

**COMMUNITY BASED FISHERIES MANAGEMENT IN THE COASTAL AREA OF BANGLADESH
WITH EMPHASIS ON GENDER**

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ABSTRACT

This is a vogue to do fish farming in a pond or other water body inside and outside of the household in rural scenario of Bangladesh as an agriculture-aquaculture farming for a long time. Even the fish farming with profit or income generation among the fish farmers has taken place just few years ago with the initiative of many development projects. The Government of Bangladesh had launched 'Patuakhali Barguna Aquaculture Extension project (PBAEP) in south and south east coastal area of Bangladesh which is supported by DANIDA (Danish International Development Agency) through its Technical Assistances in cooperation with the Department of Fisheries (DoF) of the Ministry of Fisheries and Livestock (MoFL), Bangladesh and implemented by 2 local NGOs. This project aims during 1997-2004 to strengthen the socio economic status and physical well-being of the men and women and improve their participation in social and economic development as well. The project emphasis on community based fisheries management (CBFM) in coastal area through Integrated Pond Farming (IPF) activities. Training for IPF is the sole intensive system to the farmers group so that they can do raising fish and use the dyke of the pond and be beneficial from earning money with the increase of production. The paper was to obtain qualitative information of farmer's attitude, perception and opinions, including both their positive and negative experiences to identify opportunities and constraints to raising fish from the women farmers in particular. It is found through a field study at the project area that the women play an important role in Integrated Pond Farming activities; nevertheless, women ability to exercise a choice in terms of agency is much lower. The project stresses on development of primary capabilities for the first for women with aquaculture techniques and micro credit training respectively, the project built up these women community significantly. The research findings concludes with the recommendation to provide credit, form sex separate groups and the extensive gender training for extension worker while women are less confident to speak up in the presence of their male partner in the training and meeting conducted by the project, fish farming is quite expensive for the rural women group and the extension worker also still confused about gender knowledge and gender gap.

Key words: Community, Fisheries management, Coastal area, IPF, Gender, Bangladesh

INTRODUCTION:

The Fishing activities in the coastal areas can be divided into four main types. These are river, canal, estuary, sea and pond-based fishery. The coastal fishermen communities in general are very poor. In most cases, more than 50% of the fishermen have no such valuable assets including land (**Jensen, 1985**). Aquaculture thus holds the potential to improve not only the level of nutrition, but also the standard of living of the people. People working in the fisheries sector are concerned over the serious decline of fresh water fish Bangladesh is a country abandoned and washed off with so many rivers as the reason she is blessed of aquatic resources also. People from outside and also inside

usually consider it as a country where fish are produced in abundance and eaten at every meal. The situation was so in the past, now fish has become very scarce and expensive commodity and beyond the reach of poor people even those who produce fish also. In this situation, so many project government and non government had initiated getting into fish farming among the poor farmers to increase fish production, improve nutritional standards of the people, improve the socioeconomic conditions of aqua farmers and fisher folks, and others, engaged in the sector, Once the farmers realized the profitability or potential of using their ponds, they certainly decided for doing it. Patuakhali Barguna Aquaculture Extension Project at Patuakhali was also to launch with these aims and objectives to 105 Union¹ of 12 Upazilla² or Thana³ in to Patuakhali and Barguna District⁴. Training and extension services is to be in grouped, selected in each village, 1-4 integrated pond farmer groups will be there and each integrated pond farmer groups is to be consisted by 7-8 families those who have at least one pond. From each family one man and one woman would be the member of the integrated pond farmer groups, the duty of the extension trainer is to motivate the pond farmers and facilitate them to implementing integrated pond farming activities. This paper analyzes the women's involvement in livelihood support system like aquaculture and as very integral part of development in rural Bangladesh whereas they have to face a lot of problems created by social structure to do something beyond the subsistence aquaculture and so on.

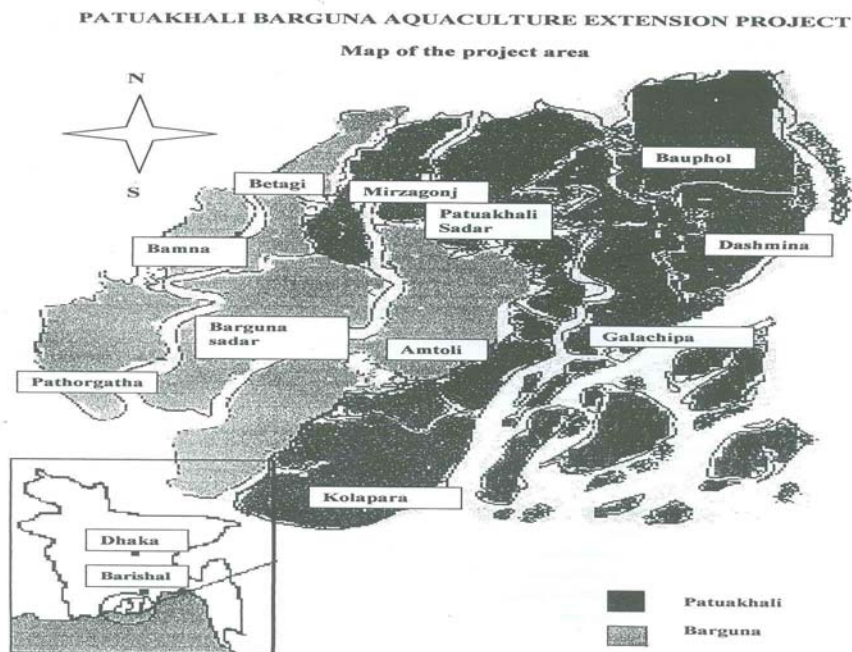


Image 1: The Map showing various parts of PBAEP area of Bangladesh

Method of Study

The study was carried out in the course of author's intensive field visit with the project schedule, while she was fully responsible to collecting information and data for preparing a gender flipchart for the extension trainer and farmer groups. The author stayed a number of days with the farmer families in Patuakhali District, primarily focused on women and men farmers involved in aquaculture activities, two villages were selected, the groups chosen were mainly involved in pond based aquaculture activities, some farmers were involved in fingerling production. Beside agriculture, male farmer are also engaged in grocery business, construction work, labor in mills etc. The analysis was based on Semi-structured interview; Focus group discussions, Home visits; Key informants interview and informal discussion were the modes of data collection. A checklist was prepared to the purpose of gathering and analyzing information is to identify the roles that women are already playing in the sector, as well as the problems that debarred them from enjoying the benefits of income generation, be familiar with women and men in the village with a view to identify women status at the household level, the strict gender division of labor and religion- cultural norms & values, traditional customs to what extent prevails and influence their lives, can be a great constraint on women's active participation in Integrated pond framing procedures.

WOMEN'S ROLE, GENDER BASED DIVISION OF LABOR IN FISH FARMING: WOMEN'S INVISIBILITY IN PRODUCTIVE WORK

Table 1: Division of Labor in Integrated Pond Farming (IPF)

Activities	M/W	Causes reported by both men and women
Training attendants	Male attendants is larger than female members	<ul style="list-style-type: none"> •Women feel shy to attend a mixed group training program •Women have multiple work burden in household •Men and women both think most of the time women are not <ul style="list-style-type: none"> • Not prompt to catch trainer's lesson, even fail to understand •Religious prohibition of <i>purdah</i>⁵
Pond construction and renovation	Mostly done by men	<ul style="list-style-type: none"> •Mainly men discourage them excusing this type of heavy work is not suitable for women •Rural society still not prepare to see the women are to be involved with this male activities • Women are not used to this work •Women feel shy to do this before so many people men and women
Pond preparation	Men and women	<ul style="list-style-type: none"> • Women used to do this as a helper of male partner since they are less confident in technical issue of pond preparation
Cooking feed for fish /Feeding/ applying feed in feeding ring	Mostly by women and children	<ul style="list-style-type: none"> •Men and women both consider this work the extension of household chore •Men think this is not men's work
Making / repairing nets (Invisible job)	Women more than men	<ul style="list-style-type: none"> •Traditionally women do this in their very few leisure hours, while men take a nap or rest • Men and women both think women are prompt in nimble finger work
Stocking	Mostly men	<ul style="list-style-type: none"> •Men are more knowledgeable on species selection since men's attendants in the training program is larger than men •Both think this is male's job. •Women can travel even far from his area for collecting good fingerlings •While women face to cultural barriers on her mobility
Harvesting	Mostly men	<ul style="list-style-type: none"> •Men are prompt to use fishing equipment as he is involved with this work from very beginning •Get down to the pond for women looks odd when she is waded with water
Dyke gardening	Mostly women	<ul style="list-style-type: none"> •Women do it as their extension of housework as they are more home bound than the male partner •Women utilize their leisure period to be engaged in such work
Post – harvest activities	Mostly women	<ul style="list-style-type: none"> •Men and women both feel this is not suitable for men •Women are traditionally responsible for this activity •People would say henpeck if male help in this activities
Guarding	Men more than women	<ul style="list-style-type: none"> •Men is not aware of his security while women may have to face problem of this •Sometime women also do this only when the pond is near the house

Marketing	Exclusively by men	<ul style="list-style-type: none"> •Women are reluctant to do such as they are ignorant about marketing knowledge •They cannot bear with its losses while it may have occur some unexpected situation •Women are less confident to take away the staff to the market •Its hardly happened that women can do marketing within the household •Society doesn't permit women to go to market and bargain with male buyers even at nearby market also
Credit or capital investment	Mostly men	<ul style="list-style-type: none"> •Since men usually keep large amount of money and deal with it He knows well what and how credit will be invested for the same • Women deal with only very small money for family consumption • Women don't have very easy access to credit while men have d networking for the same

Source: Author's field survey, April' 2001

Rural women from the most important productive workforce in the economy of majority of the developing nations including Bangladesh. If one goes beyond the conventional market oriented definition of productive workforce, almost all women in rural Bangladesh today can be considered as farmers in some sense working as wage labor, unpaid worker in the family farm enterprise, or some combination of the two. In Bangladesh, Indonesia, the Philippines and Thailand, women are heavily involved in post harvest activities, contributing 50-75 percent if all the handling, processing marketing and distribution of the fish catch (Houriham, 1986). The villagers both men and women leaders religious person still believe in traditional gender division of labor in which men are responsible for outside work while women are of the household domain. Women are involved in various activities related to integrated pond farming in the chosen villages of project area. Most of the women interviewee reported that they usually do all the things related to fish farming within their household compound as if it's simply the extension of household chore. Not only that they likely to responsible raising vegetable garden, poultry along with the fishing and fish farming in ponds, in a sense women contribute significantly with the time and labor in these villages. Except harvesting and marketing they are involved more or less in dyke cropping gardening, fish feed preparation,



Image 2: Woman participation in dyke at the project area of PBAEP, Bangladesh cropping



Image 3: Woman is applying vegetables in a feeding ring of her pond



Image 4: Organic fertilizing (Compost) the pond with assistance from active project Woman fish farmer



Image 5: The husband carrying drinking water for family as a part of his duty



Image 6: A view of project monthly meeting whom more than 50% women participation



Image 7: A view of project Aquaculture Techniques training among the farmers by project extension officer

Table 2: Usual 'Time Use' on various activities by sex in Laukhathi and Labukhali villages (hours/day)

Time	Male Activities	Female Activities
05:30 - 06:30 AM	Still sleeping	Wake up, sweeping, cleaning house & yard, feed poultry & livestock
07:00 - 08:30	Wake Up & take breakfast	Prepare breakfast & feed children
09:00 - 10:30	Go out field for agricultural work	Take breakfast, prepare feed for fish, make preparation for sending children to school
11:00 - 12:00	Return home from the field and take rest	Cook for lunch, wash & clean cloths
12:00 - 14:30 PM	Take lunch with the children, go out for field	Wash and clean the utensils, Feed poultry & livestock again

15:00 - 17:00	Return home for taking a nap	Take lunch, repair nets, traps, sewing Kantha ⁶
17:00 - 19:00	Go to the ponds to set the nets, cage & so on	Prepare tea & some cookies for evening meal
19:00 - 20:30	Look after children's study, gossip with relatives & neighbors	Cook for dinner
21:00 - 22:00	Dinner and go out with someone's house and watch TV	Dinner, continue to sewing Kantha , clean & wash utensils
23:00 - 24:00	Go to bed	Go to Bed

Source: *Author's Home visit, April' 2002 (Author had to stay with the farmer family at least 10 days and 4 nights (every month) with the farmer family to be familiar with the life of rural folk.*

Fertilization, compost making, feeding, cleaning and repairing of nets, cages and daily maintenance and others what it is needed. In case of catching fish, women are involved in fishing with traps only in those two villages. During the dry season women fish in ponds when the water is low enough to enable catching fish with traps, hands or spears. Most of the cases this kind of fishing are carried out in a male group. Daily 'Time use' and 'Division of labor' in Integrated pond farming report showed (Table 1 and 2) that Fish farming requiring additional time and labor which a woman may not have, yet women are involved with men in the pond farming activities, whereas labor and time are not available to them. Men enjoy more leisure period as there is huge absent of co sharing of household chores for the cultural attitude that all of them are to be female's duty and responsibility. Even, the women are usually reluctant to attend the training program and to be knowledgeable on basic concept of fish farming training. Causes identifying as heavy responsibility in the homestead, to understand the factors that that affect women's effective participation in fishery and identify the problems and constraints faced by them, discussion were held with both women and men. The discussion revealed that fishing is a man's action. While in theory women have access to aquaculture training and extension, in practice, Many of the women think, 'Men should buy fish fry from the market they are not confident enough to find out which one is strong and which one is weak to stocking to the pond, its not female work-only they (male partner) should know the technology of scientifically fish farming, as their husband understand all the things better than the female partner. Women are usually or traditionally responsible to prepare feed for fish, such as collecting rice bran, grass and any other available vegetable wastes that are fed to fish; pond fertilization, maintenance and feeding the fish are also accomplished by female farmer: generally men are responsible for pond preparation, pond weeding, drying or drainage and the regulation of water into pond prior to stocking, although women often help. When a large batch of fish is to be harvested from a pond using caste nets, this is definitely considered a men's responsibility. Men generally operate pump or pond gate operation and other water exchange practices. They also excusing that they have religion barrier to do work in the pond and buying fish from outside male and thus they do not feel necessity of very good knowledge on fish farming. The listed few women who have adopted fish farming have gained not only in financial solvency but also social status and prestige, permanent female headed households where the head is either divorced or widowed. It is found through a field study showed (Table -1) that women are not only involved in aquaculture but in a number of off-farm activities, such as raising poultry, livestock and home gardening, and some other family welfare work at home, as the result the total time inputs of women in aquaculture production and household chores were found to be generally larger than of the men. The people of the region still think men should have big piece of fish and meat, milk in everyday meal as they do hard work in outfield, male should be strong physically to protect the women. Many respondents both men and women ignore women's needs those who perform the multiple works in the household chores. It is found that the women farmer generally belonging to multiple or multifaceted work burden than the men, that they not only had to manage the household, look after the children, fish farm, vegetable garden and so on. They normally spend more or less 14-16 hours a day in different activities reported in the time use counted down from two villages in the project area. They wake up very early before the men, and work throughout the whole day, which generally starts around 5-6 a.m. in the morning and finish 11-12 pm in the night. Women work still reveal in reproductive work in rural area while to be involved in aquaculture mean to do something with poultry and livestock rearing in a sense the extension of household chore, women traditional attachment with reproduction and family and community management duty and responsibilities defined them in the private inside sphere, while men's usual attachment with the outside spheres establishing contacts with the community political activities, marketing, financial and other institutions, that leads to them to be vocal, fearless and active. Farmers of this project are trained on gender training or so on yet. As the reason it's not expected that they can understand and feel necessity to co sharing of housework so that author observed Necessity of the family once made them bound to do work outside of the homestead; it doesn't mean they are more progressive in attitude than the other is not women's double burden (doubly jeopardize) can be reduced in constant social construction. Some female members among the groups were with job in a school or family planning

office doing a job, moreover, it has been treated as to the financial support for the family well being, neither Gender aware nor realize their **practical and strategic gender needs**⁷. Author visited a household; where both of them (husband and wife) are schoolteachers. They still think, whatever women do outside, they bound to do work inside also and she is responsible to the entire house. Reproductive work is historically defined for woman, male cannot do these, and an educated woman also considers a male superior than female. It's not always true that the introduction of new techniques and technologies often result in a change of the division of labor; therefore the gender division of labor is an important consideration in introducing any new activity or technology. The author had closely observed that women from *Hindu* religion come more in fish farming than women in Muslim. **Hasan (2000)** also found that, a number of traditional and social practices of the Hindus are related with this trade. Contrarily, the fish catching and trading activities of the Muslim are not much rooted as an age-old tradition. So particular cultural traits are not found among the Muslims.

Women Agency: Access and control over resources and decision-making process

Usually Women do not have access and control over resources like land produce, knowledge, cash tools etc in that areas while project initiation goes to involvement of women in carrying out income generation activities and in decision making. Women are less knowledge to which resources do they control, who has power to decide whether a resource is used, how it is used and how it is allocated. From their opinion, it has been come out that men spend more of money they earn from fish farm, for their own consumption than do women. Men spend more on cigarettes and other status consumes goods. On the other hand women, are more likely to purchase goods for children, husband and general household consumption. Women also feel very relief to depend on men's decision on money use as they think they are less knowledgeable and lacking of skill in money management also, yet they manage the household activities most of cases very smoothly with consideration as 'home manager'. Considering the household is an important decision making unit in many setting, the cultural norms and traditional practices of the groups may also determine the activities of a family or an individual. Buying and stocking fingerlings is an important technical decision for the farmer groups as the reason it is concern with weighs sizes and species of the fingerlings and their relative costs, buying fingerlings can also be a risky business decision making process in which women presence is very few in this given context.

The role of men focuses more on decision making in deciding the fish species, purchasing, netting, harvesting, marketing even the use of income while women provide the labor for, preparing the feed, the feeding of fish on a daily basis with her other household chores. The social position of women is so inferior to that of a man that women have little or no influence on decision-making process. Lack of access and control over the cash income, which is earned mainly by men make continue many women engaged in the fish farming process in to a subordinate position and perpetuating the myth that women work is connected to but less important no one take into account the multiple unpaid domestic as well as family agricultural enterprises; the women in rural areas are involved with. In Bangladesh, despite Islam's at least partial recognition of women's right to inheritance, women in practice do not own land or have direct access to other productive resources, such as fish ponds (**Nathan and Apu, 1998**) women usually cannot inherit land from their husband nor from their own family. Women's claim to control over resources, money, cash income, household and community decision making process most of the cases become turmoil to the end, whereas women independent income also cannot make influence on to decision making power for women in her households reported earlier. The Bangladeshi culture and history of women's position in society permits women are not used to speaking out publicly, the confidence is vested to their male partner: The female interviewee feel that they may cannot be cope up with the community decisions, but the potential is there for women's priorities to be overlooked. Although men make the supreme decisions about money use, in certain circumstances they discuss with their wives concerning children and household needs or small daily expenditure, they may not be as willing to voice their opinions in public decision making process, Nevertheless it is important to seek women's inputs and opinion in important community decision process as they also have different needs and priorities. Many women expressed considerable interest in raising fish; increase family income for family well being; yet they were reluctant to attend the training provided by the Patuakhali Barguna Aquaculture Extension project. Some interviewee also said that they were unable to attend the aquaculture training, as they had to take care of small children, ill aged etc. Another reason for the low participation of women at training is because they have lower education level and feel that that may not be able to take notes and follow technical knowledge. Literacy was not a condition for attending training. But many women did not have the confidence to attend for the same, this lead to their self- exclusion from the aquaculture training. In the statistics shown that women participation in the training program is small percentage. Many male interviewees said that women were not farmers, they usually do minor farming task as their helper in fish farming activities. **Nathan and Apu (1998)** also found in their study that women complained that men not only monopolized all the financial transaction, but also took decision on stocking and harvesting without consulting them.

They take decision jointly to catch some fish for home consumption. Incase of Decision making power the whole process is uniquely justified on grounds of given, unquestioned religious, and socio cultural norms.

Table 3: Women ability to *exercise a choice through access and control over resources

Respondent's Category	Access (resources) (N= 60, male= 30, female=30)								Control (resources) (N= 60, male =30, female=30)							
	Land		Money		Equipment		Time		Land		Money		Equipment		Time	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Male	15	50.0	12	80.0	10	66.2	14	70.0	15	50.0	15	50.0	10	66.2	14	70.0
Female	4	26.6	3	20.0	2	13.3	3	20.0	2	13.3	2	13.3	1	6.6	3	20.0
Total	19	76.6	15	100.0	12	79.5	17	90.0	17	63.3	17	63.3	11	72.8	17	90.0

Source: N= sample size, f= frequency
Field survey, April' 2001

Box 1:

Patuakhali Barguna Aquaculture Extension project (PBAEP), Danida Technical Assistance workshop report on Gender and Social Awareness Training, Duration: August 29-sep 2, 1999. Major findings from field visit:

90% women are not involved in fingerling purchase
 75% women are not involved in decision making about child education
 99% of women are not involved in child or early marriage.
 80% women are not involved in major expenses
 100% women need permission to go out
 100% lands an other resources purchased by male
 97% family planning adopted by women

Acute Constraints to women’s active and professional participation in Aquaculture

To identify the truly constraints and problems women usually face to be involved of this productive work, Author conducted some in-depth interview and participant observation with both male and female farmers engaged in farm and off farm activities. Usual time use of women in the household domain (**Table - 1**) showed women’s longer work hours with multiple responsibilities from looking after children to livestock to all house hold chores, the responsibilities within the homestead area even make barrier on to attending the training in a week only, women have to face double burden of productive and reproductive work with the extensive role in Integrated Pond farming activities. Women of these two villages reported that male partner hardly consult women, crosscheck to verify the truth of their words, involve in conflicts in favor of men, men try to speak up over women’s argument in the mixed groups training, meeting and any gathering conducted by the project authority, since they consider themselves literate and head of the household while women are not. It was observed also by the author that in villages where mixed focus groups, men tended to dominate the discussion or corrected the women when the women intervened. Socio cultural constraints are also in various forms, female seclusion practices, social perception that fish farming is male’s action which needs brave strength and mental preparedness to face any uncertainty, loss, challenges, women are short of these – prevail on the society and household level as well. One another difficulty facing women who are potential trainee in the training course, how to arrange their time at home and work. Time management is the main factor that concerns rural women in general. Its also remarkable that women are not ever homogenous group, they also belong a stratified societal culture, and most of the cases they depend on their male partner as they consider husband the real guardian of rest of her life, such as if the men feels that there is another activity in the household which requires a women’s attention, then fish farming will likely be relegated to second position, women need to get permission to do be involved in fish farming activities, if the male partner consider his female partner also can do this, then its possible for a women to do the same otherwise not. Support from families is also a concerning issue that the attitude and support of her husband are especially significant for her participation in the training programme as well as the whole process of fish farming, since traditionally religion culture doesn’t permit women to do work with male partner while men and women are strongly expected to their different roles Fish farming is the actions

need much capital for fish raising and maintenance. Constraints have been identified and reported by the women farmers at the village and local level that limit women farmers are more constrained in their mobility and time availability than others, esp. women with young children. The majority of the members of the fish farming groups come from relatively wealthy sections of the society since it's not necessarily an appropriate activity for poor people. This because one needs a minimum access to resources like land and pond as fish farming is a quiet expensive for rural farmers. Most of the farmers in the project area do not have the funds or savings to renovate or reconstruct the pond for fish culture, though they have to have at least one pond for each group. In addition the farmers household need money to buy fingerlings to stock the pond in season and most of the cases they have to loan money from neighbors and relatives with high rate of interest for the same.

While men face a lot of problems to getting institutional credit, access to credit for a woman may be a major factor constraining increased women farmer involvement in aquaculture activities, access to formal banking is considered to be more complicated for women than for men often because of illiteracy and socio cultural constraints. The majority of the women (60 percent) can only save small amounts of money, which mainly spend in any of the family needs. Although sometimes they form informal savings and loan associations with neighbor women, in general. The subordinate status of women in the family and the society has made them supplementary earners while the male are head of the households. Most of the development interventions in agriculture and allied fields of rural development are also addressed to the family as a unit and male being the family head, female partner also still stereotype that men are responsible to provide food shelter and other for children wife and others, all these biases ultimately affect their health, nutrition, education and community participation. Multiple ownership of ponds is one of the main constraints on expanded fish culture for religious minded women in the rural Bangladesh as women are not likely to come out before other outside male those who are also owner of pond and its resources, thus women are confined again in her household chores. Usually only one pond for number of household has been used for joint fish farming activities and all family are dependent on this pond for washing and cleaning of all the things of the households and even they take bath in the same pond also. Farmers both male and female and extension agents have limited technical knowledge about scientific fish culture technologies, though they have already been trained up by the project authority. Women are usually reluctant to attend the training program, excusing with their household responsibility, less education, mostly the attitude to- its a male responsibility, if we need we can learn from our male partner. Women knowledge on technical issue of fish farming most of the time depends on males understanding on it. There are high levels of interest among women and men farmers towards aquaculture. Easy access to fish for the family is one of the main reason for both women's and men's interest in raising fish in coastal area of Bangladesh, with income generation as an added bonus only where surplus fish is produced with some other agricultural produced. There are high labor and financial entry costs for pond based aquaculture, for its pond construction or renovation which only very few farmers may be able to come up with. Both women and men are involved in aquaculture, although each have different roles at different stages of the fish production cycle, in these region, men select the site for pond construction and as heads of households are regarded as owners of ponds. The production from ponds depends largely on the time and effort allocated by women and children for pond management and for feeding of the fish. Men are responsible for harvesting fish for household consumption. Men control the cash income from the selling of fish at the pond site and in the market, although consultation with their wife on household expenditure is common. Fish culture is hence considered a viable activity by the government of Bangladesh for the enhancement of food security and income generation gender sensitization and gender training activities are relatively new in development projects in Bangladesh.'

Socio cultural Taboos: Still Persist in Aquaculture practices

Women's involvement in fish farming and income generation from it, most of the cases has to be confronted by socio cultural and religious taboo and prohibition for women, they suffer a lot with them in the coastal remote areas of Bangladesh. 'Purdah' custom is still strictly followed by Muslim women and persisting in this region. With this custom Muslim women usually avoid to take part in outfield work or other productive activities if they may have to come across outside male body. Religious head or leaders of the rural society are so influential in the system that the ignoring of their decision on women's mobility and movement mean the refusing of religion and society as well when there is a unwritten and silence prohibition that doesn't permit women to be involved in income generation or do work outside the household. They are too strong to limit the possibilities and opportunities for creating a change in a environment that women are to be considered a development partner in the society, rather they may have a effect on the direction of the change. 'This not only affects the women's role in decision making, but also puts severe restrictions for her attendance in decision making body. Some women said that wading in waist deep water is

not suitable for women, particularly when they are in menstruation if the water were polluted, could be causes of heavy toll of fish death.

Scope and Opportunities for women to be involved in income generation through Integrated Pond Farming (IPF) Activities

Initially women thought that raising fish was a men's activity, gradually trying to cope with this activity and its benefit. Aquaculture has been integrated with other economic activities such as agriculture, livestock and poultry in which women are already engaged with. Raising fish or involvement with some other supporting work for it is considered lighter work than raising other livestock, because for livestock and poultry they have to collect grass, rice bran, straw, buy oil cake and others for feeding them, cutting grass in pond and dyke and women, primarily responsible for that, but for fish farming they don't have to spent so many times of their household chores. Moreover, they fed and fertilized their pond as chief undertakers of it along with her other household responsibility. Although they did not aware of and cannot follow the recommended doses or rates of feeding and fertilizing, more important is they are practicing, though they also most of the cases depend on their male partner, some of them are very shining with this activity and to be beneficial of that, and it has become one of the main sources of cash income of the coastal women especially those are divorced, widowed and women headed household. Before the project, women's involvement in activities outside the homestead was very limited. Their fieldwork was mainly helping their men-folk carry grain or collecting fuel for, their children also helped them in collecting firewood. Now a days, involving with the project and in a group female farmer have at least a scope to get together and share experiences of their own. **Nathan and Apu (1998)** also found in their study on Oxbow Lake Project at Jessore that through the project FFG women worked as a group that made it easier for them to carry out fish farming. Before the project FFG members were mostly involved in daily labor and handicrafts but this changed to livestock raising, pond farming, and vegetable gardening after the project. FFG members became better established in society in various respects like food/accommodation, clothing and their children going to school. The educational level of private pond owners was better than that of FFG (Fish Farming Group) members. However, clothing, food/accommodation and bank deposits increased more among the FFG members than private pond owners.

One of the members (**Ms. Nupur Akther**) of Danida project stated that I had used to do fish farming activities with my parents and helped them a lot for the same when I was in very tender aged. I had to fall in a big scarcity after getting marriage while my husband was a 'Rickshaw⁸ Puller'. This caused my life embitter when I gave birth of three children in the mean time. My husband also had gone to the nearby city with the same work and sent money very irregular. I tried to utilize the knowledge of fish farming in this uncertain event and also started with some borrowed money worth TK 2000 (US\$ 24.50) from my parents. I renovated and reconstructed the pond in a big size and stocked fish fry to it. I became one of the members of Danida fisher groups in the mean time. I revived my failing spirit and confident with the fish culture, buying and purchasing finger lings, selling and marketing of it. I usually stock two type of fingerling for production and have used to know about their feeding and which are reproduce naturally. From production to selling and marketing of fish to the market. In the absence of my husband all I do by own decision. Last one year I bought a small piece of arable land, one cow and some other livestock for incoming some extra money from it. Now days my neighbors and all relatives respect me and I think my position is increased after charging of fish culture and so on while I am sending my children to school, attending any emergency need of the rural poor, etc.

Recommendation

- The recommendation goes to suggesting to make separate groups for male farmer when they are not easy and feel free to participate in the meeting or training program and also cannot express their opinion in the flow of male's dominance and men usually didn't share knowledge whatever they learnt during training and even when they (women) are constrained by Muslim society and culture. **Nathan and Apu (1998)** also found that all women groups perform better than mixed gender groups in enabling women to develop managerial and financial capabilities to manage commercial operations.
- The policies of public sector extension services efforts should be demonstrate and improve the credit institute and the markets and train up farmers especially female farmers in accounting and other practical aspects of aqua business as they are most likely lacking of knowledge in this areas in fish farming activities, there should be number of credit institution and provision for small and large credit to promote pond fishery while poor commercial fishermen and small fish farmers have little or no access to institutional credit and borrow money from local money lenders. Small money or credit incentive should be given more attention in the planning and management of the project authority. **Kibria et al (2004)** found from his field survey at UNDP/FAO/MOFI Aquaculture Development

Project of Northern Uplands in Vietnam that working together, women and men created and successfully managed grow out ponds, nurseries, hatcheries, rice/fish and cage culture, and integrated agriculture/aquaculture farms under this project. Financing for these activities was made available through a micro credit and savings scheme established to provide direct financial support to the farmers. Many took advantage of the opportunity, and most communes fulfilled the responsibility for 100% repayment of their loans. Additionally, the skills of extension personnel and field staff at the province, district, and commune levels were strengthened, and local organizations such as the Women's Union and Farmers' Association became active in advocating for their communities. Partnerships were forged between aquaculture organizations and institutions from other agricultural sectors. And the women in whom so much had been invested had the opportunity to become active partners in raising their communities' standards of living.

- Aquaculture technology and knowledge for pond fishery is well established in these village for sake of government and so many NGO's activity here on Integrated pond farming and income generation through it, but women framers are not yet fully aware of the potential and its utilization as reason they cheated by mobile fry and fingerling seller. Government must have an assured market by the licensed nursery operators as per a predetermined schedule so that fish farmers particularly female farmer can avoid to be cheated by someone. The project is not especially for women, nor does it focus mainly on gender issues. It aims to facilitate small-scale fish farming as a diversification and supplement to rural livelihoods through its training content of scientific procedures of fish farming so that farmer can be highest benefited from it. So, this is also very important to arrange training on business and financial management in preservation techniques, facilities, facilitating women access to markets improving women's marketing skills and women need to acquire skills to negotiate with so that they can be bypass the middlemen in the marketing process

- Without shocking and defeating the existing gender division of labor and religious sense and perception The project officer as well as training officer should conduct gender awareness training frequently for the farmer groups community such on co sharing of housework which would be able the female farmer to be free from double burden of work and participate equally in the training programs to be more knowledgeable and confident in fish farming and so on. **Kibria et al (1999)** found from his study at Oxbow lake Project in Bangladesh that women were involved in pond excavation and dike compaction, most of the spouses attempted to dissuade them. Though Bangladesh is a Muslim country where is strongly prohibited for women to work outside with males. During the project period the social status of the women increased, as they were capable of dealing with official dealings and conducting marketing. Women were neglected in society before but after the project they were better accepted by their husbands, relatives and the society.

- At least one components or unit of projects should be reserved for women to ensure women active participation in project procedures. The project should have a separate gender wing to monitoring and evaluate and overall examine of women involvement and beneficial or not from this project. Without this reservation and separate examination the objective of the project would be meaningless since female farmers are one of the beneficial of the project. Women play a large role in aquaculture, and some cases larger than that of men and this must be documented, exhibited, come into press of their invisible roles and contribution to aquaculture operation while there is not available data and information on fisher women. It is also necessary to examine how policies and extension services efforts can support female farmer and how women's involvement in aquaculture enhance their well-being and their life choices.

- As stated earlier, despite the extensive involvement of women in household chore and agricultural responsibility, women seem to have benefited very little from fisheries extension and training programs. The project authority should let women plan their own training schedules so that such activities will not interfere with other duties.

- The project should conduct Research is to identify problems, women practical and strategic gender needs, set objectives and build capacity to ensure effective use of incentives. In order to improve the achievement of basic capabilities it is necessary for a programme to advance women's control over property.

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¹ **Union:** Union is comprised of a sort of villages.

² **Upazilla:** Thana is renamed as Upazilla in 1985

³ **Thana:** Thana is composed of several unions where police station and other government and non-government organizations are situated.

⁴ **District:** In Bangladesh a certain number of Thana consists of district.

⁵ **Purdah:** the system in certain Muslim and Hindu societies of keeping women from public view prohibiting on women's' movement, if necessary using veil when they go outside. Excessiveness of this system doesn't permit women come before even all of the male relatives except own parents, brothers and in laws.

⁶ **Kantha:** One kind of course cloths sewing by rural women can be used in winter season or in a any cool temperature for bed times

⁷ The concept of **practical and strategic gender needs** are developed in the work of **Maxine Molyneux (1985)** and **Caroline Moser (1986, 1993)**. **Naila Kabeer (1999)** conceptualizes three interrelated dimension of the ability to exercise a choice. They are resources (defined broadly to include not only access but also future claims to both material and human and social resources), agency, and achievements. Kabeer more defined 'access' as what resources are available to men and women to conduct their activities and use while resources as the power to decide whether a resources is used, how it is used, and how it is allocated.

⁸ **Rickshaw** is one kind of manual transport in Bangladesh and some part of India, which is usually pulled by men.