrowers by banking and other formal credit institutions, while women transact loans through informal community links such as relatives and neighbors (Siason 2001). This capability to tap informal credit sources comes in handy for meeting household financial emergencies. There is advocacy for the opening up of formal credit to women but there has been no significant response on the part of Government credit and fisheries agencies. In 1990, a FAO/United Nations Population Fund (UNFPA) developmental project used an integrated approach to improve the living conditions in two provinces of small-scale fisher folk, particularly targeting women. The credit component was administered by a Government bank in one province, and a private bank in the other. Villareal (2001) reports that by the end of the project, 13.3 million pesos (US\$ 263,366) were disbursed. The repayment rate was around 83%. The repayment rates were affected by natural calamities (such as the red tide disease that hit the mussel culture project and a major volcanic eruption which affected operations of some women's micro-enterprises), some willful default and misuse of loan proceeds. Around 80% of loans financed fishery-based projects and the repayment schedules ranged from 4-8 months.

Project follow-up showed that with the end of the project in one province the micro-credit facility was not renewed with the private bank. The manager seemed uninterested; the transaction cost was too high for them and the guarantee fund was considered small vis-à-vis their other portfolios. However, the other province's project had been renewed twice by the Government bank. It provided a steady source of capital for the women. Their success has contributed to the growth and eventual federation of some groups into registered cooperatives. Villareal concludes that beyond economic progress, the perceived social gains are considerable: changes in attitudes, skills and knowledge and social relations.

The involvement of professional women in fisheries may be gleaned from data of three institutions. First is the College of Fisheries and Ocean Sciences of the University of the Philippines in the Visayas, a

leading institution for fisheries education in the country. In this college, 35% of its full complement of 174 personnel are female. The faculty is similarly predominantly male (notably so in the Marine Fisheries group where the faculty is 100% male) except at the Institute of Fish Processing Technology where there is only one male among its eight faculty. The researcher and extension staff are mainly female in all institutes except in the Institute of Marine Fisheries. Males also dominate the administrative staff.

The second case is the research division of the Southeast Asian Fisheries Development Center (SEAFDEC) in Iloilo, an aquaculture research center where 48% of total personnel are women. While the positions of scientist are occupied by about 70% females, men are found to dominate the positions of research aide and research technician.

Partial data from the Bureau of Fisheries and Aquatic Resources (BFAR), the line bureau under the Department of Agriculture mandated to promote, manage, coordinate and regulate the national fisheries sector, show that at the central office, 48% of personnel are female. The executive level positions are almost equally occupied by both sexes. At their regional offices, 44% are female. Among the local Government units, 46% of employees assigned to the fisheries are female.

The following table shows the women's participation as members of the Asian Fisheries Society, reflecting basically the involvement of professionals in the fisheries and related sector. Notably, the Philippines has the highest total number of members and the highest percentage of women members at 40.5% compared to other countries in Asia.

Table 6. Membership in the Asian Fisheries Society by sex.

Country	Male	%	Female	%	Total (100%)
Bangladesh	85	93.5	6	6.5	91
Brunei Darussalam	9	64.3	5	35.7	14
Cambodia	31	81.6	7	18.4	38
China	175	86.3	28	13.7	203
Hong Kong	11	73.4	4	26.6	15
Indonesia	158	94.7	9	5.3	167
Japan	184	95.4	9	4.6	193
Korea	36	100.0	0	0	36
Malaysia	80	81.7	18	18.3	98
Pakistan	15	88.3	2	11.7	17
Philippines	232	59.5	158	40.5	390
Singapore	55	83.4	11	16.6	66
Sri Lanka	49	83.1	10	16.9	59
Taiwan	109	93.2	8	6.8	117
Thailand	139	84.3	26	15.7	165
Vietnam	19	86.4	3	13.6	22

Small-scale aquaculture is almost non-existent in the Philippines (Felsing and Baticados 2001) because most fishers are landless individuals with no access to coastal resources for pond or cage culture. Rather, large-scale fish culture of milkfish and shrimp dominates aquaculture in the Philippines. A review of the aquaculture industry leadership for the last 100 years revealed that men dominated both the public and private sectors (Rabanal 1998). A comprehensive summary of the training and extension programs over the last nine years indicated that more men than women participated in these courses (Felsing and Baticados 2001).

About 18.5% of oyster farmers are women but only 2.4% of mussel growers are women (Siar et al. 1995). This disparity was attributed to the practice of growing oysters in shallow portions of the river, while

mussels are farmed in deep bays. (Yap 1999). Women's activities mostly involve cleaning and packing harvested mussels or shucking and marketing harvested oysters while men's work was in staking, raft or rack construction. Boring and stringing of empty oyster shells for use as clutch in oyster farms involved women and children.

In seaweed farming, women's participation is in planting, processing and marketing of seaweed in Tawitawi (Abdulhasan-Kalil 2000) among *punduhan* or seaweed communities in the Islamic area. Most *punduhan* women have savings accounts and lend money to their husbands, earning for themselves considerable independence and decision-making power in the economic sphere. It is not common for women to actually oversee or serve as caretakers on seaweed farms. (Yap 1999).

In production activities using fish cages or fish pens, women are heavily involved in fry collection, feed preparation, feeding of stocks, and disposal of catch. Despite the presence of women in aquaculture production, it is still perceived as a masculine activity with women being perceived as confined largely to processing and marketing activities.

In the past decade, there has been a marked shift in development strategies in favor of management and sustainability of coastal resources through the involvement of different stakeholders. An examination of the participation of women in recently released documents on coastal resources management reveals that the gender issue has not been reported as a distinct components in the reports, except in an article by Rodriguez (1996) which focuses on women's issues and gender roles in a project site in Panay. In this project, men, women and children were trained in tilapia cage culture, and women were assigned to financial-recording and record keeping. Rodriguez notes the following as significant outcomes of the experience: reinforcement of women's entrepreneurship, training in leadership, appreciation and recognition by men of women as partners at work and at home. Men increasingly assumed some share of household chores.

The Coastal Environment Project in Central Visayas likewise integrated a gender and development component into its coastal management strategy (Depositario 2001). As a result of gender-related interventions, women have gradually assumed the male role in subsistence fishing, farming, entrepreneurial activities, and serving as *barangay tanod* and household representatives in their People's Organization (PO), whenever their husbands and sons were away from the island for several months in a year. Project management noted that women's participation in the training programs have increased to 53% of the total female PO members. Both men and women work side by side in many of the livelihood projects. Women were empowered and made aware of their leadership potential, which they could utilise in managing their POs and communities. Women's increased participation and leadership in their POs are noted as follows: 32.5% of the board of directors; 60.4% committee leaders; 35.5% officers; and 53.6% members. Women also serve as volunteer fish wardens, going out with their male counterparts at night to apprehend violators. As also noted by Rodriguez in the Panay project, among the outcomes of integrating gender concerns into the coastal resource management project are: increase in women's self-assertion, self-worth, aspirations and self-determination, entrepreneurship and career-orientation; community appreciation of gender equality in the community leading to a re-division of labor among the islanders, with more women involved in fishing and more men helping with housework.

The participation of women in fishing activities takes place alongside their non-fishing activities and household responsibilities. Coastal communities engage in a combination of fishing and farming as a way of coping with the seasonal nature of these occupations. Women do housework but are also active in sewing, weaving, running variety stores, selling beauty products and food peddling.

Japan

Fisheries production in Japan has declined from 11.91 million tonnes in 1989 to 6.63 million tonnes in 1999. On the other hand, imports have increased. The number of fishers has also declined because while the large generation of fishers has aged, the young men do not become fishers. The number of

women fishers has likewise declined. One reason is that young women want to avoid the traditional role of wives of fishers who participate in fishery not by personal choice but because their spouses were already working in some aspect of fishery. Thus, only a few young women choose to marry fishers; young women

in fishery households tend to look elsewhere given the increase of employment opportunities in Japan.

Fishers, by fisheries census definition, are all members of a fisheries household, are over 15 years old and who worked at sea as a private fisher or employed by any fisheries management unit for over 30 days during the year prior to the census. Such fishers numbered 277,042 in 1998. Of this, 16.8% are women.

Among women fishers, the rate of self-employment is 92.5%, compared to 72.6% for men. Generally, women who engage in fisheries mainly work on land as self-employed individuals. Traditionally, women have worked on land because women have the full responsibility of housework and childcare whereas work at sea requires high skill and irregular working time. An exception is the 'Ama' or divers who have deep diving techniques, but the number of Ama is declining.

Work at sea: Although the number of women who work with their husbands have increased due to the decline in the number of young fishers and technological improvement of fishing vessel and gear, the role of women continues to be limited to assisting in near-shore activities. The absence of toilets for women on vessels is one example of the lack of proper working conditions should women choose to work at sea. The taboo against women boarding vessels has undeniably contributed to women's lower status in fishing communities. On the other hand, men have dominant positions in the fishing household because they have the main work in fisheries that determines family work.

Work on land: Women fishers do land-based work such as keeping accounts, processing in seaweed culture, taking of fish from gill nets and providing nets, making baskets for other long-line fishery, and sorting of fish. Many of these involve monotonous manual labor. Technological improvement in women's work on land has been introduced later than those of men's work at sea.

Women in the Fishing Households: The role of women in fishing households can be gleaned from the following practices. In decision-making, it is the men who decide on buying of fishing vessels and gears and on fishing plans. Estate titles and fishing vessel ownership are in the names of men. Women can open saving accounts. Men who are members of the Fisheries Cooperative Association (FCA) can easily obtain modernising funds as loans through the FCA. Most women who are rewarded for their fishery work benefit by reducing tax. Generally women's working time is longer than men's because housework time adds to fishery working time for women. Women do most of the housework, although men sometimes cook the fish.

On the whole, women's status in fishery households is low. Thus, young women prefer to work in other industries, rather than remain in the fishery community where gender relations are difficult to change. Elderly women who have been engaged in fisheries have the burden of caring for their grandchildren. As a result, the status of elderly women has become relatively low in fishery households.

Women in the Fishing Community: Gender relations in a fishery community are affected by the FCA, where membership is dominated by elderly men who represent their respective fishery households, as membership is tied up with ownership of fishing rights. FCAs do not allow multiple memberships from one fishery household. Women and young men are usually not designated as representatives of their households, which explains why few women are involved in decision-making at the FCA. The proportion of women FCA members is 5.9%; 0.2% of the members are female FCA executives. FCA women associations engage in a variety of activities which aim to improve livelihood of fishery households: saving money, promoting environmental issues and fish consumption, morning markets, fish restaurants, and lecture classes on cutting fish. The members are, however, usually volunteers who cannot participate in the management of the FCA and with their increasing age, their physical ability to carry out activities has also declined.

Legislation Promoting Women and Gender Issues

Mekong Region

The constitutions of the countries in the Mekong Region provide for all citizens to enjoy equal status and must also abide by the laws governing the respective country. However, the fisheries laws in the countries do not specifically mention females working in the fisheries sector.

Cambodia and the Lao PDR recognize Women's International Day on March 8 as a Public Holiday. Both men and women enjoy a holiday in these countries. However, for Vietnam, only women have a half-day off. Vietnamese men are expected to work the full day on March 8. This day is not a Public Holiday in Thailand.

Islamic Countries

Indonesia: The Muslims here practise a more liberal form of Islam and women have considerable personal freedom. In fact, Article 27 of the Indonesian Constitution states that all citizens enjoy the same status and must abide by the law without exception.

Malaysia: It is an Islamic country but the different ethnic groups are given religious freedom and can profess other religions such as Buddhism, Taoism, Hinduism, Christianity and Sikhism. Similar to Indonesia, the Muslims in Malaysia generally practise a more moderate and liberal form of Islam, and women here have considerably more personal freedom than those from the conservative Middle Eastern countries.

After the last General Election in 1999, the Ministry for Women and Family Development was created in recognition of the role of women in economic development, and to ensure that issues pertaining to women, children and families are given more focused attention. Article 8(2) of the Federal Constitution has also been amended to include the mention of gender equality and to ensure that the laws and policies of Malaysia do not discriminate against women.

Iran: Prior to the Revolution, which overthrew the Shah of Iran in 1979, three work patterns existed among women. Women belonging to the upper class could work as professionals or undertake voluntary projects. Women in the middle class were allowed to work outside the home if in dire straits. Lower class women frequently worked outside the home because their incomes were needed to support the households. After the Revolution, the group of women who valued the traditional role of women in segregated societies was handed political power. Laws were enacted to restrict the role of women in public life, and required women to abide by the *hejab* or dress code when they appear in public. Women are not allowed to choose their own academic or vocational field of study and are barred from certain employment. The new laws especially affected women from the secularized middle and upper classes, but for the majority of women who had worn the *chador* or veil even before the Revolution, the laws probably had negligible effects.

Kuwait: Voting has been restricted to Kuwaiti males. In May 1999, the Amir issued a decree allowing women the right to vote and to hold public office but Parliament has yet to ratify it. This decree was, however, controversial. Some feminists feared that expanding the number of persons with the right to vote may actually hinder the advancement of women's cause since substantial numbers of conservative women may vote to curtail the freedom that women already enjoyed in Kuwait.

Saudi Arabia: Islam is the official religion in Saudi Arabia and its tenets are enshrined as law, and the practice of other religions is not allowed. The sexes are strictly segregated in public. Women are not given equal educational and job opportunities, although in recent years the situation has improved somewhat.

South Asia Region

Though Bangladesh has a fisheries sub-sector in its National Plans since 1973, the focus on women has been negligible. It was only since the sixth national plan that the scope was broadened to include fishing communities, which paved the way for the inclusion of women. However, the 1998 National Fisheries Policy does not mention the strategy to improve women's participation in fisheries despite having it as an objective. A notable exception in the South Asian region is the BOBP, an international program addressing gender issues in fisheries in India, Sri Lanka and Bangladesh and integrating women into the fisheries development mainstream.

In Nepal, Government policies encourage women's involvement in fisheries.

Japan

Initiatives to raise the position of women in fishery and agriculture started in the 1990s. Legislation - basic law for gender-equal society in 1999, basic law on food agriculture and rural area in 2000, basic law on fishery in 2001 - has reinforced these initiatives. The following are major programs in this direction:

1. Increase the numbers of women FCA members
2. Improve the database on women, particularly in statistics on work at sea.
3. Conclude a written agreement on management in family relations wherein sharing of both fishery work and housework among family members, the rewards, holidays, etc., are decided on.
4. Conduct a management seminar for fishery households.
5. Support for entrepreneurship: seminar on laws, risk management, financial management, personnel, etc.; subsidy for initial investment and/or facilities of women's enterprise.

Philippines

The following are critical legislation that endeavor to improve the position of women in society:

Philippine Fisheries Code (1998) provides for the inclusion of women and youth in developing the municipal fisherfolk; establishing productivity enhancing and market development programs in fishing communities to enable women to engage in economic activities.

Republic Act 7192 (1991) or Women in Development and Nation Building Act recognizes and promotes the integration of women as full and equal partners of men in development, in nation-building and other productive endeavors.

Republic Act 7160 or Local Government Code (1991) - provides for the inclusion of women as sectoral representatives in the local Government unit.

New Family Code (1987), eliminated many of the provisions of the old Civil Code which discriminated against women.

Presidential Decree 633 (1975) - Creation of a National Commission on the Role of Filipino Women.

Discussion

Mekong Region

According to the five-year development plans being implemented in the Mekong Region, three priorities are directly related to fisheries: food security, conservation of natural resources and habitats, and

development of fish farming by better integration of fish breeding and raising. The latter includes aquaculture extension, better wetlands management, identifying aquatic resources and improving post-harvest technologies.

Cambodia: With an annual birth rate of 3%, it will not be long before fisheries resources become scarce. The health and welfare of the people will ultimately suffer. In addition, deforestation due to increased logging pressures has resulted in devastating floods over the past few years. Moreover, if strategically placed dams block major fish migration routes, the now abundant but declining and fragile fish stocks will dramatically collapse.

Concerning the limited opportunities for education, research and development for women in fisheries in Cambodia, the number of highly educated females is far below males.

The compilation of information on women in fisheries in Cambodia is one of the most important activities to be undertaken. There is an urgent need to do this work in a comprehensive and systematic manner so that policies can be formulated and projects to alleviate problems can be realized. Information is required to identify these problems and design appropriate programs to meet women's needs. At the moment, well-meaning efforts directed from the capital are done on an *ad hoc* basis with minimal long-term benefits for women in the provinces.

Lao PDR: Since women are involved in all fisheries activities either directly or indirectly, development programs should be designed to meet and address the needs of women in order to improve the aquatic resources development practices.

The Lao Women in Fisheries (LWIF) Network needs to be strengthened in order to cover the entire country and to improve information distribution at all levels or groups of people, especially women, and to carry out its activities effectively.

In research, it is critical to target studies to understand the situation of women in fisheries and aquaculture in an in depth manner. This is to ensure that appropriate policies and technical interventions are put in place to help Lao women cope with future changes.

Thailand: Despite the growth of the fisheries sector and its significant contribution to the national economy in Thailand, there is little knowledge and information about the fisher population, of which about half are women.

According to the 1996 Annual Report of the Thai Department of Fisheries, more than 600 research projects on fisheries had been undertaken. Most of the research projects were oriented towards technology and the environment. Only about 1.3% of the projects approved dealt with socio-economic aspects of the fisher population. Studies related to gender aspects were non-existent. Moreover, until recently, the fisheries statistics and data published were not disaggregated by sex.

The Thai Women in Fisheries (TWIF) Network was restructured in October 2001 and the Department of Fisheries is now the focal point.

Vietnam: The Vietnamese Women in Fisheries (VWIF) Network, established in March 1999, is implementing the following research and development activities:

- a) Gathering baseline data on female labor in fisheries, distribution of women within different economic strata, level of education, special skills, social position of women in fisheries, etc.
- b) Conducting a study on working conditions, income, quality of life indicators, welfare benefits, health care, education, ability of women to find a job in the fisheries sector (related to specific factors such as age, education attained and special skills), etc.
- c) Developing specific projects to improve post-harvest technology to add value to fishery products and improve the natural resources.

Currently, among the major R&D efforts in Vietnam is the study on gender and the seafood processing industry. Members of the National Network participate in this study and the project is supported by international organizations. The study assesses gender issues and the roles played by men and women in seafood processing and handling in Vietnam and will recommend improvements to be taken up in future phases of Seafood Export and Quality Improvement Project. Moreover, in cooperation with the National Institute for Labor Protection (NILP), the VWIF Network carried out a study on the hygiene and safety conditions of laborers in the seafood processing industry, where 84% of the workers are female.

Islamic Countries

In Malaysia and Indonesia, gender equality is protected by the state. In these two countries, women participate actively in many aspects of fisheries activities, especially in post-harvest and trading activities.

In Malaysia, the Ministry of Women and Family Development is assigned to raise awareness amongst women on their rights and to identify policies and strategies to enable women to contribute effectively to nation building.

The Indonesian and Malay fishers will readily accept their poverty as fate or '*takdir*' - something god-given and beyond their power to change. To uplift the social status of the poor fishers will first require a change of mindset. Extension workers should therefore reach out to the fishers, not only to equip them with new skills but also to convince them that social mobility is possible. It is important to ensure that training is accessible to women so that they can improve their productivity and the quality of their products. Courses should be structured and held in places that will not inconvenience the women in their roles as mothers. Child-care services should be considered in order to attract these women to attend these courses. In short, extension workers should be more sensitive to the problems faced by women and should analyze why so few women attend the courses offered by the Government.

Professional women also face special problems to which men should be more sensitive. Researchers in Malaysia, for example, are sent for higher degree courses after a number of years (5-10 years, and in many cases much longer) being employed in the service. By then, most of them would be married and have started a family and will face some problems to incorporate studies into their domestic duties especially if they have to go overseas for their postgraduate courses. Until such time when men are more willing to share the workload of child rearing with women, and also to give priority to their wife's career before theirs, it is only logical that the Government should be more flexible to women and to allow them to go for further studies earlier in their service when most of them would not have started a family.

The Government must also collect statistics for the purpose of identifying gender issues and to provide solutions to these problems. To date, gender issues in fisheries are poorly documented in Malaysia but issues pertaining to women's personal freedom in Iran and other Middle Eastern countries are easily available especially from the Internet.

Although men and women are meant to complement each other in many areas of work, top-management and professional posts should not be confined to the men. The imbalance in this representation in all the five countries studied should be corrected and more women promoted to the top management and professional level. Women will bring with them a different perspective, and together with men, will be able to provide a better understanding of the issues at hand. Hence, greater progress in the fisheries sector could be forged when women are given the opportunity to contribute in all areas of fisheries working together and complementing men to provide opinions and solutions to the challenges facing the fisheries sector.

South Asia

Statistics with respect to women in fisheries are often aggregated with other pastoral and hunter-gatherer populations, which renders them invisible in official statistics. Very often, they are fitted into generalistic development initiatives, which do not result in addressing their specific needs.

In India, women's role is primarily in the post harvest sector. However, their scale of operation is limited by their low investment and risk-bearing abilities on account of the lack of access to resources like institutional credit, technological innovations like ice boxes and proper storage mechanisms. Inasmuch as their clientele is restricted to the poorer sections of society, women's role in fish processing ensures food security for the poor. Therefore, this calls for policies that will help women access better support in terms of credit and related infrastructure. Although micro credit as a development intervention for women has proved itself in India, in its present state it still does not recognize the differing needs of women in the fishing sector.

In Sri Lanka, there is a need for interventions particularly in improving/upgrading skill levels of women so that they can survive the conditions that push them out of fisheries.

In Bangladesh, there is a need to provide opportunities for women in both fisheries and non-fisheries business and marketing and in developing improved technologies in fish processing. There is a call to increase the number of women extension workers in order to better respond to the needs of women in fisheries. Women should also be made direct beneficiaries of training and extension services related to their economic and social needs and interests.

There is a need to develop appropriate and conducive marketing facilities in areas where women fishers have easy and unhindered access. Credit policy needs to be revamped so that women can have access to such facilities without giving any collateral. It is essential that availability of inputs must be ensured and be made available at places where women can have easy access. Special provision in legislation for women fishers in the lease of common property resources so that the lessee (women) can have the right of ownership over the property. It is important that there is coordination between Ministry of Women and Children Affairs and the Ministry of Fisheries and Livestock, so that both can complement and support each other's initiatives in the field of women's empowerment.

It is also important to bear in mind that traditionally, fishing is an occupation that is restricted to certain sections of society in the region. The caste system in India, confines fishing to certain social caste groups while in the case of Bangladesh, a large proportion of fishers are Hindus who by tradition call themselves "Jolodas" and are part of the caste hierarchy. Thus, fisheries, is different from agriculture in this region as there is a lot of tradition that goes into determination of this activity as an occupation. While there exist social barriers to entry into the traditional fishing sector, these barriers do not exist in centralized fishing, which is seen simply as any other economic enterprise. Consequently, there have been a number of players in this centralized sector who do not belong to the traditional fishing communities of the region. This has significance when it comes to development policies, which talk about moving the "poor artisanal fisherfolk" to other income generation activities. These initiatives tend to look at fisherfolk as just poverty groups ignoring the fact that they have a traditional skill which should be protected by providing a conducive environment for it to be exploited to the maximum.

Another area that is largely ignored in the whole process of addressing the problems of fisher folk is the links between the centralized fishing scene and the small players. Over the period of a few years, women have slowly started building some links into the centralized system of fishing. Thus, initiatives that affect the centralized system have their repercussions in the small-scale fish-marketing sector also. For example, fishing holidays in certain seasons for resource conservation have affected small-scale fish marketing adversely. Small-scale fish vendors find that such days do not afford them a livelihood, as there is no fish for them to buy and sell. These however have only just come to light. There is a need for a systematic study about the dependence of small players in the larger system of centralized fishing.

Thus, in the long run, ensuring food security for the poor, in the South Asian region can be ensured by improving access to it. Access to protein rich food can be ensured only through the artisanal sector, which, unlike the mechanized sector does not carry the problems of increasing depletion of the resource base. These initiatives together with policy support to women by improving their access to markets and storage of fish through provision of ice, will help in keeping fish within the poor person's reach and will result in fulfillment of the individual country's development goals.

Japan

Issues that need to be addressed with regards to participation of women in fisheries include:

1. Sensitivity to gender issues in fishery is still low among both community and officials and staff who are assigned to improve living conditions and promote programs.
2. The relative attention given to the fishery sector vis-à-vis agriculture is lower and this lopsidedness affects the attention given to the state of women in fishery.
3. Although there is a proposal to increase women's membership in the FCA, women do not feel encouraged because there have been no change in fishery work and income accruing to the women. There is also a need to reconsider the practice of relating fishing rights to the right to speak.
4. There is the need to develop qualitative measures and indicators of program achievement, such as measuring feelings of satisfaction.
5. Programs should not add to the burden of women, thus more sharing of household tasks with men should be promoted, programs to care for older persons and for men and couples should be developed.

The following are major programs in this direction

1. Increase the numbers of women FCA members.
2. Improve the database on women, particularly in statistics on work at sea.
3. Conclude a written agreement on management in family relations wherein sharing of both fishery work and housework among family members, the rewards, holidays, etc., are decided on.
4. Conduct a management seminar on fishery households.
5. Support for entrepreneurship: seminar on laws, risk management, financial management, personnel, etc.; subsidy for initial investment and/or facilities of women's enterprise.

Philippines

1. Poor access to credit to improve women's capability to profit from their economic activities in the sector. Women can expand the enterprise of processing or marketing their husband's catch, possibly within a cooperative set-up, if they can obtain capitalization loans. The usual credit scheme is intended mainly for the fisher's production activities, such as for gear improvement, fry gathering, crab fattening, which are made available through male-dominated fishers cooperatives.
2. Appropriate technical assistance, training and extension should also be designed to target women in fisheries. Technology which responds to the nature of their task participation in the sector should be developed, e.g. better preservation tools and storage facilities, improved modes of transporting catch that are vended by women.
3. Address issues of further reducing post-harvest losses, improved value adding on fish beyond the traditional drying and salting. As fish processing is perceived as the women's work, their participation in this endeavor is crucial. Women should form the target group for training and support directed at processing, storage, packaging and distribution of fish and management of enterprises.

4. A better information system needs to be put in place to provide timely and accessible data on prices and market trends. This is critical for women who play a significant role in fish marketing. With the use of computer technology, women need not physically move away from home to get this information.
5. Low educational attainment and socio-cultural constraints hamper full participation of women in development activities of the sector. This affects their ability to process, use and access available information.
6. Women's participation in income-generating activities and other development tasks are constrained by the multiple burden of the reproduction roles assigned to them. Unless provisions are made to lighten household responsibilities, such as by more equitable sharing of tasks with the spouse and children, or by providing community child care arrangements, sustained participation of women will not be realized.
7. Sensitivity to gender issues is still low not only within households and within the community but also among extension personnel who work with fishers. Although the concern for gender has entered into the rhetoric of development efforts of both Government and NGOs and of existing legislation, it is still a poorly appreciated issue.
8. There is need of a research program that systematically tackles gender issues and women's participation and integration in fisheries development. Moreover, sex disaggregated databases should be regularly collected to serve as a basis for more effective planning.

Conclusion

Women are actively involved in many aspects of fisheries, in most of the Asian countries reviewed in this study, except in the Middle East, where women's participation in work outside home is constrained by culture and the state. Fishing, including aquaculture, and their associated downstream activities, like fish processing, are among the most depressed economic activities. Women from poor fisher households are involved in fish processing, aquaculture, small-scale artisanal fishing and fish mongering, but less often in commercial fishing using bigger vessels. Lack of opportunities for women to hold managerial and decision-making posts are apparent, even in the more developed countries, such as Japan and Malaysia. Gender-disaggregated data, which are needed for in-depth gender analysis are largely lacking in most of these countries. It is imperative that such data is collected, and gender research is conducted, so that appropriate interventions and policies changes are implemented, to ensure that women are not left out of mainstream development, and are accorded the basic rights, which all humans are entitled.

References

- Abdulhasan-Kalil, F. 2000. Women and Children of the Punduhan Fishing Communities in Tawi-Tawi *In* Proceedings of National Conference Workshop on Unfolding Women's Lives and Works in the Fisheries World. Iloilo: Univ. of the Philippines.
- Almatar, S., K. Al-Abdul Eiah and C. M. James. 2000. Development of culture technology for the silver pomfret. P 29-42. INFOFISH No. 6/2000, November/December.
- Annual Fisheries Statistics. 2001. Annual Fisheries Statistics 1998. Department of Fisheries Malaysia, Kuala Lumpur. 193pp.
- Anon. 1994. Women and the politics of fundamentalism in Iran. *Women Against Fundamentalism*, 5: 15-20. (<http://www.gn.apc.org/waf/j5p15.htm>).
- Anon. 1997. PROKESRA Badan Koordinasi Keluarga Berencana Nasional, Jakarta.
- Asong, R., M.L. Mabunay, A. Espano and D. Aure. 1998. Regional situation of men and women in Western Visayas. University of the Philippines in the Visayas Gender and Development Program.
- Badan Pusat Statistik. 2001. Economic indicators. Monthly Statistical Bulletin. March.
- Banaimoon, S. A., M. R. Kitto, C. Regunathan and A. Rodrigues. 1998. Yemen: an emerging player in the shrimp seed business. p 41-45. INFOFISH International. No.6/98, November/December.
- BFAR (Bureau of Fisheries and Aquatic Resources) 2000. Philippine Fisheries Profile, BFAR, Quezon City, Philippines.
- Clark, E. 1998. The First Christians: The Roles for Women. New Content Copyright. PBS and WGBH/FRONTLINE.

- De Castro, L., C. Formacion and L. Zapanta. 1986. Role of rural women in the development of fisheries in Panay: Focus on the socio-cultural and economic variables. University of the Philippines in the Visayas, Iloilo City
- Depositorio, D.P. 2001. Coastal resource management through women empowerment: The case of the CEP-GAD in Pangangan Island. Paper presented at Second Regional (Visayas) Conference, Women's Studies Association of the Philippines, 18-20 July 2001, Silliman University, Dumaguete City, Philippines.
- FAO. 2001a. FAO yearbook. Fishery statistics. Capture production 1999. Vol. 88/1. FAO Fisheries Series No. 57, FAO Statistics Series No. 159. FAO, Rome. 752pp.
- FAO. 2001b. FAO yearbook. Fishery statistics. Aquaculture production 1999. Vol. 88/2. FAO Fisheries Series No. 58. FAO Statistics Series No. 160. FAO, Rome. 178pp.
- FAO. 2001c. FAO yearbook. Fishery statistics. Commodities 1999. Vol. 89. FAO Fisheries Series No. 59. FAO Statistics Series No. 161. FAO, Rome. 198pp.
- FAO. 1995. FAO Yearbook.
- Feidi, I. 2001. Arab fish resources and exploitation potential. p 59-66. INFOFISH International Number 2/2001.
- Feldman, S., F. Akhter and F. Banu. 1982. Survival on the Edge- Marine fishing families in Bangladesh. BOBP publication: GCP/RAS/040/SWE.
- Felsing, M., C. Brugere, K. Kusakabe and G. Kelkar. 2000. Women for aquaculture or aquaculture for women. p 34-47. INFOFISH International. No. 3/2000, May/June.
- Felsing, M. and D. Baticados. 2001. The role of women in aquaculture in the Philippines: Obstacles and future options. *In* K. Kusakabe and G. Kelkar. Gender Concerns in Aquaculture in Southeast Asia. Asian Institute of Technology, Thailand.
- Heruwati, E.S., A. Wijono and Murniyati. 1998. Peranan wanita nelayan dalam kegiatan perikanan. WPPI IV (4): 16-22.
- Husain Muna (pers. com.). 2001. Environment Public Authority-Kuwait P.O. Box 221 Al Surrah 45703 Kuwait. Indonesian Fisheries Statistics 1972, 1981, 1992 and 1996. Agriculture Department, Jakarta.
- Israel, L. 1993. Women in the fisheries sector: a review of the literature. Lundayan 2 (2): 2-3 Tambuyog Development Centre.
- Lachapelle, G. 1997. Gendered livelihoods and development in a coastal community in the Visayas region of the Philippines. Dept. of Geography, Dalhousie University, Canada.
- Legaspi, A. 1995. Role of women in fisheries development in the Philippines. Final report of the Regional Workshop on the Role of Women in Fisheries Development, GOP-UNDP SU/TCDC-TCCP.
- Post-Harvest Fisheries Project, Department of International Development (no year given) Small-scale fish marketing in Tamil Nadu—an alternate fish container for women petty cash traders. Information Bulletin No.13, 40pp. Prepared by M. Sunderarajan based on project work by Ms. Kamila. http://www.onefish.org/servlet/BinaryDownloaderServlet?filename=1011275122194_BOBP_IB_013.pdf&refID=37976
- Rabanal, H.R. 1998. Aquaculture in the Philippines (1898-1998). *In* R.F. Guerrero (ed.) 100 years of Philippine fisheries and marine science 1898-1998. Laguna: DOST-PCAMRD.
- Rodríguez, L. 1996. The fishers of Talangban: women's roles and gender issues in community-based coastal resources management. *In* E.M. Ferrer, L. de la Cruz and M.A. Domingo (eds.) Seeds of hope. University of the Philippines: CSWCD.
- Siar, S.V., G.P.B. Samonte and A.T. Espada. 1995. Participation of women in oyster and mussel farming in Western Visayas, Philippines. Aquaculture Research 24 (7), pp. 459-467.
- Siason, I.M. 2001. Women in fisheries in the Philippines. *In* International Symposium on Women in Asian Fisheries, Malaysia: ICLARM World Fish Center.
- Sitorus, F. 1995. Peranan ekonomi wanita dalam rumahtangga nelayan miskin di pendesaan Indonesia. Lokakarya 'Integrasi Kepentingan Wanita dalam Perencanaan Pembangunan'. Cisarua, Desember.
- Sotto, F. B., Laron, C., Lim, M and Heeger, T. 2001. Women's participation in sapyaw (haul seine) fishery on the eastern coast of Barangay Sillon, Bantayan Island, Cebu, Philippines. *In* M.J. Williams, M.C. Nandeesha, V.P. Corral, E. Tech and P.S. Choo (eds.) International Symposium on Women in Asian Fisheries. ICLARM-The World Fish Center, Malaysia.
- Upton, M. and T. Susilowati. 1992. The role of woman in small scale fishery development policy in Indonesia. CRIFI publication: 126-165.
- van Minnen, P. 1998. Did ancient women learn a trade outside the home? *In* Zeitschrift für Papyrologie und Epigraphik 123:201-203.
- Villacorta, L. 1998. Various case studies. *In* A sourcebook of gender cases in agriculture, forestry and fisheries. PCAMRD-DOST, Los Banos, Laguna.
- Villareal, L.V. 2001. Microcredit and women in fishing communities: A case study from the Philippines. APRACA Consultancy Services.
- von Brandt, A. 1984. Fish Catching Methods of the World (3rd Edition). Fishing News Books Ltd. Breat Briton. 418pp.
- Whitten, T., R. E. Soeriaatmadja and S. A. Ariff. 1996. The ecology of Java and Bali. The Ecology of Indonesia Series. Vol. II 969pp.

- Yahaya, J. 2001. Women in small-scale fisheries in Malaysia. In International Symposium on Women in Asian Fisheries. Fifth Asian Fisheries Forum. 13 November 1998. Chiang Mai, Thailand. Williams, M. J., M. C. Nandeesha, V. P. Corral, E. Tech and P. S. Choo (eds.). 156pp.
- Yap, W. G. 1999. Rural aquaculture in the Philippines, Regional Office for Asia and the Pacific. Food and Agriculture Organization, Bangkok, Thailand.

HIV/AIDS AMONG FISHERS: VULNERABILITY OF THEIR PARTNERS

M. Huang

Department of Community Health, Universiti Putra Malaysia, Malaysia;
Malaysian AIDS Council, Malaysia

Abstract

Medical Science has progressed to such an extent that we have been able to add many years to our lives. However, in the last fifteen years all these gains in years are threatened by yet another disease, HIV/AIDS, which has claimed a total of 24.8 million people, including 10.1 million women and 4.8 million children (as of 31 December 2001). The fact that there is no real cure in sight makes prevention even more urgent. Another peculiarity of HIV/AIDS is that it afflicts both men and women in their most productive years of life and this is an issue of great importance because it is on this same cohort of the population that a country has to depend for development. The impact of HIV/AIDS is not only limited to the extra expenditure on medical care for those infected but it also includes the fact that there will be a commensurate reduction of human inputs to the development in a country.

Fishing as an occupation is very important because of the dependence of people on fish as a source of protein. However, this occupation is often regarded as most treacherous and each year, accidents claim the lives of many fishers. With the onset of HIV/AIDS, the many threats to the lives of fishers have also increased. This paper examines how the HIV/AIDS pandemic affects the fishing population and in turn how partners of fishers, including their wives, are made vulnerable.

The HIV/AIDS Epidemic

Ever since the HIV/AIDS epidemic made its appearance in the late 1980s, all continents have been affected and no country has been spared. United Nations AIDS (UNAIDS) estimated that as of the end of 2001, there were 40 million people living with HIV/AIDS (PWHAs) worldwide. This includes 37.2 million adults, of whom 17.6 million or 47.3% were women. Children (less than 15 years old) made up 2.7 million of the total PWHAs. These figures do not include another 24.8 million who have died from HIV/AIDS since the beginning of the epidemic (UNAIDS 2001). In 2001 alone, there were 5 million new infections and 3 million deaths. By continent, Africa has the most PWHAs but the World Health Organization (WHO) estimates that Asia, with the two most populous countries in the world (China and India) will be the next epicenter of this epidemic. This spread is partly fuelled by the mobility of the population in the midst of development, which is just beginning to take off in many Asian countries. Complacency, the stigma attached to PWHAs, poor education and inability to implement effective programs (100% condom usage and sex education for young people) only serve as catalysts to the spread of HIV/AIDS in Asia.

Although the epidemic has been recorded in Asia for many years, only three countries namely, Thailand, Myanmar and Cambodia recorded nationwide epidemics of substantial numbers at the 5th International Congress on AIDS in Asia and the Pacific (ICAAP) in Kuala Lumpur in 1999. Two years later, at the 6th ICAAP many more countries including China and India reported that they have been badly affected. Indonesia, Iran, Japan, Nepal and Vietnam have also recorded increased numbers (MAP 2001). Among the factors cited for the explosion in the incidence of the disease are drug injections, sex with sex

workers, men who have sex with men (referred to as a neglected population) as well as the interface of all these factors. Perhaps the most dangerous interface as quoted by MAP (2001) is that between drug use and sex. According to the report, drug users in Asia transmit the virus not just through the sharing of equipment but they also infect their sex partners, including their wives. At the same time, drug addiction could also be the cause for sex work. The need for money to buy drugs can easily force an individual to indulge in sex work. Coupled with the fact that condom use among sex workers is the exception rather than the rule in most Asian settings, the epidemic is expected to spread at an unprecedented speed throughout Asia.

The urgency of the impact of the epidemic is so great that the United Nations made history when a special "United Nations General Assembly Special Session on HIV/AIDS (UNGASS) was called in June 2001 to "set in place a framework for national and international accountability in the struggle against the epidemic." (UNAIDS 2001: 2). Among the targets of the UNGASS was to reduce HIV infection among 15 to 24-year-olds by 25% in the most affected countries by 2005 and globally by 2010, and to have in place by 2003, strategies that begin to address the factors that make individuals particularly vulnerable to the infection. These factors, among others include poverty, lack of empowerment of women, lack of education and sexual exploitation of women, girls and boys.

Characteristics of Fishers

Literature on fishing as a profession portrays it as an occupation full of risks. Studies in America reported that fishing, especially commercial fishing is the most dangerous job in the United States, and fishers face a risk of fatal on-the-job injuries 28 times greater than the risk of all other occupations combined. (Secretariat of the Pacific Community First Pacific Regional HIV/AIDS and STDs Conference 1999). In other words, they often work "on the edge of life." The demands of the job as fishers are so high that only young men are suitable for it. At the same time, there is a high turnover and it is not unusual for fishing vessel owners to appoint "employment agents" who recruit young men from villages for the industry, charging a fee of US\$90 per worker (Family Health International 2000). There is also no guarantee that those recruited are drug free. To quote the captain of a boat, "As a wild guess, I would say that if the fishing industry were to run a blood test and eliminate the people that had drug problems, there would be very few boats sailing with a full crew." (Standard Times 1996).

Fishers are also very mobile people, having to travel to wherever the catch is most plentiful. Their pay is also often quite substantial. This coupled with the fact that they could be away from the family for many days at a time increases their risk of sexual contact with sex workers. "When fishers get paid, they want to have a good time, spending money on drinks and sex." (Family Health International 2000). Because of the dangerous combination of alcohol and sex, as well as the lack of condom usage, the fishers are not just vulnerable to HIV infection but those living with the virus can unknowingly or otherwise spread the epidemic through sex workers to low prevalence areas.

Living conditions tend to be cramped and while at sea, they are forced to live in close-knit communities sharing living space, including needles and drugs. It has also been noted that in some instances, sex among men takes place in such close proximity.

The occupation, tough as it is, does not attract many people. Consequently those who are involved in fishing tend to be young (to meet the demands of the job), poorly educated (those who are not employed elsewhere) and in some cases may even be migrant workers, both legal as well as illegal (as there is the difficulty of finding young men who would want to choose fishing as a profession). Family Health International (2000) reported that in Rayong, a port city on the East coast of Thailand, men with limited education and without official documents (passports and visas) could often find jobs as fishers because the adventure attracts young men but the work is hard and full of physical risks. Given the above-mentioned conditions and characteristics of fishers, it is not inconceivable that fishing, as an occupation, has all the conditions that expose fishers to the infection.

HIV/AIDS among Fishers

Studies done in Tanzania, Africa, found that fishers were most likely to die from any cause - AIDS or non-AIDS. In fact, this study found that they were five times more likely to die of AIDS and of other causes than are farmers in the same region (Ainsworth and Semai 2000). The same risks (of “other courses”) were also shared by fishers. Elsewhere in Asia, Family Health International has also pointed out that fishers in the region face a life full of risks.

It is not just the work in fishing itself that threatens the life of the fishers. Their entire lifestyle also makes them vulnerable to death due to infection from sexually transmitted diseases, including HIV/AIDS. Soskolne (2000), in a cross sectional study of migrant fishers in Thailand found a 15% prevalence of HIV/AIDS. The average age of the subjects was less than thirty years and 60% of them had admitted to having multiple partners and visited commercial sex workers while away from home. Entz et al. (2000) also found a HIV prevalence rate of 15.5% among fishers in Samut Sakorn, Ranong, Songkhla and Traat Provinces in Thailand.

Meanwhile, Family Health International (2000) reporting on Cambodian Seafarers in Rayong, Thailand, found that 60% had engaged in commercial sex. Studies done with source (of sex workers) communities found a HIV prevalence rate of 29% to 34% among the commercial sex workers, depending on the location from which they operate. This same study also found that although condom usage was low (partly due to alcohol consumption), the fishers did not think that they were vulnerable to HIV. At any rate, some of them claimed that their lives as fishers were so full of risk anyway - so why should they be afraid of HIV/AIDS. Limited education among fishers also makes access to information difficult.

Fishers are not just vulnerable to HIV/AIDS because they frequent commercial sex workers without proper protection. Involvement in drugs also renders them vulnerable. MAP (2001) reported that the HIV prevalence among injecting drug users could go as high as 40%. Drug users can pass on the infection to their partners in drugs, partners in sex and in some cases the addiction itself can also force them to be sex workers.

One study among Malaysian fishers in the state of Kedah reported that 18.1% of the subjects had sex with commercial sex workers, 19.2% used various drugs and 14.4% consumed alcohol, all behaviors which put them at risk of being infected (Tunku Latifah 2001). Incidentally in Malaysia, fishermen who make 7.8% of all PWHAs with known occupations, are regarded as a high-risk group.

Vulnerability of Partners

Partners of fishers include wives, friends (both male and female), and commercial sex workers. They could be partners in sex as well as in drugs. Whichever the case, the risky behavior of fishers puts their partners at risk. Because some STDs including HIV/AIDS do not present noticeable symptoms until at the late stage, fishers could have infected many individuals even before they themselves are aware of their status. And in some instances with PWHAs, stigma as well as indulgence in drugs or alcohol renders reasonable thinking (about prevention) unimportant.

Women in the lives of these men find themselves in double jeopardy. Not only are they vulnerable in terms of the meager income they receive from their husbands, but the behavioral patterns of fishers (involvement in drugs and sex) only serves to exacerbate their vulnerability to the infection.

Sex workers catering to the needs of fishers are also at risk. For the sex workers, the balance between condom usage and their own safety as well as that of their clients, and the economic gain from trying to please their clients who refuse to use the condom, is often difficult to maintain. Clients feel that since they are paying for a service, they can dictate the conditions. Coupled with the fact that some clients come to them in various states of alcohol or drug induced stupor, sex workers not only remain at risk themselves but when infected, are also a risk to other clients.

Factors Contributing to the Vulnerability of Partners

The increase in the number of infected women has risen to such an extent that there has been repeated calls to address the needs of women in recent years. Globally, in the age group of 15 to 24, two women are infected compared to only one man. Data also shows that younger women are more vulnerable to the infection. Reasons for the increase in the rate of infection among women include physiology, socio-economics and violence, all of which are compounded by gender constructs within cultures.

The physiological difference between men and women is a well-known factor. Biologically, the vagina allows for greater possibility of entry of the virus because of the sensitivity of the mucousal surface as well as the larger surface area. Younger girls are especially vulnerable because their immature mucousal surfaces are even more easily torn. It also does not help to have cultural beliefs expounding the fact that men's sexual ability can be rejuvenated by having sex with virgins. In some areas of the world, sex with virgins is also believed to be a cure for HIV/AIDS. In general, men also believe that by having sex with younger sex workers, they can reduce their vulnerability to infection.

Women are susceptible to STD including HIV infection due to the high concentration of the virus in semen. They are also more likely to be asymptomatic and less likely to seek treatment for STDs, resulting in chronic infections with more long-term complications. Untreated STDs increases the likelihood of HIV infection. WHO has also pointed out that although women may be infected later than their husbands, their poor state of health allows the infection to progress to AIDS at a faster pace.

Because women are primary caregivers in the family, infected as well as affected women also bear the brunt of having to care for the entire family in the event of the death of their husbands, sons, brothers etc. Women, when they become sick themselves, may not get the support nor the care they need. Parents have also been known to be left without children to take care of them in their old age. More than that, older women also look after their sick grown-up children and upon their death, take on the responsibility of bringing up their grandchildren.

HIV/AIDS infection among women clearly portrays the gender inequality in families, which make women more vulnerable to the infection. The following reasons borrowed from Gupta (2000: 3-5) explains why gender inequality increases the vulnerability of women:

1. The culture of silence which surrounds sex which dictates that "good" women are expected to be ignorant about sex and passive in sexual interactions, makes it difficult for women to be informed about risk behavior and even when informed, difficult for them to negotiate safer sex;
2. The culture of silence also makes accessing treatment services for sexually transmitted diseases highly stigmatizing to women (STDs further increases vulnerability);
3. Motherhood like virginity is considered a feminine ideal-therefore using barrier methods or non-penetrative sex as safer sex options presents a significant dilemma for women;
4. Women's economic dependence increases their vulnerability to HIV. Women, who are dependent on their husbands economically, are less likely to be able to negotiate for safer sex. They are also more likely to exchange sex for money or favors and they are also less likely to leave a relationship that they perceive to be risky;
5. Violence against women contributes directly and indirectly to women's vulnerability. Studies quoted by Gupta (2000) found that individuals who were sexually abused were more likely to be engaged in unprotected sex. Men who had extramarital sex were 6.2 times more likely to report wife abuse than those who had not. Men who reported STD symptoms were 2.4 times more likely to abuse their wives;
6. Stigma and discrimination against PWHAs prevent women and men from being tested, perpetuates the infection if they are positive, and prevents early detection so that they can receive treatment early enough.

According to Gupta (2000), men are also vulnerable by prevailing norms of masculinity that expects men to be knowledgeable about sex. These expectations indirectly force them to seek "the experience" from sex workers while at the same time prevents them from seeking information about sex (for fear of being branded as ignorant), including related infections and HIV/AIDS. Variety in sexual partners, long believed to be a sign of masculinity, only serves to increase the vulnerability of men.

Conclusion

The vulnerability of the partners of fishers stems not only from the fact that they are related to fishers but also from the gender constructs of society where all women are vulnerable. However, fishing as an occupation accentuates this vulnerability because of the nature of the occupation. Coupled with socioeconomic factors, it would be safe to say at this point that wives, girlfriends as well as other partners of fishers are at risk. To quote an addicted former captain of a fishing boat, "Guys like me, we got it 8-10 years ago. There are still a lot of people who don't know they have the virus. I guess it won't be too long before you can say we have lost a generation to the virus." (Standard Times 1996).

In the meantime, mothers and fathers lose their sons, daughters-in-law and even grandchildren to the virus. Surviving children become orphaned and become the responsibility of widowed mothers (who may be infected themselves), grandparents or even the State. The country loses a cohort of young people they badly need for development.

The fishing industry must do something now if we are to ensure that there will be enough fishers who would take to the sea.

Bibliography

- Ainsworth M. and I. Semai. 2000. Who is most likely to die of AIDS? Socioeconomic correlates of adult deaths in Kagera Region, Tanzania. Paper presented at the 13th International Conference on HIV/AIDS, 8-14 July 2000, Durban, South Africa.
- Asian and Pacific Development Center. 1990. Asia and Pacific women's resource and action series: Health. Asian and Pacific Development Center, Kuala Lumpur.
- Entz A.T., V.P. Ruffolo, V. Chinveschakitvanich and V. Soskolne. 2000. HIV-1 Prevalence, HIV-1 subtypes and risk factors among fishermen in the Gulf of Thailand and Andaman Sea. *AIDS* 14(8):1027-1034.
- Family Health International. 2000. Helping men make a difference. IMPACT on HIV 2(2). Family Health International, Bangkok.
- Gupta G.R. 2000. Gender, Sexuality and HIV/AIDS. Plenary address at XII International AIDS Conference, 8-14 July 2000, Durban, Africa.
- MAP. 2001. The status and trends of HIV/AIDS/STI epidemics in Asia and the Pacific. MAP, Washington.
- Population Services International. 2000. Men make a difference: AIDS education and prevention among fishermen in Myanmar - Coastal region near the fishing village of Kawthaung in Myanmar. Population Services International, Bangkok.
- Okojie, C.E.E. 1994. Gender inequalities of health in the Third World. *Social Science Medicine* 39(9):1237-1247.
- Oliviera R. 1996. Fishing's deadly dark side. *Standard Times*.
- Secretariat of the Pacific Community. 1999. Report of the first SPC heads of fisheries meeting, Noumea, New Caledonia 8-13th August, 1999. New Caledonia.
- Soskolne V. 2000. Reducing risky behavior: Insights and interventions among a migrant fishing community in Thailand. Paper presented at the 13th International Conference on HIV/AIDS, Durban, South Africa.
- Tunku Latifah Tunku Ahmad. 2001. HIV among fishermen in Mukim Kuala Kedah. B.Sc. thesis. Nutrition and Community Health Students, Universiti Putra Malaysia, Serdang.
- UNAIDS/WHO. 2001. AIDS epidemic update, December 2001. UNAIDS/WHO, Geneva.
- World Health Organization. 2001. STI/HIV The condom situation assessment in 11 Asian and Western Pacific Countries. WHO, Regional Office for South-East Asia and the Western Pacific, Manila.

NETWORKS FOR WOMEN AND GENDER IN FISHERIES DEVELOPMENT IN THE MEKONG REGION AND THE PHILIPPINES

K.I. Matics

Fisheries Programme Mekong River Commission Secretariat, Cambodia

O. Poeu

Fisheries Programme Mekong River Commission Secretariat, Cambodia

I.M. Siason

University of the Philippines in the Visayas, Philippines

Abstract

Women in Fisheries are an integral part of Water Resources Development. For this reason, the authors will explain the steps leading to the establishment of local and regional networks. The paper identifies a wide spectrum of problems facing Women in Fisheries in the Mekong Region and the Philippines.

Mekong Region

In order to identify solutions, some of the initiatives of the governments sharing the resources of the Mekong Region established national networks in Cambodia (October 1997), the Lao PDR (October 1999), Thailand (February 2000) and Vietnam (March 1999). The authors demonstrate how the four national networks are integral components of the regional network established in May 2000. Opportunities for conducting research activities and exchanging information on Women in Fisheries among the four countries are cited.

The Philippines

The declaration of the UN Decade for Women in 1985 stimulated activities that examined the roles and status of women in Filipino society and identified issues that needed to be addressed from the perspective of women's critical participation in national development. The same examination was undertaken in the fisheries sector, mainly through the initiation of international organizations. The Regional Workshop on the Role of Women in Fisheries Development in 1995 and the Symposium on Women in Asian Fisheries in 1998 highlighted attempts at addressing the issues of women in the fisheries sector. One major recommendation that emerged from the 1998 Symposium was for the formation of networks at the national level that could pool the active participation of all sectors. The national networks that had already been established in each riparian country in the Mekong Basin served as a possible model.

Academe initiated the first meeting of potentially active network participants despite very limited resources available for this purpose. A year after this initial meeting and consciousness-raising among advocates for women in fisheries, the network was formally organized and registered.

Factors that facilitated the formulation of the network in the Philippines are described in this paper. Finally, it projects the challenges that confront the network.

Introduction

The following paper covering regional and national networks consists of two distinct parts. The first section describes the Network for Women and Gender in Fisheries Development in the Mekong Region. The example of this regional network encouraged the establishment of the National Network on Women in Fisheries in the Philippines. The second portion of the paper covers the establishment of the National Network on Women in Fisheries in the Philippines. Both these networks are vehicles for catalyzing activities that advocate for and advance the status of women in fisheries and address the problems these women encounter. It is hoped that these models may be adapted in other parts of the world to establish comparable regional and national networks to improve the quality of life of women and their households in the fisheries sector.

Network for Women and Gender in Fisheries Development in the Mekong Region

Fisheries is an important sector for food supply and a substantial part of the economic development in the countries in the Mekong Region. In the fisheries industry, women play a significant role in terms of labor, but there has been no clear policy on the promotion of women in the fisheries sector. One way to draw up policies is to increase awareness on women in fisheries and exchange information among relevant agencies within and outside the region. With this wider perception and information, the respective Department of Fisheries (and in the case of Vietnam, the Ministry of Fisheries, attesting to the importance of fisheries in the national economy) can help each respective government to introduce policies for women in fisheries. These policies can be actualized in programs that meet the needs of women in the fisheries sector, be they in remote rural areas or large-scale commercial enterprises.

Initiatives of PADEK

In recognition of some of the major obstacles facing women in fisheries, the Partnership for Development in Kampuchea (PADEK) initiated the first Workshop on Women in Cambodian Fisheries in 1994 at the Bati Fisheries Station in Prey Veng Province, Cambodia. In October 1995, PADEK organised a Photographic Competition on Women in Asian Fisheries during the Fourth Asian Fisheries Forum (AFF) held in Beijing, China. In March 1996, a Regional Seminar on Women in Fisheries in Indo-China Countries was arranged by PADEK in Phnom Penh with participants from Cambodia, the Lao PDR, Thailand and Vietnam and several development agencies and non-governmental organizations. Many pertinent recommendations were drawn up during this event.

Round Table Discussion on Women in Fisheries

Although several recommendations made at the Regional Seminar addressed the plight of women in fisheries in Southeast Asia, it was found that women at the national level could not actually put them into practice. Therefore, the Mekong River Commission (MRC) Fisheries Programme and the WES (West-East-South) Aquaculture Project in Can Tho, Vietnam, jointly organised a Round Table Discussion on Women in Fisheries in the Mekong Basin in April 1997. At the Can Tho meeting, it was agreed that each riparian country should create its own National Network for Women in Fisheries. These four national networks were eventually combined into a regional network. This regional network is important for the users of the shared resources of the Mekong Region. Many of the people involved in this networking exercise participated in the Fifth Asian Fisheries Forum in Chiangmai, Thailand, November 1998, which included the first Symposium on Women in Asian Fisheries.

Why Have These Discussions Arisen?

The discussions have attempted to undertake some key activities:

1. Evaluate the status of women in fisheries by exchanging information and experiences relevant to the Mekong Region
2. Show how the participants can improve the lives of women in fisheries through supportive programs (i.e., training opportunities, developing management skills, providing credit and loans, offering access to open communication and information services, etc.) that make women's lives more productive and fulfilling
3. Facilitate the establishment of national networks (including National Leagues of Women in Fisheries) and a regional network to coordinate comprehensive and joint activities. One of the priorities identified at the Can Tho meeting was to establish national networks in each of the countries, with the participation of both government agencies and NGOs.
4. Draft step-by-step action plans, including short-term actions and long-term expectations (such as providing equal opportunity to participate, equal access to education, resources, credit, etc.)

Establishing National Networks in the Mekong Region

With the assistance of the MRC Fisheries Programme, four countries in the Mekong Region held a series of meetings to establish National Networks for Women in Fisheries. The set-up of each national network is different since it corresponds to the modalities in the respective country. These networks presented opportunities to effectively utilise the human resources potential of women in fisheries in each country.

Owing to the severe economic crisis since July 1997, the respective governments needed time to identify the appropriate resources to set up the national networks. The following networks were established (in chronological order):

1. Cambodian Women in Fisheries Network established in October 1997
2. Vietnamese Women in Fisheries Network established in March 1999 (officially endorsed in September 1999)
3. Lao Women in Fisheries Network established in October 1999
4. Thai Women in Fisheries Network established in February 2000 (restructured in October 2001)

In May 2000, after all four national networks were formerly established, the regional network was instituted at a meeting held in Phnom Penh by the MRC Fisheries Programme.

Objectives and Scope of the National Networks in the Mekong Region

The national networks focus on awareness-building through communication and exchange of ideas, experiences and approaches that improve the quality of life for women in fisheries in the Mekong Region, making their lives more productive and fulfilling.

As a first step, a way of raising awareness of the role of women in fisheries had to become socially and cultural acceptable in the respective countries. At the present time, there is still insufficient information on this topic. One output planned for the regional network will be a comprehensive Bibliography on Women in Fisheries. It is important to have a Mekong element within each national network to exchange information and train women at the regional level. The national networks also plan to formulate and implement specific projects to help the women in fisheries and associated members of their households, such as young children and the elderly, improve their daily lives. Thus, the networks not only address women, but also encompass children and the elderly, who all contribute to the fisheries.

In general, all four national networks have the following aims:

1. Information exchange/sharing
2. Increased awareness of women's role in fisheries
3. Research on women in fisheries issues
4. Enhanced gender sensitivity at the government level.

The scope of activities for all the national networks include:

1. Collecting information on research done to date on women in fisheries (per country)
2. Disseminating this information and responding to specific requests
3. Offer advice and training opportunities on gender research methodology
4. Maintaining a contact list of national network members and those supportive of its activities (per country)
5. Developing projects that improve the quality of life of women in fisheries and other members of their households (i.e., children and the elderly who all contribute to the fisheries sector in one way or another).

Structure of the National Networks in the Mekong Region

Focal Points

Each coordinating focal point of the four national networks is aware of which agency is doing what activities regarding women in fisheries in the respective country. For this reason, the focal point has an affiliated task force that assists in the undertaking of the following activities:

1. Compiles a directory of persons and agencies concerned with women in fisheries;
2. Serves as an information clearinghouse on women in fisheries;
3. Prepares and distributes a quarterly "Women in Fisheries" newsletter in the local language;
4. Develops a bi-lingual (local language and English) website for national and international users;
5. Formulates pilot projects to improve the quality of life of women in fisheries in the respective country;
6. Participates in national and international meetings concerned with women in fisheries;
7. Monitors the activities of specific working groups (i.e., training, research, information, monitoring and evaluation, etc.);
8. Calls periodic meetings of the Task Force; and
9. Performs other activities as necessary to ensure the smooth running of the national network.

Working Groups of each National Network on Women in Fisheries

As networking has basically to do with coordination of activities and gathering and sharing of information, working groups have been set up in the four countries to help gather basic data in the respective countries. The working groups focus on various aspects of women in fisheries:

- a. Identifying the problems of women in the fisheries sector in the respective country;

- b. Sharing experiences of the problem identification process;
- c. Gathering and exchanging information on women in fisheries through the establishment of an inventory of baseline data on women in fisheries according to their specific knowledge, education, experience, employment, standard of living, etc.;
- d. Sharing information within a national network to improve methodologies and verify research results; and
- e. Analysing information to contribute to a policy on women in fisheries in the respective countries, leading to future research topics and approaches.

Some basic activities aim at institutional strengthening - clarifying the overall spectrum of existing institutions, organisations, projects, people involved, and research activities in the respective countries.

Specific National Networks in the Mekong Region

Cambodian Women in Fisheries Network

Back in October 1997, a meeting to establish the National Network in Cambodia was convened at the Department of Fisheries with strong participation of women in fisheries in the country. The need to strengthen the exchange of information on women in fisheries was considered as a precondition for designing sound sectoral policies. The establishment of a National Network, which functions as a platform to share experiences and generate ideas, identify constraints and develop solutions for improved working and living conditions of the indigent women in the fishery sector, etc., is imperative for a country like Cambodia.

The main objective of the October 1997 meeting was to begin a thinking process about the needs and possibilities for setting up a National Network on Women in Fisheries in Cambodia among institutions and agencies involved in the fisheries sector. Subsequent meetings (held in the Khmer language) identified the necessary procedures to be followed.

Although there are a few articles describing women's participation in the fishery sector in Cambodia, the main question - "What are women's real problems in fisheries and how can these problems be addressed from a sectoral point of view?" - has so far not been satisfactorily answered. Moreover, the existing literature on women in fisheries in Cambodia does not always differentiate between issues related to the fishery sector per se and other sectors such as health and education, as well as to the more general cultural, sociological and political systems in the country.

Three things were realized in 2000-2001: (1) Meetings were held with other organizations in Cambodia (i.e., Agency for Women's Affairs, NGOs working with women and children, etc.); (2) Two field surveys were conducted to identify ways that the Cambodian Women in Fisheries Network can meet the needs of the women and make the best use of human and natural resources; and (3) Various NGOs (both international and local) such as Oxfam and Southeast Asian Outreach (SAO), and the UNDP project called SEILA (after a Cambodian word that means "boundary stone") were approached in Battambang, north-western Cambodia. A district meeting organized by the World Food Programme (WFP) and SEILA was held so that all department line agencies can collaborate to formulate a fisheries plan and undertake a "pilot project" for the women of Battambang.

Lao Women in Fisheries Network

The Department of Livestock and Fisheries (DLF) and the Lao Women's Union (LWU) in Vientiane coordinated the planning for the national network. The initial meeting was held in October 1999. Representatives from several provinces met together in Vientiane for the first time. They discussed the framework and set-up of the national network and the scope of work, plus an action plan for the years ahead.

The national network conducted a workshop on "Women's Role in Aquaculture and in Community Fishpond Management". Trainers from 18 provinces in the Lao PDR are being instructed. In this way, a core group of women are acquiring sufficient knowledge and skills on fisheries extension and conservation of natural aquatic resources to contribute to the fisheries development of the Lao PDR.

A database has been established on the women's role and activities in aquaculture, community fishpond management, traditional methods of processing aquatic resources, and capture fisheries. This database is being used to develop policies on women in fisheries in the Lao PDR and in the preparation of spin-off projects.

During the past year's work, the network collaborated with the Food and Agriculture Organisation (FAO) of the United Nations in the Nam Ngum Reservoir. Lacking funds for all members and activities of the network, the FAO project facilitated the sharing of information and strengthened the women in fisheries activities in the Lao PDR.

Thai Women in Fisheries Network

The Thai Women in Fisheries Network was established in February 2000. At that time, the network agreed upon the structural organization of the national network and the scope of work, as well as the future action plan.

The National Commission for the Promotion of Women's Affairs under the Office of the Prime Minister of Thailand oversees the national network. The Department of Fisheries Sub-Committee on Women in Fisheries suggests the policy and prepares guidelines as well as the action plan for the development of the role of the national network. During the first year the Focal Point was at Chulalongkorn University. Since October 2001, the Department of Fisheries assumed this responsibility, assisted by a Task Force. Four Working Groups have been appointed for, respectively, Training, Research, Information, and Monitoring and Evaluation.

The Thai Women in Fisheries Network is harmonizing the different levels of influence in Thailand concerning women in fisheries (policymakers, extension officers, fisher women, etc.). Each level requires a different type of information. The Working Group for Information identified the agencies in Thailand that have some of these data and suggested how they can be repackaged and disseminated to the appropriate stakeholders.

The Task Force of the Thai Women in Fisheries Network met in October 2001. One aim of the meeting was to select a new Thai National Coordinator from the Department of Fisheries of Thailand.

A Seminar on Women in Fisheries Network Activities is planned for 2002. Five areas will be covered: 1) Structure of the network; 2) Research work on women in fisheries; 3) Training program for women in fisheries; 4) Extension work for women in fisheries; and 5) Information exchange among the members.

Vietnamese Women in Fisheries Network

In Vietnam many different groups in the fisheries sector have been addressing the concerns of women in fisheries. However, these efforts would have greater impact if experiences were shared, lessons learned and activities coordinated. Networking among the different groups on women in fisheries is crucial to the development efforts in the country.

Since September 1997, the Ministry of Fisheries' Steering Committee for Women in Fisheries conducted a series of planning meetings. Different from the other national networks in the Mekong Region, Vietnam had already institutionalized a specific committee to address women in fisheries issues. In March 1999, the Embassy of Denmark in Hanoi funded a three-day meeting attended by women from all parts of Vietnam. This was the "Founding Meeting of the Women in Fisheries Network in Vietnam" held at the

Ministry of Fisheries. Some of the participants who had also participated in the Can Tho Round Table Discussion were joined by members of NGOs active in the field, along with others from the academic community and the private sector.

The overall aim of the national network is to help promote women's rights in fisheries through network building and organizing various groups involved in the fisheries sector. The nature of the national network is that of a multidisciplinary consortium bringing together the government, academic and private sectors.

The Vietnamese Women in Fisheries Network has strengthened its focal point within the Ministry of Fisheries. It is conducting a socio-economic survey to record the status of women in fisheries throughout the country. Further, a pilot project on developing income-generating activities for women in fisheries is being tested in five fishing villages along the coastline of Vietnam.

At the end of 2000, a special festival honored outstanding post-harvest factory workers. This is in recognition of the hard work the women put into their factory jobs. A television documentary completed in June 2000 has been aired many times and repeated throughout 2001.

Funding the Networks in the Mekong Region

Various constraints are apparent in identifying core funding for the networks. For example, some participants may have been unable to attend prior women in fisheries meetings and may not have enough information at their disposal, nor the decision-making authority to represent their respective agencies. Sometimes the participants who do attend are already committed to many other activities and cannot undertake new tasks.

The MRC Fisheries Programme assisted with the preparation of a project proposal and the identification of potential donors to support it. The need for reliable gender specific information and statistics was emphasised, as well as assistance to standardise research methodology.

Running a network efficiently requires sufficient funding support. At this stage of initiating national and regional networks on Women in Fisheries, the MRC Fisheries Programme is providing some assistance to the interim coordination. It offers advice on how to approach possible donors who may have specific budget lines for networks and/or women (in fisheries) or gender-related interests.

Establishing a National Network on Women in Fisheries in the Philippines

Background for the Network on Women in Fisheries

The declaration of the UN Decade for Women in 1985 stimulated activities that examined the roles and status of women in Filipino society and identified issues that needed to be addressed from the perspective of critical women's participation in national development. This exercise was done for many sectors: economic, education, media, and religion.

The same examination has also been undertaken in the fisheries sector, mainly through the initiation of such international organizations as the FAO and the UNDP. Although the Philippines has been represented in international fisheries workshops, such as the Women in Aquaculture (1987), one major Philippine initiative for women in fisheries was the Regional Workshop on the Role of Women in Fisheries Development held in Iloilo City, Philippines in July 1995. Jointly sponsored by the Government of the Philippines and UNDP, this forum was attended by delegates from 18 countries in Asia and the Pacific, who delivered papers on the involvement, perceived roles and issues pertinent to women in the development of fisheries. The set of resolutions emerging from this regional workshop was to be presented

at the Fourth World Conference on Women in Beijing in September 1995. Unfortunately, no report pertinent to post-Beijing follow-through activities in the fisheries sector has been accessed in the Philippines.

In November 1998, the Asian Fisheries Society included for the first time a one-day symposium on Women in Asian Fisheries at its Fifth Asian Fisheries Forum in Chiang Mai, Thailand. The international symposium invited papers that were a mixture of research studies, reviews and conceptual frameworks, and stimulated discussion among a diverse range of participants. One of the major recommendations from the Symposium was for the formation of networks at the national level that aimed at active participation from all sectors. A model of this, it was learned, comes from the formation of national networks in each riparian country in the Mekong Basin (see above).

The First Meeting of Advocates

The University of the Philippines in the Visayas (UPV), being the national center of fisheries education, had taken up the challenge of initiating the formation of a national network. Its chancellor had participated in the International Symposium and was inspired by the model provided by the Network for Women and Gender in Fisheries Development of the Mekong Region. This model served as a vehicle for catalyzing activities that would advocate for and advance the status of women in fisheries and addresses the problems these women encountered.

As an initial step, a UPV core committee identified key individuals in government agencies, non-government agencies, the academe, and research institutes. These key individuals have a stake and interest in the development of the fisheries sector, who recognize the significant and critical role that women can play in the sector's development, and can provide leadership in effecting needed change. Although the list was considerable, the resources to bring together this critical mass of individuals from all over the country were difficult to source. Finally, there was only enough to cover a total of 44 participants in Iloilo City in March 2000: 14 from government agencies, 19 from six state colleges and universities, 5 from research institutions, and 6 from non-government agencies and the private sector. Of these, close to half came from other provinces of the country and four were male participants.

The two-day seminar-workshop aimed to raise the awareness of the participants on the state of women in the fisheries world, to identify issues that need to be addressed, and to put together a plan of action to respond to these issues. The Undersecretary of Fisheries of the Department of Agriculture served as the Keynote Speaker. The papers presented consisted of an overview of women in fisheries in the Philippines; a socio-cultural analysis of the situation of women and children in a Muslim fishing community; a testimony of the multiple roles played by a female professor and researcher in fisheries; the experience of a female fish farmer whose backyard aquaculture enterprise (catfish hatchery and grow-out farm) supported her family and children's schooling; insights of a woman entrepreneur in the hatchery industry; experiences of women in the organization and operation of the women's cooperatives in the coastal areas in a Filipino province; NGO experiences in integrating gender concerns in their work with fishing communities using a co-management approach; and a piece which presented a non-stereotyped picture of fishing where the roles wives played include the maintenance of the fragile marine ecosystem of an island.

The consequent workshops discussed reactions to the presentations, explored the groups' vision for the women in fisheries network, and identified issues and actions to be prioritized and undertaken. Among the projected actions is the formation of a network within a year and the synthesis and dissemination of the conference-workshop proceedings and output.

Launching the Network on Women in Fisheries in the Philippines

It took a full year for the group to meet for the launching of the network and close to eight months for the conference proceedings to be disseminated. The launching was a half-day affair in February 2001, scheduled to dovetail with events such as UPV's celebration of the founding anniversary of its College of Fisheries and Ocean Sciences and the meeting of the national fisheries association. By so doing, costs were minimized as the network activity piggybacked on other more established activities. Most of those who attended the first activity were able to come; a few came for the first time. Two speakers presented papers on women in fisheries.

Premised on the plan of action identified during 2000, the formal launching of the network on women in fisheries took place using a ritual where attendees presented a fabric patch typical of their region of origin. A quilt was produced signifying the network.

Objectives of the Network on Women in Fisheries in the Philippines

The stated network objectives are

1. To improve women's quality of life especially in the fisheries-involved communities through advocacy and networking;
2. To increase awareness of women's role in fisheries;
3. To generate information exchange among members and interested individuals and institutions;
4. To enhance gender sensitivity among fisheries-involved individual and institutions, especially at the government level;
5. To initiate and conduct gender-related activities through individual and collaborative approaches.

Structure of the Network on Women in Fisheries in the Philippines

The Network will work towards a legal personality through incorporation and registration with the Securities and Exchange Commission (SEC). Annual membership dues and meetings were decided on and collected. The officers will consist of officers, zonal representatives (Luzon, Visayas and Mindanao) and representatives-at-large for the local government units, policy-making, and research.

Initial Activities of the Network on Women in Fisheries in the Philippines

Since the election of Officers and the Board of the Network, two quarterly meetings have been held in June and September 2001. The initial issue of the network's newsletter, WINFISH, was published and distributed in August 2001. The constitution and bylaws have been written and registration with SEC has been completed. A one-year plan of action is being prepared, taking into consideration the issues raised in the 2000 meeting. The network has 60 members. A campaign for membership is also being undertaken. Preliminary planning for the 2002 annual membership meeting is on the way and is expected to be a business meeting and symposium. A publication with different stories on Women in Fisheries is being considered.

Factors that Facilitated the Formation of a Network

It took a year from the initial meeting among advocates for women in fisheries before a meeting of the network materialized. The initial meeting, despite resource constraints, easily attracted the participation of decision-makers and researchers who were the targeted leaders of the network. This drawing power

may be attributed to the level of awareness on issues of women in development, although not necessarily on women in fisheries. Professionals who had done research and development work involving women in the fisheries sector served as resource persons. Women who actually engage in fish farming and fish-related entrepreneurship also participated. Among those who provided financial assistance were two national agencies; one in fisheries and the other in marine research. At the local level, an environment regional agency, UPV and a research institute assumed certain costs. Although generally modest in amounts, the readiness with which such resources were extended, despite the short notice, is a reflection of the goodwill, awareness of and advocacy for which this topic enjoys. The conference-workshop ended on an optimistic note for plans ahead of the network.

After this first meeting when the participants returned to their respective busy professional and personal lives, the cudgels for implementing the plans and recommendations fell on the UPV core committee. Commitment from both individual faculty and the UPV, as an academic institution with a strong fisheries educational mandate, sustained the effort and brought it to the next steps - preparation and dissemination of proceedings and the launching of the network.

The active involvement of the regional directors of the Bureau of Fisheries and Aquatic Resources was critical and will continue to be significant in policy-making and in implementing future activities and projects. This bureau is at the forefront of the fisheries program implementation and policy development. Three of the directors are officers and members of the network's board.

The other officers of the Board have likewise demonstrated strong commitment to the goals of the network. They are strategically placed in their respective organizations and can galvanize the needed influence to advance these goals. Concrete outputs from the first six months of the network's existence are the formal incorporation of this organization and the issuance of the newsletter. The latter will serve to inform on relevant issues, developments and activities, thereby sustaining the links and communication among members.

Challenges Ahead for the Network on Women in Fisheries in the Philippines

In order to sustain the network, activities to enhance capacities of women in fisheries development and management will need to be initiated. Beyond meetings and conferences, the Network must make a difference – in addressing the problems encountered by women in fisheries, and advance a vision of empowered women in partnership with men at all levels of fisheries – especially in coastal and fish farming communities. These aims will be attained through interventions like research, community work, extension services, training, and networking.

Finding the resources to enable the network to affect these activities will be a real challenge. At present, the activities are accommodated within regular agency programs. However, for the network to firmly pursue its directions, it has to have access to its own program funds. The prospects for obtaining funds will be explored through grant writing, lobbying for a budget within agency funds, and generating resources for the network.

However, even given the current constraints in resources, the members of the network can advocate and recommend changes and undertake activities within their respective agency mandates that will enhance the participation of women in the fisheries sector. They can tap expertise from other members of the network and share resources that already exist. By so doing, they give meaning to the idea of networking, wherein the whole becomes greater than the sum of its parts.

RESPONDING TO GLOBALIZATION TRENDS IN FISHERIES: ASSETS OF PROFESSIONAL TAIWANESE WOMEN

N.H. Chao

Taiwan Fisheries Research Institute, Taiwan

C.F. Chang

Institute of Sociology, Academia Sinica, Taiwan

E.Y. Chang

Taiwan Fisheries Research Institute, Taiwan

Abstract

Globalization is an inevitable trend in Taiwan. The investment in human resources has increased over the last three decades, yielding a large pool of professionals, including women. Women became competitive professionals in Taiwan because many of them received sufficient education either to pass the licensing examinations or to enter the field of fisheries sciences. The licensing system and regulations protect junior and senior women experts from gender discrimination.

Professional women in Taiwan adapt as well as their male counterparts to the trends of fishery development. Major aspects considered in this chapter are as follows:

- Language and communication abilities obtained from schools or continuous education;
- Awareness about world trends: Asia-Pacific Economic Cooperation (APEC), World Trade Organization (WTO), etc.;
- Willingness to learn and adopt new technology to keep pace with other countries;
- Managing and planning to empower women colleagues in incremental steps towards globalization; and
- Involvement in international activities: voluntary or invited participation in conference; editing, reviewing and publishing in scientific journals; commercial trading; etc.
- Professional women in Taiwan have provided some significant opinions on future responses to globalization from personal, national and international viewpoints in reflection during this interview.

Introduction

The contribution of the female labor force to Taiwan's economic development has been demonstrated in numerous studies. Part of the contribution can be assessed by the increasing rate of labor force participation by women in the formal labor markets. Based on governmental statistical reports, the female labor force participation rate increased from 39.2% in 1980 to 44.0% in 1990 and further to 45.8% in 2000. In contrast, men's participation rate decreased in these same years from 76.4% to 73.3%, and further down to 69.3%, respectively.

Women's contribution to Taiwan's economy is not limited to the labor input in formal labor markets. Since the majority of Taiwanese firms in manufacturing industries are small-scale and/or run by the family, both women's waged and non-waged labor are crucial in the production and reproduction of these firms or business units (Cheng and Hsiung 1993). However, women's participation in the informal labor markets and small-scale enterprises is not limited to manufacturing, commerce, or service industries. Previous studies showed that in the agriculture industry, for instance, because of the proximity of

farms and households, women's role in production of the family farm is also prominent (Du et al. 1999). Similar conditions also occur in the fishery industry. One study showed that most of the aquaculture businesses are small and run by families, mainly by couples (Kao 1997). Women have to work inside and outside the house.

The composition and role played by women in the fields of research and education in fisheries have been described by Chao and Liao (2001). More details about recruitment and employment, salary and benefits, promotion and dismissal, limits of present status and comparisons with other countries are explained in this paper. In responding to the transition to globalization in fisheries, special emphasis is given to understanding Taiwanese women's personal strategies in preparation for globalization and their national and international expectations. A semi-structured questionnaire was distributed to more than 50 professional Taiwanese women in fisheries, and among them, nine in the business field were interviewed in depth. This paper also intends to investigate the daily operations of the local aquaculture industry in Taiwan and women's role in the production and maintenance of the family business, and individual and organizational adjustments in this era of globalization in general.

Globalization and Taiwan Fisheries

Globalization is about different regions conducting reciprocal exchanges in all dimensions including economics, social, and political (Nierop 1994). Here, the region represents a group of countries with similar cultures, religions, ideas or economic characteristics. Contemporary design in globalization is mostly driven by mainstream economics, represented by neo-liberalism (Ohmae 1990; Greider 1997). It stresses that the market is the solution to economic growth, and any country can find its position of comparative advantage. Such a system divides the work to yield high efficiency. Therefore, free trade will benefit all participants-be it either recent trade negotiation in treaty, including General Agreement on Tariffs and Trade (GATT) and WTO or some United States of American (USA)-led policies relevant to liberalism. All these aim to lower the cost and facilitate the flow of trade and investment.

In the past, however, many less developed countries achieved successful industrialization through strong and effective Government interventions (Chu 2000). Participation in the global market is necessary for less developed countries to benefit from advanced technologies, but free trade may hinder their economic development. The global capitalist system can exploit laborers and consumers in the name of globalization, to maximize the benefits of its enterprises, which may result in more uneven distribution of wealth among nations (Yang 2001).

Taiwan's economy depends heavily on American and Japanese markets. Its trading relationships have not extended much to other regions, such as Europe and Southeast Asia (Liu and Lin 2000). With an export-oriented economic system, Taiwan can benefit from free trade and lowered cost in the process of globalization. In fisheries, Taiwan is mainly a country of export with a strong competitive ability in international markets (Lin 2000). Taiwan liberalized trade in fisheries products except for mackerel, tuna and squid. With accession to the WTO, these products will face stiff competition from high quality and low-cost products from abroad. In response to this strong pressure from global markets, Taiwan has its special merits in producing live and high quality products. In Taiwan, more than 90 finfish species can be reproduced and cultured through aquaculture techniques (Liao et al. 2001; Liao and Chao 2001). Taiwan has developed strong potentials in aquaculture techniques, which is a highly organized system with many specialized subsystems, including the brood stock owner, the hatchery operator, the live and formulated feed supplier, the fry broker and the harvester.

Fisheries in Taiwan have experienced significant changes in the last few decades. As cited in a recent study (Liao and Chao 2001), production in the aquaculture industry increased for over forty years from 1950. However, it dropped almost 24% between 1990 and 1999. The decrease was even more dramatic in offshore fishing. The only fishing industry experiencing a continuous business boom over the last five decades is deep sea fishing. The drop in production in the aquaculture industry is also reflected

in the downgrading of Taiwanese ranking in the global markets. According to Liao and Chao (2001), Taiwan was ranked at 8th place in world fishery in terms of production quantity in 1990. However, Taiwan was ranked 16th in 1999, when production was only 76% of that in 1990. Apparently, Taiwan is losing ground to other foreign competitors.

According to a Government report, there were over 53,000 firms in the fishery industry in 1995, which represent about four percent increase from 1990. More than 95% of these firms were owned by individual owners, only 1.5% of them were registered as corporations, and 3.4% had dual partners according to the census of 1995 (DGBAS 1997). Of all the firms, close to 29% concentrate in coastal capture fishery, 23.5% in inland saltwater aquaculture, 20% in freshwater aquaculture and 16.2% in near-shore capture fisheries. The fishing industry employed over 212,000 workers. The average number of employees per firm was less than four persons. However, the aquaculture industry employed more than half of the workers in the whole fishery industry, in which about a quarter of them were employed in inland saltwater aquaculture and close to 24% in freshwater aquaculture. In marine aquaculture and off shore capture fishery, the average number of employees per firm exceeds 20 persons, respectively, 28.4 and 21.6 persons. Firm size in all other industries is less than five persons per firm. For instance, the inland saltwater aquaculture is the industry employing the largest number of employees in the fisheries, but its average number of employees is only 4.2 persons per firm.

Overall, the Taiwanese fishery industry is characterized by small-scale financial capital and labor force. As the majority of firms belong to single owners, the capital is clearly limited. Furthermore, the firm size in the fishery sector in general and the aquaculture industry specifically, is rather small. Family members, particularly the couple, play an important role in running the business.

Working Environment of Taiwanese Women in Fisheries

In the past half-century, Taiwanese women entered the labor market much later and in fewer numbers than men. The investment in human resources has increased in the last three decades yielding a large pool of professionals, including women. In the field of fisheries sciences, women have gradually become competitive professionals because many of them received sufficient education to pass the licensing examinations. The licensing system and equal opportunity to education have protected junior and senior women experts from gender discrimination.

However, legislation to protect women with equal rights to work was only enacted in March 1999 after a long (13 years) debate. Compared to other developed countries such as England, Italy, France, and Japan, in which similar laws were established respectively in 1975, 1977, 1983, and 1985 (Chen 1999), this law comes late although it covers the general laborer, soldier, and people in Government and education. The legislation on fisheries and fishers organizations has no clauses or supplementary rules that actually discriminate against women. However, our interviews suggest that gender discrimination against women still exists in many workplaces. It can be described in several aspects as follows:

1. Recruitment and employment

Three decades ago, women were usually rejected several times before they were hired in the field of fisheries. They were hired because no men wanted the job. For research on the ocean, women were duly rejected without further consideration. This discrimination against women has caused occupational gender separation. The degree of discrimination in the fisheries sector is comparable to that in the livestock and forestry sectors, but is more significant than that in the agriculture sector.

2. Salary and benefits

Once women entered the fisheries sector, their salaries were usually equal to men's. However, about one or two decades ago, the prospects to be a female manager was relatively small and the average position level for women was low. In addition, men enjoyed more opportunities to continue their education, receive advanced training, or study abroad. Currently, many Taiwanese women in the fisheries sector are becoming more assertive to the kind of treatment they receive.

3. Promotion and dismissal

According to the study by Chao and Liao (2001), female employees in Taiwan received an average monthly salary of 70.1% of that of their male counterparts. One of the reasons was due to their shorter service periods. Women entered the labor market late, and most of them were not promoted before they retired. In addition, women are often over-qualified, and retained at basic levels; less than 35% are employed at advanced levels. A similar situation was found in the fields of research, education and fisheries where, however, dismissals were rare.

Although Taiwan has ratified the Convention on Human Rights, the involvement of Taiwanese women in the labor market is still fraught with problems. Strong public consensus has pushed the Government to pass and establish legislation for gender rights to work. The Gender Employment Equality Act was passed in the Legislative Yuan on December 2001; discrimination faced by female workers in their workplaces will be minimized. Additionally, Taiwanese women in the fisheries sector have demonstrated their capability in establishing role models, insisting that their work for 10, 20 and 30 years, is not only equal to the performance of men, but also represents a strong contribution to the field. Women's professions include the fields of molecular biology, cell biology, physiology, reproduction, aquaculture, disease, environment, ecology, conservation, local business, international trade, international cooperation, education, policy making, fisheries association, and even gender research.

Designs of the Survey and Interview

We interviewed more than 50 female professionals in fisheries using a semi-structured questionnaire as shown in Table 1. Eleven respondents were interviewed from fields such as education, administration, and research, respectively. The purpose was to understand their background and their responses to globalization in their professional fields. In-depth interviews were conducted with nine women who directly participate in the fishery business. We also visited their plants and culture sites. These respondents were chosen through personal contacts and networks.

Relevant questions were asked on the major production or business activities, firm size, employment structure, their daily activities in the plants, and the potential impacts of joining the WTO on their businesses and adjustments. During the interviews, the respondents were allowed to freely express thoughts on their experiences in the industry; and additional questions were added depending on the progress of the interviews.

Results of the Interview

In response to the survey, many of the women were very assertive and well prepared, some were conservative but cooperative, and a few were passive and retroactive. The following are the results of the questionnaire survey, a summary of their personal perceptions and actions, and future framework plans, especially from women involved in education, research and administration. A separate section presents the results from the business field, which is identified as the frontier of globalization.

Personal perception and action

Interviews in the educational sector included professors from the National Taiwan University (NTU), National Taiwan Ocean University (NTOU), and National Sun Yat-Sen University. Most of the respondents were able to communicate fluently in second or third languages such as English or Japanese. Their self-assessments on awareness about global trends were quite diverse. Most of them expressed high levels of interest in learning new technologies and joining international societies (e.g. Friends of Museum, World Aquaculture Society, European Aquaculture Society, Asian Fisheries Society, etc.). Their actions in response to globalization involved referencing international journals, making frequent contacts with

international colleagues, conducting pursuits of international cooperation, and arranging exchange of visiting professors from around the world, including Japan, America, Europe, Africa and Asia. In addition, some stressed the importance of using computer software and information for global communication. Many of them have experiences in international conferences, organizing scientific societies, and teaching international students in fisheries. They encouraged other female colleagues toward globalization via teaching courses, advocating the importance of learning a second language and relevant professional skills, encouraging participation at international conferences, and in one special case, training only female assistants.

In areas of administration, administrative personnel, librarians and editorial staff from several research institutes—the National Science Council, Council of Agriculture, and Cage Culture Association were interviewed. Most have furthered their education in business (e.g. the knowledge-based economy), foreign language (e.g. English or Japanese), and IT (e.g. data bank). Some have admitted their deficiencies in communicating in foreign languages. Their knowledge of global trends come from the news, magazines, televisions, websites (Internet), and seminars on topics such as the knowledge-based economy, biodiversity, and so on. Some self-motivated respondents enrich their abilities in administrative management, assist researchers in finding new ways to locate references, organize study groups, participate in seminars on copyright in response to WTO and the Internet. Some supporting staff from the Cage Culture Association were eager to learn advanced techniques from the Norwegian cage culture system. Other actions toward globalization included joining research teams to foreign countries, and presenting in international seminars and exhibitions. Most of the respondents were support staff so they were less significant as role models for colleagues. However, some would ask their female co-workers to join them for further involvement in administrative seminars or advanced training classes, and some would train particularly female students. It is worth noting that some are expecting to lead others as their abilities have reached qualified levels.

In research fields, women majoring in animal science, biochemistry, food processing, fisheries biology, aquaculture, information, electron-photometry, and aquatic animal disease prevention from the Academia Sinica, Taiwan Fisheries Research Institute, Tungfang Marine Laboratory, NTOU and National Museum of Marine Science and Technology were interviewed. Most of them are well informed about globalization due to work needs. Frequent contacts with foreigners, foreign country visits, interviews abroad, training of foreign students, and communication with international experts have enriched their personal experiences. Some new members get the information they need through literature, English radio and newspapers, and by developing international friendships. However, some with primary academic degrees are lacking in language abilities, resulting in difficulties to cope with globalization. Information channels to globalization were similar to those in the education and administration sectors. However, they share common concerns regarding market trends, the Hazard Analysis and Critical Control Point (HACCP) food system, and the Government's response to the issues. They learn new technologies from taking graduate courses, participating in commercial meetings on new technology, and looking up references in journals and websites. Some went to developed countries for further Government - or self-supported training in software and operations. Real actions toward globalization involved submitting publications to international journals, inviting foreign researchers to visit and exchange knowledge, inspecting global projects, reviewing international journals, presenting papers and speeches in international meetings (for example, World Aquaculture Society (WAS), APEC, Aquaculture Interchange Program (AIP), and Asia Productivity Organization (APO)). They have led colleagues toward globalization through lifetime learning, book reading, and study guidance. Some even made themselves role models by becoming international volunteers.

Future response and scheme

In response to globalizing trends, Taiwanese women in fisheries surveyed in this study have organized themselves in various schemes from personal action, to governmental, and global action. These are summarized as follows:

Schemes of personal action

Self-enhancement in professional training is important toward global actions. Global development in fisheries should be broadcast, and the interchange of information between Taiwan and global societies should be more aggressively continued. In all, enhancement in research and development (R&D) and application to the global level is essential for many Taiwanese women in fisheries.

Schemes suggested to the Government

Research should be funded in broader aspects, especially for those funding agencies such as the National Science Council, Council of Agriculture, and Ministry of Education. More international exchanges of professional training for graduate students should be encouraged. Programs for recruiting foreign students should be established and enhanced. The Government should not only concentrate on short-term policy making, which maintains diverse cooperation channels, but also to expand the scale of projects and exploit global opportunities. The purpose is to improve the current situation, to revive activity, and to sustain good quality.

Global schemes

Women who are well trained in both language and research abilities should be fully supported to participate in global affairs on fisheries. Development of high-quality international cooperation should be continued to support international activity and education of the younger generations. International cooperation projects between Taiwan and Australia, Canada, France, Netherlands, Norway, USA, and others should be renewed as far as possible.

The frontier of globalization-business scope

In the following section, interviews with nine respondents are presented. These women are mostly distinguished figures in the business field of fisheries. Their careers and future in business are presented in detail from various aspects. Their backgrounds are first presented, followed by a comparison of their business structures. Their labor inputs and experiences in domestic gender division are also discussed. Finally, their reactions and plans of adjustments in the era of globalization, particularly following Taiwan's entry into the WTO scheduled in 2002, are presented.

Human capital: educational backgrounds and working experiences

All nine respondents reside and have their business or career in the Southern part of Taiwan. All of them are Hokkiens and speak fluent Hokkien and Mandarin. They are all married and have more than one child. All nine respondents are in their forties. As to the educational level, unlike the traditional, stereotype low-educated fisherwomen of 20 years ago, all the respondents at least hold a high school degree. Specifically, one of respondent graduated from high school, two from vocational high schools, and one from a technical college. Two of our respondents have bachelor's degrees from national universities, one has a masters degree in Food Nutrition Science from Fu-Jen University, while another has a masters degree in Chemistry from the University of Texas A & M, United States of America (USA).

Only one of the respondents holds a Ph.D. She obtained her doctoral degree in Marine Biology from the University of California at Davis in the USA. She is a research fellow and currently the director of Tungkang Marine Laboratory (TML), an affiliation of Taiwan Fisheries Research Institute (TFRI).

None of the respondents are new to the industry. Respondent A has the shortest career among the nine respondents. She used to work as an accountant in the company, just as most wives did in the family business of Taiwan. After her husband died, she took charge of the business by herself. Five of the nine respondents have been in the business for more than ten years and two had about 20 years or more of working experience.

Organizational characteristics: family business, couple business

Among the nine respondents, four of them are so-called Lau-Ban-Liang (meaning "the wife of the boss" in the local dialect), working in the family business together with their husbands (the boss and so-called Lau-Ban). One respondent, Respondent F, has her own aquaculture business and owns a fish wholesale store in Kaohsiung City. Her husband, however, is an official in the Fishery Section of the City Government of Kaohsiung. The other respondent, Respondent G, who just returned from overseas will join her husband's business eventually. Respondent A herself is the Lau-Ban (boss) after she took over the family business from her deceased husband four years ago. Respondent H owns a couple of companies, one of which exports processed fishery products to foreign markets. Her husband is a physician on an islet off Pingtung County. Respondent I has her own career in marine biology and her husband is her colleague. Therefore, except for Respondent H, all other respondents worked as partners of their husbands in the family business or in closely related professions. In Taiwan, the business of aquaculture is typically a family business and, more specifically, a husband-and-wife business.

Work schedule: intensive labor and long hours

Very few industries require such long working hours, intensive labor input, and meticulous work procedures, as does the aquaculture industry. Most of our respondents have to visit the culture sites first thing in the morning. They usually work the whole day and at best take a short nap in the afternoon. One respondent, Respondent B, told us that feeding the fry is an important job and needs much care. If someone were hired to feed the fish, the worker would simply spray the feed into the pond to keep the fish from starving. On the other hand, if she were to do it herself, she would carefully observe the sites and the reactions of the fry when she fed the fish. Like most of our respondents, Respondent B and her husband only hires one or two laborers, who are either their neighbors or foreign workers, for pond cleaning.

Many of our respondents indicated that their working hours could extend to as much as 12 hours in any typical day. For instance, Mrs. E wakes up around six o'clock every morning and usually works until six o'clock in the evening. She sometimes stays until midnight to inspect newly arrived fish in the wholesale market. When she received us at the factory, Mrs. E apologized a few times for the interruptions that occurred whenever she answered telephone calls or the questions from the workers.

Some respondents told us that women are especially suitable for working in aquaculture business for various reasons. Respondent C indicated that women are careful and patient. They are willing to spend time to observe the growth of fry but men usually do not follow procedures carefully. Respondent D also told us that wives do better in applying the medicines and feeds compared to husbands, as they are more gentle and careful. Respondent E trusts female workers more than male workers in doing the sorting of different types of fish.

Most of our respondents felt that they could not trust other people to do the job because time and care are strictly required in this business. Even if they were to hire someone to do the job, the salary would be rather high considering the long working hours and intensive labor. Also, most owners cannot afford to pay such high labor costs. Therefore, improvements in technology and financial support from the banking system would certainly lighten some burdens of the family and increase its economic scale.

Gender division and family decision-making process

Like many other Lau-Ban-Liang in the family business of Taiwan, the respondents usually have double burdens of work. They not only take care of the fish and shrimps, but they also have to look after their families. However, most of them did not complain about their burdens. Since their husbands are still working in the ponds while they were cooking or doing the laundry, the wives treat the gender division of labor as natural.

A survey on family decision-making process and outcomes in the aquaculture industry found that the couples make most of the business decisions together, such as purchasing or renting new culture sites (Kao 1997). According to the survey, 90% of the respondents were satisfied with the decision-making pattern in their households. The findings of our interviews generally reflect similar reactions.

However, when faced with the dilemma between work and family, the respondents tend to put the family first, even though most of them are already successful entrepreneurs or professionals. Respondent I is one of the examples. During the interview, she indicated that women always belong to the family. She said that if she wishes, she could be more aggressive because she had many opportunities to socialize with state officials from the central Government. However, since she wants to be with her husband and children, she declined to do that, to be promoted, or to go to other places. Respondents H and D both gave up their stable teaching jobs in Taipei and moved to Kaohsiung with their husbands after the latter failed in their businesses. Respondent D said that she almost divorced her husband when he became financially bankrupt. However, after being persuaded by her mother and parents-in-law, she eventually agreed to follow her husband to start a new life.

Du et al. (1999) studied the role of women in farming and found that there were conflicts between work and family duties. In their study, many respondents indicated that they had wished to attend some agriculture extension courses during the night, but they usually had to give up the opportunities to take care of their young children. Some of the respondents also expressed the same feelings. They are aware that local fishers associations often offer night courses but they, as women, had no time to attend. Men, if they want to, usually could go to such courses. Respondent D once planned to attend an international fish exhibition being held in Singapore, but had to cancel her plans because someone in her family fell sick.

Adaptation in the era of globalization

After many years of odyssey, Taiwan is expected to join the WTO in 2002. Like many other primary products, Taiwan's aquaculture industry is facing challenges from both imported products and exploration of international markets. As a matter of fact, the Central Government provides little help for businesses to meet these challenges. It is left to the owners themselves to resolve the dilemmas. A few studies (Lee et al. 2001; Chiang and Lien 1996; Lo and Hwang 1996) discussed the impacts of globalization and foreign competition from technical and managerial aspects, and on the Central Government's role. However, they rarely mention women's roles in the process of adjusting to globalization. Based on our interviews, the issues of language, personality, and willingness of future generations to inherit family businesses seem to determine the levels of awareness and adaptation for the respondents.

Among the respondents, Respondent I is familiar with English readings and writings because of her profession. She is rather passive in terms of seeking to understand the impacts of WTO on Taiwanese aquaculture businesses because she is the chair of TML, and most of her time and energy has been devoted to administrative work. However, her job requires constant contact with industry and governmental officials so that she is somehow aware of the impacts of imported fisheries products on local businesses¹. During our interview, she indicated that Taiwan has been facing severe competition from China in exports of eels and groupers in recent years. Taiwan's fisheries businesses have to keep developing high-quality fish products, such as easy-to-cook or boneless fish meat, in order to maintain the market. Therefore, the role of fisheries scientists in Taiwan is important in the development of the aquaculture industry because of the advantages they have in language ability and knowledge in this field. Their importance would increase when Taiwan becomes a member of WTO, due to the lack of real aid and support from the State.

¹ The laboratory has good relations with the owners of private companies and farms. For instance, one woman whom we interviewed took the chance to ask research fellows in the lab questions about her business. Also, on our way to interview, we noticed that many of our respondents have long-time friendships with the scientist who led us to the respondents' residence.

Like the situation in the farming system, aging has been a serious problem in fisheries. According to a governmental survey, the average age of a majority of the workers is close to 52 years old in single-owners' firms in fisheries (DGBAS 1997: 20). One of the reasons is the lack of interest of second generations in taking up the business. According to the same report (DGBAS 1997:21), close to 70% of respondents (single-owners) indicated that they have no one to inherit their businesses.

Having the next generation to inherit the business does encourage the owner to be more aggressive and willing to learn languages and computer-related knowledge. Respondent D sent her son to China to work for a marine technology firm. With a bachelor's degree in sociology, she is actively learning English. She also proudly announced that she is learning how to use "e-commerce" (i.e., electronic commerce). Respondent C and her husband have two sons, both of whom majored in marine biology and are interested in aquaculture businesses. Her elder son already has his bachelor's degree and is working full-time for his parents.

The respondents mostly face challenges from Chinese competitors. The cases of Respondents C and D showed that markets could be expanded in countries that use the same language as Taiwan. Thus, investments of fisheries in China would be more convenient for local business people. In the survey, Respondent E is the only one who not only owns marine-culture sites, but is also a fish wholesale dealer. She also exports some products to Singapore. In her case, the language barrier is not a problem in her overseas expansion.

Conclusion

In the last 30 years, Taiwanese women in fisheries, have become better educated than before. Their families have provided them with opportunities to develop their potential to work as professionals in the fields of research, education, administration, industry and trade. More importantly, the women themselves work hard and efficiently, and thus respond well to challenges.

Their advantages in response to globalization are summarized below:

- Easy access to global trends with mass media, education and training courses;
- Being highly alert in response to the impact of globalization;
- Willingness to improve language ability, to learn new knowledge, and to adopt advanced technologies (e.g. e-science and e-commerce); and
- Strong ambitions to expand foreign markets.

However, some drawbacks hindering the process may include:

- Lack of continuity of the business-no one to inherit his/her businesses;
- The need for more efficient and responsible business associations in the industry sector to provide sufficient information and measures in response to changing world trade; and
- Lack of human resources or supporting staff to share their heavy work.

Taiwanese women in fisheries have to adapt themselves to survive. They cannot live and work alone but need help and support from their families as well as the Government. In addition to the individual's problems in adaptation, the industry of fisheries has a general, organizational problem. The average size of a firm is about four persons, which results in small production scale and limited capital. This business structure affects the ability of these firms to expand or even to compete with other large-scale companies. Therefore, to assist local fisheries in sustaining outside challenges, the Taiwanese Government has to be more active in providing both technological and financial support. Thus, owners of family businesses would rely less on their own labor inputs, but pursue the expansion of the company. Making bank loans available and lowering interest rates would provide them more incentives for expansion and merging. In facing the challenge of globalization, the Government cannot be absent. Contrary to the predictions of the neo-liberal economists, the nation-state would need to intervene more but not less in the era of globalization.

Table 1. Structure of the questionnaire.

	Extremely deficient	Deficient	Aggressive	Extremely aggressive	Others	Examples in short
1. Communication skills						
2. Awareness of global trends						
3. Pursuits of new technologies						
4. Leading and guiding peers						
5. Practical actions						
Scheme						
1. Personal action						
2. From Taiwan Government						
3. Worldwide						
Personal Information						
1. Personal experiences? _____ (dated back) _____						
2. Highest academic degree? _____						
3. Years of services in Fisheries? _____ years						
Name: _____						
Phone: _____						
Fax: _____						
E-mail: _____						

Acknowledgements

We are indebted to the organizing committee of the special session Global Symposium on Women in Fisheries headed by Meryl Williams in the 6th Asian Fisheries Forum for inviting us to present the paper. The international organizing committee of the 6th Asian Fisheries Forum, headed by I Chiu Liao, is acknowledged for bringing together both women and men scientists who are concerned about the issue, of women's role in Asian Fisheries. Contributions of all respondents and assistant staff from the Department of Fishery Biology, Department of Aquaculture, and TML in TFRI that made this paper possible, are highly appreciated.

References

- Chao, N.H. and I. C. Liao. 2001. The role of women researchers and teachers in Taiwan fisheries in the last 30 years, p. 111-120. *In* M.J. Williams, M.C. Nandeesha, V.P. Corral, E. Tech and P.S. Choo (eds.) Proceedings of International Symposium on Women in Asian Fisheries, 5th Asian Fisheries Forum, Chiang Mai, Thailand, 13 Nov. 1998.
- Chen, M.H. 1999. The chapter of working, p. 53-72. *In* M.H. Chen (ed.) Report on Women's Rights. Taiwan: Awakening Foundation. (In Chinese).
- Cheng, L. and P.C. Hsiung. 1993. Women, export-oriented growth, and the state: The case of Taiwan. Taiwan. A Radical Quarterly in Social Studies. 14:39-76. (In Chinese)
- Chiang, Z.G. and Y.L. Lien. 1996. Analyzing the Government's role in the development of aquaculture industry. Taiwan Economic Monthly. 238: 28-68. (In Chinese)
- Chu, W.W. 2000. Globalization and the development strategy of less developed countries. Taiwan: A Radical Quarterly in Social Studies, 37:91-117. (In Chinese with English Abstract)
- DGBAS (Directorate-General of Budget Accounting and Statistics, Executive Yuan). 1997. The Report of the Agriculture, Forestry, Fisheries, and Livestock Census of 1995.
- Du, S.H., Y.H. Su, and C.Z. Liu. 1999. The role of female farmers in Taiwanese farming business. Quarterly of Taiwan Bank March:283-310.
- Greider, W. 1997. One world, ready or not: the manic logic of global capitalism. Simon Schuster, New York.
- Kao, S.W. 1997. A study of women's participation in decision-making of fishery families. Review of Agricultural Extension, December:19-53. (In Chinese)

- Lee, W.C., Y.H. Chen and I C. Liao. 2001. Current issues and adjustment of the Taiwan aquaculture industry. *Journal of the Land Bank of Taiwan* 38(1):17-33. (In Chinese with English Abstract)
- Liao, I C. and N.H. Chao. 2001. Optimization of essential factors for aquaculture development in Taiwan. *Journal of the Fisheries Society of Taiwan* 28(4):249-267.
- Liao, I C., H.M. Su, and E.Y. Chang. 2001. Techniques in finfish larviculture in Taiwan. *Aquaculture* 200:1-31.
- Lin, Y. L. 2000. Impacts of WTO to Taiwan's economic trading and businesses. *Management Magazine* 321:122-126. (In Chinese)
- Liu, D. H. and C. R. Lin. 2000. External strategies within globalization. *Taiwan Economic Research Monthly* 23:37-43. (In Chinese)
- Lo, M.C. and T.C. Hwang. 1996. The internal structure and development of aquaculture in Taiwan. *Journal of Agricultural Economics* 59:1-33. (In Chinese)
- Nierop, T. 1994. Systems and regions in global politics: an empirical study of diplomacy. *International Organization and Trade, 1950-1991*. John Wiley, Chichester.
- Ohmae, K. 1990. *The borderless world*. Collins, London. Yang, S.-C. 2001. Will globalization increase the unevenness of international wealth? *Common Wealth* Feb 1:30-33. (In Chinese)

WOMEN IN AQUACULTURE: INITIATIVES OF CARITAS BANGLADESH

A.B. Shelly and M. D' Costa
Caritas Fisheries Program, Bangladesh

Abstract

In Bangladesh, women have proven to be competent in adopting aquaculture technologies, despite the fact that their role in aquaculture growth has not been sufficiently recognized and remains inadequately addressed. To ensure sustainability in aquaculture, it is necessary to understand related issues and develop gender sensitive interventions.

The participation of women in different aspects of daily life is strongly affected by social, cultural and religious norms such as seclusion, segregation and the veiling of women in public. These restrictions and the gender division of labor have created the norm of a segregated and protected role for women, and have constrained women's mobility and participation in work outside the home. Traditionally, women have been involved in small-scale aquaculture in different stages of operation. They are active "caretakers" of fish in homestead ponds, nurseries, cages, and even in rice fields. It is only now that there is a growing recognition of the ability and potential of women in contributing to the national economy in the fisheries sector.

Caritas Bangladesh has organized a total of 18 269 beneficiaries under its Aquaculture Program from 1998 to 2000, out of which 8 603 were women (47%). It has been observed that necessary capacity building support followed by some special provisions to overcome socio-cultural taboos have been successful in getting women involved in aquaculture. This paper reports the general status of women in fisheries, their potential in Bangladesh and the experience of gender-sensitive initiatives of Caritas Bangladesh.

Involving Women in an Aquaculture Development Program - A Gender-Sensitive Initiative of Caritas Bangladesh

In Bangladesh, the capability of women in adopting and implementing aquaculture development technologies is well substantiated, although their full potential has yet to be explored. To ensure sustainability of aquaculture, it is imperative to understand women's role in aquaculture. Participation of women in different aspects of daily life is strongly affected by social, cultural and religious norms. Gender inequality is deeply embedded in the overall structure And social controls at all levels make women subservient to men.

Bangladesh has both the world's largest delta system and the greatest flow of river to the sea. It also has vast and enriched water bodies such as ponds, *dighi*, *beel*, *baor*, *haor*, lakes, rivers, estuaries etc. One third of Bangladesh's physical space of 144,000 sq km is comprised of water in the dry season, while in the rainy season up to seventy percent is submerged. Annual fish production is about 1.55 million metric tonnes and per capita fish consumption is about 17 g/day (BBS 1999). Closed water culture fisheries such as ponds, oxbow lakes and shrimp farms contribute approximately 39% of the production, while the balance comes from capture fisheries. The average growth rate for the last ten years was 13%.

Various studies show that 43% of rural women are contributing to agriculture and fisheries-related activities besides performing their household responsibilities. Rural women are also singularly contributing to seasonal fish drying, processing and many other assorted types of work associated with fisheries. They

spend a major part of their day at ponds performing a variety of tasks such as wash, cook, bath, and collect water for the cattle. After fulfilling their traditional responsibilities in the household, women can simultaneously be involved pond fisheries activities. This enables their male counterpart to work elsewhere, and women to supplement the family income.

National Strategy for Aquaculture Development

Bangladesh is the most densely populated country in the world, having a landmass of 144 000 sq km with a population density of 861 persons/sq km (1997). At least 70 million live in absolute poverty, and of these, 35-50 million comprise the extreme poverty groups (BIDS 1990; 1992). Due to extreme poverty, millions of people, particularly women and children, suffer from severe malnutrition and undernutrition mainly due to the lack of animal protein in their diet.

The Government of Bangladesh rightly recognized the need for a pragmatic National Fisheries Policy and promulgated the same in 1998. The main features of the policy are to

- Bring the ponds, lakes and other closed and semi-closed waterbodies under intensive fish culture;
- Promote the application of modern technology to increase production;
- Provide extended training facilities for development of human resources in the public and private sectors; and
- Introduce an integrated development approach to be followed by a sustainable integrated rural development program. This approach takes into account both the technical aspects of aquaculture development and the socioeconomic needs of the small farmers.

A number of programs are being implemented under the auspices of the Department of Fisheries. During the current fifth five-year plan, a total of 28 projects related to fisheries development have been initiated. The collaboration of NGOs and the Government in government-sponsored programs has already yielded results as the beneficiaries are increasingly being involved in the implementation and management process.

Potentials of Women in Aquaculture

In most rural communities, there are essential differences between the economic, social and political roles of men and women. This also holds true for fishing communities. While the nature as well as the dimension of these responsibilities may differ from country to country and from community to community, a number of basic features can be identified. Fisheries activities are commonly perceived as men's work. This is also a common phenomenon. However, while there exist difficulties of different magnitude for women to be fully involved in fisheries, there are also vast potentials for women to contribute meaningfully in the fisheries sector.

Involvement of women in all development initiatives including agriculture is seen as a priority in the national development paradigm. Traditionally, women have played a major role in agriculture. However, studies on various development endeavors have also endorsed the fact that while female members of farm-based households are playing a significant role in agricultural farm and household activities, their work loads have been consistently higher than that of the male members. Rural women are involved in different household activities like cooking, food preparation, child-rearing, livestock and poultry-raising, and household gardening, which are essential for household maintenance. They are also engaged in post-harvest activities, which includes rice processing (that is, boiling, drying and husking of paddy). The male members of agricultural households are involved in field activities while the female members undertake tasks like seeds preservation, and drying and boiling of paddy. Although all these are essential for the existence of each rural household, they are not awarded any form of recognition as these types

of work do not directly generate money. Rather, in most cases, women are treated as dependents despite the fact that they play a substantial role in household agricultural activities. Research studies show that besides their regular household work, 43% of women are involved in activities related to agriculture, and almost 15% undertake agriculture as their second occupation.

While fishing too is perceived to be a full-time occupation of men, the involvement of women is just as significant. Together with their male counterparts, women are engaged in activities like making fishing nets, gears, repairing or maintaining the gears, sorting of fingerlings, fish processing, transportation and marketing. However, as time progresses, this complementary role of women is changing and women's involvement in these activities is becoming a full-time occupation.

Pond Fishing

In rural Bangladesh, most women spend a major portion of their time doing household work. The type of work a woman has to do makes it necessary for her to be close to a pond where she has to wash, bathe, collect drinking water and perform other household tasks. There exists therefore, a natural condition for women to explore the possibilities for fish cultivation. These ponds are also used for vegetable cultivation, ensuring the supply of much needed nutrition for the family.

By undertaking pond fisheries activities, women can

- contribute to the family income considerably;
- ensure constant supply of much needed family nutrition;
- generate an opportunity for self-employment;
- uplift their overall socio-economic condition; and
- become more skilled

Seasonal Fishing

Lands adjacent to the homestead remains water logged for three to six months in a year. These lands are situated close to the rural households. Normally, these lands/ditches remain unutilized. By using a proper method of treatment and cleaning, these fallow lands can be prepared for fish cultivation. Seasonal ponds can be economically profitable, as the land becomes fertile with the homestead organic waste and often after inundation of floodwater. With nominal investment and labor by the family members, these water bodies could be used for fish cultivation. Various species of fish like *Puntius sarana*, *Oreochromis nilotica* can be cultivated in these types of water bodies. The investment is affordable and the work does not require much labor. Women therefore can conveniently embark in such ventures.

Mini Ponds

These types of ponds provide the ideal conditions for fish cultivation. Ensuring water availability throughout the year would guarantee fish cultivation for the entire year. Because they are smaller in size (normally 8 meters in length and 6 meters wide), these types of ponds can be excavated in compounds of the homestead. Women can undertake fish culture in these ponds in the same manner they would cultivate vegetables in and around the plinth of their homestead. This will help families meet the requirement of fish in their daily diet and also to meet extra family expenses. Fish culture in the mini ponds does not require extensive technology. This kind of activity is inexpensive and can be easily managed.

Shrimp Aquaculture

In coastal Bangladesh where shrimp farming is a dominant occupation, women are already actively

engaged in many ways. It was found that almost 85% of the women are engaged in fry collecting as it does not interfere with their day-to-day household work, and helps supplement the household income. The principal source of fry collecting is from rivers and women's access to rivers is unhindered. Moreover, the work is not time bound and therefore women can do it at their convenience. Unfortunately at present, fry collecting is being discouraged to protect the aquatic biodiversity of the area. Women are also actively engaged in various kinds of work in shrimp farms. In these farms, they do dyke construction and maintenance, liming, harvesting and other farm-related activities. Typical of shrimp aquaculture, women also work in the depots/factories and in places where the trading takes place. They play an important role at the export level in fish grading, de-heading and packaging. It must however be recognized that these services of women are in great demand because of the fact that they are paid much less than men for the same type of work.

Crab Culture

This is another kind of work that women can do close to their homestead. Through the application of indigenous technology, women are already engaged in such work. Traditionally, it is often difficult for women to go away from their homestead to work. It was found in a number of studies that the social and familial life of women who go out for earth cutting work is affected because her absence from home for a long period of time is not socially accepted. If opportunities are created and made available, women can undertake crab culture in the ponds adjacent to their homestead, much like pond fisheries. This will help them maintain their regular household work and give them the opportunity to supplement their family income.

Fish Processing

Women can undertake projects for fish drying using indigenous and available species. The dried fish can be marketed during the lean season to earn good returns on their investment. Besides, they can also buy fish from the trawler and deep-sea fishing boats directly.

Fishing Gears

This is traditionally an area of work done by rural women. They have the required expertise and are aware of the technology best suited to make different kinds of gear. If linked with skill development training and marketing of the products, this can also be an important area for the involvement of women in bigger numbers.

Fish Feed Preparation

In Bangladesh, many women are involved in making prawn/fish feed at home for their own use. It has also become an important income-generating activity as they can sell the feed to other farmers in the area. This is another example of the kind of work that women can do conveniently at home.

It can be seen from the above examples that there lie ample opportunities for women in aquaculture-related activities. However, there are also issues related to the involvement of women, which will be discussed in the following section.

Constraints Women Face in Aquaculture-Related Activities

Socially, a woman in Bangladesh enjoys lesser importance than her male counterpart. A Bangladeshi woman's most important recognized role is that of a housewife. From childhood, a girl is trained to be a wife and a mother. Generally, this term refers to those who do not engage in economic activities.

Although women's contribution is well recognized in agriculture-related activities, their contribution in economic activities remains unvalued due to patriarchal and traditional norms. Reduction or eradication of these constraints could lead to increased productivity, resulting in an enhanced economic welfare, particularly for rural poor families. The following are some of the major constraints:

Social Customs/Norms

In Bangladesh, the social norms and customs are greatly influenced by religious interpretation. Women are secluded or conditioned to seclusion for fear that once they gain access to the outside world, men would find it hard to manipulate them further. The activities of women in the sociocultural environment of Bangladesh are primarily domestic in nature, confined to the four walls of their home. The major factor leading to non-valuation of women's work stems from the country's socio-economic, cultural and religious contexts. Women's position in all areas is very much inferior to men. Women's limited access to education, skills, resources and opportunities lead to gender inequality in all spheres of women's lives.

Resource Availability

A recent study by ILO showed that women's contribution to the world economy is 66% but they enjoy only 10% of the total wage. It is absolutely unfortunate to see that property owned by women is only about 1%. It is a total disproportionate contrast in view of women's contribution to the wealth accumulation of nations. In the case of holdings on personal property, it is men who hold the ownership title. Common property resources like Khas Land and water bodies are leased out to groups, usually cooperatives formed and run by men. The law does not prohibit women to own or possess these resources but discriminatory attitudes bar women's access and ability to take control of these common property resources.

Technology Transfer/Education

If education is considered as a resource then women are greatly deprived of this resource. Bangladesh has made great strides in increasing enrollment in schools and the national literacy rate has increased from 37% in 1996 to 47% in 2001. However, the literacy rate of women is well below the national level. Besides education, women's access to research findings has also been neglected from the application point of view. It is often seen that almost all research takes place to benefit men rather than women. For example, a particular testing on farmers is done only with the men. A particular research methodology is designed in such a way where the man remains the center focus. Women's involvement and their needs in farming or farming-related activities remain ignored.

The vast majority of training sessions and extension services are conducted by men. Women are unable to take advantage of such programs because women and men outside the family are not encouraged or even prohibited to socialize with one another. Too often, when training and extension services are offered, they are geared to the needs and interests of men rather than women. Training is normally held in places where it is difficult, if not impossible for women to attend. In cases of distribution of new technologies, there is hardly any scope for women to avail of new technologies as they are hardly or never considered as potential practitioners of such innovations. Women enter the labor market without sufficient education or skills. They are considered "unskilled" workers and are therefore paid lower wages. Barring women access to education and skills training only perpetuates the vulnerability of women and leads them towards further pauperization.

Credit Facility

For millions of poor rural women, poverty means a long list of things; not having enough to eat or

lacking adequate housing, suffering from malnutrition and dying of disease. Poverty also means not having the economic resources to invest in shaping a better present or building a more secure future. Without such resources, the poor face an ever-descending slide into deeper destitution. If this situation is to be reversed, if poor women are to have a little chance to improve their lives, then they must have access to credit. Credit, as it is often said, is a vital catalyst for development.

The poor in general have little access to credit. For poor women in the part of the world, the situation is more complex considering the legal, economic and social status of women, and the impact of traditional customs, age-old practices and long-held stereotypes. In Bangladesh, women of any age are considered legal minors and thus do not have access to credit without the signature of a father, husband, or brother. Without title to land or control of other assets, the women have nothing to put up as collateral and so are not eligible for many types of loans and are viewed by money-lending institutions as credit risks. Most poor rural women engage in subsistence farming, and these institutions find it difficult to believe that loans given to these women can be repaid. In addition, since women tend to take out smaller loans than men, the higher administrative costs involved is given as an excuse to avoid lending to them. Other factors enter the picture as well. Women find it difficult to leave the home to travel to a bank. The lack of education and experience in financial matters is a further constraint. Cooperatives and other associations through which credit is channeled to farmers tend to be exclusively reserved for men. So, poor women, who are more in number than poor men, are faced with the choice between going without and turning to the informal credit sector. The introduction of micro-credit schemes by the NGOs paved the way for large numbers of women to have access to small credit loans, but the decision of how the credit is used still remains with men. With regard to women taking credit for fisheries projects, the credit ceiling is insufficient for any kind of initiative. The repayment mode is also an obstacle and unfriendly to the socioeconomic conditions faced by women.

Availability and Accessibility of Input

Since the movement of women is traditionally restricted, it is quite difficult for them to travel to distant areas to purchase necessary ingredients like fertilizer, fingerlings and feeds that are required for the projects they have undertaken. Normally, the ingredients are available in places far from their houses and a woman is unable to travel the distance to get the needed materials. In such cases, women are again dependent on men.

Representation and Decision-making

Women are generally under-represented in cooperatives and thus lack the support and economic power that such collective enterprises can offer. Besides, men tend to hold the vast majority of leadership positions. Women therefore, have little or no say in many areas which affect their lives, and little chance to develop leadership and decision-making skills. In our social system, men make decisions of an important nature. In the case of pond fisheries projects, men usually decide about stocking, harvesting, marketing, and finally on the utilization of the income from the project although women often play a major role in nurturing and harvesting. Even for the products that come from the initiatives of women, men make major decisions, as women are not linked with markets. Economically, women have always been involved in production although their share in consumption as well as control over capital and cash has always been nominal and neglected.

Caritas Initiatives, Achievements and Experience in Involving Women in Aquaculture

Caritas Bangladesh is a national non-profit NGO that was established and mandated to work to enhance human welfare and contribute to the national development of Bangladesh. Caritas has about 44

multidisciplinary projects under 11 sectors and all are directed to alleviate the condition of the poor and the marginalized section of the people to more humane conditions. Caritas believes in the primacy of the human person; affirms that there is power among the powerless; and stresses integral human development. Among the 11 sectors that Caritas works in, Fisheries Development is one. Caritas adopted a single and consistent approach to community development within all the sectors and uses a people-centered approach to its entire development endeavor.

As a development agency, Caritas is aware of the constraints as well as the possibilities in the field of fishery development. In responding to the needs of the people and to bring about a balanced development approach, Caritas began its Aquaculture Development Program (ADP) in 1981. This was a pilot initiative. Caritas continued with the project activities and were able to feed the idea of fish culture to the target beneficiaries. It was also found that the people responded readily to fish farming practices as this produced visible results in terms of increased income and improved nutritional status. Looking at the response of the people and their enthusiasm, the program took a new shape under the Extended Aquaculture Development Program (EADP 1 & II). Meanwhile, technologies were transferred to the beneficiaries and the selected groups were trained in various fields of aquaculture. However, from a number of studies and evaluations, it was clearly evident that the men were reaping the benefits of the initiatives because the support devices such as leasing system of ponds, khas lands and other resources were directed towards the benefit of men. The program then took a different course from the early 1990s, keeping in mind that almost 65% of Caritas formed groups were women. Meanwhile with the progress of time and acquired experience, Caritas designed its aquaculture development program with some new dimensions in the form of Sustainable Aquatic Resources Management (SARM) for another five years starting from 2001. It may be mentioned that within its organizational policy, Caritas places a high priority on gender sensitivity and gender equity, and these elements are worked into all the programs. Conditions were made where access of women in appropriating resources was ensured. The strategy of group formation, their nurturing and management were made appropriate to fully corroborate with the organizational policy towards gender equity. Through different programs of Caritas, the areas of awareness-raising, family counseling, and making people more articulate to avail of Government resources, were given top priority. These were translated from a development agenda, to policy and to practice. Credit support was seen as an effective instrument for realizing the financial need of the groups. Caritas adopted a credit disbursement policy ensuring availability of credit to the groups at a shortest possible time. Provisions for grants (in extreme special cases) have also been made in different projects where credit alone would not serve the purpose of the groups. It needs to be explained in brief why the fisheries program was made to suit the condition of women. Caritas having worked over two decades identified that the performance of women groups were much better in all spheres of the initiative. The following are some of the reasons:

- Women's groups were found to be more disciplined and determined to bring about a change in their lives;
- They are more concerned about the social taboos and forces that hinder their development;
- Women group members are enthusiastic about learning and thus attend the training regularly;
- Savings rate of women is much better than that of their male counterparts;
- Women group members are the best borrowers and their repayment rate is much higher than the male group members;
- Women's groups are more open to new ideas and concepts and are serious about adopting these concepts.

Major objectives of the Caritas Fisheries Program

Long Term Objectives

1. Increase in fish production, profitability, and availability, creates more employment and uplifts the quality of life of the rural poor organized under different programs of Caritas.

2. Ensure optimum utilization of available fisheries resources.

Immediate Objectives

1. Organize group members and fisher folk to strengthen their involvement in fisheries resources and credit mobilization.
2. Dissemination of sustainable eco-friendly aquaculture and fisheries management technology, integrated aquaculture with livestock and crop farming.
3. Strengthening of fishpond projects/groups for sustainable fish production through communication mobilization, training and necessary support services.
4. Renovations of derelict ponds in order to create employment opportunities among the group members and eventually utilize them for fish culture.
5. Professional skills development of group members in the field of fisheries like, nursery management, hatchery operation and integrated aquaculture.
6. Creating awareness of conservation of environment and water resources among the primary group members and fellow villagers, ultimately spreading all over the country to save them from natural and man-made calamities.

It may be mentioned that apart from the above-mentioned areas, the Fisheries Program also made some special provisions to ensure the increased participation of women. These are summarized as follows:

- It was made conditional that women members of the family get possession of the ponds belonging to the family and undertake fisheries-related activity in such ponds. Adequate support was provided for excavation, re-excavation of such ponds as well as other types of support, which were required to make the derelict ponds cultivatable.
- Family counseling was undertaken to enable the male members to understand the idea of involving their female counterparts in fish culture.
- Training programs were made women-friendly. Women extension workers were deployed for providing training to women beneficiaries. Training opportunities were therefore taken to the doorsteps of women beneficiaries.
- Extra provisions were made for women borrowers so that they can take credit at the shortest possible time to respond to their needs. In some cases, the rate of interest was also lowered and the repayment time shortened.
- Considering the difficulties of women in traveling long distances to buy inputs, Caritas ensured the availability of inputs such as fish feed and fingerlings so that women continue with their activities without any difficulty.
- Women beneficiaries in fisheries activities were also given training as well as input support for home/kitchen gardening so that besides doing fisheries-related activities, they can also make good use of their fallow lands and thus supplement their family income.

All the above was done to cultivate women's interest in fish culture and related activities. This affirmative action proved successful over the years as shown by women's increased participation in fisheries activities.

Table 1. Major activities and achievements of Caritas Fisheries Program at a glimpse (1983 to 2000).

Sl. No.	Field of Activity	Achievements	
		No. of Projects	Area (acre)
1	Pond re-excavation	1,591	509.97
2	Pond lease & purchase	3,224	2,344.28
3	Fish processing project	83	n/a
4	Natural fish catching project	1,104	n/a
5	Village based nursery	535	182.71
6	Paddy cum fish farming project	4,634	6,935.99
7	Small Pond fish farming	3,886	476.82
8	Integrated fish farming	1,937	476.82
9	Poly-culture	3,019	633.75
10	Hatchery Support	9	92.56
11	Marketing support project	3,690	n/a
12	Demonstration of new technology	182	n/a
	Total	23,893	11,652.90

Table 2. Farmer Group Involvement.

Sl. No.	Subject	Numbers
1	Total groups involved	6,366
	a) Male Groups	3,441
	b) Female Groups	2,925
2	Total farmer/beneficiaries	69,443
	a) Male members	39,981
	b) Female members	29,462

Table 3. Production and profit analysis (1999-2000).

1	Average production cost/decimal US\$	3.33
2	Average production/deci/Kg	11,386
3	Average production /ha Kg	2,812
4	Average net profit/deci US\$	7.94
5	Average per capita income US\$	104.13
6	No. of small scale carp hatchery operation	09
7	Spawn production kg/year	680
8	Fry /fingerling production	4.5 million

Impact of the Caritas Fisheries Program

Resource Utilization

- Common people in the program areas have become enthusiastic in fish cultivation using whatever water resources they have after having seen the success of the ADP.
- Previously most of the village ponds were packed with water hyacinth and other sorts of aquatic weeds, and were breeding grounds for mosquitoes. Now, such a scene is a rarity in the areas where the fisheries program is implemented.
- Derelict ponds or water bodies are no longer available in the working areas.
- Caritas-organized group members are now gradually facing difficulties in getting ponds on lease, because the pond owners prefer to culture fish by themselves. Even homestead small and shallow ditches are being renovated and prepared for seasonal fish farming.

Technical Know How

- Infuse a great deal of enthusiasm and enhance community awareness regarding fish farming.
- Create a scope for introducing new fisheries projects - Community-based Beel Fisheries Management (CBFM), Sustainable Environment Management Program (SEMP), Management of Aquatic Ecosystem through Community Husbandry (MACH), Aquaculture Technology Transfer Project (ATTP), Patuakhali-Barguna Aquaculture Extension Project (PBAEP) - thus addressing different aspects of fisheries in the context of Bangladesh.
- Create an interest among pond owners outside the groups to learn farming technology from Caritas beneficiaries.
- After a certain period, fish farmers are able to run their projects independently without the technical assistance of Caritas.
- Aquaculture farmers are becoming acquainted with induced breeding technologies in their small-scale carp hatcheries.
- Women's groups in Caritas working areas are practicing integrated fish farming along with crab fattening, fry nursery, rice fish culture and fish processing, following the prescribed technologies given by the project.

Socioeconomic Aspects

- Participation of women in fish farming activities has increased considerably. At present, 43% of the total beneficiaries engaged in pond aquaculture are women and in fact, they do almost all the activities that used to be done by men (earth-cutting, pond preparation, feeding and fertilizing, accounts-keeping, decision-making on marketing/consumption of products etc.). The women's groups are practicing test netting, fish harvesting and marketing on their own without any help from others. As more women become owners of land (ponds), their status both in the family as well as in the society is enhanced.
- The living standards have improved and the beneficiaries are now sending their children to schools as they can meet the education expenses of their children.
- The program has created a strong feeling among the poor beneficiaries regarding their social and economic status, resulting in strong organizational integrity within the groups. The women's groups in particular, have demonstrated a strong bond and unity as well as commitment towards their quest for self-development.
- With increased economic power and respect, the group members (both male and female) are now well accepted in society. They are called upon for local arbitration and their views are greatly valued. A number of once voiceless, assetless people have contested in the local elections and were elected.

Through the Fisheries Program of Caritas, it was possible to shift the traditional way of dealing with the fisheries sector as the idea of fish culture and fish cultivation has been rightly propagated to the rural people of the country. It was demonstrated that by giving due support, people can utilize their hidden potential to a great extent. The experience of Caritas Fisheries Program also shows that if a program is designed with the objective of making people skilled, the responsibility of the organization lessens as people gradually take over such responsibilities.

Recommendations

From the above presentation and also in consideration of the potentials of women in fisheries, the following recommendations are made:

1. Ownership to assets is the single important factor. Therefore, measures need to be taken to ensure women's full entitlement to land rights, equally with men in terms of ownership, usage rights and security of tenure. Where appropriate, wife and husband may jointly hold such rights. Conducive and time befitting policies should be adopted enabling women to have possession over Government khas lands and other water bodies for fisheries activities.
2. The existing extension services should be revamped so that both male and female extension workers can reach women who are engaged in fisheries activities. Fisheries research should consider the different needs of women and provide technological solutions. Women engaged in fisheries-related projects should be given opportunities while farm trials and research is undertaken.
3. All forms of discrimination must be eliminated to make the movement of women free and safe. There is a need to create a more enabling environment for women so that they can move beyond the confines of their house to receive trainings offered by Government/non-government extension services.
4. Reorientation of the current micro-credit system is needed, as the current system does not meet the requirement of women, especially for fisheries activities. Credit facilities must be made available in consideration of their actual needs. If required, special provisions could be made to respond to sectoral needs. Credit should also be made available for other kinds of work associated with making different kinds of gears for fishing i.e. nets, traps, etc.
5. Most importantly, the attitude of men towards women must change. Women's involvement in fisheries-related activities must be recognized and their views/opinions must be given due importance.
6. While designing a program, it must be ensured that women are given equal rights and opportunities to actively participate in the programs. There should not be any element in the program that hinder the participation of women. Therefore, program designing should be gender-sensitive.

Conclusion

Women play an important role in the fisheries sector of Bangladesh. This role encompasses social and economic activities and duties, both within and outside the family, including marketing, processing and also harvesting fishery products. Development initiatives over the last few decades clearly show that sustained improvements in productivity and in people's lives depend upon the recognition of the crucial role women play in production, processing and marketing in the small-scale fisheries sector in the country.

It is imperative that to accelerate its development initiative, an under-developed country like Bangladesh needs to unleash the full potential of its women. A social transformation must be engineered by changing power relations within the household and society. To achieve this, the Government and its development partners need to re-orient their programs and implement an effective affirmative action for women.

References

- BBS. 1999. Statistical Book. Bangladesh Bureau of Statistics, Ministry of Planning, Government of the People's Republic of Bangladesh.
- BIDS. 1990. Evaluation of poverty alleviation program in Bangladesh. Bangladesh Institute of Development Studies, Bangladesh. 75 p.
- BIDS. 1992. Rural poverty in Bangladesh: trends and determinants. Bangladesh Institute of Development Studies, Bangladesh. 57 p.

WOMEN-LED FISHERIES MANAGEMENT – A CASE STUDY FROM BANGLADESH

P. Sultana, P.M. Thompson and M. Ahmed
ICLARM-The World Fish Center, Malaysia and Bangladesh

Abstract

Although women constitute 50% of the total population of Bangladesh, only 18% are economically involved in the total labor force. They are involved in diversified work within their homesteads. However, during times of family needs and economic crisis, women are involved in non-traditional jobs. In the fisheries sector, Muslim women are traditionally not involved in fishing but they are involved in fish drying and salting. In the Hindu dominated areas such as Goakhola-Hatiara, women are involved in fish catch as well as the collection of other aquatic resources as one of their livelihood strategies. Women and subsistence fishers are taking the lead in managing a common capture fishery resource in Goakhola-Hatiara with the support from an NGO for perhaps the first time in Bangladesh. However, the role of women in the Beel Management Committee is not well defined. Under the leadership of women the socio-economic conditions have changed and the social capital has increased.

Introduction

The overwhelming majority of women in Bangladesh are not only poor but are also caught between two vastly different domains: one determined by culture and tradition that confine their activities inside homesteads, and the other shaped by increasing landlessness and poverty that forces them out into wage employment for economic survival.

By custom, the life of a woman in Bangladesh is shaped by the patriarchal, patrilineal and patrilocal nature of the social system. Her reproductive role is emphasized by social, cultural and religious traditions. Traditionally, to fulfill this role, a girl is married off at puberty and is immediately locked into her reproductive role, although this is gradually changing. The various elements of the social system interact to make women dependent on men, or at risk when deserted by men. This system produces a rigid division of labor and segregates the labor market by sex. The household is the primary production and consumption unit. Men generally own and manage family land and control women's income and labor. Women contribute a great deal to the economy and to the family. Not only do they participate in agricultural and industrial labor, they are also responsible for housework such as cooking, cleaning, washing, and collecting firewood and water. In addition, they assume full responsibility for childcare and caring for the old. Nevertheless, a woman's contribution goes unrecognized in the national accounts because it is unvalued and invisible.

The role of women in society is seen as subsidiary to that of men and having its principal concern with the household, reproduction and childcare, and family management. The distortions show particularly in

- average literacy - 38% for women, 52% for men (BBS 1998);
- age at first marriage - 20 for women and 28 for men (World Bank 1998);
- participation in education - women comprise only about 30% of secondary and higher enrollment (BBS 1998); and

- work - only 18% of women participate in the labor force (United Nations 2000) - and have significantly lower wages when they do - but contribute 80% of the unpaid family work.

However, rural women of various minority groups are more liberated and are more advanced than the majority population of Muslim women.

From the 1980s, the status of women and the amelioration of their disadvantaged position in Bangladesh has been a major concern of the NGO movement. Whatever the limitations, there have been impressive strides in the empowerment and economic emancipation of women under the programs of the Grameen Bank and national NGOs such as the Bangladesh Rural Advancement Committee (BRAC) and Association for Social Advancement (ASA), that have raised the economic role and voice of women in rural society throughout the country.

In Bangladesh, fishing is the second most important occupation in the non-farm sector, but only 3% of working women are estimated to be involved in fisheries (BBS 1996). The role of women in fisheries encompasses social and economic tasks both within and outside the family in order to sustain the activities of fishing communities. Traditionally, fishing was a Hindu occupation and only men in the fishing communities were engaged in catching fish. The only exception to this was some old and widowed Hindu women who caught fish for their household consumption as well as for sale in the southern part of the country. Now, not only the old and widows, but also all poor women irrespective of religion, age and marital status are found to catch shrimp fry in the coastal areas of Bangladesh. About 80% of the work force in shrimp fry collection are women and children. This change has happened due to the high poverty level and the growth of shrimp farming which created both a need and demand for a low-cost ways of earning money. In 2000, from personal observations, the price of each shrimp fry was around Tk 1-2 and on an average, each woman could earn about Tk 5,000 (US\$ 95) in a fry-catching season, which is from January to March.

Although fry-catching by women is now quite accepted in the coastal areas, fishing by women is not yet a regular and common picture. Some Hindu women catch fish in the canals and waterbodies near their houses with rods and hooks, but rarely with cast nets. Women usually catch fish by hand in shallow water and paddy fields, particularly in the coastal areas. It is even more unusual for women to have a say in management decisions regarding fisheries. The case study in this paper illustrates an exception to these norms and reports the role of women in management of a floodplain fishery in southwest Bangladesh and the outcomes of that for the community.

The Case Study Site

Goakhola-Hatiara Beel is a seasonal beel (a depression flooded in the monsoon season) covering at its maximum extent around 250 ha. It is located 17 km from the headquarters of Narail District in southwest Bangladesh. The beel is connected by Goakhola Khal (canal) to Afra Khal (a secondary river), which connects to the Bhairab River some 3 km downstream of the beel. Local rainfall is the main source of water in the beel. All of the land in the beel is private and is cultivated mainly with paddy. The area is submerged under 1.2-1.8 m of water for five to six months of the monsoon each year.

The five villages around the beel, Hatiara, Goakhola, Bakali, Mandiarchor, and Debbhog, are entirely Hindu communities. In December 1996, there were 355 households living around the beel, of which 89 were already Banchte Shekha group members. Banchte Shekha is an all-women NGO in Bangladesh. In another survey in 1999, the number of households decreased to 333 of which 3% were female-headed households. Almost all the households catch fish some time in a year, over a third of this fish is sold, and the remainder of fish is used for home consumption.

NGO Activities

Banchte Shekha started working in the villages around the beel in 1987 following a severe flood. Finding

that there were many poor women who were interested to benefit from its activities, Banchte Shekha identified this area as one of their programs to improve the lives of destitute women. From November 1996 to 2000, Banchte Shekha received limited grants totaling Tk 731,557 (about US\$ 15,000) from the Community Based Fisheries Management (CBFM) Project to include the management of common fish resources in the activities of poor women's groups (funded by the Ford Foundation and implemented through the Government of Bangladesh by the Department of Fisheries and NGOs and coordinated by ICLARM-The World Fish Center). Before this project, it had already helped its participants with adult education, training in poultry rearing and vaccination, and provision of credit. For the CBFM project, Banchte Shekha appointed a full time organizer experienced in fisheries to be responsible for all project-related activities. The main activities and achievements of Banchte Shekha under the CBFM project have been

- forming seven groups with 205 members (all women);
- providing training in fish culture, fishery management and additional income-generating activities to all 205 group members (25 attended more than one training);
- mobilizing the group members to save about Tk 60,000 by March 1999;
- providing credit to groups in these villages. Since 1997, these groups have received an average of about Tk 180,000 per year (about Tk 900 per year) in credit linked with CBFM project from Banchte Shekha;
- participating in regular meetings with the Department of Fisheries (DOF) and the community (fishers, farmers and leaders); and
- forming a local fishery management committee which has taken up the activities discussed below.

The Management System

The CBFM project aimed to develop and test models for sustainable and equitable fishery management based on support for communities from NGOs and the Department of Fisheries (DOF). The objective in Goakhola-Hatiara Beel has been to conserve and enhance the natural fishery by ending the complete harvest of fish after the monsoon; by enabling more fish to move into the beel from the river; by reducing fishing pressure in the early monsoon; and by helping the households compensate for any short-term loss of income or food by developing poultry production and supplementary income sources. To achieve this, Banchte Shekha mobilized and expanded its all-women groups in 1997, but realized that coordination with all stakeholders was necessary. From late 1997, the formation of a beel management committee (BMC) was facilitated. The 27-member BMC and a separate sluice management committee were formally constituted in March 1998. The latter did not prove effective and in January 1999 it was disbanded and the BMC was reformed. The BMC comprises 8 female group members and 19 men, including fishers, landowners, and union parishad representatives. The cashier who controls the funds is a woman.

The main activity of the BMC has been to implement improvements in fishery management. The idea of keeping kuas as over-wintering sanctuaries for fish was introduced following training conducted by the DOF, ICLARM-The World Fish Center and Banchte Shekha; and ideas generated from a training program in the Philippines arranged for project staff; and a visit to a floodplain beel where the Center for Natural Resource Studies has been working in the Tangail District. In January 1998, the BMC agreed that five kuas would be rented for Tk 22,500 from the grant to Banchte Shekha, complete with their standing stock of fish. The women members of Banchte Shekha guarded these kuas during the day, and men in the BMC and husbands of the women guarded them at night. Participants aided by public announcements informed the general community not to poach in these kuas.

The brood fish moved into the flooded fields at the beginning of the rainy season in April 1998, inhabited and later spawned in the sanctuary kuas. The BMC had set a ban on fishing for three months after

spawning to permit the fish to grow but some fishing started. The natural mortality of these fry was also high because of drought. After the boro (rice-growing season) paddy harvest, the sluice gate was opened and water and larger fish could enter from outside. Overall with increased spawning and ample monsoon water the growth of resident species was better than in previous years. The same system of renting kuas has continued each subsequent dry season.

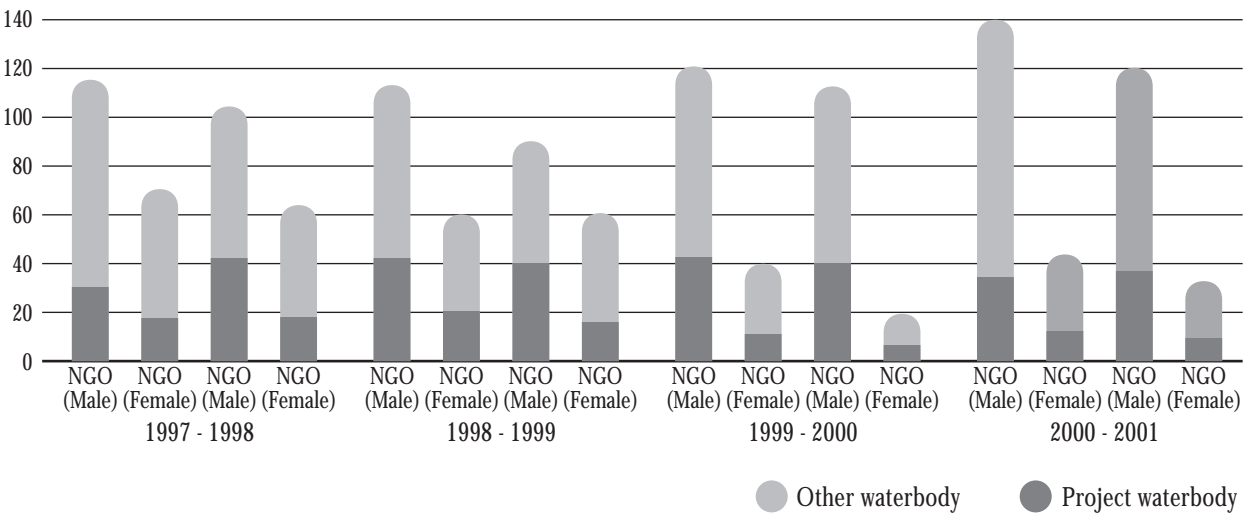
The sluice management committee was intended to operate the sluice to ensure fish could migrate into the khal and beel. However, this has proved difficult since fry and juvenile fish occur in the river outside the sluice in April-June when the gate is closed to keep out floods, which would damage standing boro paddy crops. While in June-July, when it is safe to open the gate, there are fewer fish moving nearby. Moreover, the community believes that most of the fish entering the khal swim on into seasonal beels further upstream, and so have not placed much emphasis on sluice operation.

Results and Impacts

Women and Aquatic Resource Use

Women have been fishing in this area for a long time. However, only about 8% claim that they are full-time fishers, while 56% of them fish on a part-time basis and the rest are subsistence fishers. They fish for family consumption. Most of these women have been fishing for less than 10 years (56%), 40% have fished for more than 10 years and a small percentage of 4% have fished for more than 20 years. Usually, girls start fishing in this area from the age of 9-10. On average, women fish 5.5 months a year and within that period, less than 20 days per household in the project water body. For these women, the peak fishing months are from mid-September to mid-November, but they start fishing from mid-August and finish in January. Male members of the family fish for more days than female members (Fig. 1). It would also appear that the average number of women-days for fishing has fallen in four years, but the amount of time spent fishing in Goakhola-Hatiara has not fallen as much as total fishing. Women in non-participant households fish there less than those from participating households, suggesting that the project has maintained at least fishing access for women.

Fig 1. Person-days per household fished in Goakhola Hatiara.



Women mainly use hook and line (88%), gill net (4%), cast net (4%) and traps (4%) for fishing. When water recedes, all women involved in fishing catch fish by hand. Usually they fish in the morning (64%) and afternoon (24%), while only a few (12%) fish during the middle of the day. These women are mostly elderly widows who do not have to cook for the family. Most of the women (68%) fish for 5 to 6 hours a day, 24% of them fish for 1 to 2 hours a day and a few fish for more than 6 hours a day. On average they catch 1.12 kg per day, 52% of which is used for family consumption and the rest they sell for income (interview survey). Everyday, they spend about Tk 3 on fishing and they earn about Tk129 per week. Eighty-four per cent of their earnings from fishing goes for family expenses such as daily needs, children's education, and health care. The rest is spent on NGO loan repayments and other minor needs. About 44% of the women are involved in other income-earning activities such as agricultural labor, sewing and snail collection. These are seasonal occupations. Most of the women have been involved in these occupations for several years. On average, they earn about Tk. 40 per day from these activities. About 70% of the women rated their economic condition as bad. According to these women, the catch of Meni (*Nandus nandus*) increased over the last 5 years. This species was earlier almost extinct from this area and is consistent with the catch monitoring data. Other species they reported are Koi (*Anabus testudineus*), Baim (*Mastacembelus armatus*), and Jatputi (*Puntius sophore*).

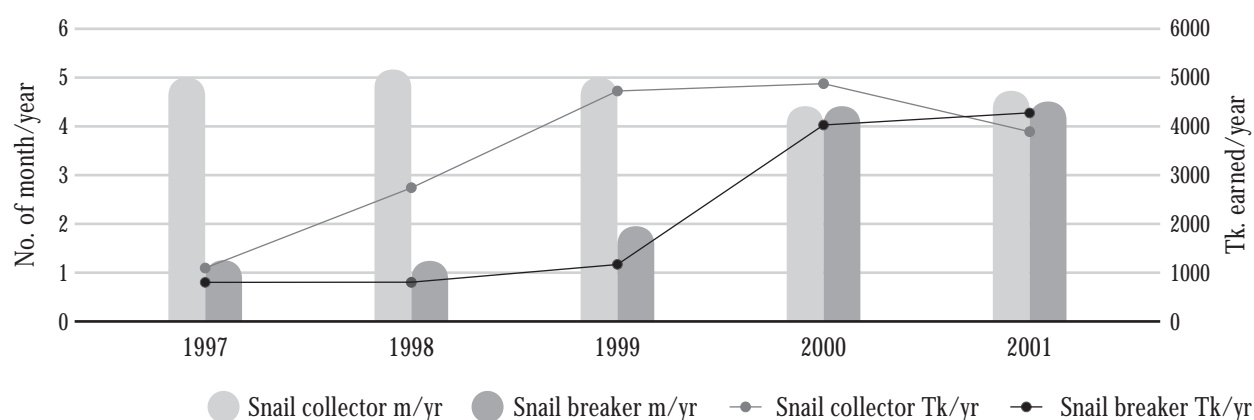
In Goakhola-Hatiara, small-scale snail collection for feeding ducks is a long-established practice. However, large-scale snail collection and snail-breaking are new initiatives. These initiatives arose with the growth of prawn (*Machrobrachium rosenbergii*) farming. Commercial prawn farmers were feeding commercial feed to the prawns, but the price of commercial feed is high. As an alternative, prawn cultivators started to use snail meat as feed because it was cheaper than commercial feed. They started to buy snail meat at Tk 6-7 per kg. When the demand for snail meat increased, women and children started collecting snails in their spare time. A network of local snail collection centers sprang up where snails were bought from collectors and women were employed at these centers to break the snails. Ninety-six per cent of these women are poor and come from laboring households or from marginal farmers' households. From samples of 25 snail-collecting households and 26 snail-breaking households, an average of two people are involved respectively in collecting or breaking of snails. About 92% of the households have been collecting snails for more than 10 years but snail-breaking on a commercial basis is only 5 years old (85%). About 10 to 15 years ago snails were collected for feeding ducks. However, in recent years about 60% of snails are used for prawn culture and 40% for duck rearing. In 1997 women were collecting snails mostly for household use, but when they saw that they could sell snails at a fair price, they started to collect snails for sale. However, within a few years competition arose among snail collectors and with the same effort, they now collect less than they originally did (Table 1) and therefore earn less than in previous years. They usually spend their income on daily expenses and the children's education. Commercial snail-breaking has increased over time and so has the income from snail-breaking. Even after fish conservation measures in the beel were introduced for three months during the early monsoon each year from 1998, the estimated snail catch per collector from Goakhola-Hatiara has decreased very rapidly (Table 1), but snail-breaking is still a good income source for women in the area (Fig. 2). Snail collectors still collect snails for almost the same period of time of the year.

Table 1. Amount of snails collected and sold per woman in Goakhola-Hatiara Beel.

Year	Kg/year
1997	2,248
1998	3,062
1999	2,864
2000	1,819
2001	1,174

Source: interviews with 25 women

Fig 2. Number of months collected/broken snail and yearly income.



Women not only fish and collect and break snails, but they also collect other aquatic plants from the beel, such as stems and fruit of *Nymphaea nouchali* (water lily, shapla, shaluk), root stocks of *Aponogeton* sp. (ghechu) and leaves of *Limnocharis flava* (kengkong, kalmi) for household consumption. The women report that due to conservation, aquatic plants are available in abundance and no one has to buy those.

Socio-economic Aspects

The baseline household survey of 1996 was repeated in 1998, but two years is a short period to observe major changes in the welfare of households in the area. Impact assessment is ongoing in the area. Fishing only contributed 22% of participants' household income and 14% of non-participants' incomes in 1996. Reported average household income from fishing has fluctuated between years but was more than restored in 1998 over the previous year's low (Table 2). At the start of the project, the NGO participants on average owned 0.65 ha of land compared with 0.93 ha of land for all other households in the area. The NGO participants closed to some extent the gap with other households with regard to housing and sanitation during the first two years of project support

Table 2. Changes in fishing income, house construction and sanitation 1995-1998.

Household income from fishing (Tk pa)	NGO	non-NGO
1995-1996	7,220	5,620
1996-1997	3,030	1,210
1997-1998	9,460	6,110
Tin/tile/concrete roof (% households)		
1996	64	73
1998	87	88
Water sealed latrine (% households)		
1996	17	27
1998	50	54

Source: Household surveys of the same 60 NGO and 60 non-NGO households in three years

Use of credit has become more widespread for both participant and non-participant households during the past three years, and reflects increasing numbers of households taking loans from NGOs and from relatives (Table 3). However, when combined with asset sales, the non-participants still mobilize more working capital.

Table 3. Credit coverage 1995-1998.

Credit and asset sales (Tk/household)	NGO	Non-NGO
1995-1996	8,350	7,890
1996-1997	6,460	10,160
1997-1998	6,230	11,700
Percentage households received credit (from NGO)		
1995-1996	25 (10)	19 (0)
1996-1997	53 (28)	38 (17)
1997-1998	66 (37)	50 (18)

Source: Household surveys of the same 60 NGO and 60 non-NGO households in three years

Better access to credit is only part of the results of Banchte Shekha's program. Out of 60 participant households sampled at the start of the project, 93% were still Banchte Shekha group members in late 1998, but only 25% of these received credit in the previous two years. Moreover, 37% of these households joined groups formed by other NGOs and 50% of these households reported receiving credit from those NGOs in the same two years. Credit is not an objective in itself. The main productive uses made by households were to purchase livestock and to buy inputs for cultivation.

The initial changes linked with the project are fishery resource improvements, development of local institutions, increased responsibility for fisheries for poor women, and training and credit for NGO participants. These are complex and difficult to assess. However, both NGO participants and other households reported significant improvements in participation, influence over fisheries, decision-making and well-being. Moreover, the direct NGO participants reported significantly greater improvements than other households in their participation in fishery decisions, in ease of decision-making over fishery rules and in household well-being. This suggests that, by people's own assessments, CBFM has resulted in some measure of empowerment of the participants, in more efficient decision-making institutions (for example, before, the community never took coordinated decisions regarding the common property fishery), and in direct livelihood gains.

Institutional Changes

The main institutional change has been the BMC established by the local community with advice from the Government and NGOs. Participation in the process has been good: at least 90% of the NGO participants attended one or more meetings on CBFM in both 1997 and 1998, while about 50% of non-participants attended at least one meeting.

However, the project arrangement has not so far been able to overcome administrative complexities regarding public land in the area. Since starting CBFM activities, Banchte Shekha has made attempts to gain control of and improve the khal fishery resource on behalf of the participants. Its plan is to re-excavate the khal to make it deeper, as it is thought that this would improve the khal as an over-wintering area for fish, and might also make pen culture possible. Banchte Shekha applied for food-for-work resources for excavation through DOF, but Government approval is required. Therefore they tried to obtain rights over the khal (although since 1995 it has not been leased out) at the district level but were referred to the Upazila (sub-district) administration, under whose jurisdiction the khal has been placed. The Upazila took no decision on whether to award the lease, and in fact has not collected money from the khal fishery, nor has it mobilized any assistance for re-excavation due to pressure to allocate resources in other areas.

Conclusions

Progress in developing community management of this seasonal floodplain beel can be summarized as follows:

- The work of Banchte Shekha has had a positive impact for its women members and Banchte Shekha has worked in collaboration with the wider community.
- Empowerment: women and subsistence fishers are taking a lead in managing a common capture fishery resource for perhaps the first time in Bangladesh, but the role of women in the BMC is not well defined.
- Equity: the community has no notable divisions. Most people use small-scale gear to fish so that benefits are evenly spread. Both NGO members and other households own kuas. However, there are still problems of encroachment or fishing by outsiders and the community lacks rights over the khal.
- So far, the BMC did not address issues of sustainable limits on exploitation of other aquatic resources important to women, notably snails.
- Co-management arrangements: the BMC is functioning but its sustainability, and ability to manage financial resources and resolve competition for water between fish and agriculture remain to be seen.
- Snails have become an important additional income source for women but more women are now collecting them and they may be overexploited. In future, they need to be included in the plan for sustainable use of the beel.
- The BMC is generally accepted in the local community but only has informal links with the local Government. More formal links and recognition could strengthen the institutions and help ensure a long-term future for the sanctuaries.

Acknowledgements

We thank all of the members of the communities living around Goakhola-Hatiara Beel for their help and participation in the monitoring reported here. We also wish to thank our colleagues in the DOF and Banchte Sheka for their work in undertaking surveys and supporting the communities. The project was initially supported by the Ford Foundation. From the year 2000, the project has received support from the Department for International Development (UK) (DFID). This paper is in part an output from a project funded by the DFID for the benefit of developing countries. The views expressed are not necessarily those of DFID.

References

- BBS. 1996. Statistical yearbook of Bangladesh 1995. Bangladesh Bureau of Statistics, Dhaka.
- BBS. 1998. Statistical yearbook of Bangladesh 1997. Bangladesh Bureau of Statistics, Dhaka.
- United Nations. 2000. The common country assessment: Bangladesh. University Press Ltd., Dhaka.
- World Bank. 1998. Bangladesh 2020. University Press Ltd., Dhaka.

ALTERNATIVE LIVELIHOODS IN A COASTAL VILLAGE¹

R.H. Asong
Ma. L. Mabunay
D. Aure
E. Seraspe
R. Braganza
D.E. Corda

University of the Philippines in the Visayas, Philippines

Abstract

This study presents a gendered case study of landless and low-income dwellers in a coastal community whose lives depend not only on fishing but a variety of income-generating activities. It looks into the possibilities of how a group of people living in a coastal environment does not necessarily have to depend on fishing as the only source of living. It also examines the gender division of labor manifested in household, income-generating and community activities. Results showed that men and women indulge in various income-generating occupations, which are either predominantly male or female. The men do the following: pump-boat operators or crew, carpenters, poultry and swine-raising, buying and selling livestock, selling agricultural products in the public market and operating neighborhood convenience stalls, driving tricycle serving as porters, furniture-makers, coco lumber cutters, noodle processors, charcoal-makers, fuel-wood vendors, livestock-raisers and fishers using indigenous and manual methods.

Most of the women have no major source of income; however, a few earn salaries as teachers. Others earn income as sari-sari storekeepers, or food, vegetable and herbal vendors. Others engage in nipa and coconut thatching, and dressmaking, cosmetology, laundry and stuffed toy-making, all year round. Lantern production is done during the Christmas season.

In fishing, the men usually produce catch from the shore and offshore as well as from fishponds. Women and children, on the other hand, forage for shells and fish in the fishponds.

The study also reveals that gender issues, which interlock with other issues, influence the attainment of the goal of sustainable and equitable development.

Introduction

It is a common perception that fishing is a major source of income for coastal dwellers. The Philippines being an archipelago is characterized by numerous coastal areas which unfortunately are inhabited by one of the country's poorest sector, the fishers' sector. Stories of poverty-stricken families who have to live on what the sea can offer are often told and retold to picture a depressing situation for this sector.

¹ This is a paper culled from the research project, "A Comparative Study of Gendered Livelihoods Within Four Island Context: The Guimaras Case" by the same authors funded by the CIDA - Island Sustainability Livelihood and Equity Program in July 1999-March 2000.

Shall we forever condition our minds to believe that fishing can be the only source of living in a coastal community? Or are there other means of livelihood that a coastal area can offer? It is this assumption that led a group of researchers to explore one coastal community of landless dwellers with unique configurations of livelihoods extending beyond local fisheries in an island in the Philippines. It was the purpose of the study to look into the livelihood practices of men and women and to analyze how these livelihoods impinge upon the social relations of equity, posing challenges for governance and longer-term sustainability. However, for purposes of this forum, this paper was culled from the study to highlight issues related to fisheries. This paper aims to present (a) The various forms of livelihood in this kind of biophysical environment; (b) Roles of men and women and the gender division of labor manifested in household, income-generating and community activities; (c) Various income-generating occupations which are either predominantly male or female; (d) Participation in these activities; and (d) An assessment of their contribution to the sustainable development of an island.

Livelihood is commonly defined from an economic perspective as an occupation, work or other means by which one earns income to provide the necessities of life. Naldoza (1987) cites a definition of livelihood by the Bruntland Commissions' Advisory Panel on Food, Security, Agriculture, Forestry and Environment as "adequate stocks and flows of food cash to meet basic needs." He further cited the definition of the Philippine National Livelihood Program under the Social Reform Agenda, which considers livelihood as "all those schemes which aim to create sustainable employment opportunities through the provision of various services that promote the establishment of income-generating activities for poverty/marginal groups." Naldoza states further that in the Philippine context, livelihood and poverty are related concepts, for livelihood is one of the safety nets not only in alleviating poverty but also in resolving the pressure problems of population, environment and development. For our purpose, we used livelihood in the broader, social terms as defined by Sandra Wallman (Wallman 1984):

Livelihood is never just a matter of finding or making shelter, transacting money, and preparing food to put on the table or exchange in the market place. It is equally a matter of the ownership and circulation of information, the management of relationships, the affirmation of personal significance and group identity, and the interrelation of each of those tasks to the other. All these productive tasks together constitute the work of livelihood.

The original study (this paper having utilized some of the data) identified and discussed eight theoretical constructs or concepts related to gender and livelihood: (a) Access and control of resources; (b) Benefits and decision-making; (c) Productive and reproductive labor; (d) Social capital and networks; (e) Power, resistance and negotiation; (f) Politics and collective action; (g) Indigenous knowledge and discourse; and (h) Culture, ideologies, values and behaviors - which were later on grouped into three domains, the first being livelihood.

Livelihood as an umbrella concept suggests the layering and overlapping features of social life. Livelihoods was examined through a number of observable features associated with patterns of work and interaction (livelihood as occupation and as social capital). The research team operationalized livelihood through an investigation of such concepts as division of labor by gender, household resources and questions of access and control of resources; productive and reproductive labor; and forms of social capital and networks.

Since gender is central to any human activity, it is therefore highlighted in this study in order to see its influence on livelihoods and other forms of social relations in the community.

The Community

Barangay Rizal is a coastal area in the municipality of Buenavista in the island-province of Guimaras. Guimaras is part of the Western Visayas Region which is located in Central Philippines. Barangay Rizal is bounded in the north by Barangay Sto. Rosario, in the northeast by the Iloilo Strait, in the east by the Daliran River, in the southeast by Barangay Daragan, and in the southwest by Barangay Montpiller. It

has a total land area of 98.34 hectares divided into three *sitios* but later on subdivided into seven *puroks*. It is four and a half kilometers away from the new town proper and can be reached by any form of vehicle.

The island-province of Guimaras is rich in coastal/marine and terrestrial resources. The municipality of Buenavista, which was established in 1775 during the Spanish colonization of the Philippines, is just as rich being bounded by the sea in three directions. Plains, hills and mountains form its boundaries with other municipalities. Farming is a primary source of income while fishing is an alternative source.

Barangay Rizal being a coastal area is prone to typhoons and huge waves but despite being close to the sea, the people are not much interested in fishing. However, some of their livelihoods are still associated with the sea and waters. Some of these are jobs such as boat-making repair, model toy boat-making, pump-boat operation as operator or crew, and porters in the nearby wharf. The sea as well as the nearby Daliran river and the fishponds provide a good source of food for the table and income for some members of the community. Interviews with residents reveal that the deeper areas of the sea contained *gingao*, *bisugo*, *alum-alum*, *asuos*, *abo*, *alatan*, *mannggagat*, *lapu-lapu*, *lison-lison*, *salmonite*, and *latab*. The river produces *alimusan*, *lison-lison*, *ugdok*, *danio*, *manggagat*, *parangan*, *palu-palo*, *sap-sap* and *baptist* while the fishponds produce *lison-lison*, *ugdok*, and *danio*. The sea also abounds with green sea weeds; clams and other edible shells, shrimps and crablets.

In 1999 Barangay Rizal had a total of 180 households, and 59 household- respondents were included in the study. Out of these, 40 households or 77% were female-headed. According to wealth ranking techniques, the residents consider themselves *kasarangan* (literally just enough, though implying middle class) when he or she can eat three square meals a day, earns a fixed salary or income, a daily income as a boat crew, carpenter or *trisikad* driver.

The survey of 59 households showed that a typical barangay household was composed of five members, with a father, a mother and three children. Extended members of the family were usually grandchildren or female relatives. The highest educational attainment that most family members obtained was secondary education (with 10 years of schooling); many, however, only reached the elementary level (with 6 years of schooling).

Various kinds of vehicles could reach the village, but residents usually took a tricycle or *trisikad* (there are more than 20 of these from the barangay) from the nearby port area, or from the main road connecting to the other municipalities of the island province for Php 3.00 or less than US\$ 0.10 (1999). With the construction of a more permanent bridge, bigger vehicles can now enter the main road of the *barangay*, but only motorcycles utilized by men can gain access to the upland portions of the community. Feeder roads and trails are still major venues to reach the upland portion of the area.

The barangay has the following public facilities: the mini plaza and basketball court, the primary school classrooms, a barangay hall, a day care center for the children and the Barangay Rizal Yacht-makers Association (BRYMA) building which show cases their products. There are *sari-sari* stores (a very minimal form of convenience store), a bakery, a dry dock area, and a tanod outpost. It also has a newly-constructed *Aglipayan* church, warehouse and a two-classroom building to house the third and fourth grades by the school year 2001.

The mini plaza is a venue for several barangay activities: for community dancing, coronation ceremonies during fiesta, political rallies, basketball tournaments (though there are basketball courts in some *puroks*), solar drier for *palay* and toy boat wood materials.

Research Methods

To gather qualitative data, the researchers, consisting of professors from various academic disciplines together with the community team, utilized rapid rural appraisal and participatory research methodologies

and techniques such as direct and participant observation, interview of key informants and focus group discussions with community members. Quantitative data were gathered through an interview schedule of 59 households as well as secondary data related to the area. Other studies and written materials on the study provided a broader perspective for the researchers. A research associate was fielded in the research site for six months for a direct experience with the community.

Participatory research (PR) approaches were utilized in data gathering to enable local people to have an active role in their own development as the data gathered in this research would be of use in making them aware of the status of their environment and living conditions.

Results and Analysis

Sustainable livelihoods is not a static concept due to both internal and external dynamics. To be sustainable, a livelihood requires the capability to respond to changes and to continually renew and develop adaptive strategies. It is in this framework that studies on the gendered livelihood practices, coping strategies and adaptive strategies of residents of Barangay Rizal, Guimaras, were studied.

The discussion of livelihoods includes productive and reproductive activities, occupations in the formal and informal economy, and the division of labor both in the household and in the workplace.

Livelihoods/Occupations

A study of production and reproduction activities revealed the following occupations as sources of income.

Model or toy boat-making is the community's major source of income. Despite its being a coastal area, most of the village residents are not active in capture fishing nor aquaculture. The main or secondary source of income for both men and women are derived from the production of model boats which is tied up with market exchange. Though functional boats are also locally produced, the main activity of the people since the Spanish period had been the making of model boats. Lately, the products are wooden handicrafts in the form of miniature decorative boats, patterned after yachts, galleons, frigates, clippers and sailboats. These are sold to local and foreign tourists, local distributors or any lover of decorative items.

The model boat production process is a family affair with the male and female children and other household members participating in various stages of production. Caliling citing a study of David and Patricio in 1996 shows that, out of the toy boats as a livelihood activity, a family could gain an average monthly income of Php 4,651 (US\$ 114). But a recent study by the researchers of the declared income of 17 model boat makers shows that the average monthly income is only Php 2,172.87. One gave an extremely high income of Php16,000 for 15 days but this is not regular. Discussions with a group revealed that the presence of the US Navy before the closure of the US bases helped in raising their sales. Nowadays, they have to rely on tourists going to the island or to Boracay island.

Some men and women of the area obtain wages or salaries by working with government agencies or companies mainly located at Iloilo City across the straits or as barangay officials. Others rely on their wages as pump-boat operators or crew members (locally referred to as "sailors"). Others are active in income-generating activities such as poultry and swine-raising, buying and selling livestock (goats, swine, cows, poultry), selling agricultural products in the "*mercado*" (public market) and, operating neighborhood convenience stalls (*sari-sari* stores) within the barangay or at the "*mercado*" or nearby commercial lineup of the adjacent village of Santo Rosario. Other incomes are obtained from overseas labor of one or more family members and/or incomes as tricycle (or *pedicab*) or *triskad* drivers, porters at the Buenavista wharf, boat makers, furniture-makers, coco lumber cutters, noodle (*miswa*) processors, carpenters, charcoal-makers, fuel-wood vendors, livestock-raisers and fishers using indigenous and manual methods.

Most of the women have no major source of income; however, a few earn salaries as teachers at the local primary school or as day-care workers. Others are active in small businesses such as sari-sari storekeepers or derive income through selling cooked food, vegetables, medicinal herbs and forest products. While the women sell their cooked food or vegetables, it is the men or their male children who carry the goods. Still others employ their skills in nipa and coconut thatching which are done during non-rainy days, and dressmaking, cosmetology, laundry and lately, stuffed-toy making, all year round. Lantern production is done during the Christmas season.

The residents do not rely on only one income source. Many of them work for a secondary or tertiary income at other times or at the same time. For example, N. a dressmaker is at the same time a nipa or coconut thatcher, a lantern-maker depending on the season's need or availability of materials. Family members contribute their labor to the family income, but it is acknowledged that the father has the largest contribution in the family coffers; in fact for some families, he has 100% share. (e.g. J. carves the wood while his daughter sands some parts but the income is attributed to the father). Food vendors can earn an income of Php40 (US\$ 1) while a store owner can earn from Php100 (US\$ 2.5) to Php300 (US\$ 7.5) a day.

Some households obtain financial assistance from close relatives, usually females working outside the locality, like in the city of Manila, who sent an average of Php 1,000 to Php 1,500 (US\$ 25 to US\$ 37.50) a month. Others who work abroad, usually females in other Asian countries, would send a monthly average of Php 3,000 (US\$ 75) plus packages which usually contains used and unused clothing, soap or canned goods.

Table 1 below shows the types of livelihood engaged in by men according to purok while Table 2 shows types of livelihood engaged in by women according to *purok*. Table 3 shows livelihood engaged in by men and women of 59 households in the barangay.

Table 1. Types of Men's Livelihood According to Purok in Barangay Rizal (No. of HH: 59).

Livelihood Type	Bounty	Vinta	Galley	Kumpit	Frigate	Yacht	Total
1. Carpentry	2						2
2. "Sailor"/Boat Crew	5	2			1		8
3. Taxi Driving	1			1	1	1	4
4. <i>Trisikad</i> /tricycle Driving	2	1		1			4
5. Boat Building	1	1					2
6. Buy and Sell	1		1				2
7. Chainsaw Operator		1			1		2
8. Brgy. Official			1				1
9. Road Construction			1				1
10. Model Boat Making			1	3	5	4	16
11. Employment			1				1
12. Noodle-making					1		1
13. Animal-raising						2	2
14. Farming						1	1
15. Multiple Jobs		1				1	2
16. Pension				1			1
17. Dependent	2	1	1		1		5
TOTAL	14	7	9	6	10	9	55²

² Only 55 out of 59 households have men as heads or respondents. One purok was not included because during the survey, a tragedy occurred which constrained the researchers from conducting the survey in the area.

Table 2. Types of Women's Livelihoods According to Purok in Barangay Rizal (No. of HH: 59).

Livelihood Types	Bounty	Vinta	Galley	Kumpit	Frigate	Yacht	Total
1. Vegetable Vending						1	1
2. Nipa Thatching					1		1
3. Storekeeping	1			2	1	1	5
4. Buy and sell					1		1
5. Beautician	1			1			2
6. Employment			1				2
7. Domestic helper		2					2
8. Laundry			1	1	1		3
9. Animal-raising		1				1	2
10. Food Vending			2				
11. Model Boat Making							1
12. Housekeeping	11	5	4	3	6	6	35
13. Pension				1			1
14. Dependent	1						1
TOTAL	14	8	9	8	10	9	58³

Table 3. Distribution of Major Livelihoods according to Gender among 59 Household Heads and Spouses in Barangay Rizal.

Type of Major Livelihood	Men Involved Total - 55		Women Involved Total - 58		Total 113	
	No.	%	No.	%	No.	%
1. Carpentry	2	3.64			2	
2. Boat Crew	8	14.54			8	7.08
3. Taxi Driving	4	7.27			4	
4. Trisikad/tricycle driving	4	7.27			4	
5. Boat building	2	3.64			2	
6. Buy and Sell	2	3.64	2	3.45	4	
7. Bgy. Official	1	1.82			1	
8. Road Construction	1	1.82			1	
9. Model Boat Making	16	29.09	1	1.72	17	15.04
10. Employment	1	1.82	2	3.45	3	
11. Noodle Making	1	1.82			1	
12. Animal-raising	2	3.64	2	3.45	4	
13. Farming	1	1.82			1	
14. Multiple Jobs	1	1.82			1	
15. Veg. Vending			1	1.72	1	
16. Nipa Thatching			1	1.72	1	
17. Store management			5	8.62	5	4.42
18. Beautician			2	3.45	2	
19. Domestic Helper			2	3.45	2	
20. Laundry			3	5.17	3	
21. Food vending			2	3.45	2	
22. Housekeeping			35	60.34	35	30.97
23. Chainsaw Operation	2	3.64			2	
24. Pension	2	3.64			2	
23. Dependent	5	9.09			5	
TOTAL	55	100.02	58	99.99	113	

³ In one household, the woman is separated from her husband and does not live in the area.

Division of Labor

Household Division of Labor

Based on the 24-hour activity profile constructed by participants in a focus group discussion (FGD) session, survey questionnaires and direct observations of daily life in the barangay, both older and young women wake up at around 5:30 A.M. to prepare breakfast and get the children ready for school or to get themselves ready for work. They leave for school or work at 7:00 A.M. Classes begin at 7:30 A.M. The older men wake up at 6:30 A.M. to look for fuel-wood, fetch water or prepare for work; the younger men wake up at 10:00 A.M., eat breakfast, and play basketball, or laze around. Others assist their mothers the whole morning. The survey of 59 households indicate that more than 50% of both mothers and fathers wake up between 4 to 5 in the morning. While the women prepare the breakfast, the men prepare to sell their products to other places.

Some women wake up as early as 4:00 A.M. for bible reading. Some men who sell fuel-wood for a living wake up at 6:00 A.M., eat breakfast and go to the mountains at 6:30 A.M. to gather fuel-wood which is later sold at the Santo Rosario market. Others go to their offices or fish or do carpentry work, but most of them work on their model boat craft at home or in their work-shed near the cluster of houses. Others go out to sell these to Iloilo City or to other parts of the region. Then the women do the dish washing and laundry, take care of the children and their needs, clean the house, water the plants and pick up the children from school. They start preparing lunch at 11:00 and have lunch from 11:30 to 12:00. Again, they do the dishes and cleaning up. They take a nap or watch TV in the afternoon or evening. Supper was from 7:00 to 7:30 P.M. The women go to sleep between 10:00 to 11:00 P.M. while the men at 8:30 P.M. Survey data however show that both mothers and fathers sleep between 8 to 9 in the evening unless there is an order to be rushed when members of the family go to sleep late to finish the order.

Observations of the life in the community and interviews show that a few women are active in income-generating activities. They take charge of household chores such as food preparation, cleaning the house and the premises where their husbands attend to the model-boat business. The men are responsible for the discipline of the children, house repairs and gathering of fuel-wood. While some men assist in the household chores, the women usually spend more time on these concerns.

Division of Labor in the Workplace

In farming, the men use the cow-driven plow for rice and corn cultivation as there are no motorized tractors in use, and few hand-tractors are used in hilly areas. They apply fertilizers, participate in harvesting, and do the threshing and transporting of the harvested rice (*palay*). Women's farm work is limited to the transplanting of the seedlings and harvesting. However, they also maintain vegetable gardens in their small backyards and occasionally put in work for a communal garden within the neighborhood.

It is the men who build the boats for transportation, who compose the boat crew (*tripulante*) and work as charcoal-makers. The women assume major roles in activities considered by both men and women as "light", such as *sari-sari* store management, vending cooked food, vegetables and herbal medicines, as well as livestock-raising and vegetable-growing. One respondent shared that men were ashamed to go around and sell cooked food or snacks (e.g. *kumbo*, a kind of frying mashed banana with flour mixture) and another cracked a joke that it is unwise to make a young man oversee the store because it will surely go bankrupt.

Men assume "major" roles by doing work considered "heavy", such as the gathering, transporting and shaping of the material (the women admit their inability since they find the large knives or *bolos* too heavy for their use). They also do marketing activities which entail carrying the products and traveling to far away places or approaching ships on nearby dry docks.

In fishing, the men usually produce more catch from the shore and offshore as well as from fishponds. Women and children, on the other hand, forage for shells and do some fishing from the fishponds.

Aside from their heavy workloads at home, the women assist the men in the construction of miniature galleons, yachts, frigates, clippers, and sailboats. The men with their sons and other male relatives procure the timber, slice, dry, paint, pack and sell the products to distant places or to vessels nearby. The women with their daughters or their females relatives sew and attach the sails and riggings of the crafts; some also join the transporting and trading of these products.

Time Spent for Work

Women who have their own source of income-generating livelihood spend four hours or less everyday on their activities; most men claim to work more than eight hours or five to eight hours for four to six days in a week. The gender-disaggregated seasonal activities calendar of the community constructed in a workshop session shows that the women of Rizal practically have no rest the whole year round, doing all the household chores or doing various production activities as well.

While only the men go out to fish along the shore, river banks or offshore, both men and women fish in fishponds during *pahubas*. This is an opportunity for the community to have a share of whatever fish is left after the fishpond owner had harvested his fishpond. The use of the fish hook (*bunit*) is the most popular method of catching fish and the source of the common reference to fishing as an activity (*pamunit*). During low tides, men and women also gather a variety of shells (*panginhas*) for family consumption. Offshore and from the river, they gather various kinds of finfish and other aquatic species. The nearby Daliran river is also a good source of seafood such as oyster because the water of the river is cooler than the sea water.

Aside from their assistance to their parents in model boat making and food vending, the children also do some food foraging like gathering clams and other edible shells (*nagapanginhas*) or catching shrimps and crablets.

There is no particular time for them to fish but fishing is dependent on the ebb and flow of the tides. They go fishing once a week and the average amount they could catch is one kilo for their consumption. Noticeably, however, the abundant time for fishing is between April and December especially of the species *lupoy*.

The water level of the nearby fishing grounds can be very high for passenger pump-boats to pass through during high tide. The rising waters still seep into the reclaimed land and clog the drainage and toilets of the houses near the shore, even affecting houses across the main road. But low tides also leave the shoreline almost dried up at times to become children's playgrounds for certain hours of the latter months of the year. The resident who have small boats seldom use their boats for offshore fishing; instead, they use them more for transporting their toy boat products to the big ships moored along the Guimaras Straits.

Foraging or fishing along the shorelines can be a family affair. It is common to see, during low tide, whole families wade while using a torch or lamp in the evening (*gapanulo*) to catch various crabs (*kasag*, *alimango*) or gather shells (*guso*). They know when it is *lamgud* or times when there is a scarcity of fish.

Resources

Household Resources

a. Cash Income

Cash income for the family is derived from salaries or wages, sale of farm and cottage industry products, personal business like "buying and selling" of commercially - produced goods (including

pyramid sales), and remittances from other parts of the Philippines and abroad. Non-cash income come from food that was either picked from the garden or the nearby mini-forest, raised in the backyard, sent by relatives, fished in the nearby fishpond or sea; and water from nearby springs and wells. The survey shows that the average monthly family income is Php 5,730 which is sourced from salary/wages, sale of farm or handicraft products, personal business, and remittances from abroad or from within the Philippines. A study of the income of 17 families based on model-boat making alone shows an average monthly income of Php 2,721.75. This will then be distributed for the following expenses: food (33%); electricity and water (10%); medicine (2%); school needs like fare, allowance, supplies, (5%); miscellaneous needs like partial payment for appliances, transportation, men's drinking (2%); women's needs (1%); and plowed back as capital (18%).

While the majority of families gain primary or secondary income from the various occupations and production activities, others gain income through money sent by a family member or a close relative outside the barangay or from overseas. Others receive pension as retired government or private company workers.

b. Tools, Equipment, Appliances

Most households had the typical rural paraphernalia of *bolos* and some garden and farm tools such as the rake, hoe, sprayer, and the plow. But it seemed that many households also had modern appliances (e.g., television, electric fans, cassette radios, radio, gas stove, refrigerators and karaoke system), which they acquired through cash installments from local and outside appliance salespersons or *agente*.

Model-boat makers who are dominantly male use the following tools: spoke shave, chisel of various sizes, bolo, *kisse kisse* and *barina* for boring holes, steel saw of two sizes, jigsaw for design, knives, pliers including long nose pliers, and other tools specific to model boat-making. The making of the sails is women's work because it is they who have the sewing machine and are more at home with the needle and thread.

Those who fish, especially the males, use gillnets (*pukot*), beach seines (*sensuro*), hudhud for different types of shrimps (including *hipon*) and filter nets (*tangab*).

Some have *pedicabs* or tricycles and trisikad, motorbikes, owner-type jeeps, boats, telephones, components, computers, automobile, and handsets. Many of the houses have appliances, decorative jars and other items because they also barter their model boats with crew of foreign vessels which come to the Iloilo port carrying imported decors and appliances for trade.

The farm areas devoted to rice are minimal. Cows are still used to plow the fields, though there are some who use hand-tractors. Both the cow and the hand-tractors are still male-used tools. The scythe is still the major tool for harvesting, utilized by both male and female adults and the children.

c. Land

Land is mostly obtained through inheritance and a few were able to secure land upon retirement. A review of the Municipal Tax Map Control Roll from the assessor's office reveals that most of the landowners do not reside in the area. However, documents on Barangay Rizal shows that village land titles are registered to women and men or to couples. Though most of the households do not own the land they live in nor till, most of the villagers own their houses that are registered either in the name of the man or the woman or in both. Of 31 pieces of land registered, 12 are titled to men; 12 to women; 4 to couples, and 1 to the Republic of the Philippines. There are 31 titles but some have more than one title to his/her name.

The government owns strips of land along the banks of the Daliran river on the northeast boundaries of the barangay. The barangay also takes charge of about a hectare of land along the coast (reclaimed and as yet untitled)⁴ where most of the public utilities (the school, the day care, the multipurpose center with the barangay hall) are located across the main access road from the mini-plaza.

Most of the other big landowners (owning more than 5 ha) do not live in the area. Approximately 55.59% of the total area is owned by non-residents. But there are a few resident landowners with areas approximately the same sizes, including some of the pioneers whose lands had been redistributed through inheritance across the generations. One was able to buy wider tracts of land after retirement. The documents also show a slight difference in the number of titles in men's names over titles in women's names.

Most of those who live along the densely populated areas along the shores in *Puroks Bounty*, *Vinta*, and *Kumpit* are "squatters" either with or without permission, or rents to the absentee landowners. Others living directly on the coast had actually reclaimed the area or built houses on stilts above the water level. Most of the land in these areas is owned by one person. Hence, the "squatter" residents experience anxieties, especially with the rise in the cost of real estate throughout Guimaras in recent years and after receiving forms to be filled in with information related to land ownership. It is these households which are primarily engaged in model boat production. Those households located further inland and into the hilly parts of the village are those whose livelihoods were more directly associated with farming and related activities.

A fair portion of the hilly areas are devoted to planting rice and corn or to production of coconut and legumes. It is noteworthy that no more land is available for the production of the major raw materials for model boat-making such as *kapuk* and *bita*. The producers have to buy these outside the barangay. *Ilang ilang* is starting to grow in the area but this is on private lands owned by non-residents.

The minimal area of land devoted to rice farming are both worked on by the male and female residents with the assistance of children in some stages of production. However, it is the men who have control and responsibility in terms of what and when to plant and how much to spend while the women go out to access credit for farm expenses and capital.

The upland areas planted to rice, root crops and fruit trees are also used as grazing land for some animals. The mini-forest and coconut-grove serve as source of fuel-wood. Very minimal swine and other livestock and vegetables are raised in the backyards due to the overflow of the river and the sea water during certain times of the year.

d. Products

Regularly, the residents engage in barter of their toy boat products for rice, cement, or fertilizer with crewmembers of cargo vessels that anchor nearby. Money came easily when the ships docked, especially around the time of the annual Dinagyang celebrations at Iloilo City, or when they could market their goods to local and foreign tourists at trade fairs in different parts of the country, e.g., Bacolod, Cebu, Boracay, Manila and Davao.

It is the men who transact business with and deliver the products to the distributors or direct buyers, but some women can also transact business at home or assist in the selling in trade fairs which they call "parking". The income that they receive from the sale of the model boats are spent on rice, food, capital for the business, and school needs. Most of the income goes to family needs or to the men's "recreational" drinking.

⁴ Throughout the research period, additional pilings were being delivered by government trucks to extend the reclaimed area next to the school.

e. Savings

Some residents save some amount through the *alkansiya* (piggy bank) or the rural bank and other private banks, but others claim to have no savings because their income is just sufficient for their basic needs.

Community Resources

a. Health Facilities

Whenever a new health program is launched or when the barangay officially requests the presence of medical doctors and/or dentists, local residents avail of services such as medical consultation at the Health Center (about 4 km away) in the adjacent Barangay Sto. Rosario. Resident female Barangay Health Workers (BHWs) monitor the health situation of barangay residents. Two midwives are on call for services, however, residents usually could not purchase basic medicines or supplies within the barangay.

b. Non-cash Needs and Production Materials

Most of the farming, food, and market needs are answered by the facilities at the neighboring village of Santo Rosario, a kilometer away. *Nipa* and coconut thatch-makers have no problem securing their materials except during rainy season, since they live along the fishponds where *nipa* grow and near the hills where coconut abound. They soak these overnight to soften the leaves before they sew them into the bamboo slots.

c. Education Facilities

Primary education is not completely available within the village. Formal education is conducted in a two-room primary school for Grades 1 to 2 for the children of the community. For higher level of elementary education, the local children go to the nearby elementary school in Santo Rosario. For secondary (high school) education, they go to the public high school at New Poblacion, the town center of Buenavista, some 4.5 km from Barangay Rizal.

d. Food

The community generally eats three (some even four) times a day, but their daily meals are usually limited to rice, vegetables, fruits and fresh fish. Most partake of dried or canned fish, dried beans, pork or canned meat at least once a week, while a number can have pork, canned meat and chicken during special occasions. It is the women who decide on what to cook.

f. Water Resources

The barangay has a water system and a source of electricity. The area was supplied with electricity by Guimaras Electric Company (GUIMECO), and provided with water through water pipes and faucets by the semi-government administered Local Water Utilities Administration (LWUA). Eighty two per cent (82%) of the households avail of the electricity while only those in the shoreline avail of the water system. The rest source their water from the rain through catchments or from artesian wells and deep wells. Several springs provide water for drinking and domestic use. Both men and women make use of the spring water.

g. Community Education/Training

Some male residents of the community have undergone at least one of the various types of training programs. Among these were: Coastguard training on "How to Save Passengers", Production of "Cord Marine Epoxy", Department of Justice Seminar, monthly yacht-making seminars (which were the most attended), house nursing, Barangay Tanod Assessment and Development Seminar, Corporation Finance and Taxation, training for hilots, training for Philippine Association managers and accountants, herbal medicine and seminars on bamboo.

Some of the female residents have attended at least one of the following training courses: Yacht-making, Taos Puso Foundation-initiated training, training for barangay tanod, DOST (Department of Science and Technology) - initiated training, and barangay leadership training.

According to the focus group discussion participants, government agencies such as the Department of Trade and Industry (DTI), DOST, the Provincial Government especially the Provincial Planning and Development Office (PPDO), the Department of Labor and Employment (DOLE), and the Department of Agriculture (DA) have assisted them in their livelihood projects through seminars, funding and various services. Non-government organizations such as the Guimaras Producers' Association (GPA), the Participatory Research, Organizing Communities and Education Towards the Struggle for Self-Reliance, Inc. (PROCESS) Foundation and the Taos Puso Foundation (TPFI) had been of help in the community activities.

An analysis of the nature, composition, functions and activities of these organizations show the gender relations. These organizations may have socialization and development of self-esteem goals and no sex discriminating titles, but a review of their membership showed that the men are active in traditionally-male organizations based on their traditionally-male jobs and likewise with the women's organisations.

Social capital and government agency intervention could also bring good results for the environmental status of the community. An example was the case of community and government partnership in the "Clean Up Campaign" during the month of June when women assisted in the environmental activities led by the Department of Environment and Natural Resource (DENR). The women of the community assisted the mobile medical and dental team of doctors and nurses as they provided services. This was followed by a coastal clean up awareness campaign, which was part of a long-range program of the "Clean and Green" community project. The community followed the directives of the DENR such as no cutting down of mangroves and replanting vacant areas with seedlings provided by the DENR nursery. Public use of these areas needed clearance from DENR. The women and other community members assisted in the replanting of the coastline with mangrove species seedlings such as *bakhaw* and *pagatpat* as well as other kinds of trees. There was a time when students were also sent to the area for two years to help in the cleaning of the shoreline. Despite all these, the problem of waste disposal is still prevailing since residents simply throw their garbage on the shore.

h. Credit Facilities

The residents experience difficulties when family members get sick and need hospitalization or when a family member dies. Money also becomes a major problem when classes start because this will mean that capital meant for business will go to paying for tuition fees, uniforms and school supplies. This would then mean visiting a pawnshop or seeing a relative. The residents, and most Ilonggos differentiate credit from loans. Credit applies to securing goods from sari sari stores or ready-to-wear (RTW) clothes and/or appliance dealers which are paid at a later period. "Loans" are borrowed amounts of money, usually secured from relatives and friends at low or no interest. Others do not borrow money at all because they say they do not have the money to pay for their debts. The women are usually the ones who transact credit.

It is observed that in this area environmental conditions affect people's livelihood and people develop coping strategies to sustain them. It is also observed that one livelihood supports another livelihood or income and products from one livelihood support the others. Cash income received by model boat makers support motorboat operators and crew, porters, furniture-makers, *pedicab* drivers, *sarisari* store owners, food and fish vendors and practically all who have to eke out a living. This holds true too with the salary of day care teachers and the maintenance of the school which depend on the income of all tax payers and parents.

Though model boat makers are all over the place, they are mostly located in *Puroks Vinta* and *Yacht*. Many male residents of *Purok Bounty* are *tripulantes* or crewmen of motor boats that ply the Guimaras-Iloilo waters. Their wives earn income from their stores or food stalls that dot the road. They do not mind the closeness of stores to each other since each one has her own *suki* or patron. They also become ambulant food vendors selling from house to house or in schools to students in the morning, *merienda* or snacks between 2-4 in the afternoon and chicken and pork barbecue before twilight. Their children assist them in all these. The men living in the hills are either farmers or charcoal makers.

i. Knowledge of the Natural Environment

Their being close to their environment gives them knowledge to determine its course even without the use of modern technology. For example, time can be approximated by looking at the position of the sun, the coming of the rain can be determined by the sound of insects and frogs, and the movement of ants. However, specially printed calendars can be a guide for the dates of low and high tide.

Some of the residents and even their leaders still believe in spirits that abound in the environment. One cited the spirit who appeared when they used dynamite to clear a portion of the mountain during the road construction. Only a *babaylan* can appease these.

An exploration of the types of livelihood in the area showed that a coastal community may not necessarily depend on fishing as a major source of income. Lachapelle (1997) in her study of Malalison island (based on her studies of the works of Barber, Illo and Polo, and Rodriguez) observed that much of the social science research on coastal households in the Philippines recognized that households in coastal communities rarely rely solely on fishing as their source of income. The Barangay Rizal case shows that community resources-natural, material, human, technological and time resources-if analyzed, utilized and managed properly can provide various forms of livelihoods for the community. Barangay Rizal showed a variety of income-generation activities which have provided means of living for the residents. The residents may have attained only a low level of formal education, but their indigenous skills and survival tactics in utilizing their environment have fed their families, sent their children to school and helped their families survive various crises for many generations. Added to these are government and non-government interventions which have benefited the community. However, livelihoods are still gendered just as space is.

As earlier seen, one livelihood sustains or supports another livelihood. Women's work sustains the labor force which includes the husband and other members of the family. The income from model boat makers, boat crew, animal raisers, noodle makers, etc. provide a source of living for *trisikad* and tricycle drivers, food vendors, *sarisari* store keepers, government employees, day care workers, carpenters, etc. Thus outcomes of livelihood benefit the community and further strengthen the social network.

An analysis of the people's access to and control of resources, benefits and decision-making revealed that in terms of resources, Barangay Rizal is a coastal village but the majority of the residents are do fish. The community abounds with natural resources, most of which

the residents do not own or control. The sea, the fishponds, the river, the mini-forest and the upland areas provide limited food and medicine for the community. Resource space is gendered. Generally men fish, gather fuel-wood while the women gather herbs and vegetables for the table. Women utilize springs and well water for washing. There is a depletion of resource materials for boat-making and a lack of markets for finished products. The closeness of the area to the port reduces its deep sea fish resources. The fishponds are not owned by the community residents but by outsiders. The bulk of timber materials for boat-making are bought from nearby barangays.

This is a community of low-income dwellers whose lives depend on the buyers of their products who are mostly tourists and foreigners. Any changes in the international market, global situation as well as political changes in the country affect their income. Most of the residents are landless and living on inadequate resources, but skillful in making do with what is available for survival.

Decision-making rests on the couple but some decisions (food to cook, child's education) rests on the woman. There are manifestations of the father as the disciplinarian and whose decision prevails. Since leadership in the political and economic spheres is in the hands of men, decision-making ultimately rests with them.

If one definition of livelihood is expanded to include the social processes, which determines one's access to resources, then the individual's access to social networks which provide funding and other services should be taken into consideration. It can be noted that the women had been very active in reaching out to government and non-government agencies in extending assistance to the community, but when projects are about to be implemented, it is the men who take the leadership while women go back to their domestic responsibilities.

There is rigid division of labor in the production of goods; however, a number of men assist the women in household tasks. Women own property such as land, which is registered in their name. Women and men are engaged in various forms of income-generating and life-sustaining activities; however these activities manifest gendered division of labor in the stages of production as in the model boat-making and farming activities. These forms of livelihood had existed since the early years of settlement of the first families that came to the area.

Division of labor is manifested in type of fishing men and women indulge in, the kind of tools they use and the area where they can fish, thus the type of fish that they capture.

Division of work within production activities manifests lack of desire on the part of the men to share power with nor give recognition to the women. Though the men are the recognized income earner, the women practically spend more time earning a living and maintaining the family's household needs. They spend more hours awake and work more days in a week, and they work all year round. Decision-making rests on the couple but women keep the money. Women's role is in managing the household income while men are responsible for disciplining the children.

Productive - Reproductive Labor

Production activities done by the women lack recognition because these gain minimal income compared with the men's, making them consider men as the major income or only income earner. Reproductive activities which are usually done by women such as sustaining the labor force through their cooking, caring and washing, etc. are still not as important for both men and women, compared with the major income-earning activities done by men. Though men's income pay the bulk of the household needs, the women's services and income also pay for other needs of the household. Women also utilize their skills in adding to the family coffers however meager they may be.

Social Capital and Networks

Social capital or a network of social relations which provided support for each member of the community was strengthened by the kinship system and the fact that most of the community members belong to the same social class. However, a hierarchical social network still prevails with the presence of big landowners, old families and patriarchs in the area.

Concluding Statements

Barangay Rizal is a community which serves as a concrete example of a self-directed and self-propelling community relying mostly on the resources, skills and creativity of its people to survive the onslaughts of nature and social forces. Since the settlement of the earliest families in the area, the environment has acted on them in two ways. It provided the resources for sustenance; yet its strong waves and poor quality of soil deprived them of other resources. In turn, they shaped this environment to suit their needs.

The livelihoods also sustained not only the lives of those who use it but also sustained other livelihoods, through the network of livelihoods. Meanwhile reproduction activities sustained the labor force and the future generation.

References

- Caliling, R. B. F. 1997. Towards the creation of the community-based industrial organization model: the case of the miniature boat-makers of Bgy. Rizal, Buenavista, Guimaras. UP Diliman, Q.C., Philippines. Master Thesis. (In Press)
- Lachapelle, G. 1997. Gendered livelihoods and development in a coastal community in the Visayas Region of the Philippines. Dalhousie University, Nova Scotia, Canada. (In Press).
- Naldoza, A. N.. 1996. Livelihood security: conceptual referents. Paper presented during the SLEG Workshop, Amigo Terrace Hotel, Iloilo City, October 7, 1996.
- Wallman, S. 1984. Eight London households. London: Tavistock.

WORKING WIVES IN PHILIPPINE COASTAL FISHERIES

M. Bañez-Sumagaysay
UPV Tacloban College, Philippines

Abstract

The decision to work is ultimately a decision on how to spend time; the choice being based on a comparison of the gains derived from market opportunities and the benefits of staying at home. Once in the labor force, the labor supply decision (that, is, the number of hours per time period) is influenced by various demographic, economic, and socio-psychological factors. Using this framework, this paper seeks to determine the significant predictors of married women's labor supply behavior. This is further an attempt to identify potential entry variables in aid of legislation and policy formulation that will address gender issues. The focus is on married women in Philippine coastal fisheries.

Introduction

With the onset of the market economy, the home and the workplace started to be separated. The workplace was located farther and farther away from home, and a system of labor power in exchange for wages emerged. The household, as a unit of production and consumption, underwent profound changes, one of which was the political economy of gender.

The rural fishing sector in the Philippines, however, did not change as significantly as its urban manufacturing/service sector counterparts. Traditional methods of fishing require much physical effort, which the men generally provide. Nevertheless, the "helping out" role of women in coastal fisheries is work that cannot be dispensed with, even with more men in the fish production system. The labor supply of women remains low. This low rate of participation in the labor force implies that women remain limited to short working hours, "feminine" jobs. The high incidence of unpaid female labor contributes to the low cash incomes brought home by women. Subsistence level fishing keeps women mostly as homemakers, or as workers in non-fishing-related economic activities such as in the informal service sector. In a fish production system that is very limited to catching fish and selling them immediately with the least storage and/or preservation, there is inequality in access to economic resources in the community for women. There is subordination of women to men's work, resulting in the women's inability to exercise their full potentials and capabilities.

A large number of households in coastal communities lives below the poverty threshold. The urgent need to augment family income leaves the wife no choice but to sell her labor services in any paid work opportunity. Unfortunately, this phenomenon does not change the reproductive role of women, causing women to bear multiple roles and responsibilities-one of the central issues of feminism. It is not only the men who bring home the rice and fish for daily living. Women do too, and they still have to cook and serve their family members.

The crucial question then is how can women's access to economic resources in general and employment in particular be improved. The Philippine coastal fisheries sector lags behind in terms of productivity,

efficiency in resource allocation, and employment levels. Given this scenario, how can it increase women's paid work hours/efforts?

In aid of legislation and development policy formulation for the coastal fisheries sector, this paper attempts to identify correlates of married women's contribution to the labor market. Aside from wage rates, what are the factors that can change a married woman's decision regarding the extent of paid work hours that she offers in the labor market?

Specification of the Model

The conceptual model is cast in the income-leisure choice model where the married woman who opts to offer her labor services in the market consciously decides on the number of work hours spent for pay or profit.

The decision to work is ultimately a decision to manage time between work and home. This decision is the choice between being in the labor force or being out of the labor force. A neoclassical time allocation model advanced by Becker (1965) and Mincer (1962) is used to explain how an individual decides on the allocation of her time between the home and the labor market (Blau and Ferber 1992). Known as the New Household Economic Model, it assumes that adult members of the family make informed and rational decisions, resulting in the attainment of maximum utility or satisfaction. Individuals decide whether or not to participate in the labor market by comparing the value of their market time, w , to the value they place on their time spent at home, w^* . Participation in the labor force, the choice of whether or not to work or seek market work, is based on a comparison of market opportunities and the benefits of staying at home (Filer et al. 1996).

Participation decisions depend on changes in economic variables that influence the values of both market and non-market times. Factors that influence market time (w) include woman's education, changing levels of economic activity, increases in overall labor productivity, and higher wages brought about by urbanization. Increases/improvement in these areas have caused rising trends in married women's participation in the labor force (Blau and Ferber 1992). However, this trend cannot entirely be ascribed to higher wages nor can those changes that influence the relative value of non-market time (w^*) be overlooked. These variables include demographic trends, tastes, rising husband's income, availability of mother-substitutes, and presence of non-labor income (Blau and Ferber 1992).

Once in the labor force, how much time do workers spend on their jobs? The labor supply decision refers to the number of hours that workers are willing to work. The income-leisure choice model that is used to analyze how a rational decision maker chooses whether or not to participate in the labor force can similarly be applied to analyze how such a decision maker chooses the number of work hours to supply (Filer et al. 1996). Under consumer utility maximization assumptions, a worker will supply labor services up to a point where her/his marginal rate of substitution of income for leisure equals the wage rate.

A married woman's labor supply behavior is, then, basically a rational decision concerning a trade-off between benefits derived from working for pay or profit, on one hand, and the benefits derived from undertaking non-market activities at home, on the other. In order to determine the significant correlates of married women's differential labor supply behavior, the model to be empirically tested is written as $EMPW = f(\text{AGEW, EDUC, CHIL, LAST, HHSI, SUBS, HUSY, OTHY, NOLY, FISH, ATTI, WOCO, WOMB, FERT})$

Where

EMPW	=	woman's work effort
AGEW	=	age of the married woman
EDUC	=	married woman's educational attainment
CHIL	=	presence of children less than six years old

LAST	=	recency of last childbirth
HHSI	=	household size
SUBS	=	availability of mother substitutes
HUSY	=	husband's average monthly income
OTHY	=	contribution of other family members to family income
NOLY	=	nonlabor income received by the family
FISH	=	market value of fishing vessels/paraphernalia owned
ATTI	=	husband's attitude towards female work
WOCO	=	wife's work commitment
WOMB	=	premarital work experience
FERT	=	future fertility plans

The data source is primary information derived from a rapid appraisal survey conducted for the purpose. The dependent variable, EMPW, is measured in terms of work hours offered in the labor market for wage or profit on an average monthly basis. A woman is defined to be a market participant if she worked for money some time in the survey period.

The employment of the woman includes both primary and secondary jobs, in fishing and fishing-related activities. Employment is either to work for other employers or are self-employment activities. Average work hours per day during the month immediately preceding the conduct of the survey is the relevant data. Specifically, the measure of work effort is the number of days worked per week multiplied by the "average" or "usual" hours worked per day. This measure avoids the kind of sample bias that arises when one uses only the reported hours on the day the survey is conducted. This specification is derived from the model used by Heckman and Macurdy (1980) in analyzing the life cycle labor supply decisions of married women.

The independent variables include demographic, economic, and socio-psychological factors relevant to the working married woman and her family. Table I shows a summary of the variables used in this study and their corresponding measures. The subjects of the study consisted of women who had been continuously married to the same spouse during the past year. They had been working for pay or profit during the month immediately preceding the week when the survey was conducted, from December 1999 to January 2000. The nature of their employment may have been on a full-time or part-time basis. The women may have been working in the fishing sector either for pay or profit. Unpaid work is excluded.

The research locale was purposively chosen for this study. It included Capoocan, Barugo, and Carigara (all along Carigara Bay) in Eastern Visayas, Philippines. These fishing communities produce a volume of fish that is immediately sold in its fresh state, with the least preservation (e.g., salting, refrigeration, smoking) needed. Three barangays, from where 20% of the married women (but not less than 30), were randomly chosen as subjects of the study. There were 254 married women - respondents.

Using SPSS, correlation and stepwise multiple regression were run to statistically determine significant correlates of married women's labor force participation in the fisheries labor market. At least four alternative regressions were run. That is, models that include demographic variables only, economic variables only, socio-psychological variables only, and finally, all the identified variables. This is an attempt to determine significant predictors per identified category of the variables used.

Table 1. Measurement of variables.

Code and Name of Variable	Measurement
Dependent Variable:	
EMPW Woman's work effort	Days worked per week multiplied by the "usual" hours worked per day during the month immediately preceding the survey.
Demographic Variables:	
AGEW Age of married woman	The chronological age at nearest birthday.
EDUC Married woman's educational attainment	Number of years of formal schooling completed.
CHIL Presence of children less than 6 years old	Number of children less than 6 years old who are living with the mother.
LAST Recency of last childbirth	Number of years since last childbirth.
HHSI Household size	Headcount of persons dwelling in the same unit and sharing in the budgeting and decision-making activities.
SUBS Availability of mother substitutes	Dummy variable: 1 if there are available mother-substitutes, 0 otherwise.
Economic Variables:	
HUSY Husband's average monthly income	The husband's average monthly income from all sources during the last 12 months.
OTHY Other family members' contribution to family income	Sum of other family members' average monthly income from all sources during the last 12 months.
NOLY Nonlabor income	Sum of average nonlabor incomes derived by all family members during the last 12 months.
FISH Value of fishing vessels and paraphernalia	Market value of fishing vessels/paraphernalia owned by the family.
Socio-psychological Variables:	
ATTI Husband's attitude towards female work	A Rating Scale adopted from Layo (1977) was used.
WOCO Wife's work commitment	The score taken from a Work Commitment Index adopted from Herrin (1979).
WOMB Wife's premarital work experience	Dummy variable; 1 if wife worked before marriage, 0 otherwise.
FERT Future fertility plans	Dummy variable; 1 if wife plans to bear a child in the future; 0 otherwise.

Results

A. The Profile of Married Women

The number of hours spent by a married woman in paid work or work for profit partly depends on the nature of the market or the occupational group that she belongs to. Research results show that married women in coastal fisheries have short average work hours at only 4.7 hours per day, happening intermittently, or 104.25 hours per month. This is very short compared to the formal market where labor laws have set an employee's regular work hours at 8 hours per day for 5 days per week, or from 176 to 184 hours per month.

Demographic Characteristics. Married women in fishing communities exhibit a profile that is typical of participants in informal labor markets. They are as young as 20 years old and as old as 73 years old with a mean age of 42 years. There is no minimum age requirement for entry nor a maximum age requirement for retirement from paid work.

Educational attainment does not serve as a screening device in informal markets. While there are college graduates (those with 14 years of formal schooling), there are also women with no completed years of schooling. The fishing communities registered a mean value of 7.3 years.

Household sizes are as small as two and as large as 11. The former refers to cases of old families where the couple has been left alone, or in female-headed families with a child or grandchild to take care of. The latter refers to extended families, or in some cases, to nuclear families with many children. The average household size is about six.

Table 2. Demographic profile of married women in fishing communities (n= 254).

Sector	Variable	Minimum	Maximum	Mean	SD
Fishing	EMPW (dependent variable)	14.00	144.00	104.25	54.90
	Age of woman	20.00	73.00	42.0	11.28
	Highest educational attainment	.00	14.00	7.3	2.50
	Household size	2.00	11.00	6.3	2.14
	Years since last childbirth	.00	40.00	7.2	7.28
	No. children less than 6 years old	.00	4.00	1.1	1.18
	Presence of mother-substitutes Yes = 65 (25.60%)				

The life cycle of the family is indicated by the number of children below six years old, and the number of years since the last childbirth. Data shows that the more recent the last childbirth, the greater the number of children below six years old. On the average, the women have at least one small child who was born within the last six years.

Economic Indicators. The families of the women in this study are poor, and generally fall below the poverty threshold as reflected by selected economic parameters. Highest monthly income of husbands is PhP9,000.00 (US\$180) with a mean value of Php2,631.70 (US\$52). Variations in monthly incomes are due to any of the following: the frequency of fishing; type of fishing vessels used; ownership of fishing vessels; hours spent in fishing and fishing-related activities; engaging in non-fishing economic activities such as poultry and livestock-raising; having multiple employment; rentals of family-owned properties; or in some cases, being hired in the formal sector, whether on a regular or contractual basis.

At the other end of the continuum are husbands whose incomes equal zero. This gives rise to female-headed families, where the wife usually becomes the primary breadwinner.

Table 3. Economic profile of married women in fishing communities (n= 254).

Sector	Variable	Minimum	Maximum	Mean	SD
Fishing	Husband's income	.00	9000.00	2631.7	1765.06
	Other family members' contribution to income	.00	10200.00	486.2	1470.34
	Nonlabor income	.00	42000.00	9598.4	11987.69
	Market value of fishing vessel owned	.00	5000.00	174.0	553.57

In many cases, all able-bodied family members get employed in order to augment family income. However, data reveal that average monthly contributions of other family members to family income is low, with a mean value of Php486.20 (US\$9.60). This income is irregular.

Non-labor income is another source of the family's wealth. This comes from transfer payments, rentals of assets, winnings from gambling, and other forms of aid from private/government sectors. Most often, this form of income is intermittent, unstable, and low.

Ownership of properties indicates access to economic resources, which may affect women's decisions to participate in the labor force and the extent of paid work hours. In fishing communities, the market value of fishing vessels/paraphernalia owned indicate that only few families own the bigger vessels, which assure economies of scale in fishing operations. Non-ownership of the tools of the trade means lesser work hours spent by the husband and male family members in fishing, and hence, lower incomes derived from the said activity.

Socio-psychological Considerations. Perceptions and social nuances attached to particular economic sectors affect a married woman's decision as to whether or not she will get paid work and to what extent.

In a rating scale where a score of 25 reflects the least favorable attitude of the husband towards his wife's labor supply decisions (as perceived by the wife), a mean value of 15.1 can be construed negatively. Husbands generally would disapprove of their wives working if the family income is sufficient. Given no better option, husbands then find themselves appreciating wives who help earn for the family's upkeep.

The involvement of women in fish production makes work for the men as the former are relegated to the type of work which are extensions of housework along constructs of maternalism and nurturance. Women are oftentimes considered as appendages to men's work. They clean fishing paraphernalia/tools of the trade, mend fish nets, and market the harvest. Most of these work is unpaid but is necessary in the whole fish production system.

Women's commitment to work for non-familial reasons reveal a mean of 33.0. In a scale of 1 to 50, this score does not seem to reflect a very strong desire in the married woman to work for reasons not directly related to family welfare considerations. Hence, what moves married women to work is basically the need to uplift the family's standard of living over their desire to reach self-fulfillment and self-realization brought about by the use of their potentials/capabilities.

Table 4. Socio-psychological profile of married women in fishing communities (n =254)

Sector	Variable	Minimum	Maximum	Mean	SD
Fishing	Husband's attitude toward female work	5.00	23.00	15.1	3.24
	Woman's work commitment	22.00	44.00	33.0	3.26
	Pre-marital work Yes = 165 (65.00%)				
	Fertility plans Yes = 200 (78.70%)				

A married woman's decision to work may also be affected by her pre-marital work experience. About 65% of the 254 women-respondents claimed to have worked for pay or profit before marriage. Labor force participation is, however, lower in purely subsistence fishing where the males dominate.

Fertility among married women is high in the fishing communities as claimed by 200 respondents (78.70%). This may be due to the value attached to children as sources of financial assistance and security. The same reason holds for another finding which reveals that children serve as mother-substitutes in cases when mothers decide to seek paid work outside the home. Older children and the presence of non-nuclear family members release mothers to the labor market. About 25.60% of the households in fishing villages have mother-substitutes at home.

B. Significant Predictors of Married Women's Labor Supply Behavior

A correlation matrix of the variables reveal the expected relationships. The number of work hours offered by a married woman in the market is positively and significantly associated with EDUC. This reveals that a higher educational attainment increases the labor supply of the woman. OTHY and LAST though positively associated with EMPW do not come out to be significant variables due to its (EMPW) being highly correlated with EDUC.

On the other hand, CHIL, FISH, and ATTI show a negative and significant association with EMPW. This indicates that the married women's work hours spent on paid work decreases with the presence of more children who are below six years old in the home, or with a greater ownership of fishing vessels/paraphernalia, or with an unfavorable attitude of the husband towards female work. Other variables that are negatively associated with EMPW though insignificant, include HHSI, HUSY, NONY, ATTI and SUBS. This result can be explained by the high correlation between the said variables.

A stepwise multiple regression from SPSS was used to determine the minimum number of predictors needed to explain the maximum variance in the criterion, and to estimate the likely score of a criterion from the predictors identified in the study.

Regression 1: Demographic-Variables-Only Model

The presence of children less than six years old comes out as a more significant predictor than the household size. Beta coefficients are -0.215 for CHIL and 0.191 for HHSI. A married woman's work hours in fishing and fishing-related activities decreases by 3.623 for every additional child in the family below six years old. It, however, increases by 1.786 per unit change in household size, all other factors held constant.

$$\text{EMPW}_{\text{fish}} = 25.259 - 3.623\text{CHIL} + 1.786\text{HHSI}$$

(-3.120) (2.772)

The adjusted R^2 in the regression run, though significant, is very low. Only at most 3.8% of the total variance in the labor supply behavior of married women is explained by the demographic predictors. A major proportion of the total variance can be explained by other factors that are excluded in this demographic-variables-only model.

Table 5. Significant demographic predictors of married women's labor supply behavior

Regression Run	Significant Predictors	B	SE B	Beta	T	Sig t
Demographic-Variables-Only-Model	CHIL	-3.623	1.161	-.215	-3.120	.002
	HHSI	1.786	.644	.191	2.772	.006
	(Constant)	25.259	3.862		6.540	.000
	Adjusted $R^2 = 0.038$ F = 6.053 p value = .003					
Economic-Variables-Only Model	FISH	-4.367E-04	.000	-.262	-4.319	.000
	OTHY	1.990E-03	.001	.146	2.414	.017
	(Constant)	35.652	1.575		22.629	.001
	Adjusted $R^2 = 0.076$ F = 11.381 p value = .000					
All variables Included	FISH	-4.466E-04	.000	-.268	-4.444	.000
	OTHY	2.079E-03	.001	.153	2.537	.012
	WOCO	.791	.369	.129	2.144	.033
	(Constant)	9.601	12.252		.784	.434
	Adjusted $R^2 = 0.089$ F = 9.228 p value = .000					

Regression 2: Economic-Variables-Only Model

Alternative income level parameters and the ownership of properties were used in the model. FISH and OTHY are significant predictors of EMPW, with FISH as the better predictor as indicated by the beta coefficient.

$$\text{EMPW}_{\text{fish}} = 35.652 - 0.0004\text{FISH} + 0.0019\text{OTHY}$$

(-0.262) (0.146)

Work hours decrease by 0.0004 units per unit change in the market value of fishing vessels/paraphernalia owned by the woman's family, all other factors held constant. On the other hand, total work hours increases by 0.0019 per unit increase in income contributed by other family members to the family coffers.

The resulting adjusted R^2 is low at 7.6%. This indicates that the identified independent variables are not enough to explain the total variance in the criterion. An economic-variables-only model, therefore, leaves so much of the total variance of EMPW to be explained by factors excluded in the model.

Regression 3: Socio-psychological-Variables-Only Model

A third regression model to include socio-psychological variables does not reveal any significant parameter. The model does not provide a good explanation of the total variance in the work hours offered by a married woman in the labor market. Obviously, it excludes many possible good predictors.

Regression 4: All-Variables Model

In a fourth regression specification, all the identified independent variables are included in a stepwise multiple regression analysis. The variable that is most highly related to the criterion variable is entered first into the regression equation followed by variables that are the next most strongly related to the criterion once their relationship with the other variables is taken into account. If later variables are strongly associated with the variables already entered, then it is less likely that they will independently account for much more of the variance than those previously entered and so they are unlikely to be included as predictors (Cramer 1997: 301).

No demographic variable is found to significantly explain the total variance in EMPW.

$$\text{EMPW}_{\text{fish}} = 9.601 - 0.00045\text{FISH} + 0.0021\text{OTHY} + 0.791\text{WOCO} \\ (-4.444) \quad (2.537) \quad (2.144)$$

Two of the significant predictors are economic variables and one is a socio-psychological variable. Ownership of fishing vessels/paraphernalia is negatively related to the married woman's work effort. This can be explained through the husband's access to the means of production/economic resources which increases his income and discourages his wife to work. The husband's attitude towards female work is generally less favorable.

OTHY exhibits a positive relationship with EMPW. That is, a woman's work hours increases by 0.0021 per additional unit change in other family members' contribution to family income. This is rather a less expected relationship since ordinarily, higher family incomes will discourage women to work for more hours. This result may then be explained: while there are additional income contributions from other family members, such contribution is relatively low to enable the family to move to a higher standard of living. Hence, the married woman is still pushed to work longer hours.

A woman's work commitment to non-familial reasons is positively related to her work hours in the labor market. EMPW increases by 0.791 per unit increase in WOCO. Working hours is significantly improved and this is related to a woman's desire for self-actualization/self-realization over the desire to work in order to augment the family income.

The adjusted R^2 reveals a low value at 8.9%. The multiple linear regression model as a whole does not explain nor "fit" well the variance in the dependent variable. It shows that only a very small proportion of the linear variance in the criterion is explained by all the independent variables acting together. A low value of the adjusted R^2 can occur for several reasons.

First, the vector of predictors may not be good explanatory variables. In this study, all the variables included in the model have largely a *priori* theoretical considerations as cited in the literature review. It, however, deliberately did not include the variable, offered wage to the woman in the labor market. While literature shows that this is a very significant predictor in universal studies, this was purposively excluded in this paper since its objective is to determine significant predictors of a married woman's work hours, other than the alternative wages offered to the married woman in the labor market.

Second, in cross-section studies a lower squared multiple correlation may occur even if the model is a satisfactory one because of the large variation across individual units of observation which is inherent in the data (Pindyck and Rubinfeld 1991). This suggests that the R^2 alone may not be a suitable measure of the extent to which a model is satisfactory.

Third, in social research, particularly high values of R^2 should not be expected. This is because there are so many factors, which might contribute to influence a variable that one cannot reasonably expect to be able to analyze or even measure. As a rule of thumb, the R^2 depends obviously on individual circumstances.

Fourth, a low R^2 does not necessarily mean that there is no association between the variables, nor is there the absence of significant predictors of the criterion (Norusis 1985). Instead, it indicates that there is no linear relationship.

Results of this study further reveals that based on the F statistic, the computed R^2 is significant. It is possible for R^2 to be significant at a given level even if the value is low, and/or even though very few of the regression coefficients are found to be significant according to individual t-tests (Pindyck and Rubinfeld 1991). This situation arises if the independent variables are highly correlated with each other. The result may be high standard errors of the coefficients and low t-values, yet the model as a whole may fit the data very well.

Discussion

Several results from the regression runs/models using the SPSS stepwise multiple regression analysis may be interpreted as follows: AGEW was not found to be a significant predictor. This may be due to the possibility of a potential non-linear relationship between AGEW and EMPW. Young mothers and older women have relatively lesser work hours in the market. It is the middle-age woman who finds more hours in the labor market. Young mothers withdraw from the labor force when children are born and the couple starts to build a family. The older women withdraw from the labor market because of age and because the traditionally male-dominated fishing sector will prefer men over women, and younger women over older women, specifically when there is surplus labor. The older women are first to be fired but last to be hired in an arena where masculinity dominates the hiring-firing decisions.

The recency of last childbirth, LAST, is not significantly related to work hours. This may be caused by the variable's high correlation with other demographic variables such as CHIL and HHSI, and other economic variables such as FISH and OTHY all of which have shown significant contribution in explaining total variance of the criterion. It is noted that collinearity results in high standard errors of coefficients.

The presence of mother-substitutes, SUBS, does not significantly affect EMPW either. It is the common practice in fishing communities for mothers to bring small children to the workplace. In non-fishing economic activities such as vending or tending a store, the house is the workplace and the shop. Hence, the mother harmoniously combines home time and work time. The presence or absence of mother-substitutes seem not to significantly affect the length of time a woman spends for paid work.

A higher educational attainment improves the productivity of women in the workplace. It also improves the women's understanding of the production process and new techniques/technology of the trade. A higher educational attainment widens the opportunities for better-paying non-fishing-related work (such as employment in the formal sector), and increases the probability of multiple employments. However, EDUC does not come out as a significant predictor.

On the other hand, HHSI does. Based on literature, HHSI may either have a direct or an inverse relationship with the labor supply behavior of married women. On one hand, a woman may increase work hours to improve the financial position of a large family whose needs are increasing. Or, it could be viewed as a larger family reflecting a not-so-young family whose children can be left on their own, hence, releasing the mother to seek more paid work hours. Or still, a larger family implies the presence of mother-substitutes that similarly enables the woman to seek longer paid work hours. On the other hand, a woman may decrease work hours if a large household size means that more able-bodied family members are significantly contributing to family income. In this study, it is the positive relationship that is revealed.

Another significant demographic predictor is CHIL. The presence of children in the family who are less than six years old adversely affects a woman's labor supply decision. A mother is traditionally expected to perform her maternal/nurturing domestic roles over and above engaging in economic activities for pay or profit. Moreover, among poor families, nursemaids are uncommon. This leaves the woman no choice but to spend more time at home to rear small children at the expense of work time.

With regards to economic variables, FISH is a significant predictor that shows negative relationship with EMPW. This can be explained by the family's access to the means of production. That is, if the family owns the tools of the trade, chances are for incomes to be higher. Hence, the woman need not work in favor of spending more home time to take care of her growing children.

On the other hand, OTHY, another significant predictor of EMPW affects in a positive manner. That is, even if other family members contribute to the total family income, a woman will still desire to work longer if such contribution falls below a minimum level which is set by the family as a requirement to stay on a target/desired welfare position of the family. In the study, therefore, it seems that contribution of other family members to total family income is low. This is expected in fishing communities where alternative job opportunities are limited, and where the labor force lacks human capital. Consequently, jobs do not provide stable, regular and better terms/working conditions. On the other hand, a possible non-linear relationship between OTHY and EMPW is worth considering.

Among the socio-psychological factors, only WOCO came out as a significant predictor, the commitment of the woman to work for non-familial reasons. Work is not primarily carried out for material or financial reasons but more increasingly because of the woman's desire to express herself and use her expertise/capabilities in activities outside the daily routine and the confines of the home. This behavior was observed specifically for women with higher educational attainment. However, increase in work efforts are registered in non-fishing-related economic activities since the fisheries sector is male dominated and the traditional fish production system is not woman-friendly.

On the other hand, FERT and WOMB do not significantly explain the total variance in the criterion, EMPW. Future fertility plans is highly correlated with household size, and the number of children below six years old, which was found to be a significant predictor. This multicollinearity may also explain why pre-marital work experience failed to emerge as a significant predictor.

The empirical analysis, moreover, showed that the combined influence of the various factors resulted in higher R^2 values and more significant predictors of the labor supply behavior of women. Obviously, the addition of independent variables that are based on *a priori* theoretical framework, and the absence/minimum multicollinearity of the predictors will increase R^2 .

Conclusion

Women in fishing communities generally have low educational attainment. They come from medium-sized households of about six family members, at least one of whom is below six years old. They are married to husbands who, with a similar educational profile, do not bring home as much cash income as necessary for the family to stay above the poverty threshold. Other able-bodied family members contribute to family incomes, but these incomes are earned irregularly and at low levels.

The labor supply behavior of married women is a decision concerning a trade-off between the benefits derived from working for pay or profit, and the benefits derived from undertaking non-market activities at home. Married women tend to offer more work hours in the labor market under the following conditions: absence of children who are less than six years old, greater work commitment for non-familial reasons; a larger household size which allows for the presence of mother-substitutes and/or insufficient income contribution by other family members; and the family's non-ownership of fishing vessels/tools of the trade.

These empirical results show that the significant predictors are mostly economic in nature. In view of these findings, the following recommendations are made. To address the issue of low R^2 values, further studies can be undertaken in the following areas:

- a) a new set of data gathered in fishing communities which use alternative types of fishing technology;
- b) possibilities of a nonlinear relationship between EMPW on one hand, and HUSY or EDUC or OTHY on the other hand;
- c) the inclusion of a more direct predictor which has a strong *a priori* theoretical framework such as alternative wage offers to the married woman;

- d) a more qualitative replication of this research in various economic sectors and different occupational groups in the market.

All of these can be done for academic purposes such as to develop instructional materials. These are expected to improve/contribute to the existing local literature on women and work.

In aid of legislation and policy-development formulation, the following entry variables that will improve the married women's status in the fisheries labor market seem to stand out from the empirical results:

- a) the introduction of women-friendly fishing technology that spans from production, storage/preservation, and marketing;
- b) provision of non-fishing related work for more family members who are able and willing to work to augment family income;
- c) better and greater access to the means of production/economic resources through a mechanism that will enable the family to derive sufficient and regular incomes throughout the year;
- d) a community-based re-orientation through barangay public forums on a gender-sensitive and gender-fair coastal fisheries economy, where women are not merely appendages to men's work but are equal partners in the whole fish production system.

Bibliography

- Blau, F. and M. Ferber. 1992. *The economics of women, men and work*. 2nd ed. Prentice-Hall, New Jersey.
- Filer, R.K., D.S. Hamermesh and A.T. Rees. 1996. *The economics of work and pay*. 6th ed. Harper Collins College Publishers, USA.
- Heckman, J.J. and T.E. Macurdy. 1980. A life cycle model of female labour supply. *Review of Economic Studies*. Vol. XLVII.
- Norusis, M.J. 1985. *SPSS/PC+ For the IBM PC/XT/AT*. SPSS Inc. Illinois.
- Pindyck, R.S. and D.L. Rubinfeld. 1991. *Econometric models and economic forecasts*. 3rd ed. McGraw-Hill, Inc., USA.



OCEANIA

AN OVERVIEW OF THE INVOLVEMENT OF WOMEN IN FISHERIES ACTIVITIES IN OCEANIA

L. Lambeth

Secretariat of the Pacific Community, Noumea (SPC), New Caledonia

B. Hanchard

Forum Fisheries Agency, Honiara, Solomon Islands

H. Aslin

Bureau of Rural Sciences, Canberra, Australia

L. Fay-Sauni

University of the South Pacific, Fiji

P. Tuara

Office of the Prime Minister, Cook Islands

K.D. Rochers

Secretariat of the Pacific Community, Noumea, New Caledonia

A. Vunisea

University of the South Pacific, Fiji

Abstract

In the Pacific Islands, an estimation of 70 to 80% of the catch from inshore fisheries is used for subsistence purposes. It is uncertain what percentage of that is taken by women, although a recent study in Samoa found that 18% of all village fishers are female, who harvest around 23% of the total weight of seafood. Aside from traditional activities such as inshore harvesting and seafood processing for the family, women are becoming increasingly active in small businesses involving marine resources.

Australia and New Zealand possess established commercial fishing industry sectors, and women's involvement in fisheries in those two countries tends to be different from their largely subsistence and artisanal involvement in the majority of Pacific Island countries and territories. Countries with large-scale, on-shore processing facilities show a relatively large percentage of women employed in the commercial fishing industry—in New Zealand about 34% of the fishing industry workforce are women.

This paper brings together information from the vast region of Oceania, including Polynesia, Micronesia, Melanesia, Australia and New Zealand. It also examines research and development needs; government policies with regard to women's role in fisheries; and constraints that affect women's involvement in fisheries management and development in Oceania.

Introduction

Oceania includes Australia, New Zealand and the Pacific Islands—a region with enormous differences in geography, culture, language, available resources, and economic development. Australia and New Zealand are considered to be developed countries, with prosperous economies. The Pacific Islands, on the other hand, are usually considered to be developing economies. In many, economic development is hindered by isolation from markets, lack of natural resources, and minimal infrastructure. Trade deficits are often made up for by remittances from expatriates, and by foreign aid and assistance. Many have a large subsistence sector that contributes substantially to household food security.

The Pacific Islands are often grouped into the three sub-regions of Polynesia (southeast), Micronesia (north) and Melanesia (west), based on their ethnic, linguistic and cultural differences. Spread over 30 million sq km, more than 98% of which consist of ocean, the islands feature great geographical diversity. Melanesian islands tend to be large, mountainous and volcanic (with rich soils, mineral deposits and plentiful marine resources), while the Polynesian and Micronesian islands are smaller with fewer resources. Some, such as Kiribati, Marshall Islands (Micronesia), Tokelau and Tuvalu (Polynesia) consist of low-lying atolls, only one or two meters above sea level.

The geography of the islands has influenced the degree of dependency on marine resources. Seafood is not as important in the subsistence diets of the larger Melanesian islands as it is in the smaller countries (Coyne et al. 1984). For many countries however, particularly in land-deficient Micronesia and Polynesia, fresh fish and invertebrates caught in coastal waters are a staple source of protein. The world average per capita seafood consumption is around 13 kg—in the Pacific Islands it is estimated to vary from around 20 kg per year in larger island countries such as Papua New Guinea, to over 200 kg per year in the low-lying coral atoll nations such as Kiribati, the highest per capita seafood consumption in the world (Gillett and Lightfoot 2001). These figures include locally harvested fish and invertebrates as well as imported seafood products. Marine resources remain an important part of the diet for many Pacific Islanders, and increasingly provide income to communities with few other available economic opportunities.

Traditionally, fishing beyond the reef was the domain of men, while women concentrated their activities on fishing and collecting invertebrates within lagoons and inshore areas. The same is still practised today, although in many countries women can be found fishing from boats, usually with husbands or brothers. Women continue to be responsible for much of the processing and marketing of their own and their husbands' catches.

Pacific Island states have been keen to encourage the development of offshore fishing activities, to generate income and to reduce pressure on inshore resources. Because the offshore fishery primarily involves men, most initiatives have concentrated on supporting men's activities in development and management of fisheries in the region. Until recently, little has been done to document the activities of women, to identify women's potential for involvement in development and management opportunities, or to assess problems such as overharvesting or the impact of development on women's fishing areas.

In Australia and New Zealand, as in the Pacific Islands, women's issues and concerns have received scant attention within the fishing industry, and women's contributions have been largely invisible until very recently. Coastal Aboriginal and Torres Strait Islander communities in Australia, and Maori communities in New Zealand, were traditionally dependent on marine resources and continue many of their customary fishing activities today. Women's involvement in fisheries in those communities is closely aligned with that of women in the Pacific region.

Australia and New Zealand also possess well-established commercial fishing industry sectors, and women's involvement in commercial fisheries in those two countries tends to be different from their largely subsistence and artisanal involvement in the majority of Pacific Island countries and territories. Areas with large-scale, on-shore processing facilities show a relatively large percentage of women employed in the commercial fishing industry. In addition, in Australia and New Zealand women have substantial, but largely unrecognized involvement in family-based fishing businesses, where they are often responsible for tasks such as correspondence, record keeping, organizing the sale of the catch, and ordering supplies.

Australia and New Zealand also have a substantial recreational fisheries sector, in which women play a role, both in participation in the sport or recreation, and in providing goods and services to the sector.

Inshore Fisheries in the Pacific Islands

An estimation of 70 to 80% of the catch from inshore fisheries in the Pacific Islands (reefs, estuaries and freshwater) is used for subsistence purposes, with the remaining 20% going to commercial markets

(Dalzell et al. 1996; Gillett and Lightfoot 2001). Very few studies have examined the subsistence contribution to inshore catch, an area of fisheries in which women are traditionally involved. However, there are studies that suggest women's contribution to be substantial (Avalos 1995; Rawlinson et al. 1995; Passfield et al. 2001). Traditional fishing activities in the Pacific Islands are generally segregated, with men focusing on offshore areas, and women's activities confined to inshore areas. Aside from traditional activities such as inshore harvesting and seafood processing for the family, women are increasingly taking up economic opportunities offered by small businesses involving marine resources. When domestic commercial fisheries develop, they are often employed in various capacities onshore. Women also play a significant role, directly and indirectly, in the three main aquaculture industries in the region—pearls in Cook Islands and French Polynesia, prawns in New Caledonia, and seaweed in Kiribati and Fiji.

Polynesia

The Polynesian nations of the central Pacific include Tonga, Samoa, American Samoa, Cook Islands, Wallis and Futuna, French Polynesia, Pitcairn Islands, Niue, Tokelau, and Tuvalu. Polynesian islands vary from volcanic islands with some fertile land to low-lying coral atolls or phosphate rock islands. Most have barrier or fringing reefs, often with large protected lagoons.

In Samoa, women and children collect many species of shellfish, sea cucumbers, sea urchins, octopus, crabs, and seaweed from the inshore area at low tide. Often, the only tools are a bush knife or short stick for probing coral holes or prising up shellfish, and a bag or container for the catch. A recent study of subsistence fisheries in Samoa found that 18% of all village fishers are females who harvest around 23% of the total weight of seafood (Passfield et al. 2001). Considering women are responsible for collecting most of the marine bivalves and other invertebrates in Samoa, they would provide close to 20% of the per capita seafood consumption of 71 kg per year (made up of 44 kg of fish, 13 kg of invertebrates and seaweed, and 14 kg of canned fish).

In Niue, an elevated former atoll with a very narrow fringing reef, women collect at least 40 different invertebrate and three seaweed species for food, including chitons, limpets, vermetid snails, nerites, drupe shells, bivalves, crabs, sea urchins, and sea cucumbers (Lambeth and Fay-Sauni 2001). Many other species are collected for shell craft. At first glance, the rugged coastline and small reef flat area would appear to have few resources that could be utilized, but up to half of its fisheries production (fish and invertebrates) is estimated to come from the fringing reef (Dalzell et al. 1993). As well as harvesting invertebrates, Niuean women fish with homemade rod and lines and join the rest of the community in catching juvenile goatfish, *Mulloidides flavolineatus*, when the fish school in shallow waters from December to March. As in many Pacific Islands, it has long been taboo for women in Niue to go out on boats. Although this is slowly changing, their involvement in fisheries is still mostly confined to harvesting from the small reef flat, processing their own and the men's catch, and some marketing activities (Tuara 2000).

In Tuvalu, women's role in fisheries has changed with the introduction of the outboard motor—men now find it easier and quicker to provide regular supplies of pelagic fish for the family and for sale. Women see less need to supplement the family diet with seafood from their inshore fishing and collecting activities and feel that fishing with motorboats is a distinctly male occupation (Lambeth 2000). Women collect more now for enjoyment and as a social activity with other women, but they remain the main processors and marketers of fish and fish products.

In the small French Territory of Wallis and Futuna, geography has dictated traditional roles of men and women. On Futuna, villages are built around a very narrow coastal strip and gardens are planted on the mountainside, which rises abruptly from the coast. To work the gardens means a steep climb and extended time away from the home, and agriculture is an almost exclusively male job. Men fish from small boats (mainly trolling and bottom fishing) and use cast nets and spear lobsters, but it is the women who provide the daily catch of seafood. The island of Wallis, on the other hand, is relatively flat compared with Futuna

and gardens are in convenient spots, relatively close to the villages. Agriculture is not exclusively a male activity on Wallis, and women are not involved in fishing to the same extent as Futunan women.

Micronesia

Micronesia includes the Federated States of Micronesia (FSM), Guam, Palau, the Commonwealth of the Northern Mariana Islands, Kiribati, Marshall Islands, and Nauru. Much of Micronesia is characterized by small, remote and widespread island states and territories with few natural resources.

Kiribati consists of 33 coral atolls (with the exception of Banaba, a phosphate rock island), spread over a vast area of the Pacific, straddling both the equator and the international dateline. It is widely believed that women's fishing activities in Kiribati are confined to reef gleaning (Taniera and Mitchell 1995); however, women also use gill nets, rods and lines, traditional fish traps and catch octopus at night using hooked metal rods and coconut frond flares or kerosene pressure lamps as a light source. Traditionally, women also caught fish using poison from the sea cucumber, *Holothuria atra*.

In South Tarawa, this poison has sometimes been replaced with tobacco. Women are the main harvesters of the bivalve, *Anadara sp.*, with the 1400 tonne yearly harvest making it one of the largest fisheries in South Tarawa. In the outer islands many women are also involved in *Eucheuma seaweed* farming—an export industry of considerable importance to many communities. Women undertake much of the processing and marketing of fish for domestic consumption in Kiribati, a role often overlooked in development project planning.

In Palau, women have always played an important part in harvesting marine resources through their reef-gleaning activities, especially in bad weather when the men were unable to go fishing. Matthews and Oiterong (1991) found that women regularly collect eight species of sea cucumber, four species of sea urchin, seven species of mollusc, three species of crab and more than 15 species of fish. Many more invertebrate species are collected when they can be found. Palauan women are now broadening the scope of their fisheries activities, with an increase in the marketing of their produce and, for some, the use of small motorboats for fishing (Lambeth 1999).

In the Federated States of Micronesia, women's involvement in harvesting and fishing varies across the states, with women in Kosrae and Chuuk being very involved in inshore fishing and collecting, while women in Pohnpei and Yap are less so. Even within the state of Yap activities vary, with outer island women much more likely to collect from the reef and fish with hand lines than the women of the main group of Yap islands. Yap has very strong taboos, rituals and prestige associated with different fishing methods, gears and areas, and the type of fishing or collecting done by women and children ranks at the bottom of the scale in terms of prestige (Falanruw 1992). On Kosrae, on the other hand, men were traditionally involved in farming and occasional fishing beyond the reef, while women were regular providers of seafood for the family through their netting, hand lining and reef gleaning activities. Net fishing was a varied and highly developed activity practiced by Kosraean women, with different nets designed for specific fishing techniques, marine habitat, tide, and number of people (Des Rochers 1992). By the early 1990s, these varied techniques and specialized gear had been replaced almost entirely by the use of monofilament gill nets, but women have maintained their involvement in inshore netting.

Like most women in Polynesia and Micronesia, women in the Marshall Islands collect shellfish, crustaceans and other invertebrates from the lagoons and inner reef areas. Women are also responsible for primary and secondary processing, while marketing is limited to selling their produce through retail shops and handicraft outlets in the capital, Majuro. In general, it is culturally taboo for Marshallese women to go on fishing boats (Tuara 1998).

Melanesia

Papua New Guinea (PNG) accounts for 84% of the land area of the entire Pacific Islands region, with the Solomon Islands, Vanuatu, New Caledonia and Fiji forming a further 14%. The larger islands and more productive land available in Melanesian countries offer greater subsistence and commercial alternatives to marine resource production compared with many other parts of the Pacific. However, fish and invertebrates (marine and freshwater) still play an important role in the diet and economy, and women's involvement in harvesting, processing and marketing is substantial.

As in other Pacific Islands, women in Fiji are involved in subsistence fishing and are increasingly becoming involved in the commercial fisheries sector. A study by Rawlinson et al. (1995) found that Fijian women were the most active fishing group in the country. Women dominate the subsistence fishing sector and, with their daily fishing activities and generations of knowledge, have an intimate knowledge of the coastal zone. More recently, they have entered the lucrative *bêche-de-mer* (processed sea cucumber) fishery as divers. Women are also the dominant sellers of crustaceans, molluscs and seaweed in Fiji. The freshwater clam, *Batissa violacea* or *kai*, is collected largely by women and forms the basis of the largest single domestic fishery in Fiji.

Fishing methods and equipment are generally simple, many involving the use of hands and simple tools. The methods and skills, however, are diverse and require an intimate knowledge of the environment and the species targeted. In addition to the collection of invertebrates, women net fish, set up barriers and traps, and use handlines. Seasonality of different species and the effects of lunar cycles, winds and other natural phenomena on marine species are well known and used to advantage when fishing. Women can often identify fish species by how they bite or nibble on the line, and subsequently change hooks, bait and lines to suit the particular fish (Vunisea 1996).

There is a great diversity of coastal and marine environments in PNG, ranging from large delta flats, mud flats and mangrove swamps, to fringing coral reefs and narrow lagoons. The range of small-scale fisheries activities reflects the diversity of the country's environments, and includes reef gleaning, spear fishing, shallow-water hand lining from dugout canoes, netting, and trapping in the larger rivers. Two major river systems, the Sepik/Ramu and the Fly/Purari, are extensive and account for most of the annual freshwater fish harvest. Subsistence harvesting is the most important component of PNG's domestic fishery, but commercial prawn trawling and small-scale tuna long lining are becoming increasingly important (FAO 1998).

Women's harvesting activities in PNG are mainly confined to shallow inshore areas, with an emphasis on invertebrate collection. Although information on subsistence production is scarce, the collection of invertebrates, both commercially (*bêche-de-mer* as well as trochus and other shellfish) and for subsistence purposes is thought to exceed finfish harvesting. Women catch a substantial proportion of the annual catch weight of marine resources - reported in Chapman (1987) and Avalos (1995) as more than 25%- and are dominant in the processing and marketing sectors.

In New Caledonia, subsistence fisheries still form an important part of the traditional lifestyle for the local kanak people. Two forms of fishing are recognized: collective fishing for special gifts or ceremonial exchanges, and individual fishing for family consumption. Collective fishing is carried out by fishing clans, using nets and catching large quantities of "custom" fish. Targeted species included unicorn fish, mullet, turtles and dugongs. Individual fishing can be practiced by anyone, as long as it is in an area recognized as belonging to his or her tribe, which is usually the lagoon area directly in front of the land belonging to the tribe. Women fish for mangrove crabs, hand line from shore or boats, and collect from the reef. Catching mangrove crabs with traps or hooked sticks provides important income for many women. Women are also involved in the successful prawn farming industry, especially in post harvest operations. Commercial fisheries are becoming increasingly important in New Caledonia, and mainly involve men, although there are a few women who run small fishing boat operations with their husbands. Recreational fishing from the numerous small pleasure craft berthed in Noumea is also an important activity, especially for Europeans and New Caledonians of European descent.

The Tuna Fishery in the Pacific

The tuna fishery in the western and central Pacific Ocean represents an important resource for the people of the region, providing financial returns, employment and food security. In terms of volume and value, the tuna fishing area of the Pacific region is the most important in the world. A third of the world catch of tuna, estimated to average 3.6 metric tonnes a year with a value of USD1.9 billion, is reported to come from the Pacific region (Gillett et al. 2001). In the face of increasingly overexploited inshore areas, domestic commercial harvesting of tuna is seen to be one of the few alternative areas with development potential in the region.

Tuna industry development across Pacific Island countries varies greatly and is influenced by features such as scale of economy, geographical location, access to markets, available land for onshore development, and population dynamics, among other things. Many countries are currently unable to support the logistics and economics of large-scale processing facilities such as canneries and loining plants, and therefore largely depend on the returns from access fees charged to fleets of distant water fishing nations. For many countries in the region, access fees make up a substantial portion of government revenue.

Whilst the level of industry development may be low compared to Asian countries such as the Philippines and Thailand, it nonetheless provides employment and investment opportunities for countries with few other viable alternatives.

In terms of employment, women in the Pacific are rarely seen to be directly involved in the harvesting sector of the tuna industry. The few women that hold roles in the harvesting sector are more likely to be boat owners rather than crew, captains or other male-dominated roles. Women are well represented in the processing, marketing and administrative area of the industry, although largely in low-paid rather than managerial or supervisory positions.

Up until recently, at the cannery in Western Province, Solomon Islands, approximately 600 of the 2,298 workers were women fish processors (Nelson and Tuara 2000). In Fiji, women make up the bulk of cannery workers (90%) and in other tuna processing establishments, they comprise between 30 and 80% of the workers (Arama 2000).

Until the closure of the Solomon Islands cannery (as a result of the economic downturn caused by ethnic tension), the five tuna canneries in the Pacific were estimated to employ 5% of all formally employed women in the region (Gillett et al. 2001). Women also hold a large proportion of jobs in the increasing number of export firms in the region. Women perform tasks in the marketing and administrative areas of the tuna industry, and are represented in many of the areas indirectly linked to the tuna industry such as businesses servicing the industry, and government and non-governmental agencies concerned with fisheries, environmental and social issues.

Constraints and Areas of Need for Women in Pacific Island Fisheries

When thinking of fishing in the Pacific Islands, many people tend to think of fishing from canoes or boats, spear fishing, diving for giant clams and *bêche-de-mer*, and other activities women are not traditionally involved in. The collection of seafood from the reefs and mangroves, the use of handlines and nets in shallow waters, and the preparation and sale of fish and shellfish have often been overlooked as fisheries activities by researchers and training providers. This has affected the way the fisheries sector is supported, both nationally and regionally, and the manner in which management and conservation of marine resources is approached. Part of the problem has been the way in which the terms "fishing" and "fisheries" have been interpreted in the Pacific, and the emphasis placed by donors and governments on commercial fisheries development and management. Most Pacific Islanders have a number of different terms for the various fisheries activities practiced by men and women, but "fishing" is sometimes thought to only mean those activities practiced by men. Cultural taboos against women's involvement in men's fishing activities (and sometimes vice versa) still exist in many countries and tend to reinforce both men's and women's views that fishing and fisheries is a predominantly male activity.

The emphasis placed by donors and governments on commercial fisheries development, especially offshore fishing where women have virtually no involvement, has also contributed to the lack of recognition and support of women's role in fisheries. The drive for the development of the formal economic sector in the Pacific has meant support for commercial fisheries development has been given priority over subsistence and small-scale artisanal fisheries activities.

Women's harvesting activities continue to be mostly small-scale, and their involvement in commercial fisheries is limited.

National programs of support to the fisheries sector also tend to be demand driven, and women rarely approach government fisheries agencies for assistance with their fisheries activities. This is often because of their own perception that what they do is not really a part of "fisheries", and that fisheries agencies only deal with men's activities; and the fact that it is often against the social norm for women to ask for assistance.

Pacific Island fisheries agencies are now becoming increasingly concerned about declining catches of fish and invertebrates in the most accessible inshore areas, but few have the staff or resources to address the problems. Women are one of the largest groups of users of inshore reef areas, and yet their contribution to fisheries production remains largely undocumented and unsupported.

Generally though, it may be said that the entire domestic fisheries production, particularly subsistence, is undocumented in most places. Where good figures do exist, there are usually gender-disaggregated data available. In addition, subsistence-harvesting activities are often unmanaged, with impacts on marine species and habitat poorly understood. Despite women's involvement in harvesting, processing and marketing, women are still poorly represented in national fisheries agencies, fisheries training courses and fisheries meetings; and are often not included in fisheries development and management planning processes.

More information on subsistence fisheries production, consumption and environmental impact is needed, with the analysis of the differing activities and contributions of men and women. Household and creel surveys collect fisheries data such as seafood consumption, economic data, and fishing activities, and provide important sex disaggregated data on fisheries production and consumption. This allows for the development of profiles that show differences in fishing areas, species, fishing effort, economic or nutritional contribution between the activities of men and women—data needed for determining the gender impact of development activities, and also for planning management strategies. These types of specialized surveys do, however, require funding and expertise beyond that available to most national fisheries agencies.

More research is needed on the differing contributions of men's and women's activities to household food security and GDP. Agriculture and fisheries are far more dominant features of Pacific Island economies than they are in larger, more developed economies. Despite Australia's large landmass, coastline and exclusive economic zone (EEZ), agriculture, forestry and fisheries accounted for only 3% of its GDP in 2000; compared with 17% for Samoa. Agriculture and fishing account for over 20% of GDP in many Pacific Island countries (Parry 2001). Statistics publications often combine agriculture and fishing data, or forestry and fishing data, making it impossible to analyze the separate characteristics of each. In addition, current international classification standards for agriculture and fisheries do not adequately reflect the economic structure of a typical Pacific Island country. Existing classifications make it difficult to separate out men's and women's varying degrees of involvement in vastly different fishing activities such as gathering shellfish or trolling for pelagic fish. The Statistics Programme of the Secretariat of the Pacific Community (SPC) is currently working on a regional standard classification for agriculture and fishing activities in the Pacific that will overcome these problems.

A further problem with fisheries statistics is the lack of an accurate picture of women in fisheries employment. This is caused by: a) the concept of using "main unpaid activity" for defining the subsistence sector, as it misses the importance of secondary activities—for example, even for women who do considerable

fishing, childcare may be recorded as the main unpaid activity; and b) placing commercial fish processing (where many women are employed) in the manufacturing sector (Gillett and Lightfoot, 2001).

Encouraging women to enroll in marine biology and fisheries courses is important in order that more women are able to be employed in national fisheries agencies in the future. At the same time, fisheries agencies need to be encouraged to support and manage the fisheries activities of women as well as men.

While there are overlaps in roles between women and men in fisheries, there are also obvious differences. The different roles and potentially different impacts of development on men and women need to be understood and addressed if fisheries management and development aspirations of the island states are to be realized. Subsistence and artisanal harvesting and, to a lesser extent, commercial fisheries, contribute greatly to food security in the region. In addition, the tuna industry provides significant employment for men and women in what often were previously semi-subsistence communities. The impacts, both positive and negative, can be different for men and women. Employment can provide wage and benefit packages that can contribute to family welfare, although women are more likely than men to spend their wages on children and family.

The social outcome of women becoming waged earners is not always ideal, because they are often expected to maintain their traditional gender roles within the home and community in addition to full-time work. Domestic responsibilities, child care and community responsibilities, in addition to working full time, has been referred to as "women's double day" and places burdens on family dynamics and women's health. The spread of sexually transmitted disease, including HIV/AIDS, is an issue of concern, particularly for the tuna industry and its management. The risks of contracting these diseases are obviously higher among those involved in the sex trade, but spouses of seafarers are another high-risk group. Strategies to overcome or minimize negative impacts need to be addressed at the planning stages of tuna industry development.

Constraints to ensuring sustainable development of the tuna industry in the Pacific include low levels of education, weak public sector administration, rigid cultural gender roles and a profit-driven private sector with an incentive to disregard social and environmental responsibilities. Potential negative impacts can be identified and minimization strategies suggested, but considerable hurdles exist regarding the adoption of those strategies. It is sometimes difficult for national fisheries agencies to identify their role in addressing the impact of fisheries development on health, labor or environment, particularly when there is little history of dialogue with and between the different departments responsible for those areas.

In recent years, formal tuna fishery management planning has become a national activity, and this has involved the study of the different impacts of tuna fishing industry development on men and women. The Forum Fisheries Agency (FFA) provides assistance to its member countries in support of the preparation of national tuna development and management plans. This gender analysis has, however, been included at the instigation of the donor agencies, and there remains a degree of doubt about the necessity or appropriateness of this component by national policy makers and some stakeholders. In some Pacific Island cultures, gender and related concepts such as equity and women's empowerment may be seen as potential attacks on culture and tradition.

Existing Policies and Support for Women in Fisheries in the Pacific Islands

Very few Pacific Island governments have policies in place specifically addressing women's role in fisheries, although most have policies encouraging the equal and active participation of women in development activities. In addition, donor agencies and regional organizations increasingly require projects to assess gender issues at the planning, implementation and monitoring stages of projects. Donor preferences and requirements, along with a slowly increasing awareness of women's involvement in fisheries, have led to a few steps in the region towards supporting women's fisheries activities. Some fisheries courses

are actively encouraging women participants in what were previously men-only courses, or are designing fisheries courses that specifically target women. In a few countries such as Kiribati, Tonga and Samoa, fisheries agencies have increased the employment of female fisheries officers and are including women in fish handling workshops.

The Pacific Platform for Action (PPA) is a regional statement developed by Pacific women and men and endorsed at a regional women's conference in New Caledonia in 1994. The document looks at key issues in the region that must be addressed if the goals of equality and sustainable development are to be realized. The aim is to accelerate full and equal partnership of women and men in all spheres of life. One of the 13 key issues listed in the document is agriculture and fishing, with the strategic objective being "to promote and support women's participation in agriculture and fishing (both paid and unpaid activities) and to recognize women's role in food security" (SPC 1995). This document assists women's agencies throughout the region to focus their work on the key issues, but it is highly unlikely that national fisheries agencies are aware of the document or would feel the need to incorporate the recommendations into their work plan.

Some countries have implemented women in fisheries programs, mostly with the assistance of outside agencies such as SPC's Women in Fisheries Development Project. As a result, fisheries agencies in Niue and Nauru have created new positions for women's fisheries development officers. In other countries, non-governmental agencies have set up support schemes for women in fisheries, such as the Women in Fisheries Network in Fiji. The University of the South Pacific has done a considerable amount of work with women, through its Canadian-funded Post-Harvest Fisheries Project. A collaborative project between this project and SPC has seen the introduction of a fisheries elective in the SPC Community Education and Training Centre course for young Pacific Island women.

Women's Role in Fisheries in Australia and New Zealand

Australia and New Zealand have industrial economies and infrastructure capable of exploiting their marine resources, and as a consequence have more established domestic commercial fisheries than Pacific Island countries. Women's involvement in fisheries tends to reflect this, with increasing numbers of women employed in the commercial fisheries sector, and a small number having achieved powerful positions in the industry and on industry decision-making bodies. Despite this, there remains a lack of information about women's involvement and contributions to the industry.

Australia

By international standards, Australia's fishing industry has comparatively few people working in it. Australian seas are generally low in nutrients compared with other world regions and this contributes to the low production of its waters—production is well below that of neighboring nations such as Indonesia and New Zealand. Despite having a small total production, Australia's fisheries are economically valuable, due to the contribution of highly priced species such as abalone, prawns, scallops and rock lobster (Kailola et al. 1993).

More than 110,000 people are employed in the seafood industry in Australia: 28,000 in the commercial fishing industry capture sector; 60,000 to 70,000 in seafood-dependent operations on land (processing, marketing and sales); and 10,000 in the aquaculture sector. Women form only a small percentage of vessel owners and crew in the wild-catch sector, but are better represented in the processing or post-harvest sector, and in aquaculture. This is partly because these shore-based activities are more compatible with women's home and family responsibilities than are vessel-based fishing activities. Many women are involved in family-based fishing businesses where they are responsible for managing the business from a home office while their partners go to sea.

A recent survey of more than 200 women involved in the Australian commercial fishing industry (both government and private sector) revealed that 41% of respondents were joint or sole owner-operators of fishing businesses (Aslin et al. 2000). Most respondents wanted better status and recognition for their work and the majority reported barriers to involvement and progression in the industry. Barriers included practical ones (time constraints, child care responsibilities, conditions on boats), and discrimination or prejudice from men in the industry.

As with Pacific Islanders, coastal Aboriginal and Torres Strait Islander communities have always been dependent on marine resources and continue many of their traditional practices today. Research in southern New South Wales indicated that up to 90% of Aboriginal adults regularly collect fish and shellfish from their local area (FRDC 2000). Aboriginal women are a major contributor to these activities. The continuing nature of traditional activities forms the basis for current and future land and sea title claims by indigenous people. Female traditional owners are likely to be significant winners if these claims succeed, with the result that they may gain additional property rights in Australia's coastal and marine environment in the future. These claims are likely to exacerbate conflicts already experienced between commercial, recreational and traditional fishing sectors, but may ultimately lead to more equitable allocations of marine resources.

Since European settlement of Australia began, indigenous people have also been engaged in commercial fishing as well as continuing traditional fishing practices. They provided many of the crew, divers and skippers for the early *bêche-de-mer*, trochus and pearl fisheries of northern Australia. Australian Aboriginal and Torres Strait Islander men and women were divers, working under difficult and dangerous conditions, in the early days of the pearling industry.

As many as 20 to 30% of all Australians participate in recreational fishing in Australia, with women and girls forming an estimated one-third of these recreational fishers (FRDC 2000). Direct and indirect expenditure on recreational fishing is estimated to be AUD2.9 billion, making it a major national industry with considerable lobbying power (McIlgorm and Pepperell 2000). Recreational fishing generates jobs in the tourism, tackle, boating, charter and diving sectors, many of which have a large services component where women are well represented as employees.

New Zealand

Fisheries in New Zealand are predominantly commercial and recreational, with a small subsistence component. New Zealand's capabilities for exploiting its marine resources, combined with its temperate continental shelf and nutrient run-off from land, ensures more productive fisheries than those of the Pacific Islands or Australia. Temperate continental shelf fisheries have lower biodiversity but much higher biomass-per-species compared with coral reef areas and account for 90% of all world fisheries (Adams et al. 1999).

Maori have strong cultural ties to fisheries and this has been recognized in common law and legislation. Fisheries are managed by a quota system, in which an annual total allowable catch is set for commercial species, within specific quota management areas. Following the settlement of Maori fisheries claims against the Crown in 1992, and the passing of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, Maori have become the biggest player in New Zealand's commercial fishing industry, controlling over half of all commercial fishing quota (FAO 1999).

Over the last six years, employment in the seafood industry in New Zealand has risen by 14%, with jobs in the processing sector increasing by 41%. This growth is a direct result of an increasing proportion of catches being taken by New Zealand-operated rather than foreign owned vessels, and an increased commitment to value-added processing (Statistics New Zealand 2000).

The seafood industry in New Zealand directly employs over 10,000 people, with fish and shellfish processing plants accounting for around half of this. Around 66% of the seafood industry workforce is

male, and 34% female. Men dominate the wild-harvest and aquaculture sectors while women are well represented in the seafood-processing sector. Within the sectors, there are more women in lower-paid positions such as administration, fish processing, packing and checking, rather than managerial positions. Forty per cent of men, compared to 14% of women, employed in the industry earn over NZD30,000 per year (Information Resource Centre 1998).

Wives of fishermen have always played an active role in the onshore business side of fishing operations, doing everything from paperwork to mending nets and making lobster pots. There is a huge amount of unrecognized voluntary support work that keeps small fisheries businesses operating. Over the past two decades there has been an increase in the number of women working in the harvesting sector, with husband and wife teams working together in small fishing operations and, more recently, second generation children taking over the boats and working as crew or skippers.

One recent change in the role of women in fisheries has been their entry into the political arena, with two women being voted on to the New Zealand Federation of Commercial Fishermen's executive in recent years (Yvonne Powell, pers. comm. 2001). As women are often shore-based they are able to attend management meetings, keeping the business abreast of changing requirements and ensuring the fisher's perspective is not overlooked.

More fisheries training courses are now available around the country to help men and women qualify for seagoing work, or seafood processing onshore and at sea. Over a third of the seafood industry workforce in New Zealand has completed nationally recognized training. A one-year project has been designed by the Seafood Industry Training Organisation to increase the number of women in fishing industry training. Of the current 1,500 industry trainees, 35% are women (SeaFIC 2001).

An estimated 20% of New Zealand's population participates in recreational fishing, a figure including men, women and children. Goods and services based directly or indirectly on the recreational fishing sector provide jobs for many men and women.

Existing Policies, Support and Areas of Need for Australia and New Zealand

Australia and New Zealand have several government policy initiatives to address women's disadvantage and under-representation in natural resource management, including fisheries. National, state and territory governments are guided by equal employment opportunity, anti-discrimination, and workplace diversity legislation and policies. Many government agencies have sections devoted to addressing women's issues. In Australia, fisheries fall under the umbrella of the Women in Rural Industries Section, within the Commonwealth Department of Agriculture, Fisheries and Forestry.

The Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) was set up to develop integrated and sustainable agricultural and land and water management policies, strategies and practices for the benefit of Australian and New Zealand communities. The Council is supported by the Standing Committee on Agriculture and Resource Management (SCARM).

In 1998, SCARM produced a national plan entitled "A vision for change", designed to improve women's representation on statutory boards and committees, advisory panels and on the staff of government natural resource management agencies (SCARM 1998). This was followed by complementary State and Territory action plans. Statistics on women's representation in the natural resource management sector indicate a slight improvement, with the percentage of women on statutory boards and committees within SCARM agencies overall increasing from 18.9 to 20.1 between June 1999 and June 2000 (SCARM 2001). As the emphasis is on rural women in the agriculture sector, it is difficult to separate out the impact on women's involvement in marine resource management. New Zealand similarly combines fisheries with agriculture when it looks at the particular problems faced by women in primary industry, with the emphasis predominantly on agriculture and livestock sectors.

While many appropriate policies and plans have been formulated, rhetoric is not matched by sufficient action and there is a lack of genuine commitment to advance women's interests from many senior players in government and politics.

There remains a serious lack of information about women's involvement and contributions to the fishing industry in Australia and New Zealand. Women's issues and concerns have also received scant attention within the fishing industry and their contributions remain largely unrecognized. One of the primary needs is for a systematic collection of data on gender-related aspects of the industry. This could, for example, include the number of women who are owners or joint owners of fishing businesses; women's ownership of property and capital (gear, vessels, fishing licenses, fishing quota); and the number of women working in different industry sectors (aquaculture, wild-catch, fish processing, retailing, fish restaurants, fishing charters etc.). Collecting this information is complicated by the fact that the wild-catch sector is divided into many different fisheries operating under various regulatory regimes, and managed by a range of agencies.

Women in Fisheries Development or Gender and Development?

One of the problems with setting up special "women in fisheries" programs is the tendency for this to separate women's issues from fisheries issues. Successful fisheries development and management needs to deal with the entire community involved in harvesting, processing and marketing marine resources. Having specific "women in fisheries" programs can reinforce the tendency of national fisheries agencies to only work with men. Issues relating to women tend to get offloaded onto the women in fisheries program, or onto women's agencies that have no experience, resources or expertise in fisheries.

Fisheries agencies, however, can also encounter problems if they try to establish programs dealing specifically with women. Nearly ten years ago, a project was set up in Papua New Guinea (PNG) to support women's fisheries activities in coastal communities. The project was initially located at the PNG Department of Fisheries and Marine Resources (DFMR), with considerable informal input from the Women's Division of the Department of Home Affairs and Youth (DHAY). The fisheries department had trouble running what was essentially a technical fisheries project as well as a women's project. Much of the opposition came from women in the field who expected a project involving women to go through DHAY, while DHAY also believed they should control and implement the project (Fairbairn-Dunlop 1992). The project was eventually moved to DHAY about three years ago, where it was later terminated due to lack of staff and resources.

In the late 1980s, the SPC set up the Women's Fisheries Development Project (WFDP), managed by one officer, to support and encourage the involvement of women in fisheries in the region. Requests for assistance were almost entirely initiated by national women's agencies, rather than fisheries agencies, and the project worked predominantly through national women's focal points. While this was necessary at the time, the section did face the danger of creating complacency among national fisheries agencies and other sections within SPC's Marine Resources Division. The tendency was for them to not actively bring more women into their work, because one small section of SPC would be taking care of the fisheries concerns of women around the region.

In order to discourage this, WFDP undertook a number of strategies to ensure women's needs and perspectives were considered in all relevant fisheries activities, both at the national and regional level. One was changing the name of the Women's Fisheries Development Section to the Community Fisheries Section (CFS), reflecting the need to consider all sectors of the community in fisheries development and management. Secondly, the section strongly encouraged women's agencies to put their requests through their national fisheries department, and recommended counterparts from both agencies to be involved in the work. This has helped create linkages between national women's and fisheries agencies in some countries, and has made women less uncomfortable with turning to national fisheries agencies for assistance. Some fisheries agencies are now more inclined to consider the role of women in the

management and development of domestic fisheries. Finally the CFS encouraged and became more involved in collaborative work with other sections within SPC, and with regional organizations.

The emphasis on community support and involvement, rather than adding "women only" components to fisheries projects, is closely aligned with the aims of gender planning—promoting equal opportunities for men and women. However, unlike explanations of the gender and development approach, the idea of addressing the needs of the entire community is more easily understood by fisheries agencies, especially in the Pacific Islands. Gender concepts are poorly understood, difficult to explain without unhelpful jargon, nearly impossible to translate in most languages (including SPC's other official language, French), and in many cases, are perceived to be just "women in development" dressed up in different terms.

Future Directions

Although there have been some initiatives to support women's involvement in fisheries in recent years, on the whole, women's contributions to the fishing industry in Oceania are under-recognized, and their potential contributions are not being maximized.

The questions that need to be asked by those responsible for fisheries development and management in the region are "who are the target groups for fisheries development and management?" and "do we need special skills or people to work with them?" If fish market operators are predominantly women, seafood-handling training should include them. In the Pacific Islands, inshore fisheries management initiatives should include species and areas used by women, and women need to be involved in the planning processes and included in awareness programs. This does not mean national and regional fisheries agencies necessarily need special women fisheries officers in order to successfully work with women. It does help if they have more women fisheries officers as part of their general technical staff, and it may mean that male staff need to be encouraged to support women's fisheries activities.

Most national fisheries agencies will continue to require assistance in conducting specialized surveys aimed at addressing the lack of information on inshore fisheries production and consumption, and on women's involvement and contributions to fisheries in the Pacific Islands. Research should be relevant to the needs of national governments; standardized as much as possible; and made easily accessible and understood by those it is meant to assist. Often, these important requirements are lost in the desire for scientific rigor and academic acceptance.

To improve the accuracy of fisheries statistics, national fisheries agencies need to develop closer links with statistics agencies and actively involve themselves in the planning stage to ensure that useful fisheries data are obtained. Gillett and Lightfoot (2001) suggest that the lack of knowledge of the volume of production of small-scale fisheries is a major factor causing an underestimation of fishing contribution to GDP. They suggest that an alternative to using specialized surveys for estimating subsistence production is to use surveys outside the fisheries sector. At little cost, production information could be collected through the national census, nutrition surveys, agriculture censuses, household employment and income surveys, and poverty studies. Sex disaggregated data should naturally be a part of the information collected by both the statistics agencies and other surveys.

In Australia and New Zealand, information is needed on gender-related aspects of the fishing industry. The current practice of combining fisheries under women in rural industries or women in primary industry makes it difficult to separate out the contribution of fisheries, and also fails to take into account other aspects of the fishing industry such as processing or marketing. In Australia, a study will attempt to gather better information on women's current contributions to the fishing industry. The emphasis should be on obtaining gender-related information, the respective contributions and differing needs of both men and women in the industry.

Encouraging more women to participate in fisheries training can be accomplished by either offering training specifically for women, or promoting their involvement on established courses.

The advantages and disadvantages of providing training courses specifically for women, as opposed to running mixed courses, should be examined for both regional and national training courses. Evaluation of SPC fisheries courses involving women suggests that, in some circumstances, segregated courses are needed, while in others mixed, courses are useful. The most important factor is to avoid having one sex in the extreme minority on the course.

The inclusion of women as a minority on a course usually attended by men can be a problem, especially in the Pacific Islands. Women's behavior and ability within the course may be judged more severely than that of their fellow trainees; women participants are usually quiet and do not assert themselves as much as they would in an all-female class; and, if there are practical exercises usually associated with "men's work", the women will sometimes step back and leave it to the men. The aim should be to have at least several women in a course involving a dozen participants, rather than just one or two.

Mixed courses can be very useful for increasing awareness of the differences and similarities in men's and women's fisheries activities, and for introducing men and women to areas of work outside of their usual roles. Even if participants never use those skills again, they gain a much broader understanding of what "fisheries" means. Courses just for women can also be valuable. Participants are often more relaxed and less shy at speaking up in a group, and the course content can be adapted to suit their specific activities and needs. The most appropriate course for the situation, mixed or separate, will vary according to target group, country and course content.

In the Pacific Islands, problems associated with the use of terminology and difficult concepts such as gender can be avoided by using explanations that fit the situation. Emphasizing the need for the entire community to be involved in fisheries development and management is one way of promoting equal opportunities for men and women. The concept of "family and development" is a useful way of introducing gender equity concepts in familiar terms. Discussing social and environmental impacts of development on the community can link aspects of gender analysis in project planning, without actually using the terminology. It is also important to ensure those carrying out gender studies of fisheries are familiar with the region, and preferably with fisheries.

When considering the need for affirmative action and the establishment of women in fisheries projects, the successes and failures of the past need to be taken into account. Overall, despite some failures, women in fisheries projects have served to raise the awareness of women's involvement in fisheries in the region, and have added to the pool of information on their role in fisheries. Perhaps now is the time to explore alternatives, or to move on to the next stage. One potential strategy to ensure women's needs and perspectives are considered in all relevant fisheries activities, is to create a cross-cutting position or agency within the sector to take over from "women only" positions or agencies. The emphasis would be on equal opportunity and involvement of men and women in development and management activities, rather than the specific promotion of women's involvement.

This was a strategy considered at one time by SPC when looking at future directions for the Women's Fisheries Development Section. At the time, it was not possible within the donor-funded, project-driven work program of SPC. The aim was for this crosscutting agency to take a part in all activity planning by other sections, and to take part in the activity where necessary. Government policy could reflect this crosscutting strategy rather than developing policies specifically addressing women in fisheries. This would fit in well with existing equal opportunity and gender equity policies.

Despite the gaps and areas of need, the contribution of women to fisheries development and management in Oceania is very slowly becoming more recognized and supported. National and regional fisheries agencies and private enterprises are beginning to see that sustainable and equitable development of the fishing industry means both men and women need to be involved in project planning, be given access to relevant training opportunities, and be involved in management initiatives. Continuing the practice of supporting women's involvement in fisheries through specific "women only" projects needs to be balanced with promoting equal opportunities for men and women in all projects.

Acknowledgements

The authors would like to thank the following people for contributing information and assisting in the preparation of this paper:

Vicki Baker, Fisheries Management Services, Green Bay, Auckland, New Zealand
Heather Scott, Executive Officer, Tuna NZ Inc., New Zealand
Yvonne Powell, Taranaki Fishermen's Association, New Zealand
Paula Shoulder, Commonwealth Fisheries Policy Review, Australia

The authors are also grateful to the Asian Fisheries Society and ICLARM-The World Fish Center for the opportunity to contribute to the Global Symposium on Women in Fisheries.

References

- Adams, T., P. Dalzell and E. Leduc. 1999. Ocean resources. *In* Moshe Rapaport (ed.) The Pacific Islands: Environment and society. The Besz Press, Hawai'i.
- Arama. 2000. Fiji: Gender impacts related to development of commercial tuna fisheries. A report to the South Pacific Forum Secretariat. Arama and Associates, Suva.
- Aslin, H.J., T. Webb, and M. Fisher. 2000. Fishing for women: understanding women's roles in the fishing industry. Bureau of Rural Sciences, Canberra.
- Avalos, B. 1995. Women and development. *Pacific Economic Bulletin* 10(1):73-83.
- Chapman, M.D., 1987. Women's Fishing in Oceania. *Human Ecology* 15(3):267-288
- Coyne, T., J. Badcock and R. Taylor. 1984. The effect of urbanisation and western diet on the health of Pacific island populations. SPC Technical Paper No. 186, South Pacific Commission, Noumea, New Caledonia.
- Dalzell, P., S.R. Lindsay and H. Patiale. 1993. Fisheries resource survey of the island of Niue. Inshore Fisheries Research Project Technical Document No. 3. Noumea: South Pacific Commission.
- Dalzell, P., T.J.H. Adams and N.V.C. Polunin. 1996. Coastal fisheries in the Pacific Islands. *Oceanography and Marine Biology: an Annual Review* (34):395-531.
- Des Rochers, K. 1992. Women's fishing on Kosrae: a description of past and present methods. *Micronesica* 25(1):1-22.
- Fairbairn-Dunlop, P. 1992. Mid-project review of the Women in Fisheries Support Project for Papua New Guinea. University of the South Pacific, School of Agriculture/IRETA. Western Samoa.
- Falanruw, M.V.C. 1992. Resource apportionment in traditional fishing on Yap. Science of Pacific people's conference, University of the South Pacific. Suva, Fiji, 5-10 July 1992.
- FAO. 1998. Fishery country profile: Papua New Guinea. Food and Agricultural Organization of the United Nations (FAO), Rome.
- FAO. 1999. Fishery country profile: New Zealand. Food and Agricultural Organization of the United Nations (FAO), Rome.
- FRDC 2000. Investing for tomorrow's fish: the FRDC's research and development plan, 2000-2005. Fisheries Research and Development Corporation (FRDC): Canberra.
- Gillett, B. and G. Lightfoot. 2001. The economic importance of fisheries in the Pacific Islands: notes on the contribution of fisheries to GDP, employment, exports, and nutrition. Asian Development Bank (ADB), World Bank; Secretariat of the Pacific Community (SPC), Forum Fisheries Agency (FFA). (In press).
- Gillett, R., M. McCoy, L. Rodwell and J. Tamate. 2001. Tuna: a key economic resource in the Pacific. A report prepared for the Asian Development bank and the Forum Fisheries Agency. Pacific Studies Series: March 2001.
- Information Resource Centre. 1998. Seafood industry demographics. Based on 1996 census data. Information Resource Centre, NZ Seafood Industry Council, Wellington, New Zealand.
- Kailola, P., M.J. Williams, P.C. Stewart, R.E Reichelt, A. McNee and C. Grieve. 1993. Australian fisheries resources. Bureau of Resource Sciences and the Fisheries Research and Development Corporation, Canberra, Australia.
- Lambeth, L. 1999. An assessment of the role of women within fishing communities in the Republic of Palau. Secretariat of the Pacific Community, Noumea, New Caledonia.
- Lambeth, L. 2000. An assessment of the role of women in fishing communities in Tuvalu. Field Report:2. Community Fisheries Section, Secretariat of the Pacific Community, Noumea, New Caledonia.
- Lambeth, L. and L. Fay-Sauni. 2001. Niue's reef flat invertebrate fishery: information and recommendations for inclusion in a Niue inshore fisheries management plan. Community Fisheries Section, Secretariat of the Pacific Community, Noumea, New Caledonia. (In press).
- Matthews, E. and E. Oiterong. 1991. The Role of Women in the Fisheries of Palau. DMR Technical Report:91/1. Division of Marine Resources, Koror.

- McDermott Fairgray Group Ltd. 2000. Economic impact assessment for New Zealand regions. New Zealand Seafood Industry Council.
- McIlgorm, A. and J. Pepperell. 2000. A national review of the recreational fishing sector. A report by Dominion Consulting to Agriculture, Fisheries and Forestry - Australia. Agriculture, Fisheries and Forestry, Canberra, Australia.
- Nelson, G. and P. Tuara. 2000. Gender issues in Solomon Island's tuna industry management. *In* Gender issues in the tuna industry. Pacific examples: background reports to national tuna management and development plans. Forum Secretariat, Suva, Fiji.
- Parry, G. 2001. Agriculture and fishing activities in the Pacific - the special classification needs of small island economies. Conference on Agricultural and Environmental Statistical Applications (CAESAR). 3-7 June 2001, Rome. Passfield, K., A. Mulipola, E. Ropeti, M. King et al. 2001. Profile of village fisheries in Samoa. Project milestone 17 April 2001. Government of Samoa. Fisheries Division. Samoa Fisheries Project, Apia, Samoa.
- Rawlinson, N.J.F., D.A. Milton, S.J.M. Blaber, A. Sesewa and S.P. Sharma. 1995. A survey of the subsistence and artisanal fisheries in rural areas of Viti Levu, Fiji. Australian Centre for International Agricultural Research, Canberra, Australia.
- Richards, R. 1994. Fiji Resource Profiles. Forum Fisheries Agency. Research Co-ordination Unit, Honiara, Solomon Islands.
- SCARM. 1998. A vision for change: national plan for women in agriculture and resource management. Standing Committee on Agriculture and Resource Management (SCARM). Canberra, Australia.
- SCARM. 2001. A vision for change: national plan for women in agriculture and resource management. Second annual implementation report 1999 2000. SCARM. Canberra, Australia.
- SeaFIC. 2001. New Zealand Seafood Industry Profile: July 2001. New Zealand Seafood Industry Council.
- SPC. 1995. Pacific Platform for Action: rethinking sustainable development for Pacific women towards the year 2000. South Pacific Commission. Noumea, New Caledonia.
- Statistics New Zealand. 2000. 2000 New Zealand Official Yearbook. Statistics New Zealand. <http://www.stats.govt.nz/default.htm>
- Taniera, T. and J. Mitchell. 1995. Women and fishing: notes from Kiribati. *In* E. Mathews (ed.) Fishing for answers: women and fisheries in the Pacific Islands. Tuara, P. 1998. An assessment of the role of women in fisheries in the Republic of the Marshall Islands. Secretariat of the Pacific Community, Noumea, New Caledonia.
- Tuara, P. 2000. An assessment of the role of women in fisheries in Niue. Field Report:1. Community Fisheries Section, Secretariat of the Pacific Community, Noumea, New Caledonia.
- Vunisea, A. 1996. Up against several barriers. *In* Samudra. International Collective in Support of Fishworkers. July 1996. Madras, India.
- Wichman, V. 2000 Extracts from reports on gender and the tuna industry in Papua New Guinea, Fiji, Solomon Islands and Marshall Islands. Forum Secretariat Economic Section, Suva, Fiji.



AFRICA

MAKING EACH AND EVERY AFRICAN FISHER COUNT: WOMEN DO FISH

S.B. Williams
Obafemi Awolowo University, Nigeria

Abstract

For many officials working in development, documenting issues of particular concern to women is nothing new. These officials believe that these issues reflect women's demands for equality as well as the influence of feminist ideas on the tradition and culture of Africa. Additionally, these officials believe that a fisheries project should benefit all fishers, not just a few fishers while others lag behind or become even more disadvantaged as a result.

In Nigeria's southern maritime rural communities, as well as in some central inland communities, experienced fisheries and development officials are familiar with the many stories of development interventions which have benefited more male fishers compared to female fishers since the nation's independence in October 1960. The nation's efforts to eradicate poverty in rural communities have so far not benefited every poor family, more so the fishing families. These trends are, however, changing as most development workers are increasingly committed to addressing this inequality of impacts in poverty alleviation projects.

This paper documents women's contributions to the changing economy of the fishing communities in East and West Africa from the past to the present. It also reflects the efforts and contributions of the scientists and practitioners who have participated in various ways at different stages of the study.

Men and their Rivers

Man originated from the substance we call water.
And in each passing hour of his life he depends upon it for his very survival

From Exploring Wilderness Waterways by Buddy Mays Chronicle Books/San Francisco, 1977.

According to Mays (1977), water has been the driving force behind generations of men who since the seventeenth century have explored and inhabited lands long thought useless. Wildwaters is also described by Mays in terms of water travel, which man finds exciting for sport and/or refuge in their 'most virgin' form. Man inhabited these lands that were perceived to be wild and useless. These wild and useless lands are still in existence in many parts of the developing world where men, women and children are living, working and reproducing. These natural rural ecosystems are challenging for human habitation and they lack the infrastructure to enable the inhabitants to pursue a more progressive development. The human families that live here, however, have come to depend heavily on harvests from the aquatic ecosystems for their livelihood.

These foundational ideas of 'men and their rivers' have contributed, in part, to a number of gendered generalizations and sweeping conclusions about the fisheries sector. These include:

- That the world over, but especially in developing countries, fishing is by tradition a male occupation; That fishing is is too strenuous an activity for women, that the participation of women in fishing in particular is usually limited to processing the catch and attending to its distribution, and in some developing countries, that women completely dominate these functions.

- that men take over the responsibilities for women's work as soon as these subsistence activities become mechanized or when these activities are transformed from subsistence into market production.

The Objectives for this Study

There is a need to tell the other side of the story of the wilderness and the waterways - from a gender perspective. Numerous publications on the livelihoods of men emphasise their role as the primary, if not sole harvesters of the wildwaters and very little attention is paid to the activities of women and children who are 'active participants in Man's quest for survival'. Moreover, as a follow-up to the adventures of Mays (1977) and others, we need to investigate the roles and contributions of women who inhabited the rugged terrains.

There are several publications that address the impact of fisheries on rural women. However, more empirical evidence on the gendered aspects of rural fishing families is required, for appropriate policy decisions to be made (Williams 1997). There are, for example, very few studies on the appropriation of economic returns to women's labour in the fishing industry and aquaculture. Oftentimes, assumptions are made on the gender roles in fisheries but little data is available on the causes and real effects.

This paper aims to examine the gender dimensions of fishing, in the hope to fill the gaps in the fields of fisheries and aquaculture development, specifically in Africa. It builds on the various pioneering work by Boserup (1970), Armstrong (1978; 1983), Connelly and MacDonald (1984), Ahmed (1985), Gerrard (1995) and Neis (1996). These authors have attempted national and global reviews of the roles of women in development and change in rural political economies. The work of Leach and others is also important, to place the rural, smallholder fisheries production in the context of survival strategies for families inhabiting areas close to aquatic ecosystems whether in Africa, Asia or the Western Hemisphere (Leach et. al. 1995)

Current studies in fisheries and aquaculture point to gender-based inequalities in terms of access to education, resources, knowledge, skills and modern technologies of production. Yet, there are fewer analyses or theoretical explanations on the implications of the choices women make in fishing family units for their sustainable livelihood strategies. Similarly, published articles lament the low rate of adoption of improved technologies among fish processors and traders without shedding more light on the various constraints responsible for the low rate of adoption of these technologies. One contribution in this volume will assess the implications for the choice of activities and resource allocation in rural fishing production processes. The analysis of the data might provide useful insights as to why rural women in fishing communities are relegated to labour-intensive sectors characterized by low productivity and low returns.

It is hoped that the current Proceedings will identify the social, economic and technical constraints to the diffusion of technologies relevant to rural fishing families's. Undertaking a disproportionately large share of the family's work burden does not give women access to or control over a proportionately larger share of the household cash income and consumption. This is important because the way that cash income is spent varies according to who holds control over money in the household. One of the key concerns in these papers, therefore, is to identify appropriate organizational forms that will assist women to retain control over their increased income brought in by improved investments and technologies.

Methodologies and Design

In the light of the background and objectives outlined above, this paper will bring together conceptual and empirical analyses undertaken by a multidisciplinary group of researchers. In developing their methodology, the authors gave particular consideration to the nature and availability of data and relevant documentation.

Conceptual Approaches

According to Mays (1977), man's existence became semi aquatic because he had become aware that he had arms with which to paddle; family members find movement within or across water bodies, large or small, less tiring than walking. Historical documents of the exploits of northern Indian tribes (Algonquin and Huron nations), in 1600 A.D., as well as the 'new world' discovered by Christopher Columbus, Mango Park and other sites, show that widespread systems of barter were practised. These consisted of, among other things, the paddling of lightweight 'birch bark' and 'opepe' canoes.

Tribes inhabiting marine or riverine environments were known for their prowess as the finest canoe-men and women in different parts of the world including Africa and Asia. These individuals made voyages as far away as many hundreds or thousand of miles. The various types of canoes (dugout boats) were often remarkable vessels as well as works of art. The men built the canoes that the women used for the transportation of their families and food across water bodies as well as for harvesting of aquatic animals and plants..

Fishermen like the 'canoe-borne adventurers', 'voyageurs' or 'Boschlopers' are very likely the greatest explorers and rivermen in history. They possessed very limited material goods of their own such as rifles, knives, pots, pipes, canoes and thatched huts. Although there are a few rich fishermen in different parts of the world, today, a majority are poorer than the average rural dweller. They still live a difficult existence and they still own very few material possessions, yet, they are very important contributors to the nutritional well being of various populations of the world in terms of the food supply of aquatic organisms from the wildwaters.

The Concept and Meaning of Fishing

Fishing is an ancient human tradition. It is a traditional activity involving the hunting and gathering of aquatic products for food. Fish and marine products include freshwater and ocean fish, shellfish, ocean mammals and seaweed as well as plankton (The New Encyclopedia Britannica 1973/74). They represent a major food source, which is invaluable for the protein they provide and the industrial products they produce.

Fish satisfies a vital food need for billions. Fish is also economically, socially and culturally important as a global dietary aspect of sustainable food security. However, the tradition of fishing has been transformed over several decades of human civilization to become a resource extraction industry spanning the entire globe. Currently, fishing is a vital human activity that is threatened simply because fish populations are being dangerously depleted. This issue points to the fact that nature's balance is being altered in all areas of the world's oceanic ecosystems in ways that may be irreversible. Key species in the complex and diverse web of marine and inland aquatic life are seriously threatened (FAO 2000; Gupta 1999; Pauly et. al. 2001).

Nature's limits of aquatic life have been breached by too many fishing crafts catching too many fish, often in wasteful and destructive ways. According to the United Nation's Food and Agriculture Organization (FAO), several decades of over fishing in all the major oceans has resulted in the depletion of fish stocks (FAO 1996; 2000).

Archaeological evidence from various parts of the globe showed that man learned to catch fishes in traps and nets. These fishing activities were limited at first to the lakes and rivers, but as men improved on the boats and fishing technologies, they ventured into sheltered coastal areas, river mouths and eventually farther out on to the continental shelves, relatively shallow ocean plains between the land and the deeper ocean areas. In some shelf areas where seaweed was abundant, this was also incorporated in man's diet. The catching of fish in traps and nets are still the methods used by women in most fishing communities in Nigeria, in particular (Williams and Awoyomi 1998)

Fishing technology continued to develop throughout history, employing improved and larger ships, more sophisticated fishing equipment, and various food preservation methods. In the middle of the 20th century, man became concerned with greater utilization of the resources of the world's waters to feed an expanding population and especially in filling the need for high protein foods. At the same time, he became aware of the effects of over fishing and the importance of conservation measures (FAO 1996; 2000).

Men, Women and Children in Fishing

Binkley (1995), Gerrard (1995), Neis (1996) Neis et. al. (1999) and Williams (1996) published various articles on the coping strategies of fishing families in the face of crisis. These studies showed that women were up to the task when crisis loomed in the fishing industry. Fishing is a primary occupation in all fishing families, especially in North America and North Norway. Binkley (1995), for instance, discussed the coping strategies of offshore fishing families in Canada after the collapse of the fishing industry. Gerrard (1995) examined the changing conditions of women's activities in the North Norwegian fishing communities. Neis (1996) and Williams (1996) looked at women's lives during the fishery crisis in Canada. In all these articles, the lives of the fishing families were at risk and they felt as if they have been cut adrift. These women felt that if they did not do something to save the situation, their lives would be completely ruined. The women found a way out of the terrible situation by taking on jobs within the fishery sector in order to fend for their families.

Hence, one will begin to appreciate the rural political economy in most fishing communities of the world, and more so in the developing countries characterized by under-development and the prolonged dependence on primary production, which is fishing. The same is true in all rural areas where the inhabitants are dependent on the primary production in the farming, forestry and/or mining sectors. All these activities take place within small rural single resource communities. Therefore, in each of these primary resource sectors, there will be a process of transformation from family household based independent commodity production to corporate production and wage labour (Rocheleau et al. 1995).

In May of 2000, Barbara Neis' brought together a group of fisheries stakeholders from various parts of the globe to discuss 'gender, globalization and fisheries'. The meeting was held at a resort in St. John's, Newfoundland, Canada. At the close of the International Conference, the participants issued a strong communiqué in support of a 'Gender, Globalization and Fisheries Network,':

We, the women and men of the Gender, Globalization and the Fisheries Network, have identified concrete ways in which globalization has hurt women, their families, and coastal communities worldwide. Recurring themes that demand urgent action emerged from the research and testimony.

We include Atlantic Canadian fish workers, regional, national and international researchers and community development workers from Canada, First Nations, Tanzania, Chile, Gambia, Iceland, Mexico, USA, Norway, Brazil, India, Vietnam, Nigeria, Cuba, Spain, Denmark, the Philippines and Thailand.

We want to preserve the positive aspects of our cultures and heritage, and ensure that people who live in coastal communities have equal access, control, and preferential user rights of the coastal fishery. We insist that a clean and healthy ocean must have priority over the development of polluting industries.

Women have always played a crucial and active role in fisheries and in sustaining life in their communities. Yet, in countries all over the world, they have been largely ignored. Women's political decisions must shape policy and we need to put warm hearts into decision-making bodies.

We need to stop the encroachment of industrial and other destructive fisheries, which deplete marine life. We reject large tourist projects that push people out of traditional fishing grounds and communities. Tourism should complement the small-scale fisheries of coastal communities, leaving gentle ecological footprints on our landscapes.

We are concerned with the way our national governments give up to multinational corporations their responsibility to protect citizens' rights and inheritance. These corporations control our resources and economies with insufficient responsibility to protect and conserve them. We support the rights of aboriginal peoples to have access to the fishery. The costs of providing equitable access to the fishery must be borne by all citizens. In Canada, we also support the collaborative efforts of both native and non natives to find ways to share the fishery.

During the past week, we have been moved by the realities of technology's destructive impacts on fishery resources and the ways it is forcing fisherpeople into bankruptcy. It is also eliminating jobs and livelihoods in both north and south, and threatening the health of fishworkers. Technology should be designed to produce not only a quality product but also a safe working environment.

The concerns of coastal and rural communities must be central to government policy, fisheries management, and international trade agreements. Socially responsible policy would not abandon the health of our environments and people to unfettered international competition.

One of women's biggest challenges is to have our issues addressed within existing promoted networking among academics and people living in coastal communities. We have made a commitment to share information and ideas, making them accessible and useful to everyone, particularly those coastal community peoples who are struggling to survive. We commit to research that is ethical and responsive to the needs of coastal communities. We recognize the work and contribution of southern researchers, and together we aspire to create equitable south-north collaborative initiatives.

Our vision of sustainable fishery is based on coastal communities where resources are cautiously harvested using ocean-friendly technologies. It also promotes an environmentally and socially sustainable processing industry. We seek an industry, which promotes local food security rather than the production of luxury delicacies for a global market. Fishing families must be able to afford to eat fish.

Signed May 12, 2000. For more information contact Prof. Barbara Neis, MUN, Department of Sociology, University of Newfoundland, St. John's, Newfoundland, Canada.

A Study of Women and Fishing—Aims, Objectives and Perspective

The extent of men's, women's and children's participation in fishing activities, in the African coastal and inland aquatic systems, varies from country to country, depending on their general life situation (Veverica 1997; Africa Recovery 2002). The current Proceedings will, therefore, record the various studies on women and fishing from as many countries as possible with the available and relevant information. The general aims, objectives and perspective are to re-examine issues related to designs of worker and household surveys in fishing communities. Attempts should be made to collect data regarding work histories and incomes of fishing families. Information on the household division of labour and household production, unpaid labour, and on the work/income sharing patterns of fishing families. It is hoped that, an examination of this data from the perspectives of women will necessitate a re-think of what has been going on in the lives of fishing families.

It is also hoped that information from these studies will give additional data on particular household types than are usually reported. Additionally, there may be useful information on the linkages between the economy of one community and another so as to understand how employment patterns of different households are related.

Prospects and Strategies for Change: An Institutional Perspective – Family and Household Relationship

The family is usually made up of the father who is a fisherman by trade and a mother who may have belonged to a fishing family and, therefore, is knowledgeable about fishing. She would have learnt fishing as a way of life and, in the marriage of these two people-, it represents a family from a fishing background (Palsson 1991).

The fisherman is often in need of extra hands to assist him in his fishing activities. He is usually happy when any of the children show a special affinity for the aquatic way of life. The fisherman does not really mind the gender of the children; what is of utmost interest to him as a parent is the child's affinity for the aquatic way. He is happy because he can share this love for the wild lifestyle with his own flesh and blood. All he cares about is the fact that he is going out fishing, whether as a sport or a profession, with one or more of his children (Palsson 1991).

Women and their children are crucial in the work related to fishing, thus, it is often compulsory for a fisher's wife or his daughter(s) and/or his sisters to assist him or the family in general when there is work to be carried out. Like their parents and grandparents before them, these women loved the aquatic ecosystem-the rivers, the creeks and lagoons in which their parents and grandparents fished as adults. More often than not, these women lived in the same house where their fathers and grandfathers were born and raised. This implies that they enjoyed the fact that they were following in the footsteps of their parents and grandparents before them.

The global economic state of affairs in the 21st century is compelling to some of these women to take over the activities of their husbands and/or replace the hired labour that have worked for their families. Moreover, they wish to do this in order to maintain their economic status as much as possible. These women double up as labour on fishing expeditions with their husbands, and by doing so save on the labour coststheir husbands would have to otherwise pay.

Work Structures: Hierarchies and Schedules

Artisanal fisheries provide fishing families with fish products for food as well as income generating strategies for survival. The activities of women who are involved in the fishing industry in Nigeria and numerous other developing and developed countries provide approximately a quarter percent of the world's fish catch (Rocheleau et. al. 1995; FAO 1996; 2000). The artisanal fishery is therefore an important source of food, income and employment in the developing economies as shown below. Additionally, tens of millions of rural fishing families earn their living from fisheries and related activities. These fishers who are women and men are still some of the poorest and most neglected groups within the world's societies, more so than most, the rural fisherwomen.

The various pressures limiting women's full participation in other areas of agricultural production are equally relevant to fisheries and aquaculture. Demands on women's time, restricted access to land and water activities, technical know-how and credit facilities continually keep these women as well as poor fishermen and farmers on the sidelines of an industry which has untold benefits, in development terms for women, men and youths in rural communities.

The various photographs shown by presenters at this Symposium indicate the extent the survival and well being of fishing communities depend on women's contributions to the survival strategies in partnership with the men's fishing activities. Women, men and youths along the coasts and inland riverine communities in most parts of the world traditionally:

- catch fish with nets, traps, baiting or diving;
- raise fish and crustaceans;
- make and repair nets and traps;
- assist men with launching and beaching operations;
- assist in sorting and gutting the haul;
- process and market the catch.

These activities often represent income generating strategies that receive no direct financial reward. In some regions of the world, especially in Southeast Asia, women have made some headway as fish farmers. However, in most African countries as reported in this Proceedings, women, in comparison to the men, lack the influence or significant presence in fish farming as an enterprise or in the policy-making and planning for strategies to improve their livelihood. Moreover, many women have reported that being a fish farmer has not meant less work or fewer responsibilities in other areas of their lives such as running the farm or the household (Veverica 1997).

At the same time, although many have not encountered resistance to their fishing work, they have received little active support. In many developing countries, especially in Africa and Asia, women play a primary role in the post-harvest activities, both the processing and marketing of fish thereby generating employment and supplementary incomes for rural households. In West Africa, for example, women who process and market fish often finance men's fishing operations in exchange for a privileged price on the catch, as reported in the papers from Nigeria and Sierra Leone. Some FAO estimates put financing of the cash flow by the women involved in fish processing and marketing at approximately 60% (FAO 1996).

Women's other important function as far as fisheries are concerned, is in the provision of food. Fishing also helps the payments for children's education, health and other family-related needs of the household. Moreover, fish is an important source of protein as well as a source of minerals, and its consumption can positively contribute to nutritional levels in rural communities.

The studies from East and West Africa show that women are more likely to spend additional income on food for the household. Therefore, efforts to support women's income generating potential can have added health benefits for the entire household in general.

Many countries fail to count women's fishing activities because they are not located offshore as the fishing activities of men. As a result, those who trap, raise or catch fish in rivers, streams or lakes, and women who assist with the catch when it comes to shore, are often overlooked. Officially neglecting to recognize these activities means that rural fisherwomen are usually banned from membership in professional fishing organizations and ignored by credit, training or other programmes designed for those involved in fisheries.

Women involved in fish farming often work with the lowest levels of technology. The experience of women in the industrialized countries, however, confirms the observation that the introduction of modern technology can serve to marginalize women. As the fisheries sectors in many of these countries became commercialized, employment opportunities for women did not improve. Instead, women found themselves relegated to menial tasks at very low pay, such as line work in filleting and canning factories, or heading, peeling and sorting shrimp or catfish, as is the case in central Alabama.

Economic Conditions

Economic relations are the obligations of both man and woman who are the founding parents in the household (Leach et. al. 1995). In the African as well as in many developing economies, children in the household are also included in the struggle for survival, especially so in fishing families (Veverica, 1997).

Women are known to bring seven values into the partnership of marriage and these values are articulated in very clear terms by Morris (1999). These values come from women's many life experiences. This situation is corroborated by women who are practitioners in the fishing industry within the rural enclaves, and several of the authors have documented this in their papers. These values need to be emphasised because they are the lenses through which one sees and assesses the various experiences of life.

Often, the very first value lens come from one's family and it reflects the cultural and societal norms and beliefs. Thus, the dominant group in the society, in this case the fishing industry, is the group of male members. Over centuries of fishing, men have had their say about which of the values are 'true and accurate.' Likewise, all individuals have been socialized to believe that one's own life experiences are only real when they match those values as dictated by the dominant culture of the male members of their society. Throughout the world, women's life experiences within fishing families are often discounted and seen as less than valid.

In the 21st century, gendered analysis of livelihood strategies are acceptable as a valid approach to issues of poverty reduction as well as food security improvement. In the same way, one can examine the stories of women involved in the fishing industry as well as measure the progress achieved in the development of aquaculture as an alternative process of sustaining the fishing industry. An equitable partnership in society, even in rural fishing families can and will happen when the life experiences of the women are considered as significant and as real as those of the men. To this end, the Northwest Women's Institute's documentation and summary of the values of rural fishing women are presented here. It is hoped that this will serve as a catalyst to stimulate thinking that will go into listing the necessary research activities, as well as the agenda for the future of fisheries and aquacultural development in the 21st century.

- Economic stability and reasonable equity in society are the only solid foundations for peace and progress of the citizenry: most women in fishing families understand the feelings of economic vulnerability and lesser social status that have come about through no fault of their own. These women know that injustice results in anger, resentment, passive aggression and outright violence.
- Children require sacrifice on the part of adults: women too often know this feeling at a visceral level. They are aware that whatever decision made needs a long-range perspective. They are aware that environmental decisions must be based on the principles of stewardship for the children including those yet unborn. They know that economic decisions that will eventually become a burden to future generations must be resisted at all cost.
- Individual rights must be balanced with a strong sense of responsibility to the community: women are alive to the myths of the dominant society teaching independence and self-sufficiency as misleading and misguided. Women know that human beings are all profoundly interconnected and interdependent.
- Cooperation and a spirit of negotiation are essential to positive long term relationships and productivity: women have little sense of 'losing face' and are usually more interested in maintaining relationships than in 'winning.' Women tend to look for areas of agreement rather than difference. The civility and gentle style of humour, which have been cultivated in women for generations, are therefore an important aspect of cooperation and negotiation.
- Peoples' welfare is the most important factor in any issue: women do see things 'personally;' they tend to consider the impact of any decision on the people involved and feel that how people are treated in any process is as important as any result. They seldom believe that the 'ends justify the means.'

- Honouring the spiritual dimension of life is critical to a life well lived: in most cultures, women have been the primary nurturers of the spiritual life in the home and early childhood years. Interestingly, the fishermen believe that the spiritual deity of the sea is a 'woman' - MAMMY WATER OR THE MERMAID' Women from the beginning of life forms have been expected to model morality in a global society that teaches double standards for men and women. Hence, honouring the spiritual is vital for men and children, as well.
- Physical violence is not a solution to any problem: since females are generally smaller and less physically powerful than males, women have not learnt to rely on physical strength as a means to enforce control over others. Women have had to learn good communication skills to resolve conflicts. Thus, men are praised when they carry out adventurous feats conquering the wild waters, but not so the women who have been relegated to the life of powerlessness. Society must begin to recognize that these approaches are more valuable and beneficial than domination.

Political Institutions

FAO, in collaboration with the Department for International Development (UK) (DFID), ICLARM-The World Fish Centre, the European Union (EU) and other agencies, is developing projects to meet the needs of women by combining income-generating activities with education in nutrition and livelihood strategies for improving food security and poverty reduction in most developing economies. Women are taught how to keep and prepare fish with an emphasis on available species. In Lesotho, and other countries in southern Africa, women are playing a central role in managing small household ponds, part of a wider project that assesses the impact of small-scale aquaculture on nutrition. Employing a multi-disciplinary approach, the project brings together nutrition, public health and fisheries expertise. Fish produced in the pond are either eaten directly or sold to provide income for the purchase of other foods. Another challenge is to reduce post-harvest losses; this is an approach, which combines appropriate technologies and trained personnel. Post-harvest processes are aimed at:

- improved smoking, salting and drying techniques are being introduced with good results;
- Chorkor ovens developed to smoke fish landed by artisanal fisheries in Ghana and Nigeria are helping to reduce the consumption of firewood, lighten the workload of women and improve incomes;
- practical, action-oriented projects carried out at the village level are the focus of the proposed agenda for fisheries and aquaculture research for the 21st century.

Conclusion

It can be concluded from the foregoing discussions that fishing is not an exclusive activity of men, even though, men dominate it. There are still some communities where women fish for survival and for natural livelihood. Traditionally, it has been perceived that documenting the aspects that show women fishing is not news and as such not significant as a publication. Such past actions confirm the natural bias that fishing is by tradition a male occupation. There is limited documentation on the activities of women and children who have or are still actively participating in fisheries activities for survival. Following this section, various reports from East and West African fishing communities will be presented on the issues of women and their participation in the fishing industry.

BIBLIOGRAPHY

- Africa Recovery. 2002. Africa seeks to safeguard its fisheries. United Nations Department of Public Information. 16(1).
 Ahmed, I. 1985. Technology and rural women. George Allen and Unwin, Boston, London, Sydney.

- Anderson, R. 1976. Introduction: North Atlantic Maritime Peoples in Transition, p.1-28, *In* R. Anderson (ed.) North Atlantic Maritime Cultures: Anthropological Essays on Changing Adaptations. Mouton, The Hague.
- Armstrong, Pat and Hugh Armstrong. 1978. The double ghetto: Canadian women and their segregated work. McClelland and Stewart, Toronto.
- Armstrong, P. and H. Armstrong. 1983. Beyond sexless class and classless sex: Towards Feminist Marxism. *Studies in Political Economy*. 10:45-72.
- Boserup, E. 1970. *Women's Role in Economic Development*. London: George Allen and Unwin.
- Connelly, P. and M. MacDonald. 1984. The Role of Women: Development and Change In the Rural Nova Scotia Economy. Working Paper 2(8)3. Gorserrook Research Institute, Saint Mary's University, Halifax, Nova Scotia, Canada, 10 p.
- Binkley, M (1995). Lost moorings: Offshore fishing families coping with the fishery crisis. *In* M. L. McConnell and D. Russell (eds.) *After the Collapse: The Process of Change*. Special issue of the Dalhousie Law Journal, 18(1): 82-95.
- FAO, 1996. *The State of World Fisheries and Aquaculture*. Rome, Italy, FAO, 2000. *The State of World Fisheries and Aquaculture*, Rome, Italy.
- Gerrard, Siri. 1995. When women take the lead: Changing conditions for women's activities, roles and knowledge in North Norwegian fishing communities. *Social Science Information*. 34:593-631.
- Gupta, A. K. 1999. Fishing in 'Troubled Waters': Recognizing, respecting and rewarding local ecological knowledge and practices concerning diversity, p. 145-160. *In* R. S. V. Pullin, D. M. Bartley and J. Kooiman (eds.) *Towards policies for conservation and sustainable use of aquatic genetic resources*. ICLARM Conf. Proc. 59, 277 p.
- Leach, M., S. Jockes and C. Green. 1995. Editorial: Gender relations and environmental change. *IDS Bulletin*. 26:1-8.
- Mays, B. 1977. *Wildwater: Exploring Wilderness Waterways*. Chronicle Books, San Francisco.
- Morris, A. H. 1999. Seven Values Women Bring to Partnership. Northwest Women's Institute. Document presented at the 7th International Interdisciplinary Congress on Woman, 19 June 1999, Tromso, Norway.
- Neis, B. 1996. Cut Adrift, *Samudra Report*. 16:35-39.
- Neis, B, D. C. Schneider, L. Felt, R. L. Haedrich, J. Fischer and J. A. Hutchings. 1999. Fisheries Assessment: What can be learned from interviewing Resource Users? *Canadian Journal of Fisheries and Aquatic Sciences*. 56:1949-1963.
- Palsson, G. 1991. *Coastal Economies, Cultural Accounts*. Manchester University Press, Manchester and New York.
- Pauly, D., R. Froese, L. Y. Liu and P. Tyedmers. 2001. Down with fisheries, up with aquaculture? Implications of global trends in the mean trophic levels of fish. Paper Presented at AAAS-sponsored mini Symposium. *The Aquaculture Paradox: Does Fish Farming Supplement or Deplete World Fisheries*, 18 February 2001. San Francisco.
- Veverica, K. L. Proceedings of the third conference on the culture of Tilapias at high levations in Africa. Research and Development Series:41. International Center for Aquaculture and Aquatic Environment, Alabama Agricultural Experimental Station, Auburn University.
- Williams, S. 1996. *Our Lives are at Stake: Women and the Fishery Crisis in Newfoundland and Labrador*. ISER Report:11. St. John's Nfld. ISER Books.
- Williams, S. 1997. Economic role of women in fishing communities: a case study of Koko, Nigeria. Programme for Integrated Development of Artisanal Fisheries in West Africa (IDAF). Technical Report:97, RAF/192/DEN.
- Williams, S. and B. Awoyomi 1998. Fish as a prime mover of the economic life women in a fishing community, p. 286-292. Proceedings of the 6th IIFET Conference, Tromso, Norway.

WOMEN AND GENDER PARTICIPATION IN THE FISHERIES SECTOR IN LAKE VICTORIA¹

M. Medard

Tanzania Fisheries Research Institute, Mwanza, Tanzania

F. Sobo

Fisheries Division, Dar Es Salaam, Tanzania

T. Ngatunga

National Fisheries Laboratory, Mwanza, Tanzania.

S. Chirwa

Freshwater Fisheries Training Institute, Mwanza, Tanzania

Abstract

The paper starts with an analysis of the gender roles of women in the fisheries sector. These roles are recognized in three stages of production: fishing, processing and marketing. Further, the paper looks at the impacts of gender roles in promoting or hindering the involvement of women in fisheries research, development, and management. Lastly, the paper develops recommendations that will ensure the effective participation of women in the management of Lake Victoria fisheries resources.

Background Information

Women occupy a central place in the fishing sector. They predominate in Lake Victoria fisheries, representing 70% to 87% of fish-workers involved in this activity especially in the artisanal fish trade (Ogutu 1988, 1992; Sandauno 1999).

The fishery sector around Lake Victoria is characterized by a high participation level of single, divorced and widowed women, and separated mothers (Ogutu 1992; Medard and Wilson 1996; Geheb 1997; Lwenya et al. 2000. Studies show that the levels of married women in Kenya have been recorded as 80% (Lwenya and Abila. 2000) and 69.9% (Geheb 1997). Widowed women have been recorded as 9% (Lwenya et al. 2000) and 11% (Geheb 1997) while single, divorced or women separated from their husbands have been recorded as 9% (Lwenya et al. 2000) and 4% (Geheb 1997). The average number of children per female trader or processor was six.

The participation of women in fish marketing has been spurred by cultural, social, economic, and political factors. Geheb (1997) has argued that although most women do not come from fisher sub-clans, a great proportion had married into such sub-clans. Francis (1995) argues that the migration of men to other parts of the lake and urban centers has left women to take up duties traditionally performed by men. Consequently, they have taken up fish trading and processing as a source of income. Work by Clayton and Savage (1974) claimed that entry into the fish trade was sparked by legal requirements during colonial times due to cash need for taxes, clothing and bride price. Other factors include easy accessibility to fish, easy storage, divisibility, profitability of the enterprise, low initial capital requirements, improved

¹ In this paper, the word male and female will be used interchangeably with men and women respectively. The earlier version of this paper was presented at the workshop on the role of women in fisheries management, Kisumu-Kenya and by Dr. Stella B Williams at the 6th Asian Fisheries Forum, Kaohsiung, Taiwan, 29 November, 2001.

transport costs and the relatively low prices of fish compared to beef (Ogutu 1988; Medard and Wilson 1996; Geheb 1997; Medard 2000a; Lwenya and Abila, 2000). Others factors include family business heritage, (Lwenya and Abila 1999), and a net decline in agricultural production (Francis 1995).

The need for income appears to be the principal driving force for joining the fishery sector (Geheb 1997; Clayton and Savage 1994). This is revealed by the fact that 56% of fish traders interviewed by Geheb (1997) would opt for alternative sources of income if they had the opportunity, especially because of the decline in the performance of the fishery sector. The remaining percentage of respondents (43.5%) said they would not accept alternative employment as they did not believe that any work beyond the lake would pay them as well as fishing. In the study conducted by Socio Economic Data Working Group of Lake Victoria Research Project Phase II SEDAWOG/LVFRP (1999), 40.2% (N=326) of the traders and processors were involved in farming, 50.4% (N=417) had no second activity while the rest were involved in food stall business, handicrafts, and sale of other consumable goods.

In many societies around Lake Victoria, like other parts of Africa, children are the sole responsibility of women, and given the cost of feeding, clothing and sending them to school, the necessity for an income is considerable. Many women's desire for cash stems from these responsibilities, insufficient subsistence sources of income and the women not wanting to bother their husbands for money (Geheb 1997). Climatic changes have also made income from farm yields insufficient to maintain the family throughout the year, hence the need to seek alternative sources of income. When there is no work on the farm, income-generating activities are often sought out by women, especially women who are married into polygamous households or those who have older or migrant husbands. Contrasting results were observed by Lwenya and Abila (2000): 74% of the interviewees in Kenya came from monogamous families while only 25% came from polygamous marriages.

The choice of the fish trade as against other business alternatives has been promoted by several factors. According to a survey carried out by Medard (2001), several reasons for the choice of the fish trade were mentioned by women. Firstly, the fish business, particularly *dagaa*, could be easily stored in their homes; they could break the fish into small quantities and satisfy a majority of the consumers; and it involves less migration as opposed to Nile perch trading. Others stated that the fish trade is a business that has been in their family lineage. Women were introduced to the business by their parents, friends, relatives and their husbands upon marriage. Secondly, fish is the most readily available resource with immediate demand as a commodity for trade in the area. Thirdly, the fish trade requires little capital to start and the profits are immediate. During the dry spell when families have less food (for example vegetables, beans and other food stuffs), women around the lake rely on fish as food by bartering with other commodities, such as firewood, fruits, maize and cassava flour, tomatoes, onions, fresh sweet potatoes and sun dried sweet potatoes. The families live from hand-to-mouth during such times, and the woman is the main person who has to decide on how she is going to feed her family. The lake becomes the place to go.

Fish trade among women in Lake Victoria is both specialized and combined with other activities. A majority of the women (57%) earn an income purely on fish trade while 43% combined fish trading and other businesses. These percentages contrast sharply with those of men though the trend is the same: 74% survive purely from fish trade while 24% earn a living through combining fish trading and other businesses (LVFRP/SEDAWOG 1999). The high percentage of women who combine fish trade with other businesses as compared to their male counterparts suggest a gender disparity.

Despite their importance and contribution to the artisanal fish industry, women have received little attention from both the government and non-governmental organizations. The negligence of women in the fish sector is a matter of priority if the fishery sector is to maintain its current level of contribution towards household and national economy.

Women are being marginalized in the fishing industry and their involvement is being limited to small-scale, lower remuneration tasks of processing native species such as *dagaa*, as observed by Leendertse (1990). Sumudra (1995) points out that to ignore the role of women in the fisheries is to discount their

potential to strengthen the sector. The importance and contribution of women in the fishery sector and their dual role in production and reproduction points to the need to identify gender roles in the fishery sector. Gender concerns in the fishery sector can only be identified and addressed by looking at the various gender stereotypes in the sector; and identifying the gender roles in the fishery sector and their impacts in promoting or hindering the involvement of women in fisheries research, development and management. The resulting knowledge would help formulate effective interventions to promote the participation of women in the management of Lake Victoria fisheries resources.

Gender Stereotypes and Cultural Ties in the Fishery Sector

Gender concerns are deeply rooted in the cultural patterns of people not only in Africa but also other parts of the world. This is revealed in the many gender stereotypes within the fishery sector.

The idea that fishing predominantly involves men going fishing in boats (therefore overlooking a huge range of inshore resource use) is common throughout the world (Lyn 1999). Fishing has further been understood to be predominantly men's work, while women are thought to be only engaged in post-harvest activities such as smoking, drying, and marketing, which earns a narrower profit margin than that earned by the fish catchers (Mbenga 1999). Descriptive nouns such as "Fishermen" although rooted in western culture, is a stereotyping noun that tends to exclude women from the sector. This perception affects the way the fishing industry is supported.

There is therefore a need for a conscious choice of gender sensitive words like "fishworker/fish traders", "fishers" as opposed to the term "fishermen". Such terms if consciously used, would make it clear that although there is a sexual division of labor between men and women in the fisheries, they are all fish workers.

Several cultural forces had been used in the past to keep women away from the fishing trade (Geheb 1997). Such cultural laws as informal regulatory mechanisms in determining the use of the lake were harsh to women. For example, among the Luo community, there is a law prohibiting menstruating women anywhere near the lake as they would contaminate the lake and affect its productivity (LVFRP/SEDAWOG 2000). This cultural law has also been observed in Sukuma, Jita and Kerewe communities. In other instances, the laws were silent about women and the lake, and hence by this silence, excluded women from lake resources.

In some parts of the country where matriarchy is a norm, women inherited the fishing equipment. After marriage, the husband came to live in the woman's home and she had a right to her share of the catch, which she could dispose of, as she wanted. Medard and Wilson (1996) noted how a woman in the Esegere beach Tarime District in Tanzania, complained about the fishing equipment that her brother offered her. The man was using the income from fishing to feed all his other three wives in his homestead or mji, in swahili.

Women in some regions of the country have direct access to the fish caught by their husbands, in which case they take the fish to the market and are paid cash.

Gender Roles in Fishing and Fish Farming

Fishing Grounds

The nature of fishing areas and their development has played a crucial role in promoting gender disparities. Traditionally, men have fished offshore while women have concentrated on inshore activities through the collecting or gleaning of different species from the reef and other inshore areas (Lyn 1999).

Most development agents encourage the promotion of offshore fishing activities to generate income and to reduce the pressure on inshore water resources. This results in targeting only those involved in this type of fishing - men at the expense of women.

Routine and Hours of Fishing

The routine of catching fish determines the daily pattern of household activities. Many fishers leave for fishing at night. If their wives work during the day, there is little or no opportunity for family life. Fish is highly perishable. Fisherfolk have few places for storage, and lack the facilities to preserve their products. Unless the fish is sold immediately, they lose the opportunity to get the best prices from the middlemen waiting on the beach. Thus, it is common that women are found selling fish in the community or in the regional markets, immediately after the men have landed.

Active fishing on the lake is predominantly men's work. From a study conducted by Tungaraza (1986), women respondents reported that most women did not join the offshore fishing activity because it required a lot of time, energy, and that it was very risky. In the same survey, women confirmed that there is no taboo, no religious or traditional beliefs that prohibited women from fishing. Where women are involved in fishing, it is usually limited to shallow waters and done by at least four people in one boat. The fish caught by this method include *dagaa* which are usually small and inferior to other big fish and hence fetch very little profits (Tungaraza 1986). Women admitted that fishing paid off if given enough time. They, however, complained of lack of access to appropriate nets for fishing.

Medard (2001) found only three percent (N=200) of women as fishers. They owned boats, nets or both and hired crewmembers. In some instances, women bought fishing gear and hired them out to men for cash or in return for a share of the catch (Medard and Wilson 1996). The main problems in some ventures where the owner of the gears is not accompanying the gear, is theft of gears or cheating in the catch, usually by selling out some of the stock to fishers and fish collectors. For instance, women on Ruhanga beach, Tanzanian waters decided to ground some pressure lamps and nets in fear of theft because the crewmembers cheated them when they visited their camping sites. The gillnets which were valued at Tshs.1,350,000.00 (US\$1,688) were stolen. This setback was very demoralizing.

The active participation of women in fishing in Lake Victoria is limited to hauling of beach seines (Geheb 1997). Women are seen as a source of labor for this exercise and men aspire to marry as many wives as possible in order to secure a reliable labor force (Geheb 1997). The reason given to choosing wives instead of relying on casual labor for this kind of work is they know that the money earned will come back home. It is also observed that their involvement in pulling the beach seine is highly competitive because of industrial fish collectors. This has been observed in Speke Gulf in Tanzania as well as Kiumba and Obenge beach in Kenya. Women also opt to haul beach seines and buy juvenile fish, which are not preferred by the industry. Women are involved in pulling beach seines because owners trust them to reveal the actual amount from fish sales.

Fish Farming

Despite the efforts of fisheries agencies to promote fish farming in fishing and farming communities, the gender imbalance has been noted. In most cases, men are the owners of the ponds while women and children manage the ponds. For women involved in such activities, group organization has been the strategic option. The organizations include churches, schools, registered and unregistered women's groups, and village government. The following table is an example of fish farming groups in Tanzania:

Table 1. Involvement in Fish Farming.

District	Village	Group Name	Men	Women
Tarime	Gwitirio	Umoja	11	0
Bukoba	Kamizilente	Abemunge	15	2
Mwanza rural	Kuzenza-Nyegezi	Kristu Mfalme sisters	0	7

Source: Fisheries Division 2000

A further study is needed to find out who are the actual owners of the fish ponds, how do they manage them, and how is the profit distributed among themselves.

Gender Roles in Fish Processing and Marketing

At the time of bulk landings, women would salt and/or dry the fish, sometimes even extracting fish oil, and thereby preserving the catch for later use. This helps them gain better earnings and it also makes fish accessible to distant markets in the interiors of the country (Nayak 2000).

Fish processing is usually categorised as full processing or semi-processing. Women are usually involved in semi-processing due to the huge capital investment that is required in full processing. Fish is either sold fresh or in a processed state. Processing is done to preserve and improve the flavour of the fish. Processing involves smoking, sun drying or frying. There is a greater diversity of products in the inland market than on the beach. The reason is fish is highly perishable. Therefore in the inland markets, fish has to be preserved to have a longer shelf life. The long distances to the inland markets from the beach coupled with poor transport infrastructure make it impossible for fish to reach the markets in a fresh state. Processing of certain species is done in the urban-based processing factories.

Preference for fish products influence the form of processing and the gender involved in the processing tasks. For instance, there is a preference for sun-dried *dagaa* to smoked ones among the consumers (Lwenya and Abila 2000). After fishers land the *dagaa*, women wash, sun-dry and later sell them. The process requires patience. Men prefer trading in smoked fish products like Nile perch and tilapia (LVFRP/SEDAWOG 1999), while women prefer sun-dried fish products. Women usually fry the fresh fish that remain after the day's sale.

The difference in ways of processing is partly because of taste and preference among the consumers. It is also partly because of patience demanded in the process, and the labor and capital investments required. For smoked fish products, a good source of fuel, specifically firewood and labor for its transport is required. The capital requirement for purchase of firewood and construction of kilns is high. These factors favor men: men are physically stronger, they have transport (for example, bicycles), and they have access to loan facilities. These could be the reasons women do not deal so much with smoked fish products as men do. Sun-dried fish products often require a lot of patience, involve low capital and require little transportation. These factors tend to favour women more than men.

Processing as a means of prolonging the shelf life of fish products is usually complicated by the additional cost it requires. There is therefore a need to improve the processing technologies and to make them affordable, so as to allow equal opportunities for both men and women.

Proportion of Women in the Fish Marketing Sector

Women dominate the fish marketing system of Lake Victoria while men dominate its production (Ikiara 1999). Women are found wholesaling and retailing fish. As wholesalers, they purchase fish in bulk from fishers or from co-operative societies and sell it to retailers. As retailers, women purchase their fish from wholesalers and transport it to their selling points. But the trend is quite different for Tanzania. Generally, the trend for women's involvement is already decreasing compared to the early 1980s.

Table 2. Respondents' (Fish Traders and Processors) Sex by Country.

Gender	Kenya	Tanzania	Uganda	Total
Men	50(15.7%)	155(78%)	155(52%)	360(44.1%)
Women	269(84.3%)	43(22%)	145(48%)	457(55.9%)
Total	319(100%)	198(100%)	300(100%)	817(100%)

Source: SEDAWOG/LVFRP 1999 (Note: The sample varied because of survey personnel problems).

Table 2 indicates that men have more advantages compared to women. This is due to their being able to directly access the catch in terms of capital, transportation and time.

Transport of Fish to the Market

Fishing gears, transportation, and credit facilities are among the major factors that disadvantage women in the market, rendering them incapable of competing with their male counterparts in the marketing of fish products. Men own boats, which enable them to sell fresh Nile perch directly to the factory agent who offer better prices. Studies by SEDAWOG (1999) indicate that most women deal with fresh fish, as they do not own bicycles, which could ease the transport of dried fish to inland markets. The majority of women deal with fresh fish but in small quantities near the beach communities, as they have no quick transport means. In most cases, they have to walk long distances to the market place or to a point where they have access to public transport.

Fresh fish traded at the beach is less damaged and requires less cost, time, and labor as there is no processing involved. It requires good business arrangements with the fishers. It also requires a good capital base to withstand the stiff competition by the financially empowered factory agents. These are challenges for women. Fresh fish such as tilapias and other indigenous species are sold at a lower price than processed fish.

Table 3. Regional Proportion of Male and Females Trading in Fresh, Smoked and Sun-dried Fish Products.

Gender	Sun-dried	Smoked	Fresh
Male	169(70.7%)	139(52.3%)	86(30.4%)
Female	70(29.3%)	127(47.7%)	197(69.6%)
Total	239(100%)	266(100%)	283(100%)

Source: LVFRP 1999.

Sun-drying is easier and cheaper as it does not require firewood or frying oil. Sun-dried *dagaa* is cheaper than the fresh and is therefore preferred by inland market customers who do not get fresh fish easily. The role of women is evidently crucial in fish marketing. In some instances they are the sole distributors of fish, which means the fisher is dependent on the woman in converting the fish into money to buy other food.

Fisheries Management and Development: Involvement of Women

The active participation of women in the fishery sector in Lake Victoria is quite evident especially in the post harvest activity. Their presence in the organizational base needs to be enhanced and recognized. In some parts of Lake Victoria, women have been the sole distributors of fish, which means the fishers are dependent on the women for the distribution process.

Training for men and women in fisheries related matters also varies considerably. For instance, for the past five years, the Nyegezi Fresh Water Fisheries Institute enrolled more men than women in their long-term self sponsored courses.

Table 4. Training Status of the Nyegezi Freshwater Fisheries Training Institute (NFFTI).

Year	1995	1996	1997	1998	1999	2000
Men	15	7	11	13	14	11
Women	4	1	7	3	6	14
Total	19	8	18	16	20	25

Source: Nyegezi Fresh water Fisheries Training Institute (NFFTI) 2000.

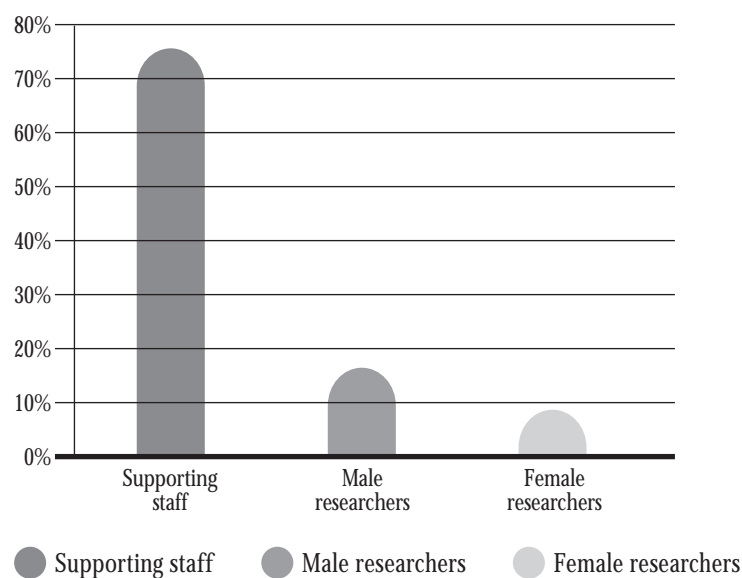
Financial constraint is one of the factors for unequal representation. Besides that, parents believe that men qualify better than women. However, efforts have been put in place to involve more women in short courses sponsored by donor agencies. For instance, in the year 2000, out of 49 students sponsored by Plan International, 23 were women. The management is also trying to find other donors, such as the

Vocational and Educational Training Authority (VETA), to enable more women to participate in various courses such as fish quality control, processing and hygienic handling, gear technology, entrepreneurial studies and cooperative and leadership studies.

Involvement of Women in Fisheries Research by year 2000

There are more men than women in the Fisheries Division in Tanzania (Fig. 1). However, of the women who are employed, only 2.1% women have held senior managerial posts (Fig. 2). The trend is also the same in fisheries research. Out of 147 research staff, there are 17% (25) men researchers and only 7.4% (11) women researchers (Fig.1).

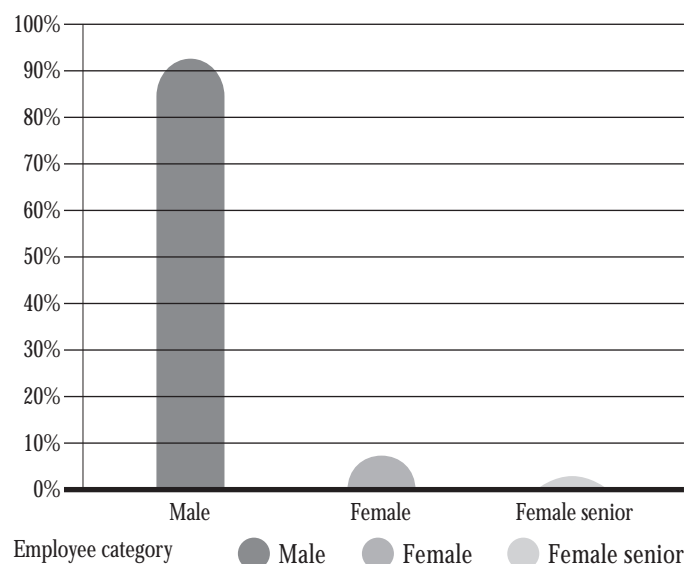
Fig. 1. Employment status in TAFIRI by year 2000.



Source: Tanzania Fisheries Research Institute (TAFIRI), Dar Es Salaam 2000.

In an attempt to address women and gender concerns in the fisheries sector, a community-based research system is desirable. This form of research requires the involvement of the community in all stages of the research. The approach is process-oriented and therefore needs time and intensive monitoring. However, the approach yields useful insights and, has an awareness-building and mobilizing effect on the community (Quist 1999). In collecting solid baseline data for gender research, surveys should be encouraged as they can give a wide range of data on many issues. The formulation of the questionnaires should include women so that they can make the questionnaires gender-sensitive. This means that the concerns of women as resource users would be addressed. The fisheries resources should not only be valued commercially in the community. Their non-cash value, such as food for the family, and their being used as an exchange product, should be taken into consideration. Research volunteers should be trained from the community, as they understand the social structure more than outsiders do. There is also a great possibility of the research volunteers becoming activists in advocating the concerns of women.

Fig. 2. Fisheries Division employment status by year 2000.



Source: Fisheries Division 2000.

Fisheries Management

Women are the main resource managers. They are the main agents in trading and processing fish. Women are concerned with the day-to-day management of the home and therefore some of the critical changes brought about through poor fisheries management affect them more than they affect men. For instance, women from Kibuyi beach in Tanzania complained about persistent use of illegal gear as a result of irresponsible beach leaders (Medard 2001). In Ihale beach, women spoke vehemently on the lack of public toilets around the beach, which could serve various stakeholders particularly traders and fishers from outside the area (Medard et al. 2000). In Uganda, the *Gabunga* (the beach leader) has always been men. In Tanzania, Beach Management Units (BMU) comprises more men than women. In 20 beaches selected randomly, 85.5% (217) were men and 14.5% (46) women (Nanai 2000) (Fig. 3).

There is a need to empower women in all disciplines. Women are good mobilizers and advisers in communities. Imparting such talents into fisheries is essential.

The employment and credit arrangement between men and women in processing factories also vary considerably. The following figures 4 and 5 indicate various differences six operational Nile perch factories in Tanzania.

From the study, it was found that 83.6% (97) of fish suppliers were men while 16.4% (19) were women (Fig. 4). A disproportionate gender pattern is also evident in the provision of credit given by owners of factories to facilitate production. Of those people who were credited by fish factories, 79.1% (53) were men and 20.9% (14) were women (Fig. 5).

Fig. 3. Beach management composition in 20 selected beaches in L. Victoria Tanzania.

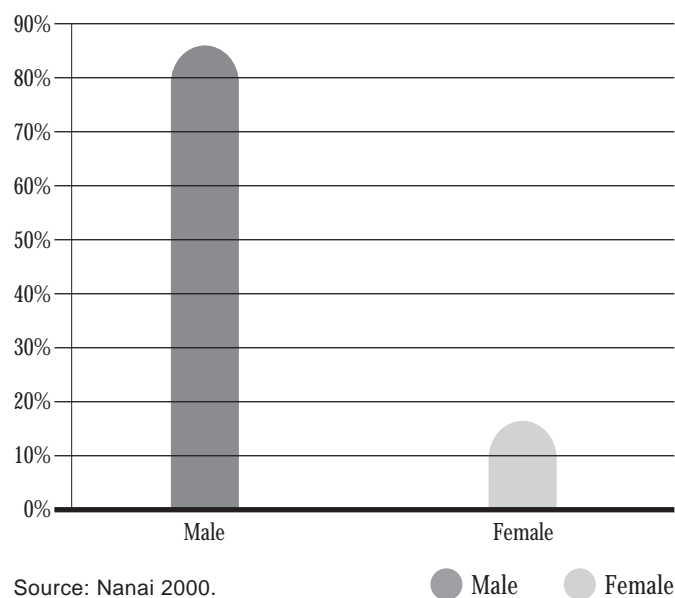


Fig. 4. Fish supplier (agents) in six selected factories.

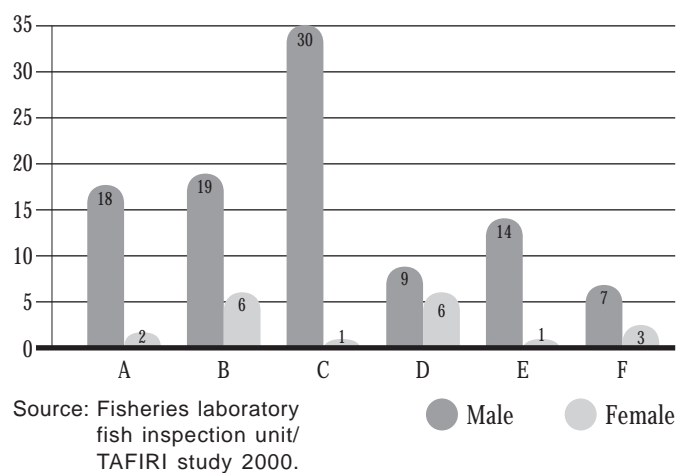


Fig. 5. Fish suppliers credited by fish processing factories.

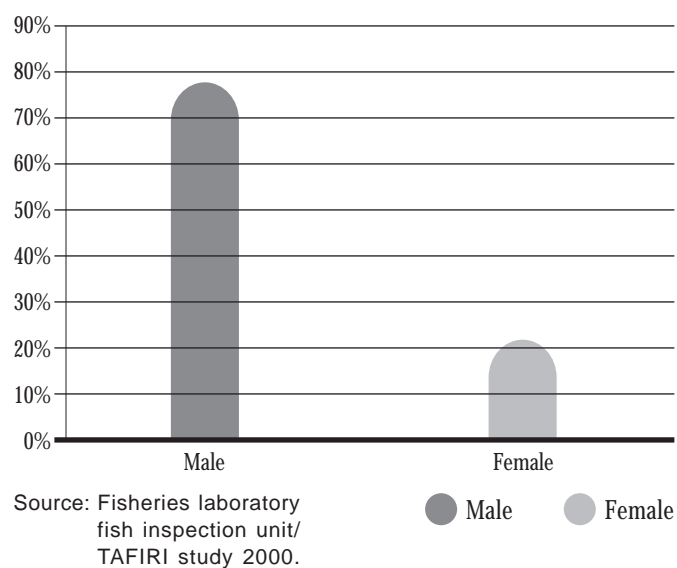
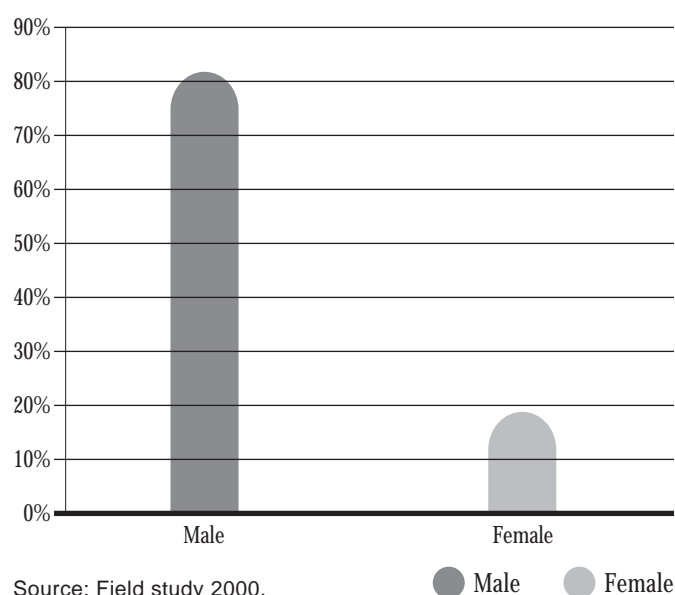


Fig. 6. Women's involvement in swim bladder processing.



Women's participation in the swim bladder trade, one of the by-products of Nile perch processed fish, was also low compared to men (Fig. 6 and Table 5). The reason for this was the high costs involved. Swim bladders are very expensive. One kilogram may cost between Tshs. 4,000.00 (US\$ 5) and 10,000.00 (US\$ 12.5) depending on the quality. The figure in table 5 was very low (6) for swim bladders because the study relied on the respondent's (factory owners) compliance and some factories sold the by-product themselves in local and foreign markets. The employment opportunities in fish processing factories also varied. Lower paid jobs such as casual laborers, laundry workers, fish maws cleaners and operators were more directed to women than men (Table 6). Generally, the division of labor between the sexes depends on various factors. These include educational attainments, which women were more disadvantaged; lobbying tactics and more energetic jobs were for men (Table 6).

Table 5. By-product main buyers.

Product	Main buyers from the fish factories												Total	
	Men						Women						Male	Female
Factory	A	B	C	D	E	F	A	B	C	D	E	F		
Chips	*	2	3	*-	3		*	2	7	0	7		8(33%)	16(67%)
Carcass/punk	*	2	2	10	3	10	*	5	8	6	6	10	27(42%)	35(56%)
Offals			2						8				2(20%)	8(80%)
Oil products	*	1	1	*-	1	0	*	6	9		8	12	3(8%)	35(92%)
Skin	*	*	*	*	*	*	*	*	*	*	*	*		
Swim bladders			3		3				0	0	0		6(100%)	0(0%)
Total	*	5	11	10	10	10	*	13	32	6	21	22	46(33%)	94(67%)

* = The respondent did not fill the exact number

*- = The respondent indicated only one sex to participate in that activity

Source: Fisheries laboratory fish inspection unit/TAFIRI study 2000.

Table 6. Employment opportunities in fish processing.

Job description	Number of people involved												Total	
	Men						Women						M	F
	A	B	C	D	E	F	A	B	C	D	E	F		
Fish factory														
Fish Filleters	54	40	12	70	12	40			-				217(100%)	0(0%)
Administrator(s)	15	2	2	2	2	8	10	4	2	5	3		31(56%)	24(44%)
Sweeper/cleaners	20	20	5	5	4	13	40	5	4	5	4		67(54%)	58(46%)
Packers	18	40	0	23	0	6		20	20	35	20	12	87(45%)	107(55%)
Ice machines operators	30	12	4	4	4	0			-			2	50(96%)	2(4%)
Drivers	1	35	10	5	10	10			-				71(100%)	0(0%)
Quality controller	1	10	4	1	4	2		2	2				22(85%)	4(15%)
Environmental engineer	0	20		1		-							21(100%)	0(0%)
Boat crews	15	20	30	15		12							65(100%)	0(0%)
Production supervisors	1	2	8		6	3		6					20(77%)	6(23%)
Factory directors		1	3	1	1	2		2	1				8(72%)	3(28%)
Accountant (s)			3	1	2	2			-	1			8(89%)	1(11%)
Porters/makuli	10	20	-		-	15			-				45(100%)	0(0%)
Security guards	2		6	5	8	5		5		1			26(81%)	6(19%)
Secretaries		50	-		-	1		2	2	2	3		51(85%)	9(15%)
Laborers				-	-			20		-			0(0%)	20(100%)
Trimmers			-	-	4	-			12	36	10	20	4(5%)	82(95%)
Fish maws operators			-	-					10				0(0%)	10(100%)
Laundry			-	-		3			4	10	4	10	3(10%)	28(90%)
Total	167	282	64	133	57	122	50	66	57	95	44	106	787(75%)	260(25%)

Source: Fisheries national laboratory: fish inspection unit/TAFIRI study 2000.

Gender Concerns-Economic, Physical, Emotional and Psychological Stress

The outdoor fishing jobs oblige women to leave their children alone, or put their eldest daughters, often still girls, in charge of the household. The consequences are not only economic and physical, but also emotional and psychological (Sumudra 1995).

With environmental problems such as water pollution from the sewage and lack of health services, and atmospheric pollution, the situation gets more complicated for women. In such areas with environmental problems, poverty-related diseases like stomach and respiratory infections, cholera, and malnutrition are quite common. Medard (2000b) also reported AIDS victims, unskilled and semi-skilled casual laborers, landless and female households to be among the poorest class. The growing health problems affect women's participation in the fishing sectors, as they are the ones traditionally responsible for the sick.

Cheating of the Catch and Data

Though Ikiara (1999) does not specify the gender of the culprits, absentee vessel owners face a high risk of being cheated with respect to catch realisation. Given that most women hire out their fishing gears as they do not usually take part in the offshore fishing activities (Medard 2000a), they are the ones mostly struck by the problem of gear theft. This limits the number of units each investor is willing to operate and, perhaps, explains why the data about fishing boats does not provide a clear picture of the structure of the industry (Wilson and Medard 1999). Some data and information from the fish industrial processors are questionable.

Education

As pointed out by Ikiara (1999), most fishers are generally poorly educated: 8% of fishers have no education at all, 65% have not gone beyond primary education. The issue mostly affects women who, in a study conducted by Medard (2001) in Tanzania, concluded that education was a key-influencing factor determining their roles in the society. Most women are aware of their disadvantaged situation in terms of education, and assert that it has affected the direction of their lives and limits their opportunities (Mutoro 1997). Where fisher groups exist, lack of education has been cited as a source of stagnation in the groups' business endeavors, limiting their communication to the outside world (Medard 2000a).

LVFRP/SEDAWOG (1999) found that training among fish traders and processors is low. For instance, out of 198 fish traders and processors interviewed in Tanzania, only 6% had knowledge of book-keeping and 2% on fish processing.

Specialized training on fish group management and leadership roles, accountancy management procedures and gender awareness is limited to only group officials. Hence, there is a tendency to overburden some of the group members, which affects the performance of the marketing and processing fish groups (Medard 2000a).

Competition among Traders

The rising need for cash income has caused a great number of traders to join the fishery sector. Due to stiff competition, women have developed coping strategies. Some may invest in their own boats and gears, while others may have special arrangements with the fishers in order to secure sufficient supplies. The arrangement could be gifts of food and loans of money. Competition can be so stiff that female traders may prostitute themselves to fishers in order to obtain favours, low prices, and guaranteed supplies.

Conclusions and Recommendations

Apart from the in-depth analysis of the situation of women in fishing communities, it is important to promote women as social actors with the potential to improve their family situation, communities, fishery and their country. This paper dispels the notion that women are only minimally involved in the fishing industry. Their involvement needs recognition and women need to be taken seriously in the planning process. The fact, however, is that the involvement of women has not only made the survival of the fishing communities possible but has also helped preserve the way of life of artisanal fishing communities. The numerous outlets for employment in the artisanal sector should be noted and creatively integrated into the economy.

Unfortunately, neither is there any real appreciation of the numerous tasks that women are involved in nor value attached to these tasks. Consequently, minimal efforts have been made by the authorities to help women sustain these roles. There is ample scope and reason to sustain and even subsidize women in fishing communities so that they continue to exist along with the development of the fishing industry.

It is also recommended that, improvement of Knowledge, Information services and Management (KIM) in the fishing industry for small-scale fishers (both men and women) is important for the present and future sustainability. It is crucial that this should be complemented with efforts in raising public awareness on the importance of fishing communities to the overall health and well-being of the country.

Acknowledgements

Thanks are due to Lake Victoria Fisheries Organisation (LVFO) Secretariat and Lake Victoria Research Project (LVFRP) Phase II. Without these institutions this work would not have been possible. Special thanks to Mr Martin van der Knaap who gave us full support during the production of this paper. Special mention must be made to Carolyn Kilema Mukasa for coordination and encouragement. We ourselves have learnt a great deal during the workshop.

Besides always being astonished at the way poor women carry their burdens as home makers and fish dealers, we acknowledge the inner strength these women have, to transcend the harshness of daily existence and to affirm life. We have been inspired by them and desire to be in solidarity with them.

The workshop also exposed us to the ecologically diverse and rich East African environment. The ongoing destruction of this sensitive area around the lake environs is visible everywhere. Wisdom and courage will be required to alter this course for sustainable fisheries management. We firmly believe that this will be possible if and when those who nurture life are included in the decision making process of riparian countries.

References

- Clayton A. and D.C. Savage. 1974. Government and labor in Kenya 1895-1963. Frank Assoc., London.
- Francis E. 1995. Migration and changing divisions of labor: Gender relations and economic changes in Koguta, Western Kenya, Africa. 65(2).
- Gerrard, S. 1990. Women, social organisation and production of knowledge: Challenges of fisheries development. Paper presented at the conference on Socio-economic conditions for development of Artisanal Fisheries in Africa, 15-17 June 1990, Tromsø, Norway.
- Geheb K. 1997. The regulation and the regulated: Fisheries management options and dynamics in Kenya's Lake Victoria Fisheries. University of Sussex, UK. PhD. Thesis
- Ikiara M.M. 1999. Sustainability, livelihoods, production and effort supply in a declining fishery: The case of Kenya's Lake Victoria Fisheries. University of Amsterdam. PhD Thesis.
- Leendertse, K. 1990. Introductory paper. Women in Tanzania inland fisheries. Paper presented at the workshop on Enhanced Women's Participation in Fishery Development, 4-7 December 1990, Zimbabwe. UNDP/FAO-RAF/87/099 (IFIP).
- LVFRP/SEDAWOG. 1999. Report of marketing survey of Lake Victoria fisheries research project. Technical document No. 2 marketing study. LVFRP/TECH/99.
- Lyn L. 1999. What is fishing? Gender, globalisation and fisheries workshop. 6-12 May 2000. St. John's NF.
- Lwenya C. and R. Abila 2000. The Gender role in fish processing and trading practices in Lake Victoria, Kenya.
- Mbenga C. A. 1999. Informal power. Gender, globalisation and fisheries workshop. 6-12 May, 2000. St. John's NF.
- Medard, M. 2000a. Community-based organisations on Lake Victoria: A lesson from the Tweyambe Fishing Enterprise in Muleba District, Kager Region, Tanzania. Paper presented at a workshop on Gender, Globalisation and Fisheries. 6-14 May 2000, University of Newfoundland, Canada,.
- Medard, M. 2000b. Harvesting and marketing of immature Nile Perch (*Lates niloticus*): A threat to the national food security and poverty alleviation initiatives-The case of Lake Victoria, Tanzania part. A paper presented at the National Workshop on Harvesting and Processing of Immature Nile Perch. Organised by LVEMP-Fishery management component. 9-10 August 2000, Mwanza.
- Medard, M., K. Geheb, E. Mlahagwa, M. Kabati, D. Komba, D. Msunga, D. Ngussa, B. Zenge and U. Wabeya. Co-managerial potentials for Tanzania's Lake Victoria fisheries: Perspectives from two landing sites. *In* Geheb, K. (ed) Reports of the LVFRP 4 beach Survey and Stakeholders' Workshops LVFRP Technical Document. LVFRP/TECH/00/17. The Socio Economic Data Working Group of Lake Victoria Fisheries Research Project: 54-62.
- Medard, M. 2001. Co-management in fisheries. Obstacles and incentives for environmental conservation and management for Lake Victoria, Tanzania. M.Phil., Moi University, Eldoret, Kenya. Forthcoming.
- Modesta Medard and Wilson D.C. 1996. Changing economic problems for women in the Nile perch fishing communities on Lake Victoria. *Anthropologica* XXXVIII:149-172.
- Mutoro, B. A. 1997. Women working wonders: Small-scale farming and role of women in Vihiga District, Kenya. A case study of North Maragori. Utrecht University, Wageningen Agricultural University. Phd. Thesis. Thela Publishers Amsterdam.
- Nayak N. 2000. Gender, globalisation and fisheries: The Indian response. Gender, globalization and fisheries workshop. 6-12 May 2000, St. John's NF.

- Nanai N.A.K. 2000. A draft report on the status of community participation in implementing Lake Victoria environmental project. The case of Tanzania. Report for submission to LVEMP Secretariat.
- Ogutu, M. A. 1988. The role of women and cooperative societies in fish marketing in Western Kenya, p. 113-117. *In* G.M.A. Ogutu (ed.) Artisanal fisheries of Lake Victoria, Kenya: Options for management, production and marketing. Proceedings of a workshop held in Kisumu, Kenya.
- Ogutu, G.M.A. (ed.) 1988. Artisanal fisheries of Lake Victoria, Kenya: Options for management, production, and marketing. Proceedings of a workshop held in Kisumu, Kenya. Shiriisho Publishers for the Artisanal Fisheries (Kenya) Project, Nairobi.
- Ogutu, G. E. M. 1992. Socio-economic conditions of artisanal fishermen and fish traders, p. 15-44. *In* G.E.M. Ogutu (ed.) Artisanal fisheries of Lake Victoria, Kenya: Options for management, production and marketing. Proceeding of a workshop held in Kisumu, Kenya. Shiriisho Publishers for the Artisanal Fisheries (Kenya) Project, Nairobi.
- Quist Cornelië. 1999. Fisherwomen as researchers. Paper presented at Gender, globalisation and fisheries workshop. 6-12 May 2000. St. John's NF.
- Sandouno M. 1999. Training hard. Gender, globalisation and fisheries workshop.
- Sumudra. 1995. No woman, no sustainable fishing. Gender, globalisation and fisheries workshop. 6-12 May 2000, St. John's NF.
- Tungaraza F. D. 1986. The role of women in Tanzania fishing societies the case of Mbweni Village-Dar Es Salaam. University of Dar-es-salaam.
- Wilson, D.C and Modesta Medard. 1996. Country field report of the socio-economic research on Lake Victoria, Tanzania. Performed by Program on the Lakes of East Africa (1994-1995).

WOMEN DO FISH: A CASE STUDY ON GENDER AND THE FISHING INDUSTRY IN SIERRA LEONE

P.B. Browne

Save Humanity Foundation (SHUF), Sierra Leone

Abstract

Sierra Leone is one of the few countries with comprehensive legislation on fisheries and a special Fisheries Division established under the Ministry of Trade and Industry. The focus of the legislation and the government agency is on the improvement and development of artisanal fisheries. The onset of the war in Sierra seriously affected artisanal fishing activities - fishermen were killed, maimed or driven away from their communities and women were forced to seek refuge in safer places.

In every fishing community, men, women and children have clearly defined activities to perform on a daily basis. Traditionally, and still in the main, men do the fishing itself while women play a supportive role. But women are now becoming more involved in diverse fishing activities ranging from processors/traders to boat owners.

Some women can spend many hours a day in fishing related activities for which they receive very little or no assistance from any agencies. In fish processing, for example, which is one of the most important roles women perform, very few women have the opportunity to upgrade their activities through training and improved technology. There are, however, some women who have become rich over the years in this "male-dominated" industry by owning either trawlers or motorized boats for fishing.

This paper looks at the varied situation of women in fisheries in Sierra Leone. As a conclusion, the paper proposes some measures for the improvement of women's contribution and status in this industry. Women's major concerns are better markets for their products and improved credit facilities to enhance their fishing-related activities.

Historical Background of the Fishing Industry

Sierra Leone has a Continental Shelf area of 330 km from the Continental Shelf area of about 25,600 sq km. The width of the Northern shelf area is about 140 km and that of the Southern shelf area is about 132 km.

In 1959, the first comprehensive legislation affecting fisheries was passed-The Fisheries Ordinance 1957, and in 1958, a Fisheries Research and Development Unit was established under the Ministry of Trade and Industry. After Independence in 1961, a Fisheries Division established under the Ministry of Trade and Industry was transferred to the Ministry of Agriculture and Natural Resources, and its focus was on the improvement and development of artisanal fisheries. The year 1976 experienced the influx of foreign vessels operating in Sierra Leone's waters, and in 1988 a comprehensive Fisheries Policy Framework was formulated and passed into a Decree based on 3 documents:

- The Fisheries Management and Decree (1994)
- The Fisheries Regulation (1994)
- The Fish, Shellfish, Fishery Products Sanitary Regulations (1998)

The Inland Fisheries are found in the rivers, lakes, floods, plains and swamps with a total annual production of 15,000 t. The three major estuaries are the Sierra Leone, the Scarcies and Bonthe. The species of fish and shellfish found in these estuaries include mullets, catfish, tilapia, oysters, cowrie,

cockles, snappers, gwangwa etc. The main objective of Inland Fisheries is to promote socio-economic development in the rural areas. The development of this sub-sector is on a sustainable basis and is being given high priority by the Government of Sierra Leone, and there is a strong participation of women in fisheries development.

Artisanal or canoe fisheries comprises a variety of dugout and planked canoes distributed all along the coastline and the rivers. The motorized canoes are distributed all along the coastline and rivers. Between 1995 and 1998, artisanal fishery accounted for an average of about 73.4% of the total fisheries landings.

Fishers predominately catch herring and bonga, 70% of the total artisanal production, which contributes significantly to local fish consumption as none is exported.

In terms of industrial fisheries, there comprise a fishing fleet that includes demersal gears, shrimper and purse seiners (shellfish and fin-fish) operating under fishing companies. The Ministry of Agriculture, Forestry and Marine Resources ensures the proper monitoring, control and surveillance of this sub-sector and therefore keeps records of the various fish catch, fish exports and nationalities of fishing vessels operating in Sierra Leone and the Inshore Exclusion Zone (IEZ) reserved for canoes and recreational fisheries. This sub-sector, which constitutes a critical factor in the development of fisheries, engages around 25,000 fishermen. It is also this same sub-sector that engages women in various other fishing activities in their different communities.

Activities of Men, Women and Children

In every fishing community, men, women and children have clearly defined activities to perform on a daily basis. The actual fishing operation is performed by men. They go out in their canoes with their various types of fishing gears. Other activities performed by men in their various fishing communities are boat building/repairs, and net (fishing gear) mending.

Besides the role of being housewives, women are now becoming more involved in diverse fishing activities ranging from processor/trader to boat owner. Traditionally, the physical harvest of fish is a man's job but as women are now getting more involved, some women occasionally resort to pre-harvest activities of net mending and repairs. In the post-harvest sector, their predominant role is in purchasing, processing and marketing. Women sometimes spend 8-10 hours per day in fishing related activities for which they receive very little or no assistance from NGOs or other organisations.

Men who do not make fishing trips use 6mm nylon fishing lines with hooks of various sizes ranging from nos.9-14 on which baits are inserted. The use of motorized boats has been popularized in spite of the high cost involved. At the end of each fishing trip, landed fresh fish catch are sold to female fishworkers who then market them either fresh or dried. In some cases, children accompany adult fishing crews. If the fish is sold dried, women and children jointly wash, remove the fins and enterons (in the case of some species), fetch firewood and do the drying on a processing banda, a platform of mud and sticks or metal 3 to 3.5 ft. high, on which the fish are laid. The sales of either the fresh catch or processed fish are carried out by both women and children.

In some cases, women fish in rivers, streams, creeks and small waterbodies using scooping nets, locally called beimbe. A fishing group usually comprises 3-5 women, each with a task to perform. One or two women will show the rest of the group where the river/stream/creek has a high population of fish, and will be the first to step into their new place of exploit. They will then start disturbing the water to locate the hiding places of the fishes. The one or two women holding the scoop net will then come closer to the first batch of women in readiness to receive the escaping fish.

This type of fishing normally takes place in the dry season between September and March. Ninety-nine per cent of fish catch by this method are for domestic consumption.

In fish processing, which is one of the most important roles women perform, very few women have the opportunity to upgrade their activities through training and improved technology. Despite the development of more fuel-efficient smoking ovens, most of those they use are still rudimentary and fuel-inefficient.

Women run the home and manage the family enterprises, and hence can influence business decisions. However, women have always expressed their major concerns as being the quests for better markets for their products and the lack of credit facilities to improve their activities. Children are not always directly involved in fishing activities within their communities. Children are catered for at birth, and this continues until school-going age. Families that can afford the cost of educating their children send them to primary and later to secondary schools in the bigger towns. However, for those children who cannot afford to go beyond primary education, the parents make sure that they get involved in their fishing activities.

For the male child, he is taught net-mending and repair skills, and he is expected to help fetch fuel wood for fish processing and so on. For the girl-child, she is always with her mother helping out with purchasing, processing and marketing of fish, and other household functions such as cooking.

Impact of RUF War on Fishing

The onset of the war in Sierra Leone exacerbated poverty. This did not exclude women from the industry. About 80% of the coastal area, which favours artisanal fishing activities, was seriously affected. The men involved in the physical harvest of fish were killed, maimed or driven away from their communities. Those who were "fortunate" only lost their fishing gears and equipment. As a result, women were left with no alternative but to seek refuge in seemingly safer places. The attack on some of these communities resulted in damaged boats and fishing gears. This situation affected the quantity and quality of fish catch. As a result, some fish workers (fishermen, fish processors and mongers) migrated to other fishing communities that did not experience the long presence of RUF fighters. Those who stayed in RUF-held territories were subjected to all forms of harassment and intimidation. In addition, they were asked to provide both fresh and dried fish for the fighters, which considerably affected their normal subsistence. Women who sought refuge in bigger towns, like Freetown, Bo, Kenema and so on lived in Internally Displaced Persons Camps and their livelihood strategies included receiving handouts from Aid Agencies, carrying out petty trading activities, and getting assistance from relatives and friends.

Women's Activities in Fishing Communities

Some women have become rich over the years in a "male-dominated" industry by owning either trawlers or motorized boats for fishing. The following are examples of women who are involved in Industrial Fishing that have created employment, and generated foreign exchange, household incomes, and high nutritional level:

1. Mrs. Lilian A. Lisk

Born to Mr. J. Collingwood-Williams (Sierra Leonean) and Elizabeth Konadu (Ghanaian) in August 14, 1946. She graduated from Fourah Bay College, University of Sierra Leone, with a B.A. General Degree. She served in the Civil Service of Sierra Leone in the Ministries of Agriculture, Natural Resources and Forestry, and Social Welfare. Later, she became Managing Director of Okey Agencies Ltd.; and Executive Director of Apex Fishing company. She has a food processing and parking company called Intrapex (SL) Ltd.; and she imports and distributes of various essential food items in Sierra Leone. In Ghana, she is Managing Director of Legon Fishing Co. Ltd. and Intrapex Ghana Ltd.

2. Mrs. Abie Aruna

Born 44 years ago, is married with four children and was a stenographer by profession. She was introduced into the private business by a friend before setting up her own business five years ago, called Monza Fishing Company, where she is Managing Director. She trades in tuna, which is seasonal. Mrs. Aruna is engaged in other businesses like the transport and restaurant businesses.

3. Mrs. Annie Joy Toure

Has served as agent for fishing boats and shrimpers and now owns a company called Annsenval Fishing Company with a fishing trawler that is locally registered. She has received technical assistance several times from the Ministry of Agriculture, Forestry and Marine Resources.

There are other women who are doing very well in the "male-dominant" industry, but are in the artisanal sub-sector. When they were contacted at the Goderich Fishing Community, the following information was obtained from a few of them:

1. Mrs. Harfsatu Jalloh

She started as a Petty Trader, but later joined the Women's Group of AFOD that gave her a fishing boat on loan at a cost of 6.5 million leones (local currency). She has a seven-men crew and she has additional two motorized boats and is expecting to have a third one in September 2001.

2. Mrs. Nafisatu Sallah

This woman joined the fishing business 15 years ago with an old net and then joined a friend who had a boat. After two years, she was able to own a boat called MINAH BOAT and presently has two boats with a crew of nine men.

Conclusion

Women's activities in the fishing communities should involve the following:

- The physical harvest of fish, that is, boat ownership
- Processing, marketing and distribution. This should include the handling of fish from the point of production to the consumer.
- Decision making, that is, with the indigenous pattern of social division of labour, women should make decisions and act to a large extent independently of their husbands. They should have separate budgets. Regardless of the complex situation depending on ethnic, economic or social factors in which women usually find themselves in fishing committees, their roles must be clearly defined to cover three areas—familial, socio-cultural and economic with the economic role being the most important.

WOMEN DO FISH: A CASE STUDY ON GENDER AND THE FISHING INDUSTRY IN SIERRA LEONE

P.B. Browne

Save Humanity Foundation (SHUF), Sierra Leone

Abstract

Sierra Leone is one of the few countries with comprehensive legislation on fisheries and a special Fisheries Division established under the Ministry of Trade and Industry. The focus of the legislation and the government agency is on the improvement and development of artisanal fisheries. The onset of the war in Sierra seriously affected artisanal fishing activities - fishermen were killed, maimed or driven away from their communities and women were forced to seek refuge in safer places.

In every fishing community, men, women and children have clearly defined activities to perform on a daily basis. Traditionally, and still in the main, men do the fishing itself while women play a supportive role. But women are now becoming more involved in diverse fishing activities ranging from processors/traders to boat owners.

Some women can spend many hours a day in fishing related activities for which they receive very little or no assistance from any agencies. In fish processing, for example, which is one of the most important roles women perform, very few women have the opportunity to upgrade their activities through training and improved technology. There are, however, some women who have become rich over the years in this "male-dominated" industry by owning either trawlers or motorized boats for fishing.

This paper looks at the varied situation of women in fisheries in Sierra Leone. As a conclusion, the paper proposes some measures for the improvement of women's contribution and status in this industry. Women's major concerns are better markets for their products and improved credit facilities to enhance their fishing-related activities.

Historical Background of the Fishing Industry

Sierra Leone has a Continental Shelf area of 330 km from the Continental Shelf area of about 25,600 sq km. The width of the Northern shelf area is about 140 km and that of the Southern shelf area is about 132 km.

In 1959, the first comprehensive legislation affecting fisheries was passed-The Fisheries Ordinance 1957, and in 1958, a Fisheries Research and Development Unit was established under the Ministry of Trade and Industry. After Independence in 1961, a Fisheries Division established under the Ministry of Trade and Industry was transferred to the Ministry of Agriculture and Natural Resources, and its focus was on the improvement and development of artisanal fisheries. The year 1976 experienced the influx of foreign vessels operating in Sierra Leone's waters, and in 1988 a comprehensive Fisheries Policy Framework was formulated and passed into a Decree based on 3 documents:

- The Fisheries Management and Decree (1994)
- The Fisheries Regulation (1994)
- The Fish, Shellfish, Fishery Products Sanitary Regulations (1998)

The Inland Fisheries are found in the rivers, lakes, floods, plains and swamps with a total annual production of 15,000 t. The three major estuaries are the Sierra Leone, the Scarcies and Bonthe. The species of fish and shellfish found in these estuaries include mullets, catfish, tilapia, oysters, cowrie,

cockles, snappers, gwangwa etc. The main objective of Inland Fisheries is to promote socio-economic development in the rural areas. The development of this sub-sector is on a sustainable basis and is being given high priority by the Government of Sierra Leone, and there is a strong participation of women in fisheries development.

Artisanal or canoe fisheries comprises a variety of dugout and planked canoes distributed all along the coastline and the rivers. The motorized canoes are distributed all along the coastline and rivers. Between 1995 and 1998, artisanal fishery accounted for an average of about 73.4% of the total fisheries landings.

Fishers predominately catch herring and bonga, 70% of the total artisanal production, which contributes significantly to local fish consumption as none is exported.

In terms of industrial fisheries, there comprise a fishing fleet that includes demersal gears, shrimper and purse seiners (shellfish and fin-fish) operating under fishing companies. The Ministry of Agriculture, Forestry and Marine Resources ensures the proper monitoring, control and surveillance of this sub-sector and therefore keeps records of the various fish catch, fish exports and nationalities of fishing vessels operating in Sierra Leone and the Inshore Exclusion Zone (IEZ) reserved for canoes and recreational fisheries. This sub-sector, which constitutes a critical factor in the development of fisheries, engages around 25,000 fishermen. It is also this same sub-sector that engages women in various other fishing activities in their different communities.

Activities of Men, Women and Children

In every fishing community, men, women and children have clearly defined activities to perform on a daily basis. The actual fishing operation is performed by men. They go out in their canoes with their various types of fishing gears. Other activities performed by men in their various fishing communities are boat building/repairs, and net (fishing gear) mending.

Besides the role of being housewives, women are now becoming more involved in diverse fishing activities ranging from processor/trader to boat owner. Traditionally, the physical harvest of fish is a man's job but as women are now getting more involved, some women occasionally resort to pre-harvest activities of net mending and repairs. In the post-harvest sector, their predominant role is in purchasing, processing and marketing. Women sometimes spend 8-10 hours per day in fishing related activities for which they receive very little or no assistance from NGOs or other organisations.

Men who do not make fishing trips use 6mm nylon fishing lines with hooks of various sizes ranging from nos.9-14 on which baits are inserted. The use of motorized boats has been popularized in spite of the high cost involved. At the end of each fishing trip, landed fresh fish catch are sold to female fishworkers who then market them either fresh or dried. In some cases, children accompany adult fishing crews. If the fish is sold dried, women and children jointly wash, remove the fins and enterons (in the case of some species), fetch firewood and do the drying on a processing banda, a platform of mud and sticks or metal 3 to 3.5 ft. high, on which the fish are laid. The sales of either the fresh catch or processed fish are carried out by both women and children.

In some cases, women fish in rivers, streams, creeks and small waterbodies using scooping nets, locally called beimbe. A fishing group usually comprises 3-5 women, each with a task to perform. One or two women will show the rest of the group where the river/stream/creek has a high population of fish, and will be the first to step into their new place of exploit. They will then start disturbing the water to locate the hiding places of the fishes. The one or two women holding the scoop net will then come closer to the first batch of women in readiness to receive the escaping fish.

This type of fishing normally takes place in the dry season between September and March. Ninety-nine per cent of fish catch by this method are for domestic consumption.

In fish processing, which is one of the most important roles women perform, very few women have the opportunity to upgrade their activities through training and improved technology. Despite the development of more fuel-efficient smoking ovens, most of those they use are still rudimentary and fuel-inefficient.

Women run the home and manage the family enterprises, and hence can influence business decisions. However, women have always expressed their major concerns as being the quests for better markets for their products and the lack of credit facilities to improve their activities. Children are not always directly involved in fishing activities within their communities. Children are catered for at birth, and this continues until school-going age. Families that can afford the cost of educating their children send them to primary and later to secondary schools in the bigger towns. However, for those children who cannot afford to go beyond primary education, the parents make sure that they get involved in their fishing activities.

For the male child, he is taught net-mending and repair skills, and he is expected to help fetch fuel wood for fish processing and so on. For the girl-child, she is always with her mother helping out with purchasing, processing and marketing of fish, and other household functions such as cooking.

Impact of RUF War on Fishing

The onset of the war in Sierra Leone exacerbated poverty. This did not exclude women from the industry. About 80% of the coastal area, which favours artisanal fishing activities, was seriously affected. The men involved in the physical harvest of fish were killed, maimed or driven away from their communities. Those who were "fortunate" only lost their fishing gears and equipment. As a result, women were left with no alternative but to seek refuge in seemingly safer places. The attack on some of these communities resulted in damaged boats and fishing gears. This situation affected the quantity and quality of fish catch. As a result, some fish workers (fishermen, fish processors and mongers) migrated to other fishing communities that did not experience the long presence of RUF fighters. Those who stayed in RUF-held territories were subjected to all forms of harassment and intimidation. In addition, they were asked to provide both fresh and dried fish for the fighters, which considerably affected their normal subsistence. Women who sought refuge in bigger towns, like Freetown, Bo, Kenema and so on lived in Internally Displaced Persons Camps and their livelihood strategies included receiving handouts from Aid Agencies, carrying out petty trading activities, and getting assistance from relatives and friends.

Women's Activities in Fishing Communities

Some women have become rich over the years in a "male-dominated" industry by owning either trawlers or motorized boats for fishing. The following are examples of women who are involved in Industrial Fishing that have created employment, and generated foreign exchange, household incomes, and high nutritional level:

1. Mrs. Lilian A. Lisk

Born to Mr. J. Collingwood-Williams (Sierra Leonean) and Elizabeth Konadu (Ghanaian) in August 14, 1946. She graduated from Fourah Bay College, University of Sierra Leone, with a B.A. General Degree. She served in the Civil Service of Sierra Leone in the Ministries of Agriculture, Natural Resources and Forestry, and Social Welfare. Later, she became Managing Director of Okey Agencies Ltd.; and Executive Director of Apex Fishing company. She has a food processing and parking company called Intrapex (SL) Ltd.; and she imports and distributes of various essential food items in Sierra Leone. In Ghana, she is Managing Director of Legon Fishing Co. Ltd. and Intrapex Ghana Ltd.

2. Mrs. Abie Aruna

Born 44 years ago, is married with four children and was a stenographer by profession. She was introduced into the private business by a friend before setting up her own business five years ago, called Monza Fishing Company, where she is Managing Director. She trades in tuna, which is seasonal. Mrs. Aruna is engaged in other businesses like the transport and restaurant businesses.

3. Mrs. Annie Joy Toure

Has served as agent for fishing boats and shrimpers and now owns a company called Annsenval Fishing Company with a fishing trawler that is locally registered. She has received technical assistance several times from the Ministry of Agriculture, Forestry and Marine Resources.

There are other women who are doing very well in the "male-dominant" industry, but are in the artisanal sub-sector. When they were contacted at the Goderich Fishing Community, the following information was obtained from a few of them:

1. Mrs. Harfsatu Jalloh

She started as a Petty Trader, but later joined the Women's Group of AFOD that gave her a fishing boat on loan at a cost of 6.5 million leones (local currency). She has a seven-men crew and she has additional two motorized boats and is expecting to have a third one in September 2001.

2. Mrs. Nafisatu Sallah

This woman joined the fishing business 15 years ago with an old net and then joined a friend who had a boat. After two years, she was able to own a boat called MINAH BOAT and presently has two boats with a crew of nine men.

Conclusion

Women's activities in the fishing communities should involve the following:

- The physical harvest of fish, that is, boat ownership
- Processing, marketing and distribution. This should include the handling of fish from the point of production to the consumer.
- Decision making, that is, with the indigenous pattern of social division of labour, women should make decisions and act to a large extent independently of their husbands. They should have separate budgets. Regardless of the complex situation depending on ethnic, economic or social factors in which women usually find themselves in fishing committees, their roles must be clearly defined to cover three areas—familial, socio-cultural and economic with the economic role being the most important.



LATIN AMERICA

WOMEN IN FISHERIES IN LATIN AMERICA

G. Pereira
INFOPECSA, Uruguay

Abstract

Latin American governments are not sufficiently aware of the problems of women in fisheries. Therefore, they have not invested sufficient human or financial resources to respond to the needs of women in fisheries. In cases where investments have been made, they have been inadequate. With a few exceptions, most Latin American countries do not have adequate data and information about the situation of women in fisheries. There is some information about women's role in the sector, their psychological profile, and life conditions, but there is a lack of information on women's participation, needs and expectations in the sector.

Besides domestic work, women are traditionally involved in fishing and aquaculture activities. Women lack access to technical training and training in microenterprises and community organizations, even in countries with experience in these areas. Women in fishing communities also lack access to credit or to co-financing systems for running their activities.

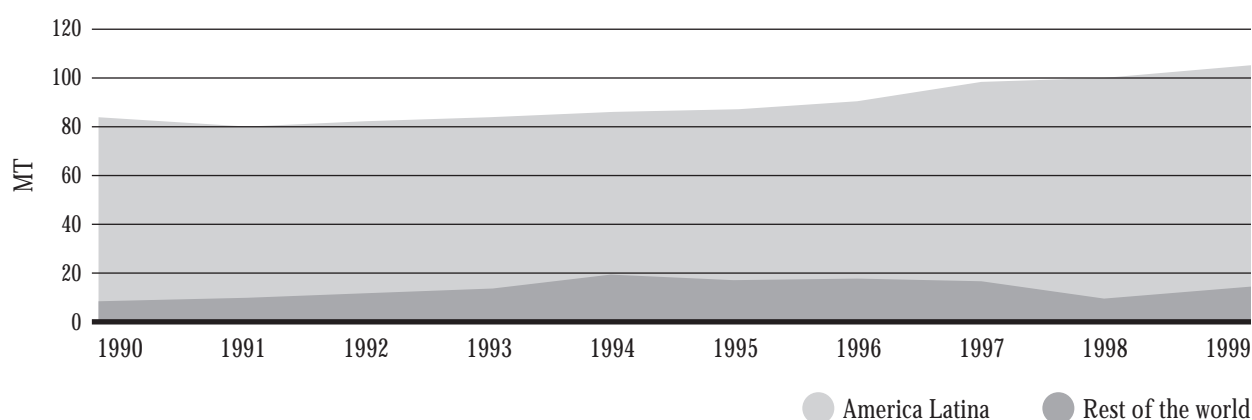
Women are more involved in seafood processing, marketing, and aquaculture, compared to capture fisheries. They also work at the artisanal level, frequently without any remuneration. However, women are gradually occupying spaces and roles that were historically occupied by men.

Introduction

Fish is the world's largest wild food harvest and provides a vital source of protein as well as cash income for many families in the developing world. An estimate of 120 million people throughout the world depend on fish for all or part of their income.

With a total coastline of over 30,000 km and the biggest world reserve of fresh water, Latin America is responsible for 25% of world fisheries production. The production potential of the continent however is still far from being fully exploited (Fig. 1).

Fig. 1. Latin America production versus rest of the world production



A major part of the processed products is exported. As the largest markets for seafood are the European Union, the United States of America and Japan, there is a strong demand for increased quality in seafood processing, particularly through the adoption of the HACCP quality control method. In Figures 2 and 3, the breakdown and percentages of Latin America's exports and imports of fishery products are presented.

Fig 2. Exports of fish and fishery products

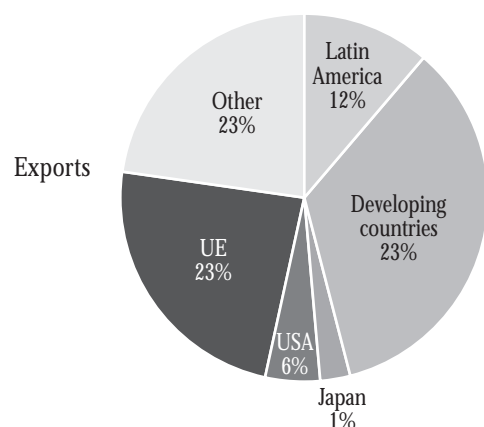
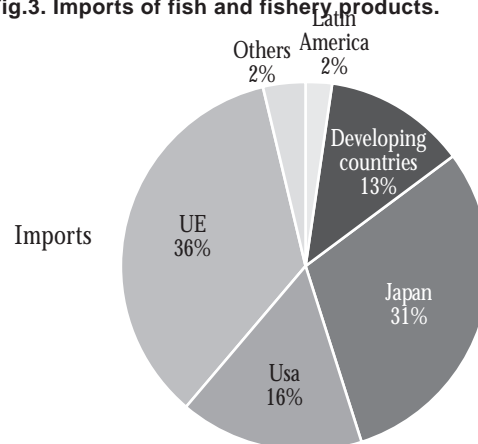


Fig.3. Imports of fish and fishery products.



Women's Role in Fisheries in Latin America

In the last 20 years, the issue of women in fisheries has become increasingly important, particularly following the first three World Conferences on Women; the International Women's Year, Mexico City, Mexico, 1975; Copenhagen, Denmark, 1980; and Nairobi, Kenya, 1985. The Fourth World Conference on Women (FWCW) held in Beijing in 1995 and the World Food Summit, in Rome in 1996 created greater awareness of women's issues. The Beijing FWCW highlighted the need to promote the status of women, and to implement gender-sensitive economic policies and programmes targeting poor women. The World Food Summit stressed the central role of women in food security, and the need to ensure their rights to productive resources and equal opportunities.

In general, the role of women in the fishery sector is perceived to be one in which they wait passively for their husbands to return from the sea after their working days. In fact, women play an active role in all levels of the fishery productive chain—from catches, seeding and harvest in aquaculture, to processing and marketing.

Women also work in private and public organizations, carrying out activities like inspection, quality control, reporting of statistical data, teaching, and conducting research.

Some of the obstacles to the participation of women in fisheries stem from social taboos and myths which state that women bring bad luck, or the fact that women are physically less strong than men. As a consequence, women generally earn a lower income than men for the same job. They also face difficulties in obtaining loans from financial institutions. In addition, training and extension programs generally tend to focus on the needs and interests of men.

Women's involvement in fisheries is only now being recognized. Most Latin American countries do not have adequate data and information about the situation of women in fisheries. There is some information about women's role in the sector and their life conditions, but there is insufficient data about their participation, needs and expectations in the sector.

Due to the above situation, the work of INFOPESCA aims to ensure that women's role is fully recognised in the Latin American fishery sector so that support is provided for women's activities, economic and

human needs. For this purpose the Network of Latin American Women of the Fishery Sector was formed and promoted.

Currently, the network has more than 300 members from 20 countries, including countries of other regions like Spain and Mozambique.

The objectives of the network are

1. to identify the need of women in fisheries;
2. to provide information and training that facilitates the participation of women in the sectors (new available technologies, sanitation aspects, research and advances in the sector);
3. to detect, support and guide cooperation sources (financing sources);
4. to congregate, support, and provide incentives for the creation of local networks which will work directly and in collaboration with the Network.

The First Meeting of Focal Points of The Network of Latin American Women of the Fishery Sector was held from 5 to 6 October 2000 in Montevideo, Uruguay. The event was jointly organized by INFOPECA and FAO, with the main purpose of analyzing the situation of Latin American women and their role in the fishery sector.

Twenty-eight persons from ten countries of the region participated in this event: Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Peru, Dominican Republic, Uruguay and Venezuela.

Each focal point was requested to prepare a report with the following information:

- Statistical data available: Total of workers in the sector disaggregated by sex, type of task (aquaculture, fisheries), and age;
- Type of activities that women carry out in the local fisheries;
- The main problems women in this sector face: sanitary, economic, social, training etc;
- Evaluation of strengths and weaknesses;
- Organizations with aid programs for gender and fishery;
- Activities carried out in the national fishery sector;
- Projects on gender (not only fish) in the industrial and rural areas;
- The needs of women in the fishery sector.

Main Activities

The main activities women in Latin America are involved in include:

Fish factory work: In processing companies, women are involved in filleting, selection of raw materials, classification of species, gutting, heading, labeling, packing and cleaning in general. These are all activities that require meticulous revision and are handled by smaller hands. In some cases, companies that do not work all year round keep the most efficient women for the tasks of cleaning and maintenance. When the season restarts, these women are dedicated to supervising and training new fish workers.

Self-employed work: The self-employed workers are women bound directly (fish factory workers) or indirectly (fishers' wives/daughters/sisters) to the fishery sector. They try to vary their products by preparing and selling preserved fish paste and cakes, dried, salted or smoked fish. This is a growing sector due to high unemployment in many countries. It is a heterogeneous sector that employs women from different groups within the sector and also from other social sectors.

Artisanal fishery: A woman linked to an artisanal fishing community is generally the wife of a small-scale fisher and she plays a relatively passive role. She is involved in performing skilled and time-consuming jobs on-shore, such as net making and mending, catch, processing and marketing. Frequently, she and her children wade and glean the shores for shellfish, and they also collect seaweed. The nature of her work is seasonal. Her work is near her family and home but far away from urban centers. Her work is passed on to future generations of women.

Artisanal fishers have low economic and educational level. They learn their job through family tradition. They begin to work between the ages of 13-15 years, and many of them abandon school to contribute to the family income. They do not have a sense of ownership, nor a culture of saving. When they return home, they take rest or have a good time, while the women prepare the fishery products for sale on the beach, at the markets or to wholesalers.

These working conditions imply a high level of daily commitment. It should be highlighted that artisanal fishery involves daily work throughout the year, which shows the importance of women's contribution in the organization of the family.

Aquaculture: The main activities of women in small-scale aquaculture are feeding, harvesting and processing. They also sell fish products.

Fishing: Women do not go fishing at sea. It is however common and less dangerous to see them engaged in inland fishing (lagoons, rivers), where they use small boats and canoes.

Marketing of fish and fishery products: At the landing sites, there is an increasing trend in women selling their own catch (if they are working independently) or the catch of their husbands. Many women sell fishery products in markets and supermarkets.

Quality assurance: Approximately 75% of the technicians involved in quality assurance are women. The main professions involved in quality control are veterinarians, biologists, chemists and fishing engineers.

Fish and fishery products inspection: Twenty percent of the fish inspectors are women (veterinarians in general).

Research and development of new products: Fifty-five percent of the researchers are women. They are generally biologists, veterinarians, chemists, engineers and economists.

Management and administrative activities: At present, there is a general tendency for women to work in different fields in the public and private sectors. There are numerous women working as managers, executives and directors.

The fact that women carry out productive activities besides household activities, allows them to obtain economic revenues and to contribute to improving their families' quality of life.

Groups of Social Contention

Most of the women in fishing communities do not belong to any social group eg. church or sport clubs, because they do not have the time. In some Latin American countries, the proliferation of Christian groups and the action of the Catholic Church have helped to reduce levels of alcoholism and drug addiction. However, these problems still occur due to the low educational level, the early initiation into active sexual life, and women's traditional tolerance of their husbands' polygamous relationships.

Organizations with Gender Programs

Generally, organizations that run gender programs in Latin America are not involved in the issue of women in fisheries. These groups are involved in the areas of training, sanitation, and health, especially in the area of birth control.

Strengths and Weaknesses

Women are often recognized for their multi-tasking roles. Women play the roles of workers as well as housewives. This means that they have to assume responsibilities both for their households and work places. They have to look for ways to satisfy the needs of their children and other members of their families. This condition makes women very receptive to training activities.

Strengths

- Women are not only associated with assistance programs, they participate actively in fishing and aquaculture.
- Women are skilled in tasks like handling and packing of fishery products.
- Women are capable in work like quality assurance, and the development of new products.

Weaknesses

- Discrimination against women in some Latin American countries undermines the roles women play.
- Despite the existence of women-friendly laws and policies, women remain discriminated against as the levels of awareness of these laws and policies are low. Women still lack access to information on health and reproductive health resulting in unstable relationships, unwanted pregnancies, etc.

Needs

Latin American women's training needs include

- Technical aspects: technology, manipulation, preservation, quality control and marketing.
- Social aspects: legislation, reproductive health, family planning.
- Micro-enterprise aspects: Creation and management of small companies and cooperatives.

Women are currently being trained more as fish plant workers. This situation is due to the execution and implementation of international sanitary regulations, as described under the HACCP. A high percentage of women have expectations to be trained to improve their participation in fishery activities, in order to earn a better income. Other needs of Latin American women include childcare and caring for older members of the family when they are outside the home.

Problems

Women who work in fish plants experience occupational health problems, related to humidity, colds, and standing for long periods of time while doing repetitive operations. It should be noted that such occupational health hazards of the fishery industry also affect women who work in other manufacturing sectors. Men in this sector are equally affected.

At the artisanal level, women are not remunerated for the work that they do as women's work in this sector is considered as marginal to that of their husband's. This pushes women out of the social security system.

Conclusions

Latin American governments are not sufficiently aware of the problems women face in the fisheries sector. Consequently, they have not invested enough human nor financial resources to assist in meeting women's needs. In cases where there has been some investment, it has been inadequate.

With a few exceptions, there is generally a lack of data on women in fisheries in most Latin American countries. There is some information about women's role in the sector, their psychological profile and their life conditions, but there is insufficient data about women's participation, their needs, and expectations in the sector.

Besides domestic work, women have been involved in fishing and aquaculture activities based on family tradition. Their access to training activities in the technical aspects, microenterprises and community organization is limited, even in countries with experience in this area.

Latin American women are predominantly involved in seafood processing, seafood marketing, and aquaculture; while minimally involved in capture fisheries. They also work at the artisanal level (frequently without any remuneration) as well as at the industrial level. Gradually, women are occupying spaces and roles that were historically occupied by men.

In most countries, women in fisheries or aquaculture communities lack access to credit or co-financing systems for running their activities.

Recommendations

The actions recommended by the Network to Latin American governments are the following:

1. To prepare an integrated study on women's needs in fisheries from technical, socioeconomic and microenterprise aspects. This study should include qualitative and quantitative data for the purpose of defining the action fronts and the priorities of the countries.
2. To formulate a medium term action plan to execute work directed at improving working conditions, diversification possibilities and life conditions of women in the fishery sector.
3. To undertake training activities for small-scale fisherwomen, aquaculturists, plant workers and wives of fishers on specific areas for the improvement of their capacity.
4. To identify and promote credit lines and other loan systems and to target these at poor women involved in fisheries.

As actions and self-commitment for the Network, the participants recommended:

1. A consolidation of the local networks through focal points in each country.
2. The sharing of the activities and work already prepared for this First Latin American Meeting of Focal Points, as well as other information useful to the network.
3. The establishment of a permanent communication system among the members of the Network through electronic mail, and to encourage the active participation of all members.
4. The collection of data on the situation of women in fisheries and the socioeconomic analysis of the countries in the region.
5. The lobbying of interest and commitment from national governments of the region for women in the fisheries.
6. The collection of publications, existing legislations, photographs and any other documents regarding Latin American women in general, and women of the fisheries sector in particular, in order to build up an information base for the network.

Bibliography

Informe final de la Primera Reunion de Puntos Focales de la Red Latinoamericana de las mujeres del sector pesquero - acuicola.
5-6 de octubre del 2000, Montevideo, Uruguay.



NORTH AMERICA

PERSPECTIVES ON WOMEN IN FISHERIES IN NORTH AMERICA

L.A. Howell
Spinney Creek Shellfish, Inc.

Abstract

Women in the fisheries in the United States have varied roles. They range from the most traditional - that of a fisherman's wife and support-partner in his business - to that of scientists and researchers in fisheries-related agencies. As wives, women are expected to be very flexible - strong, resourceful heads-of-household while the husband is at sea - and that of a partner or wife when he returns home. Women researchers and advocates are respected but it is more difficult for a woman representing private interests to gain respect; the government researcher has the benefit of a mantle of government credibility.

This paper looks at various roles women in North America play in the fisheries sector. It is based on personal interviews and observations with various men and women in the fisheries-related industry. Although progress has been made over the past 20 years in terms of improving women's role and status in various occupations, much needs to be done for gender equality in the fisheries.

Women in Fisheries in North America

Women play many roles in the fisheries in the United States. The most traditional is that of a fisherman's wife. In most of the U.S., the role a fisherman's wife plays, particularly for a captain or owner's wife, is that of a partner in a business, with a very defined role. She serves as a shore captain handling the administrative tasks that allow the boat to fish. In recent years, this role has come to include fisheries management and advocacy. Women are on shore when the regulatory hearings are held. The husbands are unable to attend as they are so often at sea. In addition, since it is the women who typically run the finances, they tend to be highly sensitive to issues that will impact income.

A common difficulty for the wives is loneliness. Women who were not born into fishing families must adapt to a fishing life. Often this involves finding their own identity; often through obtaining fishing-related jobs.

Wives must be very flexible. They are expected to be strong, resourceful heads-of-household while the husband is at sea, and yet when he returns they must change their colors to be one of a partnership, and sometimes to a subservient role. This is difficult for some. The fishing family wives are serious while the husbands are at sea; yet when they return, their husbands are often ready for late nights and celebrations. The adage "work hard, play hard" is very appropriate. The women are responsible for financial management and the sudden free spending when the spouses are in port is difficult. Does she let it go unhindered, knowing that they cannot afford it? Or does she attempt to reign in the spending in the hope of staying on budget. How she decides to play her role during these times has interpersonal ramifications.

Even in those fishing families who do not own boats, the women are very informed about fishing regulations. They are knowledgeable about the impact of changes in regulations. Many fishing wives become advocates for fishing. Sometimes this is an informal role, making sure to tell the fishing family

story to those they encounter or by attending hearings and meetings; or through formal compensated positions.

Women work in many support roles to those who are on the water catching fish. They work as dockworkers, ferry deck hands, biologists, regulators, fish sellers, fish buyers, accountants and trade association heads. All seem to feel a connectedness to the sea and to other fishing families and express a strong sense of community. Women who work on the waterfront as deck hands or in other support roles feel that they are a small part of the fishing community. Those who are on the water often express a special bond that comes from working on the water.

Michelle is a deck hand for a ferry company. She remarks on the strong fishing community. She says, "It's like we ferry workers are a little piece of that. There's a bond that develops as a result of working on the water. There is a constant level of danger. Fishermen tend to defend each other."

Fishing wives are multi-talented. The ability to do many things often involves a critical role in the business.

Terrie was the first woman to act as a seller's representative at the Portland Fish Exchange. She attended the fish auction with her husband. She had never been there before and stood back watching and observing the techniques the first few sellers used to get a higher price. When it was time for her husband to sell his fish, she was dismayed when he simply accepted the price offered, and did not hold out or argue for a higher price. When she, the one responsible for paying bills at home and putting meals on the table, commented on this, her husband's response was, "If you think you can do it better, go ahead." She did. She took over the role of selling the fish each time the boat returned. Soon others realized that they too could improve the income to their families, and did similarly. She eventually represented some 35 boats. It became a woman's job. Some referred to part of Portland's wharf as "Portland's Petticoat Lane" because all the businesses were run by women. She said, "Once I got into the seller's rep business, other wives got into it too. And why not? We always took care of the money. We could stretch a penny. It's been that way with fishermen's wives forever."

This was a natural feat. They often are in families with unsteady income and long droughts between paychecks. They have survival skills. The husbands had typically returned cold, tired, and hungry from a long trip at sea. They naturally were pulled to get home and not waste time at the auction. On the other hand, the women who eventually earned a large presence in this part of the fishery came in fresh ready for the job. Again, this started as survival. How to "stretch a penny." Now, it is a respected job in which one expects to find many women.

Most take pride in their cooking. When their husbands return home from sea, having been cold for long periods, good hot food is a must. They are proud that they can make a nourishing meal from nothing - "stretching a penny" as Terrie explained.

There are a number of fishers' wives associations. The activities they undertake, and the role they play varies from port to port.

One woman, a boat owner with her husband, said she had belonged and served as an officer. She stated that she was glad for her involvement; that they had done many good things, but that, like the fishing industry, the association and its pressing issues had become all-consuming. The commitment in a fishing family is total, and that this was as well. She said, "fishing, or being married to a fisherman—it's a hard life. Don't go into it unless you can be totally committed to it. It takes up all your time one way or the other. It becomes your life."

There are variations in the roles women play in fisheries. For example, the women of both New Bedford and Gloucester, Massachusetts, are both involved in various aspects of the fishing industry. However,

while the women of Gloucester work outside their homes in a variety of jobs, they also tend to be very involved in their family businesses. Like wives in fishing communities around the world, Gloucester women have historically been the keepers of the financial records. In contrast, New Bedford financial service companies, known as settlement houses, have traditionally been used by the majority of the fleet for their bookkeeping. Several settlement houses are owned or operated by women, but the services are on a fee for service basis rather than regarded as a family responsibility.

Pride as a Common Characteristic

Women in fisheries, and particularly fishers' wives are proud. Conversations with them invariably lead to comments about certain traits they are proud of.

Susan and her husband owned a boat and it sunk in the harbor. The harbormaster was going to fine them \$100 a day until it was removed. They had no money to have it removed. The alternative was to let go of the boat and have the state pay for it. Susan had too much pride to do this. Somehow the newspaper reporter interviewed Susan about their dilemma. And after the large amount of interest in the story, Susan held a silent auction to raise money to remove the boat. She received donations of goods and services and people bid on these items, all to support her removal of the boat from the bottom. Her husband was disappointed because it pointed out in a very public way that they were unable to afford to take care of their responsibilities. He did not want the help. They both took great pride in their business but had different reactions to the problem. Susan easily raised enough money to remove the boat. Afterward she realized that she could advocate; that she had strengths she did not know about.

All of the fishers' wives or significant others took great pride in their ability to make a hearty meal with few ingredients and were proud that they managed to keep food on the table and that their children "did not want for anything."

Paths to Involvement in Fisheries

Women who work on the water get there by a variety of routes, most looking for the higher pay of working on the water than is available in many shore side positions. A few obtain their positions as a summer, temporary job; some inherit boats from their fathers. Others have chosen to go to sea to supplement income.

Jane is a 62-year-old lobsterman. She had worked on the water with her father during summers and full time for a few years. Years later she married a lobsterman, and sometimes worked as his sternman. When the regulations changed to limiting the number of traps that he could fish, they obtained a second boat and she has been fishing the additional traps. It was a way to bolster family income. She loves the water and remarks on the peacefulness of it.

Judy was a business consultant working for a moderate sized firm. Her firm transferred her to work in a fishing-related business. She worked in New York's infamous Fulton Market many years ago, long before it was acceptable for women to work there. She does not feel that she was discriminated against in this business. Before starting work in the "The Market" she had decided to treat others with special respect, inquiring about their families as she came to know them. As a result, she feels that they cheated her the same amount that they would cheat anyone else. Her comment, "That's equality, I guess." After being a buyer she moved on to being a management consultant in seafood. She knew her material and no one ever doubted her abilities. She feels that had she not "earned her stars" (paid her dues)

that she would have had a harder time gaining credibility. She states that she did not allow her female presence to close doors. She believes it opened doors for her, and she made sure that no one had reason to treat her differently.

Margaret is the co-owner of a boat with her husband. She has sold fish on the Boston pier when women were an uncommon presence. Now, in addition to her fiscal and administrative responsibilities for the boat, she serves as a lobbyist for a number of ground fish group. She says of her days on the fish pier, "I think the men tried to take advantage of me-but not to any greater extent than anyone else. I received the same foul language as everyone else."

Has There Been Progress in Women's Involvement in Fisheries?

The chief U.S. national marine fisheries agency, the National Marine Fisheries Service, has many women scientists and researchers. Today, there are women who serve as deputy directors of several of the regional offices distributed throughout the country. Women are increasingly present in greater numbers than 20 years ago.

The Boston International Seafood Show is the major seafood show in North America. Twenty years ago the only women who were at the show were dressed in revealing clothing handing out drinks to lure the male buyers into their sales booth. Although these women are still fixtures at the show, their clothing is not quite as revealing, and we now find women in the back of most of the vendor booths as well as in front doing the buying. Notably, women are not just at the consumer-oriented booths selling sauces and prepared food products, they are also knowledgeably selling diesel engines, refrigerated trucks, drive trains, propellers and fishing gear.

Is Physical Safety a Concern for Women in Fisheries?

Our lobbyist, boat co-owner notes that on occasion she has received some threats following a particularly heated meeting, but that nothing has ever come of those threats. She also remarks on the kindness of some others-that on a few occasions someone has come up to her following one of those heated meetings and quietly indicated that he would walk her to her car that day. This has never offended her, nor does she expect this treatment. Most of the women I spoke with indicated that on a few occasions there were instances when they were somewhat uncomfortable for their safety. All indicated that they did not dwell on these issues. None reported untoward harassment.

Why are there so Few Women on the Water?

One person I spoke with indicated that in all likelihood less than one percent of those fishing on the water are women. Several individuals indicated that the physical demands of the job make it unattractive. Particularly now that most trips are made in poor weather when the price is high. This is not inviting to women-or to most men. Many of the individuals I interviewed indicated that women were entirely capable of meeting the physical demands of the job, but that few want to.

Women who do work on the water tend to work in the smaller boat, inshore fisheries. Often women who are at sea tend to work with their husbands, boyfriends or fathers. I heard the tale of a young woman who worked as a sternman for her father for a number of years. She came ashore only when it became increasingly difficult for her to find child-care for her young daughter so early in the mornings.

On the West Coast of the United States there are some differences. As in the east, the smaller boats are family businesses, but here women tend to be more involved with the fishing side of the family fishing business.

A family of four walks down the fish pier. Mom, Dad, two kids and the dog. Dad is carrying a sea bag. He kisses his wife, he's about to go to sea. Or is he? At the last minute he tosses the bag to his wife and the kids call out "catch lots of fish Mom."

There are not many women crew at sea on boats to which they have no family connection.

I interviewed a West Coast research biologist who spends time at sea. She indicated that while there are not abundant numbers of women at sea, that there are positions available. One East Coast individual stated that the significant competition for positions on fishing boats might be one reason there are scant numbers of women on the water. Reasons for the competition include the recent prosperity of fishing, leading more to want to be involved; contraction of the industry under government effort to reduce the size of the fleets, and the higher debt load on boats, which often causes boats to sail with a short crew to maximize profits for each crew member.

Although there are greater numbers of women in the recreational fisheries, the majority are men. A slightly greater percentage of aquaculture workers are women, although the numbers are still quite small. To be respected, women aquaculturists need to "keep their noses clean" and prove themselves more so than a male would need to do. This is according to a seasoned female resource conservation and enforcement officer.

Many on the water state that they feel equal to the men with whom they work. They also state that the men see them as equals.

Do Women in Fisheries Feel that they are Respected?

Our lobbyist, Margaret, feels that her opinions are welcome and respected at policy meetings. A fishing newspaper editor whom I interviewed indicated that she felt that women researchers and advocates were respected. However, she indicated that it was harder for a woman representing private interests to gain respect. The government researcher has the benefit of a mantle of government credibility. Private individuals do not have this entrée of credibility, meaning that these women have to prove themselves before gaining respect. She feels that they have to prove themselves often in ways that men would not have to.

Our conservation officer feels that while her opinions were respected, she felt that she would have received additional respect had the same opinion been voiced by a male.

Many who have worked in fisheries state that there is a real understated importance of the roles that women play in fisheries. The administrative duties done by women, typically wives, are absolutely critical to the fishing industry.

Equality

Most individuals interviewed stated that from their own personal observations that there is not yet gender equality in the fisheries. However, all indicated that progress has been made over the past 20 years. Equality has not come as far as it needs to.

Louise is a fish buyer with more than twenty years experience at a major seafood house. Her hours are long and the phone rings constantly calling for instant buying decisions. She travels occasionally to meet with suppliers and to attend conferences and trade shows. She indicated that on several occasions she has been asked not to attend out of town conferences because the other person attending from the same firm was a male and her attendance would have required payment for an additional hotel room. She states that she has had to scratch for everything she has; something that she does not see with the men coming up through the ranks. Her comment-"working harder than the men wears on me, I'm tired."

Conclusions

Although they are not often on the water, the role women play in a family fishing business is necessary and critical to the success of the business. The traditional husband and wife roles: him on the water, her on the shore, are both crucial to the success of the family business.

Most individuals interviewed wondered if the level of equality in fisheries was not too much different than other business sectors. Several expressed the sentiment that the level of equality or inequality in the fisheries reflects the society in which we live.

Acknowledgements

In the course of preparing this presentation, a literature review was done. The scant literature led me to conduct interviews with more than two dozen individuals in the fisheries sector. I was fortunate to be referred to Ms. Shelley Berc, of Creativity Workshops, who is writing a play about women in fisheries. I am deeply indebted to Ms. Berc for sharing information she gathered during her ongoing research. Her play will be staged in Portland, Maine, in the spring of 2002. Most individuals who were interviewed by me as well as by Ms. Berc requested that their identity not be disclosed. So that the reader can understand the positions held and experience of the interviewees I have categorized those interviewed. Individuals interviewed by me or Ms. Berc included:

Fisher's wife; seller's rep
Ferry Deck Hand
Captain's Wives (3)
Captain's young daughter (2)
Shellfish Biologist
Fisherman's wife
Lobsterman (female)
Fishing Trade Association Executive Directors (2)
Coastal Development Corporation head
Fish Buyer, major seafood distributor
Fisheries Advocate (2)
Government Fisheries program head
Ground fish boat co-owner, fisheries advocate
University Anthropologist
University Biologist (2)
Fishing Newspaper editor (2)
Enforcement officer
Boat Owner
Fishing Gear salesperson

Ms. Ramona Connelly assisted with the literature review.

References

- Cole, S. 1988. The sexual division of labor and social change in a Portuguese fishery, p. 169-189. *In* J. Nadel-Klein and D. L. Davis (eds.) *To work and to teep: Women in fishing economics*, Newfoundland social and economics papers/18, St John's NF: Memorial University of Newfoundland Institute of Social and Economic Research.
- Hall-Arber, M. 1996. Hear me speak: Italian and Portuguese women facing fisheries management. *Anthropologica* XXXVII :221-248.



EUROPE

WOMEN IN FISHERIES IN THE EUROPEAN UNION

K. Rana

University of Sterling, Scotland, United Kingdom

P.-S. Choo

ICLARM- The World Fish Center, Malaysia

Abstract

Women in Europe were known to have participated actively in the fishing sector since the 19th Century. Statistics collected from the European Union showed that women participate actively in fish processing activities, followed by marine aquaculture, marine fishing and inland aquaculture. Even in the European Union, where women have greater basic human rights than their counterparts from developing countries, the former to a large extent still play an invisible and subservient role and are largely excluded in fisheries management systems.

Introduction

The subordinate status of women in the western world originated from the Greek and Roman civilizations when women were relegated to roles in the home and were responsible for child-bearing, while men took over public responsibilities (Rodda 1993). It was not until the 19th century that women took active actions against their subservient status and sought fairer treatment through women's movements. Women in Europe were known to have participated actively in the fishing sector as far back as the 19th century. They worked in the fish processing factories, and during the peak of the herring industry provided the much-needed labor. Apart from processing, women were known to work also as fishmongers. However, women's role in the fishing industry apparently has not changed much with time and till today their presence is still felt predominantly in these two areas. An attempt is made here to provide some statistics on women in fisheries and to highlight some gender issues in some European Union (EU) countries.

Women participation in fisheries

Statistics from the EU showed that of the various fishing sectors, participation of women (in terms of number) was greatest in fish processing followed by marine aquaculture, marine fishing and inland aquaculture, with no women involved in inland fishing (see Table 1).

Table 1: Participation of women in the various fishing sectors in the EU.

Sector	Total no. of fishers	Total no. of women	% women
Marine fishing	214,000	12,840	6
Fish processing	89,500	52,805	59
Marine aquaculture	50,300	14,084	28
Inland aquaculture	11,500	1,725	15
Inland fishing	9,500	0	0
Others	112,000	0	0
Total	486,800	81,454	16.7

Statistics collected in 1997 from the fish processing industry in various EU countries showed that Italy has the highest percentage of women workers (87%) followed by Portugal (75%), France (68%), Germany (55%) and Sweden (52%), while the United Kingdom (51%), Belgium (55%), Spain (55%), Netherlands (61%) and Greece (68%) have a higher percentage of men than women involved in this sector. A survey carried out on women in five EU countries that are involved in marine aquaculture showed that Greece has the highest percentage of females (50%) in the mariculture industry, followed by Finland (30%), France (23%), United Kingdom (15%) and Spain (7%). In the academic field, a study carried out in the Institute of Aquaculture in Stirling, Scotland showed that more than 80% of the professional staff are men, while women dominate in the technical and administrative fields.

Gender Issues

A few surveys carried out in the EU on women and fisheries indicate that inequality between men and women is still rife. Men dominate the EU Consultative Committee on Fisheries and Aquaculture, which comprises a group of mainly big fishing industries (Gorez 2000). In spite of their involvement in the fisheries sector, women of fishing families in the Netherlands are not members of fishers' organizations mainly because membership is based on boat ownership and it is primarily the men who own the fishing boats (Quist 2000). A survey (quoted from Quist 2000) carried out in 1999 by the Research Department of the Ministry of Agriculture and Fishery in the Netherlands indicated that:

- Although women participate actively in activities (administration, book-keeping, accounts, auctions) related to the fisheries sector, only a few are involved with actual fishing;
- About 60% of the women are involved in decision-making regarding investments, finances and labor for the fishing enterprise;
- Despite their participation, women do not receive a salary nor are they insured;
- Although many women have interests in fisheries policies, only a few women have accompanied their husbands to meetings in fishers' organizations;
- All the women interviewed agreed that it is not easy for a woman to enter fishers' organizations since they are seen as predominately controlled by men, and their husbands did not like them to be present in the meetings.

Subsequent to this survey, women were invited to meetings called by fishers' organizations. They have since contributed actively to the meetings and there is unanimous agreement to conduct a study on the role of women in fisheries.

A study carried out in Northern Europe described by Jentoft (1999) on the role of women in fishing communities under pressure showed that during times of crisis, women's roles were not restricted to the household and their husband's fishing enterprise. They also took on a role in the community, keeping it together and maintaining the spirit and life's meaning during the difficult times. Despite their contribution to the fisheries sector, women's issues, interests and knowledge are disregarded in fisheries management systems; Jentoft attributed the cause to the absence of women in management who have no one to raise issues specific to them.

Conclusion

Even in the EU where women have greater basic human rights than their counterparts from developing countries, the former to a large extent still play an invisible and subservient role and are largely excluded in fisheries management systems. To ensure sustainability of development projects and fairness to women, more recognition should be given to them for their role and contribution to the fisheries sector.

References

- Gorez, B. 2000. A first step on the road to Damascus. p. 8-9. Yemaya: ICSF's Newsletter on Gender and Fisheries, August 2000.
- Jentoft, S. 1999. Beyond the veil. Samudra 1999. International Collective in Support of Fishworkers (ICSF).
- Quist, C. 2000. Vocal, independent, but still invisible. p. 9-11. Yemaya: ICSF's Newsletter on Gender and Fisheries, August 2000.
- Rodda, A. 1993. Women and the Environment (First reprint). Zed Books Ltd. London and New Jersey. 180p.



APPENDIX

APPENDIX 1: PROGRAM

SPECIAL SESSION Global Symposium on Women in Fisheries

Chair: M. J Williams (Australia)

Co-chair: N.H. Chao (Taiwan)

- 10:00-10:30 Opening Ceremonies (Nai-Hsien Chao)
Welcome Remarks I Chiu Liao
- 10:30-10:50 Women in fisheries in Asia
Siason, I.M.* (Philippines), Matics, K.I., Shariff, M., Choo, P.S., Miki, N., Chao, N.H., Tech, E.,
Sundararajan, M., Begum Shelly, A., Rajbhanshi, K.G., Siriwardena, S., Nandeesha, M.C.
- 10:50-11:10 Women do fish: conceptual and empirical issues
Williams, S.* (Nigeria)
- 11:10-11:30 Women in fisheries in Latin America
Pereira, G.* (Uruguay)
- 11:30-11:50 Women in fisheries in North America
Howell, L.* (USA)
- 11:50-12:10 A review of women's involvement in fisheries activities in Oceania
Lambeth, L.* (New Caledonia), Rochers, K.D., Tuara, P., Vunisea, A., Fay-sauni, L., Hanchard, B.,
Aslin, H., Baker, V.
- 12:10-12:30 Role of women in fisheries in the UK and Europe
Rana, K.* (Scotland)
- 12:30-13:15 Lunch Break

Chair: I.M. Siason (Philippines)

Co-chair: M.C. Nandeesha (India)

Contributed Papers

- 13:15-13:30 Women involvement in aquaculture in Bangladesh
Begum, A. * (Bangladesh), D' Costa, M.
- 13:30-13:45 Alternative livelihoods in a coastal village
Asong, R. H. * (Philippines), Mabunay, M.L., Aure, D., Seraspe, E., Braganza, R. Corda, D.E.
- 13:45-14:00 Responding to trend of globalization in fisheries: Assets of professional Taiwan women
Chao, N.H., Chang, C.F.*, Chang, E.Y. (Taiwan)
- 14:00-14:15 Working wives in Philippine coastal fisheries
Bañez-Sumagaysay, M.* (Philippines)
- 14:15-14:30 Women-led fisheries management - a case study from Bangladesh
Sultana, P.*, Ahmed, M., Thompson, P.M. (Bangladesh)
- 14:30-14:45 HIV/AIDS among fishermen: Vulnerability of their partners
Huang, M. (Malaysia)
- 14:45-15:00 Network for Women and Gender in Fisheries Development of the
Mekong Region and the Philippines
Poeu, O.* (Cambodia), Matics, K.I., Siason, I.M.
- 15:00-15:15 From women in fisheries to gender and fisheries
Williams, M.J.* (Australia)
- 15:15-15:45 D I S C U S S I O N
- 15:45-16:00 Coffee Break
- 16:00-16:30 Impact Assessment and Recapitulation
M.C. Nandeesha* (India), Tech, E.

Master of Ceremonies
Mohamed Shariff

APPENDIX 2: PRESS RELEASE

Where are the Women in Fisheries?

"Global attention is finally being turned on to the substantial contributions that women make to world fisheries", said Meryl Williams, Director General of the World Fish Center at a recent symposium. "But we now discover that we have only sketchy knowledge of these contributions in most countries. The macho image of the sector has kept it out of the view of most general women's development programs and has also acted against an internal examination by the sector. The tide is now turning on this neglect of the gender dimensions of the fisheries sector."

In the supermarkets and restaurants of north America and Europe, fish and shellfish have become fashionable, especially for the health conscious. Few consumers stop to reflect that fish and other living aquatic resources are the world's largest remaining food harvest from the wild nor do they stop to think where the seafood they eat comes from. These days, more and more fish comes from aquaculture - the fastest growing food production sector. For most people in the Asia-Pacific and much of African and Latin America, fish is not for fashion but is tradition and life. The greater part of the world's fish supply comes from these countries where much of it is harvested or grown by millions of small and very small scale producers. More than 120 million people depend on fisheries for all or part of their incomes and an estimated billion for their major source of animal protein.

Not surprisingly, women play a key role in getting fish to the table and their role is different depending on where and who they are. These roles are also changing rapidly. In many parts of Africa and Asia, women do much of the fishing in rivers, lakes and wetlands. In offshore and deep-sea fishing, women are mainly responsible for performing the skilled and time-consuming jobs that take place on-shore, such as net making and mending, processing the catch and marketing it. Women have also assumed a leading role in the rapid growth of aquaculture. In places such as the USA, Taiwan, Thailand and Vietnam, they have become important fish entrepreneurs. Women are also actively involved in the processing of fish, whether this is done in the home on a small scale or on an export factory line. In the US and Canada, the wives and family of fishermen often take the responsibility for ensuring that all the necessary licences and regulations are followed up and they are becoming the industry advocates in fisheries management debates. All over the world, the number of women scientists and educators is on the rise in fisheries.

Despite the trendy image of fish and seafood, many fishing families in developing countries are mired in poverty and the solutions to getting people out of their poverty will have to involve the whole family, especially women and youths. Yet, most women in fisheries lack access to physical and capital resources, a voice in decision-making and access to leadership positions, training and formal education. What challenges will globalisation and its attendant features - privatisation, cutbacks or removal of subsidies to the agricultural sector and public spending on social services, demands for higher product quality, greater international interaction, often conducted in English - present for small-scale fishers and women in particular. Can they cope?

The answer is only a 'maybe' so far, according to a recent gathering of experts on the topic - a global symposium, 'Women in Fisheries: Towards a Global Overview', held in Kaohsiung, Taiwan on 29 November 2001. The Symposium was part of the Sixth Asian Fisheries Forum, 25-29 November 2001. The Symposium heard papers from all regions of the globe, examined how women were faring in fisheries and identified research and development directions.

The Symposium concluded that, while considerable progress has been made in increasing recognition of gender inequality and the gender dimensions of poverty, women's economic advancement and rights in the fisheries sector have lagged behind those of other sectors. "Unlike plants, you cannot see fishes in the water or pond except during feeding time. So, perhaps we can begin "feeding the fish" here to make women in fisheries a more visible issue," said Dr Stella Williams, an economist from Obafemi

Awolowo University in Nigeria. Gender and women's programs rarely reached out to women in fisheries and the fisheries sector programs were slow to understand and improve the lot of women in that sector.

In developing countries, the work of women fishers remain mainly within the informal economy and/or subsistence economy, where they not only continue to receive low incomes and little job and social security but lack recognition and assistance. Many are confronted with a gender wage gap and lag behind men in access to income and services that would improve the efficiency, profitability and sustainability of their activities. If a fisheries activity is enlarged or mechanized, it often becomes the domain of men. Where women do work in the production sector, for example in the tuna processing plants in the Pacific, they do low paid production line work, said Lyn Lambeth, a Fisheries Officer of the Secretariat of the Pacific Community (SPC), New Caledonia.

Around the world, women along coasts and rivers traditionally catch fish with nets, traps, or by baiting or diving. In projects of the World Fish Center around the developing world, women have adopted such diverse roles as coral growers in Solomon Islands, fish farmers in Bangladesh, Malawi and Zambia, breeders of improved strains of fish in the Philippines and natural resource managers.

Speakers at the Symposium also reported on the increasingly significant role women play in the field of aquaculture. According to Dr Ida Siason, Vice Chancellor of the University of the Philippines in the Visayas, "in Southeast Asia, women have made some headway as fish farmers." In Africa, according to Stella Williams, however, "there is a predominant gender imbalance in fish farming in fishing and farming communities. In most cases men are the owners of the ponds while women and children manage these ponds."

Some national and regional progress on addressing women's and gender issues in the sector is demonstrated by the initiation over the last 5 years of expert networks in Cambodia, Laos, Thailand, Vietnam, Philippines and Latin America.

The Symposium concluded that, while considerable progress has been made in increasing recognition of gender inequality and the gender dimensions of poverty, women's economic advancement and rights in the fisheries sector have lagged behind those of other sectors. "Unlike plants, you cannot see fishes in the water or pond except during feeding time. So, perhaps we can begin "feeding the fish" here to make women in fisheries a more visible issue," said Dr Stella Williams, an economist from Obafemi Awolowo University in Nigeria. Gender and women's programs rarely reached out to women in fisheries and the fisheries sector programs were slow to understand and improve the lot of women in that sector.

In developing countries, the work of women fishers remain mainly within the informal economy and/or subsistence economy, where they not only continue to receive low incomes and little job and social security but lack recognition and assistance. Many are confronted with a gender wage gap and lag behind men in access to income and services that would improve the efficiency, profitability and sustainability of their activities. If a fisheries activity is enlarged or mechanized, it often becomes the domain of men. Where women do work in the production sector, for example in the tuna processing plants in the Pacific, they do low paid production line work, said Lyn Lambeth, a Fisheries Officer of the Secretariat of the Pacific Community (SPC), New Caledonia.

Around the world, women along coasts and rivers traditionally catch fish with nets, traps, or by baiting or diving. In projects of the World Fish Center around the developing world, women have adopted such diverse roles as coral growers in Solomon Islands, fish farmers in Bangladesh, Malawi and Zambia, breeders of improved strains of fish in the Philippines and natural resource managers.

Speakers at the Symposium also reported on the increasingly significant role women play in the field of aquaculture. According to Dr Ida Siason, Vice Chancellor of the University of the Philippines in the Visayas, "in Southeast Asia, women have made some headway as fish farmers." In Africa, according to Stella Williams, however, "there is a predominant gender imbalance in fish farming in fishing and farming communities. In most cases men are the owners of the ponds while women and children manage these ponds."

Some national and regional progress on addressing women's and gender issues in the sector is demonstrated by the initiation over the last 5 years of expert networks in Cambodia, Laos, Thailand, Vietnam, Philippines and Latin America.

The changes being wrought by globalisation presents new challenges for small-scale fishers, especially women but the gender impact of globalisation on women fishers has not been systematically documented and/or evaluated and the Symposium attendees felt that the issue warrants immediate attention. In Taiwan, for example, Drs Nai Hsien Chao and Dr Chang reported on studies that showed that most women worked in husband and wife enterprises with one or two helpers. These small family firms were not attractive to the next generation and were not able to find attract the assistance to upgrade their technologies to compete in open markets.

As women are mainly subsistence producers and users of environmental resources, it would be useful to recognise and integrate women's knowledge in the conservation and management of these resources to ensure their sustainability. This rarely happened, according to Dr Parvin Sultana of the World Fish Center. Her studies on community-based management of the beels (small seasonal, inland water bodies) in Bangladesh showed that attempts to empower women through women's only management regimes failed because little respect was given to women's management. "However," said Dr Sultana, "new committees involving men and women are having more success for beel management. The focus on women has also revealed that the snails traditionally harvested by the women and previously ignored in fisheries management, are declining and these resources need to be managed against overharvesting as well as the fish."

The health and safety of men and women in fishing communities are also urgent issues addressed by the Symposium. The HIV/AIDS pandemic does not discriminate. As of the end of 2000, there were a total of 36.1 million people living with HIV/AIDS in the world and in that year alone 5.3 million people were infected. Epidemiological studies on HIV/AIDS by occupation show that fishermen are among the group most prone to infection, probably due to the peculiarities of their jobs. Unsafe sex and unsafe seafaring have much in common - such as drug addiction, long periods away from home, visits to commercial sex workers and the hard work. Various studies have cited HIV prevalence levels among fishermen in Asia from 7% to as high as 15%. In Tanzania in Africa, fishers were 5 times more likely to die from AIDS as were agricultural workers.

The Symposium concluded that new knowledge must be gathered through gender-sensitive research to better understand the complexities of gender issues in the fisheries sector in order to develop appropriate actions, programmes and policies. A focus on women alone would not be sufficient. Along with the changes occurring in society, women's roles were changing in the sector and more should be done to ensure that women became more equal partners and productive participants in fisheries activities so as to improve their own and their family's nutritional and living standards. They should be given the opportunity to acquire appropriate technologies that will enable them to contribute effectively to sustained fisheries development and growth. It is therefore essential to increase women's participation and decision-making in fisheries development efforts as the survival and well-being of fishing communities depend on women's contribution in partnership with men.

In moving towards this, the symposium has proposed to set up an electronic network on gender and fisheries. In addition, formation of networks nationally and regionally was recognised as important and useful. Local resources available to set up such networks will be explored. ICLARM and AFS will publish the proceedings of the Global symposium in 2002 and disseminate the publication widely. Coinciding with the VII Asian Fisheries Forum, the Asian Fisheries Society has agreed to organize the Global Forum on Gender and Fisheries in April 2004 in Penang, Malaysia. For more information, please contact ICLARM-The World Fish Center or Asian Fisheries Society.

Index

A

- abalone 135
- abo* 99
- affirmative action 84, 87, 140
- Africa xi, 145-154, 155-168, 169-172
 - see also* Kenya, Lake Victoria, Sierra Leone, Tanzania
- Ahmed, M x
 - Women led fisheries management – a case study from Bangladesh* 89-9
- AIP *see* Aquaculture Interchange Program
- alatan* 99
- Albright, Madeline 17
- alimusan* 99
- alum-alum* 99
- American Samoa 129
- APEC 69
- APO *see* Asia Productivity Organization
- Aquaculture Asia* 8
- Aquaculture Interchange Program 69
- Argentina 177
- Asia Productivity Organization 69
- Asia Fisheries Society: vii-ix, 1, 3, 5, 7-12, 13-17, 29, 30, 37, 141, 201
 - 4th Asian Fisheries Forum [Beijing, China: 1995] 9, 56
 - 5th Asian Fisheries Forum [Chiang Mat, Thailand: 1998] v, 7, 56, 62
 - 6th Asian Fisheries Forum [Kaohsiung, Taiwan: November 25-30, 2001] 1, 5, 9, 74
 - 7th Asian Fisheries Forum [scheduled for Penang, Malaysia: April 2004] 10-11
 - 7th Council 10
 - 10th Anniversary Commemorative Volume 10
 - Global Forum on Gender and Fisheries [scheduled for Penang, Malaysia: April 2004] 11
 - Global Symposium on Women in Fisheries [Kaohsiung, Taiwan: November 25-30, 2001] vii, 9, 11-12, 14, 74
 - International Symposium on Women in Fisheries [Chiang Mai, Thailand: 1998] v, 8-9, 14
 - International Symposium on Women in Fisheries [Mumbai, India: December 2001] 10
 - membership by sex and country 37
 - Photographic competition viii, 3, 7, 9-11, 56
 - Women Council Members 10
 - Women in Fisheries, first national workshop [India: 1990] 7
- Asian Institute of Technology 8
- Aslin, H *An overview of the involvement of women in fisheries activities in Oceania* 127-142
- Asong, R H x
 - Alternative livelihoods in a coastal village* 97-111
- asuos 99
- Aure, D *Alternative livelihoods in a coastal village* 97-111
- Australia: xi
 - Aboriginal and Torres Strait Islander communities 128, 136
 - Agriculture and Resource Management Council of Australia and New Zealand 137
 - Bureau of Rural Sciences, Canberra 127
 - Commonwealth Department of Agriculture, Fisheries and Forestry, Women in Rural Industries Section 137
 - Commonwealth Fisheries Policy Review 141

- constraints on women's involvement in fisheries 136
- recreational fishers xi, 136
- research needs 139
- Standing Committee on Agriculture and Resource Management 137
- women in fisheries xi, 127-8, 135-8

B

- Baim* 93
- Baker, Vicki 141
- Banez-Sumagaysay, M xi
 - Working wives in Philippines coastal fisheries* 113-123
- Bangladesh: viii, x, 23-4
 - Aquaculture Development Program 83
 - Aquaculture Technology Transfer Project 86
 - Association for Social Advancement 90
 - Banchte Shekha x, 90-1, 95-6
 - Bangladesh Rural Advancement Committee 90
 - Bay of Bengal Programme 32, 34, 41
 - beel management committee x, 91-2, 95-6
 - BMC *see* beel management committee
 - CARE Bangladesh 16
 - Caritas Fisheries Program x, 21, 34, 82-87
 - CBFM *see* Community-based Fisheries Management
 - Community-based Fisheries Management 86, 91, 95
 - constraints on women 80-2, 89-90
 - Department of Fisheries x, 78, 91
 - Extended Aquaculture Development Program (EADP I & II) 83
 - Grameen Bank 34, 90
 - Management of Aquatic Ecosystem through Community Husbandry 86
 - National Fisheries Policy 1998 41, 78
 - Patuakhali-Barguna Aquaculture Extension Project 86
 - Sustainable Aquatic Resources Management 83
 - Sustainable Environment Management Program 86
 - UBINIG Policy Research for Development Alternatives 30
 - women in fisheries 30-5, 37, 41, 77-87
 - see also* ICLARM-The World Fish Center
- baptist 99
- Beijing +5: Women 2000 - Gender, Equality, Development and Peace for the 21st Century- Special Session of the General Assembly [New York: 2000] 14
- Belgium, women in fisheries 192
- Berc, Shelley 188
- bisugo* 99
- bivalves 29, 129, 130
- BOBP *see* Bay of Bengal Programme *under specific countries*
- Braganza, R *Alternative livelihoods in a coastal village* 97-111
- Brazil 148, 177
- Browne, P B xii
 - Women do fish: a case study on gender and the fishing industry in Sierra Leone* 169-172
- Brunei Darussalam ix

C

- Cambodia: viii, 21-2, 24
 - Agency for Women's Affairs 59
 - Bati Fish Seed Production and Research Centre 3
 - Cambodian Women in Fisheries Network ix, 57-9

- Department of Fisheries 11
 - education and training of women 24
 - Fisheries Programme 21, 24
 - legislation Promoting Women and Gender Issues 40
 - Mekong River Commission 55
 - Ministry of Agriculture 3
 - Ministry of Fisheries 3
 - National Symposium on Women in Fisheries, 1994, 7, 14
 - Regional Seminar on Women in Fisheries in Indo-China Countries [Phnom Penh, Cambodia: March 1996] 56
 - SEILA 59
 - women in fisheries 24, 42
 - Women in Fisheries in the Indo-China countries, regional seminar [March 6-8, 1996] 9, 14
 - World Food Programme (WFP) 59
 - Canada: 148-9
 - University of Newfoundland, St. John's, Newfoundland 149
 - catfish 169
 - cephalopods 29
 - CGIAR *see* Consultative Group on International Agricultural Research
 - Chang, CF ix, 201
 - Responding to Globalization Trends in Fisheries: Assets of Professional Taiwanese Women* 65-75
 - Chang, E Y ix, 201
 - Responding to Globalization Trends in Fisheries: Assets of Professional Taiwanese Women* 65-75
 - Chao, N H ix, 201
 - Responding to Globalization Trends in Fisheries: Assets of Professional Taiwanese Women* 65-75
 - Chile 148, 177
 - China: viii
 - 4th Asian Fisheries Forum [Beijing, China: 1995] 9, 56
 - Fourth World Conference on Women [Beijing: 1995] 8, 13-14, 62, 176
 - Workshop on Women in Fisheries in the Asia-Pacific region [Beijing, China: 1995] 13
 - Chirwa, S xii
 - Women and gender participation in the fisheries sector in Lake Victoria* 155-168
 - chitons 129
 - Choo, P S viii, xiii
 - From Women in Fisheries to Gender and Fisheries* 13-18
 - Women in Fisheries in Asia* 21-47
 - Women in fisheries in the European Union* 191-3
 - CIFA *see* India: Indian Council for Agricultural Research
 - cockles 170
 - Colombia 177
 - common carp 25
 - Commonwealth of the Northern Mariana Islands 130
 - Connelly, Ramona 188
 - Consultative Group on International Agricultural Research 8
 - Cook Islands: 129
 - Office of the Prime Minister 127
 - Cordea, D E *Alternative livelihoods in a coastal village* 97-111
 - Costa Rica 177
 - cowrie 169
 - crabs: 28, 29, 45, 80, 86, 99, 104, 129, 130
 - mangrove crabs 131
 - credit:
 - Caritas credit disbursement policy, Bangladesh 83
 - Grameen Bank 34, 90
 - group loans for women in Bangladesh 33-4, 91
 - informal sources in India Sri Lanka 33-4
 - informal sources in the Philippines 36, 108
 - institutional sources in India and Sri Lanka 33-4
 - lack of access to in Latin America 180
 - leasing in Nepal 34
 - micro-credit schemes in Bangladesh 82, 87, 94-5
 - options for women xiv, 6-9, 15, 32-36, 44-5, 162-3
 - Cuba 148
- D**
- dagaa* 156, 158-60
 - danio* 99
 - D'Costa, M x
 - Women in aquaculture: initiatives of Caritas Bangladesh* 77-87
 - Degan, Peter 10-11
 - Denmark 148
 - Department for International Development UK v, 3, 8, 96, 153
 - Post-Harvest Fisheries Project, India ix, 32, 35
 - depletion of world fish stocks 147
 - development:
 - pointers for action xiii-xv
 - women's role in 15-17, 146, 150-3
 - DFID *see* Department for International Development, UK
 - division of household labor 15, 103, 110
 - Dominican Republic 177
 - drupe shells 129
 - dry fish traders ix, 32
 - dugong 131
- E**
- Ecuador 177
 - education of women 16
 - see also specific countries*
 - European Union xiii, 153, 191-3
 - women in fisheries xiii, 191-3
 - see also specific countries*
- F**
- FAO *see* Food and Agriculture Organization
 - Fay-Saunl, L *An overview of the involvement of women in fisheries activities in Oceania* 127-142
 - FCA 39, 41, 45
 - Federated States of Micronesia: 130
 - women in fisheries 130
 - Fiji: 131
 - University of the South Pacific 127, 135
 - Post-Harvest Fisheries Project 135
 - women in fisheries 131
 - Women in Fisheries Network 135
 - Finland, women in fisheries 192
 - First Nations 148
 - First World Conference on Women [Mexico City, Mexico: 1975] 176
 - fish consumption rates 24, 26, 77, 128, 129
 - fishers' wives associations 184
 - fishing, meaning of 147-8
 - Food and Agriculture Organization, United Nations 7, 14, 15, 25-6, 36, 151, 153, 177
 - Global Workshop on Women in Aquaculture [Rome: 1987] 7, 14
 - Ford Foundation 91
 - Forum Fisheries Agency 134

Fourth World Conference on Women [Beijing, China: 1995] 176

France, women in fisheries 192

French Polynesia 129

freshwater clam, *Batissa violacea* or *kai* 131

FSM *see* Federated States of Micronesia

G

GAD *see* Gender and Development

GAF *see* Gender and Fisheries

Gambia 148

gastropods 29

GATT *see* General Agreement on Tariffs and Trade

gender analysis xiv, 16-17, 134, 145-154, 155-168

research needs xiv, 46, 161

Gender and Development v, 17, 38, 138-9

Gender and Fisheries v, 6, 10-12, 13-18

gender and fisheries listserve (GAF@cgiar.org) xiii

Gender, Globalization and the Fisheries Network 148-9

gender issues and HIV/AIDS 52-3

gender roles 14, 38, 71-2, 78-9, 104, 113, 129, 130, 132-4,

145-6, 150-1, 156, 157-9, 170-1, 176, 183, 191-2

General Agreement on Tariffs and Trade 66

Germany, women in fisheries 192

giant freshwater lobsters 27

gingao 99

Global Workshop on Aquaculture [Rome: 1987] 7, 13-14

globalization xv, 65-75, 148-9

goatfish 129

grass carp 25

Greece, women in fisheries 192

Greenlaw, Linda 16

Guam 130

guangwa 170

H

Haliman, Dr. Rubiyanto 10-11

Hanchard, B *An overview of the involvement of women in fisheries activities in Oceania* 127-142

head loaders ix, 32

herring 191

Heruwati, E S *Women in Fisheries in Asia* 21-47

HIV/AIDS v, xiv, 6, 14, 15, 49-53, 134

5th International Congress on AIDS in Asia and the Pacific (ICAAP) [Kuala Lumpur: 1999] 49

prevalence rates amongst fishers 51

risk factors amongst fishers and their partners ix, 50-3

United Nations General Assembly Special Session on

HIV/AIDS (UNGASS) June 2001 50

Howell, L A xiii

Perspectives on women in fisheries in North America 183-188

Huang, M ix

HIV/AIDS among Fishers: Vulnerability of Their Partners 49-53

I

Iceland 148

ICLARM-The World Fish Center vii, 1, 3, 8, 11, 12, 13-16, 21, 89, 91, 141, 153, 191, 200

Press Release: *Where are the women in fisheries?* 199-201

India: viii, 22-3, 148

Bay of Bengal Programme 32, 41

Central Agricultural University, College of Fisheries 7, 21

Central Institute for Fisheries Education 11

Central Institute of Freshwater Aquaculture 11

Indian Council for Agricultural Research 10

International Symposium on Women in Fisheries [Mumbai, India: December, 2001.] 10

National Research Centre for Women in Agriculture 10

Post-Harvest Fisheries Project 32, 35

Tamilnadu State Non-Government Organisations and Volunteer Resource Centre 5, 21

women in fisheries 30, 32, 35, 44

Indian carp 25

Indonesia: viii, 21, 22, 24, 26

Bojonegara and Assessment Installation for Agricultural Technology 21

Central Research for Product Processing and Socio-economic of Marine Affairs and Fisheries 21

Fish capture and aquaculture statistics 27

lack of training for women 27

legislation Promoting Women and Gender Issues 40

women in fisheries 27-9

INFOPESCA xii, 175, 176-7

Iran: viii, 22-3, 26-7, 29-30

Fish capture and aquaculture statistics 27

legislation affecting women's rights 40

women's rights 26

Italy, women in fisheries 192

J

Japan: viii, 23-4, 38-9

Ama 39

legislation affecting women's rights 41

Research Institute of Fisheries Management and Technology 21

women in fisheries 38-9

Jatputi 93

K

Kampuchea:

Partnership for Development in Kampuchea *see* PADEK *see also* Cambodia

Kee, Dr. Yip Hoi 10-11

Kenya: 155-6

Third World Conference to Review and Appraise the Achievements of the United Nations Decade for Women [Nairobi, Kenya: 1985] 14, 176

Kibria, Dr. Md. Ghulam 10-11

Kiribati: 130

women in fisheries 130

Knaap, Martin van der 167

Kohli, Dr. Mohinder Singh 10-11

Koi 93

Korea ix

Kuwait: viii, 22-4, 26-7, 29-30

Fish capture and aquaculture statistics 27

legislation affecting women's rights 40

restrictions placed on women 29

L

Lake Victoria, Africa: xii

Lake Victoria Fisheries Organisation 167

Lake Victoria Research Project Phase II 167

Nyegezi Fresh Water Fisheries Institute 160

training of women 160

women in fisheries xii, 155-60, 166

see also Kenya; Tanzania

Lambeth, L xi, 200
An overview of the involvement of women in fisheries activities in Oceania 127-142
 Lao PDR: viii, 22, 24
 Department of Livestock and Fisheries (DLF) 59
 Lao Women in Fisheries Network ix, 25, 42, 59-60
 Lao Women's Union (LWU) 59
 legislation Promoting Women and Gender Issues 40
 training of women 25
 women in fisheries 25, 42
lapu lapu 99
latab 99
 Latin America xii, 175-80
 discrimination against women 179
 Network of Latin American Women of the Fishery Sector
 xii, 177, 180
 training needs 179
 women in fisheries 176-80
 see also specific countries
 Lesotho 153
 Liao, I. C. vii, 1, 74
 limpets 129
lison lison 99

M

Mabunay, Ma L *Alternative livelihoods in a coastal village* 97-111
 Mado, Dr. Thieu Thi Tao 10-11
 Malaysia: viii, 22, 24, 26
 7th Asian Fisheries Forum [scheduled for Penang, Malaysia: April 2004] 10-11
 education of women 28-9, 43
 Fish capture and aquaculture statistics 27
 Fisheries Research Institute 28-9
 HIV/AIDS 51
 legislation Promoting Women and Gender Issues 40, 43
 Malaysian AIDS Council 49
 Malaysian Society of Marine Science 29
 National Prawn Fry Production and Research Centre, Kedah 27
 Universiti Putra Malaysia ix, 5, 22, 49-53
 women in fisheries 27-9, 43
 women's rights 43
 see also ICLARM- The World Fish Center
manggagat 99
 Marshall Islands: 130
 women in fisheries 130
 Matics, Dr. Kathleen ix, 9
 Networks for Women and Gender in Fisheries Development in the Mekong Region and the Philippines 55-64
 Women in Fisheries in Asia 21-47
 Mays, Buddy 145-7
 Medard, M *Women and gender participation in the fisheries sector in Lake Victoria* xii, 155-168
 Mekong River Commission viii, 9-11
 see also under specific countries
 Mekong River Fisheries Programme 21, 24, 25, 56-7, 61
 Melanesia xi, 128, 131
 see also specific countries
 Meni 93
 Mexico 148
 Micronesia xi, 128, 130
 see also specific countries
 Miki, N *Women in Fisheries in Asia* 21-47
 milkfish 37

mollusc 130-1
 Mozambique 177
 MRC *see* Mekong River Commission
 Mukasa, Carolyne Kilema 167
 mullet 131, 169
 mussels ix, 27, 38

N

NACA *see* Network of Aquaculture Centres in Asia
 Naga 12, 16
 Nandeesha, Dr. M.C. v, viii, 3
 Women in Fisheries Activities of the Asian Fisheries Society - Have They Been Able to Make an Impact? 7-12
 Women in Fisheries in Asia 21-47
 Nauru 130, 135
 Neis, Prof. Barbara 149
 Nepal: viii, 22-3
 Department of Fisheries 21
 Special Program on Food Production in Support of Food Security in Nepal (SPIN-SOFO/NEP4501) Project 34
 women in fisheries 31, 34-5, 41
 nerites 129
 Netherlands, women in fisheries 192
 Network for Women and Gender in Fisheries Development in the Mekong Region 26, 56, 62
 Network of Aquaculture Centres in Asia 8
 networking viii, ix, xiii, 6, 8-12, 15, 25-6, 42-3, 55-64, 148-9
 see also specific countries
 New Caledonia: 131
 regional women's conference [1994] 135
 Secretariat of the Pacific Community, Noumea 127, 133, 200
 women in fisheries 131
 New Zealand: xi, 136-7
 Agriculture and Resource Management Council of Australia and New Zealand 137
 Fisheries Management Services, Green Bay, Auckland 141
 Maori communities xi, 128, 136
 New Zealand Agency for Overseas Development (NZAOD) v, 3
 recreational fishing 137
 research needs 139
 Standing Committee on Agriculture and Resource Management 137
 Taranaki Fishermen's Association 141
 Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 136
 Tuna NZ Inc. 141
 women in fisheries 127-8, 137-8
 Nigeria: 148
 Obafemi Awolowo University 13, 145
 women in fisheries 147, 150-1
 Niue: 129, 135
 women in fisheries 129
 Ngatunga, T xii
 Women and gender participation in the fisheries sector in Lake Victoria 155-168
 NGOs viii, 6, 9, 33-5, 46, 59, 62, 78, 82, 90-1, 94-6, 170
 Non Government Organisations *see* NGOs
 NORAD *see* Norway: Norwegian Agency for Development Cooperation
 Northwest Women's Institute 152
 Norway: 148
 Norwegian Agency for Development Cooperation 3, 8

O

occupational hazards for fishers 50-1, 179
octopus 129, 130
oysters ix, 27, 29, 37-8, 169

P

Pacific Islands: xi
 constraints on women's involvement 132-4
 needs and future directions 139-40
 Pacific Platform for Action 135
 policies and support for women in fisheries 134-5
 Secretariat of the Pacific Community, Noumea 127, 133
 SPC Community Education and Training Centre 135
 SPC Marine Resources Division 138
 SPC Women in Fisheries Development Section 138, 140
 training of women 140
 women in fisheries xi, 128-9
 Women in Fisheries Development Project 135, 138-9
 Community Fisheries Section 138-9
 see also specific countries
PADEK viii, 3, 7, 8-11, 14
 National Symposium on Women in Fisheries [1994] 3,
 7-8, 14, 56
 Regional Seminar on WIF in Indo-China Countries [1996]
 8-9, 14, 56
Pakistan: 23, 32
Palau: 130
 women in fisheries 130
palu palo 99
Papua New Guinea: 131
 Department of Fisheries and Marine Resources 139
 Department of Home Affairs and Youth, Women's Division
 139
 women in fisheries 131, 139
parangan 99
Partnership for Development in Kampuchea *see* PADEK
pearl oysters 28, 136
penaeid prawns 27
perch xii, 156, 160, 162, 164
Pereira, G xii
 Women in fisheries in Latin America 175-180
Peru 177
petty fish traders ix, 32, 172
Philippines: v, viii-ix, 1, 5, 9, 10-11, 14, 23-4, 148
 alternatives to fishing for the coastal community of
 Barangay Rizal x, 98-111
 Asian Fisheries Society 21
 Barangay Rizal Yacht-makers Association 99
 Bureau of Fisheries and Aquatic Resources (BFAR) 37, 64
 characteristics of working married women 113-123
 Department of Agriculture 108
 Department of Environment and Natural Resource 108
 Department of Labor and Employment 108
 Department of Science and Technology 108
 Department of Trade and Industry 108
 education of women 35, 108, 114, 116, 118, 121-2
 Fisheries Department 11
 Guimaras Electric Company 107
 Guimaras Producers' Association 108
 legislation affecting women's rights 41
 Local Water Utilities Administration 107
 measures needed to improve women's participation
 45-6

National Network on Women in Fisheries 56
Participatory Research, Organizing Communities and
 Education Towards the Struggle for Self-Reliance Inc.
 Foundation 108
People's Organization 38
Philippine National Livelihood Program 98
Philippines Network on Women in Fisheries ix, 9, 61-4
 '*punduhan*' communities 38
Provincial Planning and Development Office 108
Regional Workshop on the Role of Women in Fisheries
 Development [Iloilo City: July 1995] 61
sapyaw fishery v, 14, 36
Southeast Asian Fisheries Development Center
 (SEAFDEC), Iloilo 37
Taos Puso Foundation 108
training of women 38, 108
University of the Philippines in the Visayas viii, x, 9, 21,
 36-7, 55, 62-4, 97, 113
WINFISH 63
 women in fisheries 35-7, 45-6
 women volunteer fish wardens 38
Photographic competition *see* Asian Fisheries Society
Pitcairn Islands 129
Plan International 160
PNG *see* Papua New Guinea
Poeu, O ix

*Networks for Women and Gender in Fisheries Development in the
 Mekong Region and the Philippines* 55-64

Polynesia xi, 128-30

see also specific countries

Portugal, women in fisheries 192

poverty 13-14, 15, 17, 22, 24, 28-9, 43-4, 78, 81-2, 97, 117, 153

Powell, Yvonne 141

prawns 93, 131, 135

R

Rajabharshi, K. G *Women in Fisheries in Asia* 21-47

Rana, K xiii

Women in fisheries in the European Union 191-3

Ranjit, R *Women in Fisheries in Asia* 21-47

Rochers, K D *An overview of the involvement of women in fisheries
 activities in Oceania* 127-142

rock lobster 135

S

Sahoo, Dr. P K 10-11

Sahu, D. BB 10-11

salmonite 99

Samoa: 129, 133

 women in fisheries 127, 129

sap sap 99

scallops 135

SCARM *see* Australia and New Zealand, Standing Committee
 on Agriculture and Resource Management

Scotland:

 University of Sterling 191

Saudi Arabia: viii, 22-4, 26-7, 29-30

 Fish capture and aquaculture statistics 27

 restrictions placed on women 26, 30, 40

Scott, Heather 141

sea cucumbers: 29, 129

 use of poison from *Holothuria atra* 130

 beche-de-mer 131, 136

sea urchins 129, 130

- seaweed 27, 35, 38, 39, 129, 131, 178
 'punduhan' communities in the Philippines 38
Eucheuma 130
 Second World Conference on Women [Copenhagen, Denmark: 1980] 14, 176
 Seraspe, E *Alternative livelihoods in a coastal village* 97-111
 Sergio, Dewey 10-11
 Shariff, M vii
 Historical perspective of women in fisheries 3
 Women in Fisheries in Asia 21-47
 Shelly, A B x
 Women in Fisheries in Asia 21-47
 Women in aquaculture: initiatives of Caritas Bangladesh 77-87
 shellfish 129, 130-1, 178
 shore/beach seines, use of 30, 33, 105, 158
 Shoulder, Paula 141
 shrimp culture 5, 27, 29-31, 35, 37, 79-80, 90
 Siason, Ida v, viii, ix, 9, 10, 12, 200
 Networks for Women and Gender in Fisheries Development in the Mekong Region and the Philippines 55-64
 Women in Fisheries in Asia 21-47
 Sierra Leone: xii, 169-72
 effects of war on fishing 171
 Fish, Shellfish, Fishery Products Sanitary Regulations (1998) 169
 Fisheries Management and Decree (1994) 169
 Fisheries Ordinance 1957 169
 Fisheries Regulation (1994) 169
 Inshore Exclusion Zone 170
 Ministry of Agriculture and Natural Resources, Fisheries Division 169
 Ministry of Trade and Industry, Fisheries Research and Development Unit 169
 Save Humanity Foundation 169
 women in fisheries 151, 170-2
 silver carp 25
 Singapore:
 Department of Zoology, National University of Singapore 10
 Siriwardena, P P G N *Women in Fisheries in Asia* 21-47
 snapper 170
 Sobo, F xii
 Women and gender participation in the fisheries sector in Lake Victoria 155-168
 Solomon Islands: 131
 Forum Fisheries Agency, Honiara 127
 women in fisheries 132
 Spain 148, 177
 women in fisheries 192
 SPC *see* Pacific Islands, Secretariat of the Pacific Community
 Sri Lanka: viii, 22-4
 Bay of Bengal Programme 34, 41
 fish 'mamis' 33
 NARRD 21
 women in fisheries 30, 32-3, 44
 Sultana, P x, 201
 Women led fisheries management – a case study from Bangladesh 89-96
 Sundararajan, M viii
 Summary: Women's role in fisheries – putting the pieces together 7-8
 Women in Fisheries in Asia 21-47
 Susilowati, T *Women in Fisheries in Asia* 21-47
 Sweden:
 Swedish International Development Cooperation Agency (Sida) v, 3
 women in fisheries 192
T
 Taiwan: ix
 6th Asian Fisheries Forum [Kaohsiung, Taiwan: November 25-30, 2001] 1, 5, 9
 Cage Culture Association 69
 Council of Agriculture 70
 Department of Aquaculture 74
 Department of Fishery Biology 74
 fisheries industry 65-67
 legislation to protect women's rights 67
 Global Symposium on Women in Fisheries [Kaohsiung, Taiwan: November, 2001] 9
 Hazard Analysis and Critical Control Point food system 69
 Institute of Sociology, Academia Sinica 65, 69
 Ministry of Education 70
 National Museum of Marine Science and Technology 69
 National Science Council 70
 National Sun Yat-Sen University 68
 National Taiwan Ocean University 68, 69
 National Taiwan University 68
 professional women 68-75
 Taiwan Fisheries Research Institute 65, 69, 74
 Tungkang Marine Laboratory 1, 69, 74
 women in fisheries survey ix, 68-73
 Tanzania 148
 Beach Management Units 162-3
 Fisheries Division, Dar Es Salaam 155
 Freshwater Fisheries Training Institute, Mwanza 155
 National Fisheries Laboratory, Mwanza 155
 Nyegezi Freshwater Fisheries Training Institute 160
 TAFIRI *see* Tanzania Fisheries Research Institute
 Tanzania Fisheries Research Institute 155, 161
 training of women 166
 women in fisheries 158, 161-5
 Tech, E viii
 Women in Fisheries Activities of the Asian Fisheries Society – Have They Been Able to Make an Impact? 7-12
 Women in Fisheries in Asia 21-47
 Thailand: viii, 3, 8, 9-11, 22, 24-5, 37, 40, 42, 148
 5th Asian Fisheries Forum, [Chiang Mat: 1998] v, 7
 Department of Fisheries Sub-Committee on Women in Fisheries 60
 HIV/AIDS 51
 Global symposium on Women in Fisheries [Chiang Mat: 1998] 13
 National Commission for the Promotion of Women's Affairs 60
 Thai Women in Fisheries (TWIF) Network ix, 25, 42, 43, 57-61
 Women in Asian Fisheries Symposium [1998] 7
 Third World Conference to Review and Appraise the Achievements of the United Nations Decade for Women [Nairobi, Kenya: 1985] 14, 176
 Thompson, P M x
 Women led fisheries management – a case study from Bangladesh 89-9
 Thuock, Mr. Nao 10-11
 tilapia 25, 38, 160, 169

Tokelau 129
 Tonga 129
 training of women 6, 7, 9, 15, 140
 see also specific countries
 transport needs 35, 160
 trochus 131, 136
 Tuara, P *An overview of the involvement of women in fisheries activities in Oceania* 127-142
 tuna fishery in the western and central Pacific 132, 134
 turtles 131
 Tuvalu 129
 women in fisheries 129

U

ugdok 99
 UNDP 8, 11, 17, 61
 unicorn fish 131
 United Kingdom:
 Department for International Development v, 3, 8, 96, 153
 Ministry of Foreign Affairs and Trade v
 women in fisheries 192
 United Nations Population Fund (UNFPA) 36
 United Nations Decade for Women 1975-1985 14, 61
 United Nations World Conference on Women [Mexico City, Mexico: 1975] 14
 United States of America 148
 Boston International Seafood Show 186
 National Marine Fisheries Service 186
 Spinney Creek Shellfish, Inc. 183
 women in fisheries 183-188
 Uruguay:
 INFOPESCA xii, 175, 176-7
 Network of Latin American Women of the Fishery Sector 177

V

Vanuatu 131
 Venezuela 177
 vermetid snails 129
 Vietnam: viii, 3, 9, 22, 24-5, 42-3, 148
 Committee for the Advancement of Women in Fisheries 26
 Embassy of Denmark, Hanoi 60
 Institute of Tropical Biology 11
 legislation Promoting Women and Gender Issues 40
 Ministry of Fisheries' Steering Committee for Women in Fisheries 60-1
 Northern Upland Aquaculture Development Project 10
 Round Table Discussion on Women in Fisheries in the Mekong Basin [Can Tho, Vietnam: April 1997] 56
 Vietnamese Women in Fisheries (VWIF) Network ix, 10, 26, 42-3, 57-61
 WES(West-East-South) Aquaculture Project Aquaculture Project, Can Tho 56
 Viswanathan, Dr. Kuperan 12
 Vocational and Educational Training Authority, Tanzania 161
 Vunisea, A *An overview of the involvement of women in fisheries activities in Oceania* 127-142

W

Wallis and Futuna 129
 women in fisheries 129-30
 WAS *see* World Aquaculture Society

web address for Symposium: http://www.futureharvest.org/people/fish_farming.shtml xiii
 Williams, Dr. Meryl v, viii, 1, 3, 8-9, 74, 199
 From Women in Fisheries to Gender and Fisheries 13-18
 Women in Fisheries: Pointers for Development vii-xv
 Williams, Dr. Stella B: viii, xii, 2, 199-200
 From Women in Fisheries to Gender and Fisheries 13-18
 Making each and every African fisher count: women do fish 145-154
 Women in Fisheries program 13-18
 women in fisheries
 active fishing 5, 24, 25, 27, 28, 30, 31-3, 36, 38, 46, 90, 93, 104, 127-33, 135, 151, 158, 170, 176, 178-9, 186-7, 191
 aquaculture ix, 5-7, 8, 10, 12, 13-4, 22, 24-32, 35, 37-8, 42, 46, 60, 62, 66, 69, 71, 77-87, 90-3, 131, 135, 151, 153, 158-9, 176, 178-9, 187, 191-2
 crab culture 45, 80, 86
 fish feed preparation 80
 fry collection 25, 27, 30, 36, 38, 45, 80, 90
 aquatic plant collection 27, 38, -9, 94, 129-30, 178
 boat owners 33, 132, 158, 166, 170-2, 184-6
 dockworkers 184
 ferry deck hands 184
 fish marketing xiv, 5, 24-5, 27-35, 38, 44, 45-6, 128-32, 151, 155-6, 158-60, 170, 172, 176, 177-8, 184-7
 fish processing xiv, 5, 24-34, 35-6, 38-9, 43-46, 80, 127-32, 135, 137, 151, 153, 159-60, 162, 164-5, 170-2, 176, 177, 179, 191
 salting fish 27, 32, 45, 89, 115, 153, 158, 177
 smoking fish 27, 153, 157, 159-60, 171, 177
 fishery higher education 36-7
 fishery management and professions xv, 16, 25, 29, 41, 43, 45, 65-75, 90-6, 135-6, 162-3, 171-2, 176, 178, 183, 185-7, 192
 fishery research 1, 7, 10, 25, 28-30, 37, 42, 69, 161-2, 178, 186-7
 industry lobbying 137, 183-4, 192
 'lobsterman' 185
 measures needed to improve participation xiii-xv, 45-6, 56, 64
 net, gear and craft making and repairing 24, 25, 27, 28, 31, 36, 39, 80, 137, 170, 178
 quality assurance 178
 recreational fishing 131, 136, 187
 shell gathering 104
 snail collection and breaking 93-4
 swim bladder processing 164
 toy boat making 100-6, 109-10
 working conditions 15, 17, 35, 39, 71
 women's health 15, 35, 165
 see also HIV/AIDS
 women's rights 15-17, 149
 see also specific countries
 Workshop on Women in Fisheries in the Asia-Pacific region [Beijing, China: 1995] 13
 Workshop on Women in Fisheries in the Asia-Pacific region [Philippines: 1995] 14
 World Aquaculture Society 69
 World Food Summit [Rome: 1996] 176
 World Trade Organization 66, 69, 70, 72
 WTO *see* World Trade Organization



nzaid

 **Sida**

DFID



ICLARM
THE WORLD FISH CENTER