

## **WHY THE COAST MATTERS: REFLECTIONS ON GLOBALISATION AND GENDER IN TANZANIAN COASTAL COMMUNITIES**

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This paper is directed towards the issue of engendering research and policy advocacy. It draws largely on a project carried out in Somanga and Songo Songo Islands located on the southern coast of Tanzania. The project and the studies associated with them, aimed to understand women's role in the fishery, how women participated in the economic sustenance of their families and how patriarchal social relations impacted on their lives and affected their capacity to create meaningful and sustainable lives for themselves and their children. These studies revealed deeply structural ways in which policies and practices in the legal and customary system, in government policies and in fisheries policies and cultural restrictions impacted women negatively. We looked particularly at how women's efforts to maintain and nourish their families were being undermined by both formal and informal sexist and patriarchal practices.

In this paper we discuss women's fishing practices and how they interrelate with men's fishing practices; we look at how fishing activities combine with other kinds of income generating and subsistence work to enable the household to survive. We also look at ways in which cultural and religious practices work against women's efforts to improve their livelihoods, but how women's cooperative activities, both within family and friendship groups and in cooperative savings groups can sometimes be effective in supporting women's efforts. While there are considerable NGOs and multilateral projects active in the area, we argue that they are not as effective as they could be, partly because they, too, work within the local cultural frameworks and partly because the formal government structures and legislation are not yet positive forces for women.

## **ROLE & IMPACT OF MICROFINANCE INSTITUTIONS IN COASTAL COMMUNITIES**

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Microfinance institutions are increasingly becoming common in many parts of India, with activities ranging from simple thrift to credit support for income generating activities. Coastal states have also not been immune to this phenomenon, and a large number of microfinance initiatives are active among fishing communities. Microfinance activity can be formal and institutionalized with the participation of financial agencies like banks as well as through planned schemes of governmental and non-governmental organizations. It can also be informal, aimed mainly at thrift, with the pooled resources being loaned mainly to meet household consumption expenditure. This flexibility in its structure as well as application is probably what makes it such a dynamic initiative, capable of bringing about desired development changes in rural areas, if harnessed in the right manner.

Besides being an initiative which stresses on pooling and judicious use of individual capital resources, it imbibes financial discipline because of practices like keeping records, holding regular meetings with specific agenda and minutes, discussion of problems etc., that are part of microfinance activities.

This paper examines the direct and indirect, socio-economic impacts of micro-finance on the livelihoods of the coastal community in Kerala, India. In particular, it focuses on the changes that the microfinance initiatives have brought about in the livelihood patterns, social status, decision making capabilities and group dynamics among fisherwomen.

## **CAPTURING THE COMPLEXITIES OF GLOBALIZATION IN THE FISHERIES: GENDERED DIVISIONS OF LABOR AND DIFFERENCE IN INDIA**

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The gendered nature of globalization has received considerable analysis across several economic sectors, and much has been learned about its general impacts. Much remains to be learned, however, about the specificities of globalization as a gendered phenomenon. Within a particular locale and/or general pattern of impact, for example, what factors shape a person or group's ability to adapt to changing economic contexts? Why are some groups and/or individuals more adversely impacted than others?

Using the fisheries sector of India as a case study, this paper delineates a framework for understanding complexity and difference within general gendered patterns of economic processes. Combining feminist commodity chain analysis, livelihoods analysis, and feminist household economy studies, I examine differential impacts of globalization rooted in gender divisions of labor, assessing their implications for fisherfolk livelihoods. While commodity chain analysis informed by the gender division of labor provides insight into general patterns of economic transformation, extending this analysis to the household and livelihood strategies provides a more nuanced understanding of how global economic processes affect households and individuals in particular ways. This approach, I argue, provides a means of incorporating and understanding the multiple facets of difference in the intersection between gender, culture, and economy.

Key words: Gender, globalization, livelihoods.

## **PARTICIPATION OF FOREIGN SPOUSES IN THE FISHERIES SECTOR OF TAIWAN**

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This paper summarizes the results of questionnaire interviews of foreign spouses living in six Taiwanese fishing villages. The questions addressed issues on how they earn their living and household details. It also asked the interviewees their ages, their duration of stay in Taiwan, country of origin, citizenship, number of children, age of children and whether they live with their husband's extended families.

The main motivations of their work are to pay for their children's education. Other motivations include paying for household expenses, learning new skills and making new friends. The types of work they do include the propagation and culture of sweet fish, grouper, small abalone, marine and freshwater prawns, oyster and algae. They also collect fry of milkfish, eel, crab from the coast. They engage in post harvest activities such as sea food processing of squid balls and fish fillet. Some of them conduct businesses in imports or exports of fish fry. The income of foreign spouses working as employee ranges from NT\$ 8,000 to NT\$ 25,000 (NT \$30 = US\$ 1) per month and income of the family business with assistance from foreign spouses is about NT\$160,000. Most of their income is used for household expenses and some deposited in savings account, with a few sending their earnings as remittances to their home country of origin.

## **WOMEN'S PARTICIPATION IN CARP CULTURE ACTIVITIES IN INDIA**

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In India, carps account for most of the production from the inland aquaculture sector and almost all of this production comes from rural areas. A study was undertaken to understand carp farming status in ten different states of India, namely Assam , Manipur Tripura , West Bengal, Orissa , Uttar Pradesh, Tamilnadu, Andhra Pradesh, Jharkand and Punjab, representing different agro-climatic conditions with varied intensities of carp culture and cultural differences among the farmers. Part of this major study focused on understanding the role and contribution women make in carp culture activities.

Participation of women in carp culture activities varied widely among the ten states studied. Their participation in aquaculture activities was generally low in most of the states and their role was negligible in states like Andhra Pradesh and Punjab where carp culture has made rapid progress and has achieved a higher level of production compared to the other states. However, in some of the states such as West Bengal, Assam and Manipur, women's participation in aquaculture was higher. In these states, aquaculture still remains largely a subsistence activity, though increasing numbers of families are selling fish to buy other family necessities. Whenever women's participation involvement was recorded in small scale carp farming activities, the women were largely engaged in feeding of fishes and pond fertilization. Availability of inputs is one of the major constraints experienced by farmers to improve their productivity levels. Further, availability of money to buy the inputs is also another constraint experienced by farmers. As the farmers ability to take risks by investing in this new activity is low, carp culture continues mainly as a subsistence activity in many locations even after three decades of extension effort.

In places where women's self help groups (SHG) have been formed, these SHGs were found to play a key role in managing the activities as a group. Women participating in the activity recognize the power of aquaculture in improving the family economy and nutrition and thereby their improved position in the family owing to their contribution to the family economy. When women were not involved in carp farming, men identified lack of time , societal norms , etc., as the reason for the women's non-participation.

Carp culture is not adequately recognized yet by extension personnel as an activity that can be performed as a backyard activity by women. As a result, women are not targeted for training and men continue to be those primarily involved. In addition, cultural norms prevailing in the society prevent women from active participation. As men dominate the extension division of all the states with very few women extension officers, breaking this cultural belief has not been possible.

In this paper an effort has been made to assess the level of participation of women in each of the states and identify the factors that have been hindering or supporting their participation. Strategies that are needed to enhance participation of women have been identified. Policy approaches that are needed to promote greater participation of women and to build the knowledge and skills of people to target women are outlined.

## **TOOLS FOR GENDER MAINSTREAMING IN FISHERIES DEVELOPMENT PROJECTS. A REVIEW OF THEIR CURRENT STATUS AND RECOMMENDATIONS ARISING FROM ASIAN EXPERIENCES.**

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Traditionally, development projects devoted to the fisheries sector have been mostly centered on technical issues, lacking gender mainstreaming during the identification, implementation and monitoring processes. In other instances, development projects may have women as a target group, but have not addressed the broader gender related implications of their activities on men, households and society at large. This paper addresses the current status of the means available to incorporate the gender dimension in fisheries development projects. First, it provides a critical analysis of some of the tools available to integrate the gender dimension, proposed by several international organizations working on livelihoods, and second, it evaluates their applicability in fisheries development projects, specifically in the project cycle. In recognition of the absences of and gaps in tools for gender assessment, the FAO Regional Fisheries Livelihoods Programme (RFLP) has developed a handbook for gender mainstreaming in fishery-related project cycle management. This paper reports on the main findings, conclusions and joint recommendations of a workshop conducted to discuss these tools, through the experiences and lessons learned from researchers and representatives of development institutions from different countries in Asia.

## **CHALLENGES OF INCLUDING GENDER DIMENSIONS IN BIOTECHNOLOGICAL RESEARCH PROJECTS**

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Globally, women play an integral role in the aquaculture and fisheries sectors. In small-scale capture fisheries, typical gender roles play out with men owning boats and doing the fishing while women remain in charge of post-harvest activities such as processing and marketing. In aquaculture, women are often found in the most vulnerable positions working as fry catchers, laborers, and as low paid workers at processing plants.

Although women's roles and responsibilities are evolving in some countries, there are still issues and constraints that can limit their participation in project activities such as: time availability and allocation, land ownership and access to water, credit and labor, and access to training and extension services.

The AquaFish CRSP is dedicated to improving gender equality in the aquaculture and fisheries sectors and in the CRSP arena. The intent of the AquaFish CRSP is to create equal opportunities for women and men to participate in the Program's research, training, educational, or other activities. Through this gender equity process we are working towards gender equality at both the individual project level and overall program wide level. Here are some of the specific actions taken by the CRSP: collect and analyze disaggregated data from individual projects to gauge the success of gender inclusiveness; promote the participation of women in formal and informal education and training opportunities provided through the CRSP by setting a 50% benchmark for training women; all core projects have a strategy for integrating and addressing gender (a Gender Strategy); each of the core projects has a gender focused investigation; tailor specific extension and technical services related to sustainable aquaculture and aquatic resource management to women producers. Even with these policies firmly in place and real dedication to the goal of improving gender equality, women still make up less than 50% of short-term trainees. The percentage of women in long-term degree programs, however, approaches the equality target more closely.

## **“A SEA OF ONE’S OWN!”- A PERSPECTIVE ON THE GENDERED POLITICAL ECOLOGY IN INDIAN MARICULTURE**

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Mariculture is a sunrise enterprise in Indian waters. Mariculture technologies that have attracted the imagination of coastal stakeholders in recent times include mussel farming, sea weed farming and open sea cage culture. While Mussel farming (*Perna viridis*) technology has diffused along the Malabar coast, sea weed farming (*Kappaphycus alvarezii*) is spreading slowly along the Coromandel coast after finding a niche in the Gulf of Mannar. Having proven their potential as empowerment platforms for coastal women, the theaters where these technologies got adopted open up a number of issues in the realm of a gendered political ecology. The aim of this paper is not only to diagnose them but juxtapose them also with some of the epistemological concerns being brought by the “gender lens” scholarship especially in the neo-liberal context of global fisheries.

An interesting paradox brought out by the study is the ambivalence of the State in, on the one hand, manifesting itself as a positive “bargaining” force in the intra-household domestic space (by providing State-sponsored platforms through the Self Help Groups) while, on the other hand, leaving the “common access resource” space, from which these platforms gain sustenance, less amenable to its democratic ambitions. Mariculture technologies are in a state of making a transit from a feminine but subsidy driven experimental phase to a market/profit driven masculine one which, in the absence of exclusive usufructary rights for women, make their position disadvantageous as access to a productive asset is becoming mediated more by men and even leading to “masculine capture’. These along with other issues, like emerging conflicts in the techno-ecological interface in a hitherto common property between the traditional users and the culture-entrepreneurs (for example, issues connected with carrying capacity, bio-invasion, ecosystem threats due to lack of viable hatchery technology, fragmentation in community due to lobbying by other users, and male - dominated privatization of profit) throws new challenges to gender scholars in fisheries.

The study was conducted using a blend of a socio economic household survey done along the two coasts and grounded case studies on different stakeholders on the value chain of mussel as well as sea weed farming. Comparative analyses on the way these technologies affect the gender relations in two different socio-ecological and religious contexts provide new insights on how gender mainstreaming should reconcile livelihood issues with that of bio-conservation.

**Key words** : mariculture technologies, gendered political ecology, policy

## **FISHERWOMEN ORGANISATIONS IN EUROPE ADVOCATING FOR FISHERWOMEN RIGHTS**

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Since the middle of 1990, European fisherwomen and wives of fishers organised themselves in associations or networks to advocate for their rights, to defend family based fisheries enterprises and fisheries communities. From country to country, the reasons for establishing women's organisations were different but common claims unify them as for example the recognition of their contribution in fisheries.

In the past, little exchange existed between organisations from the different countries. The establishment of the European network AKTEA in 2006 offered them the opportunity to exchange and share information about their actions, knowledge and experiences. AKTEA network promotes the equality between women and men in the fisheries industry at the European level. AKTEA objectives are: the recognition of women contribution in fisheries, the participation of women in the decision-making in fisheries management, the improvement of women's self-confidence, political and institutional acceptance of women's organisations in fisheries, sustainable development of fisheries and of fishing communities.

This presentation will explore first the origin and nature of women's organisations in fisheries and aquaculture in different levels and countries. Second, it will demonstrate how the network has increased by its action the recognition of women role and of their organisations. Finally, it will identify opportunities and constraints for further development of women's organisations in fisheries and aquaculture.

## **BRAVING THE SEA: THE AMASAN (WOMEN DIVERS) OF YAHATAURA FISHING COMMUNITY, IKI ISLAND, NAGASAKI PREFECTURE, JAPAN**

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Ama (or Amasan) which literally means “sea person” are men and women divers who use high speed diving technique but without scuba gear or air tanks. Honed by years of experience, the Ama divers are professional divers whose diving prowess depends largely on their lung capacity, diving speed, resistance to cold, intuition for finding their catch and determination to succeed. Ama divers dive for seaweed, shellfish, sea urchin, lobster, sea cucumber, oyster, octopus and abalone which is the most preferred catch being delicious and one of the most prized food. Despite their significant contribution to the fishing industry, they remain invisible and marginalized.

Using participant observation, focus group discussion and key informant interviews, this study provides a picture of the Amasan (women divers) in the fishing village of Yahataura, Iki Island, Nagasaki Prefecture, Japan. These women divers’ access to and control over resources, activities and time allocation, and access to political and administrative decision-making processes were examined in relation to the men fishers. The results of the study substantiate the important role of women in the fishing communities and affirm the long standing social problem of their low status in society, especially vis-à-vis men. Some ways to improve their social standing in the community are set forth in the study.

## **THE GENDERED IMPACTS OF CLIMATE CHANGE AND SOCIAL CHANGE**

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Social changes which Pacific Island communities are going through have a profound impact on fishing roles, participation and marketing and distribution strategies. Both men and women have defined traditional participation roles which have been perfected through generations of use of fisheries resources. There has been an obvious overlap in these gender roles in the last decade with both genders participating in areas traditionally associated with either men or women. Climate change, although a new concept with projected enormous impact on small island nations and communities in the Pacific, has been customarily addressed through natural resource adaptation strategies. These traditional strategies are an accepted component of fishing and community lifestyle for people and thus have been taught and passed down through oral tradition and informal teaching avenues. The documentation, protection and acknowledgement of traditional technologies used by Pacific island fishers will ensure simple, easily accessible technologies that can be used for climate change responses and adaptation at the communities and village level. Women especially have a wealth of knowledge which is rarely defined, described or acknowledged and a major step in the use of women's knowledge is in engaging women in meaningful discussions and planning on fisheries and climate change initiatives. Modifying and using existing traditional institutions and knowledge and technologies in Pacific island countries should be an initial response to climate change. This paper includes examples and work from 6 countries both in the North and South Pacific and covers high islands, low islands and atoll locations. Thus a wide variety of information and fisheries use and adaptation strategies will be used to support the discussions on impacts of climate change and social change.

## **ADAPTING TO CLIMATE CHANGE: THE CASE OF WOMEN FISH-DRIERS OF TANAUAN, LEYTE, PHILIPPINES**

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Changes in the weather conditions have been observed to produce impacts on the various aspects of the lives of fishers and their livelihoods. The women fish driers are directly affected. Sun drying has become shorter because of the high surface temperature. However, the occurrences of rains have become unpredictable at times that drying fish takes longer days than usual. Worse, when it results to spoiled fish in cases when the rains do not stop for three to four days. The net effects of these phenomena dictate production levels, hence, the woman-fish drier's incomes and contribution to family economic well-being.

This case study looks into the perceptions and adaptive behaviors of women fish driers from the Central Philippines. Focus Group Discussions (FGDs), key informant interviews (KII) and ocular inspections of the area were conducted.

Results showed that generally, women have observed changes in the weather conditions but they are not aware of its causes as well as link them to their livelihoods. They are experiencing the effects on the costs and volumes of production of dried fish but they are not able to relate these to climate change. Women-fish driers seem to respond to the effects of climate change on a day-to-day basis. They now recognize their needs for alternative livelihoods because of climate change. But there is also a need for advocacy on climate change impacts, mitigation, and adaptation strategies.

## THE SOCIO-ECONOMIC STATUS OF WOMEN FISHERS IN A POOR FISHING VILLAGE ON THE WEST COAST OF SRI LANKA

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The Nagulelliya fishing village (7 42'N, 79'49E) located 1.5 m above mean sea level in Puttalam district on the West coast of Sri Lanka was selected for this study. This village, a narrow strip between the sea and lagoon, is isolated from other villages bordering the South and North, and located within the wild life sanctuary of Anavilundaw. According to available socio-economic data, the village is considered the poorest, with the lowest level of infrastructure available in the administrative division. Nineteen families live in Nagulelliya, all of whom are dependent on fisheries.

A special characteristic of the village is that 11 women are actively engaged in fishing. Six women do beach seine fishing during the six-month period of the Southwest monsoon and fish in the lagoon during the rest of the year. The other five women engage in year-round fishing in the lagoon. This group does not use any gear to fish, instead relying on their bare hands. They catch fish by increasing the turbidity of the water by stirring up the g mud at the bottom of the lagoon. Fish and shrimps, such as Pearl spot (*Entropus suratensis*), Tilapia (*Tilapia mossambica*), Tiger shrimp (*Penaeus monodon*) and White shrimp (*Penaeus indicas*), are the main species caught by this method.

The average income obtained from the catch by these women is not sufficient for the daily expenditure of their families. According to fisheries statistics, women's participation in fishing in the district as a whole is 0.4% of total fishers. However, this village shows a female participation rate of 44% of total fishers, due to socio-economic need. All of the households of these women fishers are below the poverty line; 19% of women in this group are widowed and 60% live with alcohol addicted husbands. Thus, high levels of poverty, inadequate opportunities for employment, and low educational levels have resulted in the presence of a high percentage of women fishers in this village.

## **POVERTY ERADICATION IN THE FISHING COMMUNITIES: GENDER PERSPECTIVE**

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Malaysia expects to achieve the development status of a high income nation by 2020 and has made great achievements in terms of implementing poverty eradication programmes in both the rural and urban sectors including the fishery sector which has been identified by the Ministry of Agriculture as a sector to bridge the food trade gap. Despite all the efforts in poverty eradication, poverty remains an issue among agriculture and fishing communities. In Sabah for example it was estimated that about 3000 small and traditional fishermen are living under the poverty level. Several programmes have been carried out to help eradicate poverty but poverty remains persistent among fishing communities. Most fishing development programmes carried out have targeted the fishermen in improving fishing technology and increasing production. Fuel subsidies introduced to curb increased cost of production have benefitted the fishermen. As in other parts of the world, fishing industries involve mainly men and the role of women in fishing communities are invisible. Limited efforts are being carried out to empower women in fishing communities and enhance their roles in upstream or downstream activities. This paper will highlight the development initiatives in the fishing sector in Malaysia and provide analysis of these programmes from the gender perspectives. Since the final outcome of poverty eradication programmes is to improve well being of family members, this paper will highlight the gender issues in the fishing industries in Malaysia and propose possible programmes to enhance the role of both men and women in poverty eradication among the fishing communities.

**Key words:** poverty eradication, fishing communities, gender perspective

## **POPULATION AGEING IN FISHING COMMUNITY: GENDER ISSUES AND POLICY CONCERN**

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Population demographics indicate that Malaysia will achieve the aged nation status by 2035, where more than 15% of her population will comprised of people aged 60 years and over. Malaysia's ageing population is unique in the sense that the multiethnic composition of her population ages at different rates due to varying socio demographic conditions. The average life expectancy at birth for Malaysia in 2008 was 71.6 for males and 76.4 for females (provisional value, [http: www.statistics.gov.my](http://www.statistics.gov.my)). Life expectancy at age 60 in 2005 was 17.2 years for males and 19.6 for females (DOSM, 2008). Rural urban migration contributed to the ageing of rural population particularly the fishing sector. According to the Labor Force Survey 2008, there were 122,100 persons working in the fishing sector compared to 130,500 in 2004. In 2010, according to the Fishery Department, there were 125,632 fishermen working on 48,745 licensed fishing vessels, an increase of 14.4% as compared to 2008. Socio economics census conducted by the Fishery Development Authority of Malaysia revealed that there were 22,020 fishermen in 2008, and 75% were traditional fishermen. The traditional fishing community are already aged community whereby there were 15.3% of them 60 years old and older. Higher proportion of those in the traditional fishing industry aged 60 and older (17.5%) compared to those in the commercial fishing (8.5%). With 58.2% of the fishermen age 40-59 in 2008, the fishing industries can be expected to be dominated by older fishermen. This paper will discuss the population profile and trend of the fishing community and their implications on the industry. The paper will also discuss the strategies to ameliorate the impending implication of population ageing to support the critical role of fishing industry as producer and exporter of fresh fish and fish products.

**Key words:** demography, population ageing, policy implication.

## WHY DO KOREAN WOMEN DIVE? FROM A VIEWPOINT OF GENDER

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This study clarifies from a viewpoint of gender about the cultural, ecological and historical backgrounds and mechanism on why Korean women became women divers. Generally, fishery is done by men. However, the harvesting of shells, sea urchins and seaweed is regarded as women's work in Korea. In the spring, to harvest seaweed for export to Japan in the late 19th century, many of Jeju Island women divers came to work in the Korean Peninsula. In those days, there were no women divers in the Korean Peninsula. However, after the Korean War, women from fishing villages were influenced by Jeju Island women divers and have begun to become women divers. In 1993, there were about 10, 000 Korean women divers (Table 1). There are a lot of women divers in the Gyeongsangnamdo fishing village of the South coast in particular. The reason is because a good fishing ground and a big city are adjacent to this area. Most of the women divers work for a living, and are either widows or have a jobless husband (Figure 1). The woman diver supplements her income with other agriculture activities. Her income from diving accounts for about 20% of the annual total income of her family (Figure 2). The Korean women divers feel proud and shameful at the same time about their work. The former is because women divers get a lot of cash income, and the latter is the low social recognition of their work and the risk involved in their job. Besides, women divers do not have the opportunity to reflect and contribute their knowledge on the sea and marine resources for use in government fishery policy planning.

**Table 1. The Korean women divers native place and age(1993)**

Coast	Province	Native place		Age						Unknown	Total
		Jeju	Native	20s	30s	40s	50s	60s	70s		
East	Gangwondo	269	351	25	74	165	248	23	0	85	620
	Gyeongsangbukdo	53	224	0	30	122	92	31	2	0	277
West	Chungcheongnamdo	154	22	12	50	64	34	16	0	0	176
	Jullabukdo	7	0	0	0	2	5	0	0	0	7
South	Jullanamdo	105	115	3	64	98	43	11	1	0	220
	Gyeongsangnamdo	1536	1545	88	303	407	347	147	42	1747	3081
	Jejudo	6727	0	143	850	1855	2490	1323	66	0	6727
<b>Total</b>		<b>8851</b>	<b>2257</b>	<b>271</b>	<b>1371</b>	<b>2713</b>	<b>3259</b>	<b>1551</b>	<b>111</b>	<b>1652</b>	<b>11108</b>

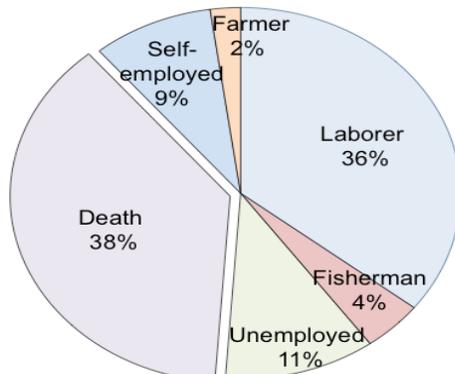


Fig.1 Occupation of women divers husband (The case of fishing village of Ulsan, 1995)

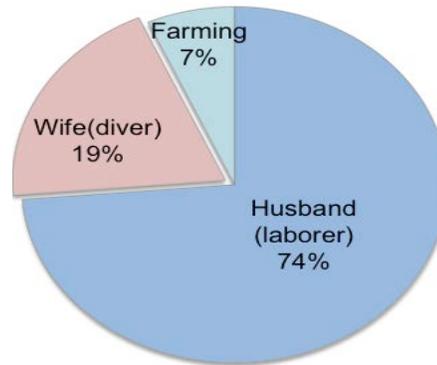


Fig.2 Percentage of an annual income of a woman diver family (Ulsan Korea, 1995)

## **UNDERSTANDING GENDER ROLES IN THE MANGROVE REFORESTATION PROGRAM IN BARANGAY TALOKGANGAN, BANATE, ILOILO, PHILIPPINES: A CASE STUDY**

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In any development project, people's participation is a major factor that causes the success or failure of the undertaking. Hence, understanding the roles played by the people behind development projects is essential for a meaningful implementation and policy recommendation.

This study was conducted to describe the roles played by men and women members of the Talokgangan Concerned Citizens Association (TACCAS), a People's Organization, in the mangrove reforestation program in Barangay Talokgangan, Banate, Iloilo, Philippines. A semi-structured interview was used in the study and complemented by a Focus Group Discussions (FGD).

Findings reveal that the majority of the members of TACCAS are women (84.62%), above 50 years of age, have reached Elementary level of education, and have been residents of the place all their lives. Respondents' main reasons for joining the TACCAS are to help their community, benefit from government projects, organize as a group and because they see TACCAS as source of income. Further, women play a significant role in most of the activities of the mangrove reforestation project as compared to their men counterparts. Women's participation is higher in the planning process, during meetings, nursery development and maintenance, as well as mangrove management and protection. Men on other hand are more involved in the construction and maintenance of fence in the mangrove area. Some of the issues encountered by the members include lack of support from other community members, lack of funds, and conflict within the household which can lead to marital disputes.

## IMPROVEMENT OF WOMEN'S LIVELIHOODS, INCOME AND NUTRITION THROUGH CARP-SIS-PRAWN POLY CULTURE IN TERAI, NEPAL

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In Nepal, malnutrition caused by vitamin and mineral deficiencies among poor women and children is well recognized as a serious health problem. In 2006, the Ministry of Health and Population reported that essential micronutrients such as iron, zinc, vitamin A and calcium are lacking in the Nepalese diet and, consequently, large population groups are suffering from diseases and disorders associated with micronutrient deficiencies. Realizing the role of Small Indigenous Fish Species (SIS) to combat malnutrition problems, a project entitled "Improvement of women's livelihoods, income and nutrition through carp-SIS-prawn polyculture in Terai, Nepal" was launched in Chitwan and Kailali Districts. The objective of the project is to improve the health and nutrition of women and children through increased intake of nutrient-dense SIS, and to empower women. The project is funded by Danish International Development Assistance (Danida). Altogether 126 household ponds (100 in Chitwan and 26 in Kailali) of 100 m<sup>2</sup> have been constructed. Ponds are stocked with carps such as Rohu (*Labeo rohita*), Silver carp (*Hypophthalmichthys molitrix*), Bighead carp (*Aristichthys nobilis*) and mrigal (*Cirrihinus mrigala*), and SIS such as Dedhuwa (*Esomus danricus*), Mara (*Amblypharyngodon mola*), Pothi (*Puntius sophore*) and Prawn (*Macrobrachium rosenbergii*). The stocking density of carps, SIS, and prawn are 0.75/m<sup>2</sup> (Rohu 0.3, Mrigal 0.1, Silver carp 0.25, Bighead carp 0.1), 2.5/m<sup>2</sup> and 1/m<sup>2</sup> respectively. The culture period was 250 days.

In 2009, the average total production was 2.6 t/h/y. Fish production was affected by mortality caused by poisoning when water was drawn from a canal in which fishers used poisons to catch fish. Carps were the major contributor (88%) to the total production whereas SIS and prawn contributed 8% and 4%, respectively. A trial comparing carp and prawn production with and without SIS showed that SIS increased total production of carps and prawn by 30% during the culture period. On average, farmers consumed 54.4% of the total production. Consumption varied from 0.8 kg to 22.4 kg per household. Farmers consumed all SIS whereas surplus carps and prawn were sold and earned some money which the farmers used to cover household expenses. The amount of fish sold ranged from 0.7 kg to 24.2 kg per household. Carp-SIS-prawn polyculture increased fish consumption among small scale farmers and also improved household income.

## **EMPOWERING VULNERABLE STAKEHOLDER GROUPS IN FISH FARMING: WORKSHOP DESIGN FOR THE ASEM AQUACULTURE PLATFORM GENDER WORK PACKAGE**

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Poverty is high in small scale fish farming communities. Men and women both play significant but usually different roles in aquaculture activities. However, women's roles in aquatic food production are usually invisible, and women have often been left out in training, policy formulation and implementation despite their significant roles. Addressing gender issues in fish farming communities can result in empowering both men and women towards sustainable development. The strength of the knowledge and skills of those facilitating change among poor fish farming families and community can be one of the contributing factors towards empowering the weakest stakeholders. Development strategies must take into consideration gender issues, particularly women's role, and women should be involved in the development process. This paper will provide an overview of a workshop to be held in Malaysia with the following objectives to: a) share country experiences and best practices on poverty eradication by addressing gender issues, b) increase knowledge and skills in gender analysis and gender mainstreaming, c) identify strategies to promote appropriate technologies and greater participation of vulnerable stakeholder groups, d) develop action plans to empower poor farmers and women in aquatic food production, and e) establish networking among workshop participants.

The workshop is one of the work packages under the AqASEM09, ASEM Aquaculture Platform. The workshop will adopt participatory and integrative approaches to enable full and effective participation. The main topics covered in the workshop will be poverty and gender issues in aquatic food production, empowerment of vulnerable groups, gender analysis tools and gender mainstreaming strategies. Workshop participants are expected to share best practices in poverty eradication and addressing gender issues among aquatic food production communities. In addition, participants will prepare action plans for their respective countries to implement. Papers presented during the workshop will be published for wider distribution for integrating gender issues in aquaculture. This presentation also aims to generate discussion on the workshop design.

**Key words:** fish farming communities, gender roles, gender in aquaculture

## **GENDER PARTICIPATION IN THE PRODUCTION AND MARKETING OF SEAWEED IN DAVAO DEL SUR, PHILIPPINES**

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A Gender and Development (GAD) study was conducted to determine the profile of seaweed producers and the patterns of gender participation in seaweed production and marketing activities. This was aimed at identifying the potential role of gender-sensitive interventions as a strategy in upgrading the seaweed industry in the Davao region, Philippines. Data were gathered using a survey questionnaire from 171 respondents covering the barangays of Sta. Cruz and Digos City. Results of the study showed that seaweed production was a family-based venture. A higher percentage of the men respondents (48-87%) prepared the sites and planting materials, maintained the farms and harvested the seaweed product. The women (33-42%) only assisted in the procurement of the seaweed materials for planting. In seaweed marketing, the women had greater participation in contacting buyers, negotiating prices with the buyers and collecting payments (50-64%). Overall, men's and women's roles in seaweed production and marketing differ significantly ( $p < 0.05$ ).

## **THE ROLE OF WOMEN IN THE FISHERY SECTOR IN PANTAR ISLAND, INDONESIA**

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In the archipelagic national state of Indonesia, collecting and harvesting of marine resources make an important contribution to the local livelihoods for both food security and cash income. However, the role of women and their contributions to the fishery sector is poorly recognized. The fishing sector is classified as a men's world. Almost all past policy and development interventions in the fishery sectors targeted fishermen. This paper presents illustrates clearly the women's role in the fishing sector in Pantar Island, eastern Indonesia. The aim of this paper is to explore the women's activities related to marine resources, the gear used, and the contributions of fishing as a family's source of livelihoods. The data on which this paper is based was collected through focus group discussions with women and key informant interviews with the village leaders and fisherwomen. Although the results of this paper provide a local context-specific analysis of the role of women in fishing, it shows that women do fish and women contribute significantly to the family's food security. Therefore fisherwomen are important stakeholder groups in the fishery sector and their contributions should be recognized by the fisheries policy makers.

## **GENDER ISSUES OF THE FISHERY COMMUNITIES IN THE CENTRAL REGION OF VIETNAM**

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Based on both the participatory approach and household interviews, the gender issues of the fishery communities in the Central region of Vietnam are overviewed and analyzed. The findings indicate that in recent years, gender disparities have significantly reduced and both men and women now have better access to education, health services and economic opportunities. However, the existing gender gap between men and women of the fishery communities in the Central region is wider than the gender gap for other regions of Vietnam. Generally, many disadvantages are still specific to women, particularly poor women. Traditionally, cultural beliefs give very strong value to the necessity to have a boy child in the family. These beliefs sometimes generate major difficulties, particularly for women whose husbands want to have a boy. Although family planning and birth control policies were introduced many years ago, most sites had a high frequency of families who have more than three children. Women are responsible for reproduction and are also overloaded with housework which is traditionally considered as women's duty. Women rarely have opportunities to engage in fishing and aquaculture activities because either they are mainly engaged in housework or they are regarded as bad luck to these activities. The majority of women in the fishery communities are underemployed because alternative jobs are limited. Consequently, women lack jobs and are considered as dependant because of their lower cash income. In the field of social capital, although women's unions have considerably improved women's positions in social and economic life, they have fewer opportunities accessing other sources of social capital, particularly informal ones. As a result, their voice is limited in the processes of decision making in the family as well as in society due to traditional beliefs and stereotypes in which women's status is either subordinate or they have to be respectful towards men. In the coastal central region, many women are widows and they are rapidly trapped into poverty. In many cases, their husbands have been killed by the annual storms, for example, Chanchu storm in 2006 killed 257 fishermen in the region. Finally, women are also lack opportunities to access health services, education and professional training.

In order to improve gender equity in the fishery communities, some recommendations are 1) create more innovative solutions for better access to education, health care, social services, professional trainings for alternative jobs; 2) take gender equality into account in rural development policies related to access to resources, income generation, development planning and trainings and decision making process; 3) more support policies for women in economic activities such as credit, training on starting new business, business skills and transferring technology and 4) raising awareness about gender for local authorities.

## **ROLE AND CONTRIBUTION OF MEN AND WOMEN IN MANGROVE REHABILITATION IN REGION VI, PHILIPPINES**

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Given the substantial decline of mangrove forest in the Philippines, the rehabilitation and restoration of mangrove areas is urgent. Pioneering community-based mangrove rehabilitation efforts has been on-going in six sites in four provinces in Region VI, Philippines covering 103.22 hectares. In each site, the mangrove rehabilitation program is undertaken by a local organization of men and women and currently with technical and financial support from the Community-based Mangrove Rehabilitation Program (CMRP) of the Zoological Society of London (ZSL). Using these sites as cases, the paper focused on the role and contribution of men and women in mangrove rehabilitation efforts. Specifically, the paper described the female and male members' socio-demographic and economic profile, their entry and retention in the organizations at each site, their activities related to mangrove reforestation, and the formation of the organizations with focus on the positions occupied and responsibilities performed by male and female members. Primary data were collected through participatory rapid appraisal methods in 2009.

Men and women participated in mangrove rehabilitation efforts in six sites. Overall, the males outnumbered the females (315 males and 270 females) but females dominated three organizations. Two organizations started with all male members, two started with all female members and two with both female and male members. Mixed membership was encouraged under the CMRP-ZSL. External agencies were instrumental in the formation of the organizations. Four organizations formed earlier were strengthened under CMRP-ZSL starting 2009; two were organized under CMRP-ZSL in early 2009.

Although the organizations were headed by males as president or chair of the Board of Directors, the females played a significant role in running the organization as record keepers and fund managers. They shared with the males the major activities such as bagging of seedlings, hauling of planting materials, planting of mangroves, taking out algae from newly planted mangroves, and replacement planting. Particularly, the activities performed by females included organizing meetings and monitoring the growth and survival of planted mangroves. Meanwhile, heavier physical activities were usually performed by males such as setting up bamboo poles and binders during area demarcation, digging holes during planting, constructing foot walks and constructing breakwater. As wives of male members who were fishers, female members performed activities that their husbands were unable to perform while out fishing. Both the male and female members performed their activities voluntarily or with very minimal monetary incentive.

Among the female members, their major problem was time allocation for performing responsibilities at home, in the organizations and in the barangays. Most were also barangay health workers or barangay nutrition scholars.

The biggest challenge in mangrove rehabilitation efforts is sustaining the interest and help of both the male and female members, especially when the external support is finished.

## **SUCCESSFUL WOMEN ENTREPRENEURS IN AQUACULTURE SECTORS - CASE STUDIES OF TAMIL NADU, INDIA -**

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In many Asian countries, the rapid development of aquaculture has provided a lot of scope to involve a large number of people in its varied production components. Aquaculture offers one of the best livelihood options for women especially in coastal areas. The nature and the extent of involvement of women vary greatly from place to place, and within a place it varies among castes, religion and position in the family hierarchy.

The involvement of rural women in small scale aquaculture is considered important for augmenting fish production and to uplift the social and economic conditions of women. Urban male migration and other social problems have led to an increased number of permanently or temporarily women headed households. This also demands the involvement of rural women in all sorts of agricultural activities including aquaculture.

This study describes women who have taken up aquaculture as their avocation and discusses avenues of opportunities to get more women involved in this sector. These women also earn a significant income from these activities and increase their family income considerably. This study discusses various cases of successful women entrepreneurs in India who are engaged in shrimp farming, crab culture, crab fattening in cages, pens and concrete tanks, shrimp hatchery management, crab hatchery management, live feed farming and processing, shrimp processing, fish meal formulation and feed development, aqua by-products management and exports.

The study has made considerable effort to capture the existing and latent entrepreneurial talents of women in fisheries and aquaculture in Tamil Nadu, India. It has made efforts to cover various aspects such as facilitating and inhibiting factors, problems encountered at work and suggestions for improving their businesses.

As these women have demonstrated their ability to work successfully at all levels of the sector, it is important to continue to construct an environment conducive to their greater participation and benefit. More opportunities must be created. This can best be achieved at the global level, predominantly through the collection and dissemination of information and the transfer of technology among countries. Several on-going efforts specific to women in aquaculture development exist. It is important that these case-studies not only highlight the participation of women at all levels but also identify and resolve recurring issues and provide the foundation for formulating and planning future programmes for women.

## **LESSONS LEARNT AND EXPERIENCES OF GENDER MAINSTREAMING POLICY AND STRATEGY IN THE FISHERIES (GMPSF) SECTOR IN CAMBODIA**

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Over the past decades, both Cambodian men and women have played important roles in contributing to the development of the fisheries sector by being involved in fishing, post-harvest fisheries activities, repairing fishing gears, fish trading, etc. However, little attention has been paid to women's roles in the fisheries sector and they have been poorly recognized in the fisheries sector. To respond to these issues and to achieve a better recognition of gender roles in the fisheries sector, in 2007 the Fisheries Administration endorsed a Gender Mainstreaming Policy and Strategy in the Fisheries Sector (GMPSF). GMPSF was also a contribution to the implementation of the Gender Mainstreaming Policy and Strategy in the Agriculture Sector (GMPSA) which was endorsed in 2006 by Ministry of Agriculture, Forestry and Fisheries (MAFF).

The gender policy's goal for the fisheries sector is the "enhancement of gender equality in the fisheries sector through active cooperation of both women and men for the opportunity to contribute and benefit equality from the activities of all sub-sectors in the fisheries sector". In order to achieve this goal, five objectives of GMPSF have been indentified, namely: 1). to increase the number of women that have sufficient qualifications for management positions and advance their careers in Fisheries Administration (FiA); 2). to increase the gender awareness of FiA staff at every level of the fisheries sector; 3). Integration of gender analysis, sex disaggregated targets and data in reports and plans as well as in all projects and programs in fisheries sector; 4). to increase the ability of rural women to access and manage natural fisheries resources and services; and 5). to improve the communication linkage between relevant ministries, departments and other donor agencies (in relation to gender). The main approach of implementing this GMPSF is the integration of its plan into the FiA annual plan, mid-term and long term strategic plan through a strong coordination team in the FiA gender working group, comprising people in senior positions in the FiA management team and Departments/universities under FiA.

Since 2008, the GMPSF has had three years' of implementation and this period has provided many lessons learnt and experiences. Progress has been considered good and the GMPSF has gradually achieved significant change in term of upgrading gender knowledge of FiA staff at almost all levels, helping the management team decide on promotions for some women in senior positions, integrating gender indicators in FiA's annual plan/mid-term and long term strategic plans, and the incorporating the implementation of gender responsive actins in sub-sectors of fisheries through projects/programs at community levels. Therefore, gender mainstreaming policy and strategy in fisheries sector is very important, because it provides necessary and useful guidance for the organization to achieve gender equality.

However, more time still is needed as gender is a complex, controversial subject. Social relations change over time and gender focal points need time to disseminate information, coordinate and follow up regularly within the organization and in projects and programs in order to ensure that gender is taken into account.

## **GENDER AND FISH SUPPLY CHAINS-TRANSFORMING THE ECONOMY THROUGH GENDER RELATIONS, A CASE FROM SRI LANKA**

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The Post Tsunami Coastal Rehabilitation and Resources Management Program (PTCRRMP) funded by the International Fund for Agricultural Development (IFAD) has been implementing a gender responsive micro enterprises development program in tsunami affected areas of Sri Lanka. This paper addresses gender and fish supply chains in one intervention. The project site is Thotamuna, a coastal village in the Matara District of the southern Sri Lanka. This paper analyses a case of how gender relationships work in a fish supply and distribution value chain. The intervention is supported by Institute of Development Alternatives and Reconciliation Ltd (iDAr- The Service Provider) within the PTCRRMP-IFAD framework.

Thotamuna is a fishing village of 800 people. The majority of households in Thotamuna are classified as below the poverty line. Among adults, 290 are men and 590 women. 189 people died due to the 2004 Indian Ocean tsunami, 150 of whom were female.

The traditional economy in Thotamuna is based on a fish supply chain. Fishing is the main source of household income. In Thotamuna, household food security (income) depends on gender relationships. Fishing generates the value chain. Fish are caught by men engaged in coastal and marine fishing. A large portion of the fish stock is unprocessed and sold directly to middlemen. Research revealed that income generated by this activity is not sufficient to provide for household well-being. Households are managed by women and the social relationship between women and men forms a basis for gender-based overarching economic relationships in the village that could ultimately increase the well-being of the family. Gender relationships open-up the opportunity for reducing the poverty levels of households. Although a large portion of the fish caught by men is directly sold to middlemen - in a traditional and difficult-to-break trade cycle - a small portion of it is sold to village women. The women in Thotamuna have traditional skills and technologies for processing fish into value added products such as *Ambulthiyal*, *Jadi*, *Dried Fish* and *Umbalakada* (Maldives Fish) that brings in complementary income.

The processed fish-based products of women have a great potential to develop into multiple business value chains that benefit the local economy as they are in high demand in the local market, urban supermarkets and in the markets abroad. The processed fish based products quote high prices especially, in higher end markets. Undertaking a micro business development intervention on fish-based products manufactured by women creates the opportunity to improve the economy and household well-being. Increasing the processed fish-based production will gradually reduce the amount of fish going to middleman at a lower price, without creating a conflict with the existing trade pattern. Over time the existing primary trade pattern of the village could be replaced by a production economy based on a gender relationship. Such a production economy will add value through the involvement of women with the fish caught by men. It could create a gradual transition of the village economy engaging and increasing the participation of women. The process will form a strong social and economic relationship between women and men and result in the increased household food security.

The gender-based micro enterprises intervention appears to be a realistic undertaking. A cluster-based approach will be used in which gender-relationship based value chains can be developed within the village. The fish based processed products can be linked up with the urban and export markets that would create a number of value additions to the business relationships.

- a. Fish stock – processed primary products- further processing (quality improvement, product development etc.) within the village
- b. Fish stock – processed primary products- further processing by external (perhaps large scale) enterprises
- c. Fish stock –processing- packaging- branding- sales to wholesalers
- d. Fish stock –processing- packaging –branding- urban supermarkets/international markets
- e. Fish stock –processing-packaging –branding –sales to direct consumers through own outlet

## **GENDER ROLES IN THE SEAWEED INDUSTRY CLUSTER OF SOUTHERN PHILIPPINES: THE DICCEP EXPERIENCE**

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Cognizant of the various gender roles, the Seaweed Industry Cluster approach was implemented to enhance seaweed production in Davao, Southern Philippines. The goal of the seaweed industry cluster is to be an inter-agency, multi-sectoral initiative to plan a development road map for the seaweed industry and its stakeholders in the Davao Region to increase income levels of fisherfolk, improve contributions of the industry to regional output as well as sustain productivity and competitiveness of the seaweed industry. Anchored in the industry cluster approach, a capability building project was implemented through the DICCEP (Davao Industry Cluster Capacity Enhancement Project) funded by JICA-DTI, and with the following participants Southern Philippines Agri-Business and Marine and Aquatic School of Technology, Bureau of Fisheries and Aquatic Research Region XI, local government units, the private sector, the Philippine Council of Aquatic and Marine Research and Development Zonal Center, and the Peoples' Organization. After several training activities on the industry cluster approaches, three projects were implemented as pilots. The projects' outputs to date have been: 1) establishment of seaweed farms that benefit farmers, 2) a directory of seaweed farmers and traders, 3) a database on seaweed production and 4) the training of 95 farmers & housewives on seaweed value adding and entrepreneurship. The outcomes and impact of the project include: a) generation of income for farmers, b) development of new value-added seaweed products with Intellectual Property Rights and c) business start-up for seaweed farmers and housewives.

## **GENDER ROLE IN DEVELOPMENT OF SMALL-SCALE SHRIMP FARMING AND RECENT CHALLENGES IN THE COASTAL REGION OF BANGLADESH**

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Small-scale shrimp farming is considered especially important for its potential to generate employment and income at the household level in the coastal areas of Bangladesh. The export earnings from the shrimp sector are the second largest source of Bangladesh foreign exchange earnings, contributing about US\$ 487 million in 2009-2010. The recent challenges for the shrimp sector have been its inability to respond correctly to evolving new market standards, food safety and quality requirements of the importing countries. A post-project evaluation of a UNIDO supported Bangladesh Quality Support Program (BQSP), implemented to strengthen the capacity of the Department of Fisheries in good aquaculture practices (GAP) and in inspection of shrimp and seafood products for compliance with market standards, suggests that involving female farmers and farmer couples can be a useful entry point to develop the sector and overcome the challenges. This paper presents empirical results from two sets of gender focused GAP training held *in-situ* for (i) only female farmers and (ii) farmer couples at three coastal districts of south-western Bangladesh. It also sheds light on the factors affecting the success of gender focused GAP training in a conservative society like Bangladesh.

## **ENHANCING RURAL WOMEN PARTICIPATION IN FISHERIES: POST-HARVEST LIVELIHOOD**

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The aquaculture subsector contributes about 68% of the total fish production in the Ilocos Region, Philippines. Eighty seven (87) percent of the production is of milkfish, and thus more milkfish is produced than consumed in this Region. The Bureau of Fisheries and Aquatic Resources (BFAR), in collaboration with the Local Government Unit, decided to offer training to women to develop their skills for adding value to the excess produce and thereby increase their income and create jobs in fish deboning and smoking.

Through its Gender and Development Project, BFAR assisted nine Rural Improvement Clubs (RICs) namely Bulbulala Home Maker Fish Processing, Inc., Vintar, and Federated RIC of Batac of the Province of Ilocos Norte; Suksukit RIC, Sto. Domingo and Villa Garcia RIC, Sta. Cruz of the Province of Ilocos Sur; Rural Improvement Club of San Francisco Sur of Sudipen, RIC of Balaoan, Rosario Integrated RIC of Rosario in the Province of La Union; Calasiao RIC of Calasiao and Labrador RIC of Labrador in the Province of Pangasinan. The women's groups were each provided with capability building training like bangus deboning and smoking, gender and development orientation, value-adding, field tours (*laktbay-ara*) for the members, packaging and labeling, simple book keeping and financial management including leadership management training for some of the organization members. Through BFAR, these associations were granted equipment and materials to facilitate implementation, improvement and expansion of their fish deboning and smoking projects. These interventions enhanced project viability and eventually, will help them evolve as business and livelihood enterprises for the women members.

## **THE GLOBAL AND LOCAL MARKETS OF *Penaeus monodon* IN BOHOL ISLAND, PHILIPPINES: GENDER ROLE IN HACCP IMPLEMENTATION**

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*Penaeus monodon* is one of the most common species of farmed crustaceans in the Philippines. It found global and local market through a prawn processing plant in Bohol Island which has been implementing Hazard Analysis Critical Control Point (HACCP) practices. The university researchers of Cebu Technological University facilitated the HACCP certification of the prawn processing plant from 2004 until 2006. They assisted on the preparation of plant set-up, standards of practice, hazard analysis worksheet, and HACCP Plan toward registration. Gender role in HACCP implementation was assessed and was revisited in 2010. The study investigated the gender roles in prawn processing and marketing, where the gender division of labour was most prominent. Results confirmed that in prawn processing, 80% of workers were young female; most are in the age bracket of 18 to 21 (64%) and 25-30 (34%). These women were the core workers in implementing HACCP practices. Among these women who were involved in post-harvest activities of the plant, 50% of them were engaged in other entrepreneurial activities after work/shift, like local marketing of processed prawn which failed to meet the export quality. 30% of them were engaged in gardening, small-scale farming, and household chores, and the other 20% were confined to household activities after work. Men, who composed of 20% of the workforce, were engaged in lifting/transferring of processed prawn to and from conveyor. All men workers were engaged in farming and cattle-raising after their work/shift. Although all employees worked in an eight-hour shift, only 10% were regular/permanent workers, 10% provisional, while 80% (60% women and 20% men) were “on-call” or contractual-basis employees. They were called to work when there was enough harvest. Fifty percent of the respondents seemed to like the idea of working in a HACCP certified plant, and they wanted their children to follow the trade they are engaged in. The other 50% wanted their children to be engaged in other professional jobs, because they feel that they are stuck in this “on-call” job because of their lack of higher education – within the range of Grade 6 – 10. It is recommended that continuing education for women workers be introduced in HACCP-based processing plant in order to keep a constant supply of trained workforce for post harvest activities of diversified fishery products, other than prawn processing.

Key words: Postharvest, Cebu Technological University, prawn processing

## **EDGING UP THE LADDER: THE WOMEN IN BAN THUNG MAHA, THAILAND**

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Adopting a qualitative approach and employing several research strategies – focus group discussions (FGD), key informant interviews, and secondary data, this study attempted to unravel and understand the situation of women in Ban Thung Maha fisheries by exploring in detail, men and women's access to and control over resources, gender roles and their time allocation, gender relations, women's views about their work, the social institutions that define their roles, functions and identity, their participation in the community and longings in life.

The study contended that women in Ban Thung Maha played a crucial role in the fishing village engaging in three major roles – reproductive, productive and community management roles. Traditional stereotypes, however, hindered women's empowerment and community development. Recommendations on improving gender relations are set forth in the study.

## **GENDER ROLES IN FISHERIES LAWS DISSEMINATION AND ENFORCEMENT**

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An important basis for planning for effective dissemination and enforcement of relevant fisheries laws is an understanding of existing roles played by various stakeholders in the process. Sixty-six coastal barangays in the municipalities of Oton, Tigbauan, Guimbal, Miagao and San Joaquin in District 1 south of Iloilo Province served as the study sites. A total of 603 registered fisherfolk, extension workers as represented by the Municipal Agricultural Officers (MAOs) and Agricultural Technicians (ATs) or Fisheries Technicians (FTs); and Sangguniang Bayan (SB) Chairpersons of the Committee on Agriculture and Fisheries were interviewed for the study.

Results show that in some towns, women usually accompany their husbands in their fishing activities and have also registered themselves in the municipal fisherfolk registry. Perceptions on the gender orientation of information and communication materials, as well as the strategies employed for the dissemination of the Fisheries Code and Municipal Fisheries Ordinances indicate that the majority of the respondents found that the materials were designed for both males and females although some believe that women are the target clients whenever livelihood programs are the agenda. Nevertheless, they all agree women are good in disseminating information because they are also good listeners.

The extension workers did not encounter any gender-related problem in the dissemination process thus, it was not an issue. They usually target the fisherfolk in most of their activities, regardless of their gender. The present pattern is that there are more male than female fisherfolk. However, they also believe they should also target the women in the fishing communities in the dissemination of fisheries laws because they are easier to communicate with and there are some functions which can only be done by women. Women can serve as conduits to their husbands since there are instances when they attend meetings and activities for their husbands. Moreover, the extension workers see that the role of women as mothers is critical in dissemination of relevant information to the family.

Giving the capacity to handle the demands of the job, 21.9% of the respondents preferred male extension workers, while 12.7% preferred females and 65.7% have no preference at all. The male extension workers are seen as more capable in terms of physical strength (21.9%), and more knowledgeable about fishing (18.5%). Others believe that the distance an extension worker has to travel between different barangays makes it difficult for a woman extension worker. On the other hand women extension workers are believed to be more dedicated and sincere (8.6%); more approachable (3.6%), and less troublesome (0.6%).

Although results reveal some differences in the roles played by men and women in the dissemination and enforcement of fisheries laws, gender is still not considered as an issue among the fisherfolk. This is in terms of their preference for extension workers, on how they perceive the preference of communication materials and dissemination strategies, and fisheries law enforcement. Planning for dissemination of fisheries laws will therefore target fisherfolk and other resource stakeholders regardless of gender although the role differences noted should be used as a basis in the strategies to be employed.

## THE ROLE OF FISHERWOMEN IN THE FACE OF FISHING UNCERTAINTIES

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Fishing industries, especially those of small scale, are always challenged by uncertainties. The uncertainties are often mirrored in the livelihood of small scale fishers, who are still living in poverty. Every member of the fishermen's family acknowledges this condition, and they are seriously taking into account this situation. Fisherwomen, who are either wives of fishermen or women who work in fisheries related business, are members of the fishermen's family who have to take the leading role in the household's economy beside the fishermen. They have to support their family livelihood, especially when facing unsustainable income. This paper explores the role of fisherwomen in adapting to uncertainties in coastal communities of the north coast of Java, Indonesia. This paper develops indicators of uncertainties with respect to livelihood in fishery and tested these indicators by employing multi dimensional scaling method using a modified version of Rapid appraisal for fisheries (Rapfish). This technique is first used to analyze the role of women in dealing with uncertainty in fishing. Such an approach would be useful not only in understanding the degree of women's participation, but could also be used by policy makers to develop policy prescriptions for coastal communities in general. This paper also shows how the empowerment of local communities can be used as a cushion for absorbing income shocks due to uncertainties.

**Key words:** Fisherwomen, Fisheries uncertainties, Rapfish

## EMPOWERMENT OF HIV/AIDS WOMEN GROUP THROUGH MANGULUKENI FISH FARM: A CASE STUDY FROM NAMIBIA

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The Oshikuku Support Group was established in January 2007 in conjunction with St. Martin's Hospital. The group's purpose is to provide a supportive environment for HIV positive and HIV/AIDS affected individuals to share their experiences and counsel them while participating in a group project. After formation, the members decided to begin an income generating project and selected aquaculture as a means to gain income while addressing economic and psychosocial challenges as a group. The project was named 'Mangulukeni Fish Farming Project,' meaning to "be free" in Oshiwambo. This name calls members and the community to *be free* to share their experiences with each other, to *be free* of the stigma associated with HIV/AIDS and to *be free* to live a better life.

Project implementation began in 2007, with the technical guidance of the Ministry of Fisheries and Marine Resources (MFMR), Namibia. Before the project began, members visited another aquaculture project and then, when the project began, the MFMR officials met with them to provide advice. Mangulukeni Fish Farm had its first harvest in summer 2008 and its second harvest in September 2009. The project helped to raise awareness of HIV/AIDS in the Omusati region while allowing the members to benefit from the psychosocial, physical and emotional health benefits of a group project. The project was created and run by women, with 10 out of 11 members being female. Additional direct beneficiaries include family members and households, which total 92 people, 46 of whom are children. They also provide a powerful example of the strength and success of women and the opportunities available. The Project provides a wide range of opportunities and benefits, including: 1) income generation, 2) nutrients from the fish, 3) business, management and leadership skills and, 4) a sense of belonging, ownership and accomplishment. The Project aims to continue, setting an example for other aquaculture projects, other support groups, and for women.

On 5 March 2009, the project stocked 4000 tilapia fingerlings from the Onavivi Inland Aquaculture Centre in a manually constructed pond. By 4 September 2009, the women harvested the pond due to a water shortage. Earlier, the pond was partially flooded and some fish lost when catfish entered. At harvest, the average weight of fish was 80 g. Growth and production were not economically viable but the group members each earned N\$200 and took home fish to eat. N\$500 (1 US\$ = 7.1 N\$) was put back into the project. Though not satisfied with this harvest, the group was ready to continue fish farming. During 2010, the group requested and bought catfish fingerlings and the results were monitored by the extension services.

Through this learning process, the group has remained committed to the project and has been working with the MFMR to capture the lessons learned to better inform future activities. Via its TELEFOOD fund, FAO is expected to provide support to acquire land from the local traditional authority and to expand the existing project as a small-scale fish farm and vegetable garden. The project has planned to produce 3 to 4 tons of products in its first year, which will then be increasing each year until the project is self-sustainable in the long-term and profitable as well.

**Keywords:** Namibia, Mangulukeni fish farm, HIV/AIDS, Women's group, Empowerment

## **GENDER AND CREDIT MARKET PARTICIPATION AND ACCESS AMONG HOUSEHOLDS IN COASTAL BARANGAYS IN GUIMARAS, PHILIPPINES**

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This study focused on describing the participation and access to credit market of men and women from fishing and non-fishing households in 16 randomly selected coastal barangays in Guimaras, Philippines. Specifically, the paper described their socio-demographic and economic profile, need for credit, and credit market participation and access. Data were collected from 376 randomly selected survey participants representing these households and who were interviewed from January to March 2007.

Eight in every ten study participants reported the need for credit. The females from fishing households registered the highest proportion (90%) with reported need for credit. On the average, the need for credit was experienced more than 5 times during the study period by all types of study participants. Credit need was mainly for consumption purposes (particularly food and medicine).

Not all people with credit needs participated in the credit market but, at 95%, the participation rate was high. Not all who participated in the credit market were successful in availing of a loan but, in general, access to credit was also high at 96%. On average, the study participants from fishing households availed of one more loan than those from non-fishing households (5 vs. 4) in 2006. All study participants from non-fishing households were able to access credit while only 91% for study participants from fishing households did so. Based on the amount of the last loan availed, credit access was highest among males from non-fishing households (P8,381.59 or US\$188), while the lowest credit access was among males from fishing households (P4279.59 or US\$ 96).

Credit application and use was mainly a husband and wife decision. However, actual credit application was delegated to the wife, while the responsibility of paying the loan rested on the husband or on both the husband and wife. This pattern was particularly true among fishing households.

Although access to credit was high, more than the majority also sourced credit from informal sources (65%) such as friends and relatives that are nearby. Only 25 percent of the study participants were able to access credit from semi-formal sources or micro-credit finance institutions. Moreover, the amounts availed as loans were not used for income generating activities or to increase production but for consumption purposes. For these, the participation and access to credit market by the study participants did not necessarily increase the chances of improving their productivity and living standards.

## **ENHANCING WOMEN'S ROLE IN FISHING COMMUNITIES IN MALAYSIA: A GENDER PERSPECTIVE**

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Malaysia aims to become a developed and high income nation by 2020. Industrialization and focus on the k economy resulted in a decline in the proportion of the labor force entering the agriculture sector, especially the fishing sector. Though the number of employed people in the fishing sector declined from 127,500 in 2004 to 117,400 in 2008, the number of female labor force in this sector increased from 3,000 to 4,700. Labor force survey conducted by the Department of Statistics in 2008 also revealed that there were 1,400 women age 35-39 and 1,900 women age 45 – 64 in the fishing sector. Meanwhile the fisherman socio economics and household census data collected by the Fisheries Development Authority of Malaysia in 2007/08 reported that there were 21,020 households headed by men compared to only 137 headed by women. Fishing sector in Malaysia is predominantly a male sector as reflected by the number of women in the labor force as well as the data from the household census. Much is being done to eradicate poverty through increasing productivity in the fishing sector and the efforts are mainly focused on increasing the catch which is mainly done by men. The role of women in the fishing community is mainly confined to the fishing women association group (KUNITA). Study conducted revealed that women are regarded as 'wives of fishermen' and are thus marginalized rather than assisted to enter the fishing industry. Using secondary data, this paper will explore gender challenges in efforts to enhance women's role in the development of fishing communities in Malaysia. This paper will put forward recommendations to address the gender challenges and to further enhance women's involvement in the development of the fishing communities.

**Key words:** women's role, gender perspectives, Malaysia

## **GENDER IN PRODUCTION AND UTILIZATION OF BANGUS AT CEBU TECHNOLOGICAL UNIVERSITY, CEBU, PHILIPPINES**

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Cebu Technological University (CTU) has four Fishery campuses strategically located in the island of Cebu, Philippines. The main focus of aquaculture technology in these campuses is milkfish, locally known as bangus, cultivated in more than ten hectares of fish pond. Gender roles in CTU milkfish production, utilization, and extension services were the foci of this study. Male workers composed 90% of the workforce, doing pond preparation and milkfish production, while 10% were female, who were tenders of hatchery laboratory-in-tanks, and were engaged in feeding of grow-out ponds. An all-women group was worked on utilization of milkfish into fish nuggets and fish sticks. They also processed milkfish into soft-boned, relleno, and boneless. These technologies were transferred to the community. It was noted that before the transfer, all the women vendors studied used to sell raw milkfish at prevailing price. As an effect of the technology transfer, 60% of these women vendors practiced milkfish processing at home, thus, adding value to the milkfish that can be sold at a higher price. The university's continuing extension program of milkfish farming and utilization had influenced the community to adapt the technology and optimize production of milkfish through value-added processes at farm and at home. Men and women undertake distinctly different roles in milkfish production and utilization in Cebu.

## **PROCESSING OF FRIGATE MACKEREL *Auxis thazard* : GENDER ROLES IN ENSURING PRODUCT SAFETY**

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Producing *Tinap-anan* from *Auxis thazard* serves as a main livelihood of the vendors in Danao City fish ports. This is a very tasty and juicy hot smoked frigate mackerel with a shelf-life of 3 days at ambient temperature and 5 days in a refrigerating condition. In 1985, the Cebu Technological University Carmen Campus faculty-researcher tried to create another hot smoking process for this commodity. However, due to the high cost of equipment, the traditional process still prevailed. Then, the researcher turned to monitor the safety of the *tinap-anan* in terms of histamine content. In 1995, research on histamine content level during processing showed that the product processed based on traditional practices was safe for human consumption. These products were processed by approximately 30 Danao City processors. The study investigated the gender roles in the processing practices. Eighty two percent (82%) of the processors are female and 18% are male. The female processors are the one who market the product through retail store and direct sales, while the male processors are the ones who purchase the raw materials from the fish ports. The Cebu Technological University technology researchers made another round of research on the histamine level during processing to these processors, since the present processors are the children of the generation that were involved in the earlier study. The result showed that good manufacturing practices were observed since the Local Government Unit of Danao City, Philippines provided the state of the art preparation and smoking area to the processors that are adjacent to the new established fish port.

**Key words:** *Auxis thazard*, Cebu Technological University, fish postharvest

## **ENGENDERING AFRICAN FISHERIES AND AQUACULTURE DEVELOPMENT**

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The African Women in Agricultural Research and Development (AWARD) is a program under the CG Gender & Diversity Program. It is housed by the CG ICRAF based in Nairobi, Kenya. The program is sponsored by the Bill and Melinda Gates Foundation and the USAID. It took off in 2008 with the first set of 60 Fellows from different agricultural background including fisheries and aquaculture. As of 2010, there are a total of 180 fellows in the program and the outcome has been very positive in terms of engendering Africa's Fisheries and Aquaculture Development in the area of Science and Technology Development.

The program has also developed partnerships with a number of development organizations working in Africa's Fisheries and Aquaculture Development such as - AGRA, FARA, IFS, NEPAD and RUFORUM to name but a few of these partners. So far 11 African countries are involved in the program. However, there is a strong drive to involve more countries from the Francophone areas. The invitation extended to Francophone African countries to become part of the program will improve the Science and Technology aspects in those countries and would lead to a true engendering of Africa's aquatic natural resources.

The outcome will also lead to ensuring that Africa's female population has a voice in the future of fisheries and aquaculture development in the 21st century.

## **“GENDER IN FISHERIES AND AQUACULTURE” CERTIFICATE COURSE FOR THE FISHERIES STUDENTS IN INDIA**

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Gender equality is a foundation to achieve sustainable development. One of the eight Millennium Development Goals (MDGs) is achieving gender equality in all countries and cultures at the earliest possible time and accomplishing this goal is acknowledged as a key to achieve the seven other goals. It has been shown that enhanced access to education, technology, information, inputs, and other resources contribute to empowerment of people. India is one of the countries where gender inequalities are seen in many areas.

Sensitization and awareness creation on gender issues is inadequately addressed in fisheries in India and this has been hampering gender balanced development. With men dominating in most of the activities in fisheries education, research and development areas, lack of knowledge on gender issues confronting the sector, progress in each of the areas has been slow. In order to address this issue at an early stage of people shaping their thoughts and career, a certificate course on Gender in Fisheries and Aquaculture has been formulated targeting primarily student communities.

In India, there are currently seventeen Fisheries Colleges established under the Agricultural Universities system. Annually about 400 graduates pass out from these institutions and they are employed largely by the Department of Fisheries of the respective states. In addition, graduates are also employed by the Central Government for various positions and private sectors. In the existing undergraduate syllabus there is not enough provision to teach issues related to gender in fisheries and aquaculture at greater depth. With the reduction of number of years of class room based study to three years, time available for introducing a new course on gender and fisheries has become difficult. Hence, the present course has been designed as a non-load course that students can take at any time and complete before completing a four year program. In addition, the present certificate course has been developed in such a manner to help the professionals to complete this course through distance mode of study. The course is designed to cover six months duration to fit into the prevailing semester system.

The course is proposed to start at the Fisheries Colleges and Research Institutes. It is also proposed to be expanded to other Fisheries colleges by making the course available on the e-learning platform. The course is planned to be launched on 8<sup>th</sup> March 2011. This paper will present the syllabus covered, conduct of course through class room approach as well as distance mode and the method of evaluation adopted.

## **WOMEN'S ROLES IN NOVEL FISHERY TOWNS IN CHINA**

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With the continuous development of China's fishery economy, the position of women in the fishery sector is facing change. Meanwhile, the importance of women in the construction of fishery town is becoming evident. In the Fifth Session of the Sixteenth Central Committee Meeting of the Communist Party of China, a new call which is about the planning and construction of fishery town has been proposed and the basic requirement of how to build a totally new fishery town has been clarified. The essay gives a detailed analysis of women's' role in the construction of fishery towns based on a new model. The reasons why women can take up active roles in the new fishery town are discussed. Strategies on how to further enhance women's role in the new fishery towns are also put forward.

**Key words:** Women's position, construction of novel fishery towns, women's role, problems and countermeasures

## **PEOPLE IN AQUACULTURE TODAY: A MOSAIC OF PEOPLE**

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Half of the estimated 110 million tonnes of fish, shellfish and other fisheries products for human consumption today are produced in some form of aquaculture by people like those depicted here.

## **PEOPLE IN AQUACULTURE TODAY: RAPID AQUACULTURE EXPANSION AND CONTINUED CHANGE**

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In a half century, aquaculture has expanded and changed dramatically and continues to evolve. That represents new opportunities and also challenges.

## **PEOPLE IN AQUACULTURE TODAY: MAKING THE RULES WORK FOR PEOPLE**

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Social and environmental justice are key conditions for sustainable aquaculture.

## GENDER, POVERTY AND FISHING COMMUNITIES IN MALAYSIA

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In discussing gender issues, the topic of poverty inevitably arises. Men are perceived as tough and hardworking and in control of their environment whereas women are caring, nurturing and expected to be there for children as well as extending their caring role beyond the home. Fishing activities are perceived as only for men. Will a household with more men be at greater risk of poverty if they are injured or not able to work? Will a household with more women also suffer poverty because they may not be able to do fishing related activities? This paper used part of the data collected in 2007 from three Malaysian districts with among the lowest rates of poverty. Household income data were collected only from those households involved in open sea fishing or aquaculture activities. A list of poor or hardcore poor households was obtained from the Malaysia Department of Social Welfare. The findings showed an average of eight persons in each household, with an equal distribution between males and females. For each household, the gender ratios were calculated. Households were then categorized as (1) many-male-households with gender ratios of  $> 0.5$  (distinctly more males than females in the household), or (2) less-male-households for gender ratios  $\leq 0.5$  (equal or fewer males than females in the household). A similar method was used to calculate the gender ratio for female family members for category (3) many-female households, more females than males in the household, and (4) less-females for equal or fewer females than males in the household. Thus categories 1 and 4 differ only by the number of household with equal numbers of members of each gender and like 2 and 3. For poverty categories, the first category was the poor and hardcore poor able-body category for households with members who are all able to work. The second category was for households with at least one of its members being a single mother, or an elderly, handicapped or person suffering from a serious illness (not-able-bodied). The Chi Square statistics between the two groups of poverty and four groups of gender ratios were significantly associated ( $p \leq 0.05$ ). A high percentage of many-male-households (66%) were in the not-able-body category as well as a high percentage (79%) of less-female-households. For the households in the able-body poverty category, the majority (71%) were less-male-households using the male focus, whereas percentages were equal for more-female-household and less-female-households. These findings suggest that a fishing household with many female members may suffer of poverty even though all of the family members are able to work. These findings may support the impression that fishing activities are masculine activities. For example if there are many males in a family, most of them will get involved in fishing activities and the family will be at the risk of poverty if one of these male are somehow handicapped. However, if there are many females in the household, the household may also be at risk of poverty because fishing activities are too masculine for them. These findings suggest that collaboration between male and female family members of developing downstream activities to empower female folk in fishing communities such as food processing for fish-based product.

Keywords: Gender, Poverty, Rural development, Fishing Community