

GENERATION OF WOMEN'S LIVELIHOOD: A BIO-ECONOMIC ANALYSIS OF MUD CRAB (*Scylla sp.*) FATTENING AT SUNDARBAN AREA (W.B.)

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Abstract:

Brackish water crab fattening in Deltaic Sundarban is an old and traditional practice which is playing a significant role in livelihood of the coastal people. The most casual observation indicates that women play an integral role in mud crab fattening in West Bengal. Women are directly involving in mud crab fattening. Sometime they are more likely to be referred to as helpers assisting their husband or other family members in feeding, stocking, and other pre and post-stocking management in crab fattening. The present study was conducted during 2011-2012 in different areas; Uttarchandanpiri, Lahiripur, Namkhana, Nischintapur & Choto Mollakhali in Sundarban by using semi-structured and pre-tested interview schedule in order to assess the role of women in mud crab fattening. All women found to involve in feed application to their farmed crabs which is less laborious works. While women involved in marketing of crabs was not remarkable. It might be due to the restriction by some social religious norms and due to the pressure of other household works. From the survey, it also revealed that more educated and experienced mud crab fattening farmers found to have more benefit, that is in line with others finding established the positive impact of literacy over farm efficiency. The study suggested that crab fattening could provide a better opportunity to them that ultimately could bring change in their decision making empowerment and livelihood.

Key word: Crab Fattening, Women's Livelihood, Bio-Economic Analysis, Sundarban, Empowerment

I.INTRODUCTION

Women are seen as a source of new found energy. Women have better staying power with the capacity to endeavor long hours of work & also have the forbearance to conserve resources for future. The gender affinity of this sector is slowly shifting towards not only sustainable production but also gender equality. The gender in mud crab farming is also undergoing significant transformation. Women are involved in planning, decision making process & work hand in hand with men in managing & controlling resources. Women are involved in several segments of economic activities in aquaculture & fisheries. Availability of institutional finance helps them to perform mud crab farming which can be operated by group of women. They are involved in all activities of fisheries in all continents although the degree & type of participation is quite variable depending on the local cultural conditions. Keeping this in view in present investigation was taken in Deltaic Sundarban.

II.METHODOLOGY

Survey research gathers data from a relatively large number of cases at a particular time. It has the advantage of wider scope and accuracy of information in studying the managerial behavior, social activities, behavior, attitude and trends. (FAO (1987) ADCP/REP/87/28) The mud crab farm is situated in Uttarchandanpiri, Lahiripur, Namkhana, Nischintapur & Choto Mollakhali in Sundarban area were the

selected areas of focus for study & management by women. Purposive sampling was adopted as a method of sampling, considering the nature and scope of study, availability of samples and time limitation. The discretion of the investigator formed the major basis for the selection of the samples. Direct personal interview and Interview schedule pertaining to the study was developed calling information on the aspects such as socio-economic profile, employment status, goals in life, decision making practices, level of satisfaction and attitude and development of models.

III. RESULTS AND DISCUSSIONS

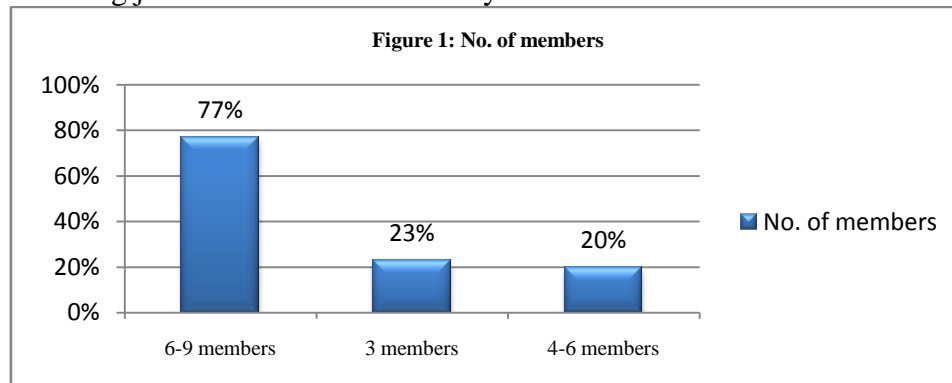
The results and discussion on the study is highlighted under the following headings.

1.1 Socio-economic profile of the respondents

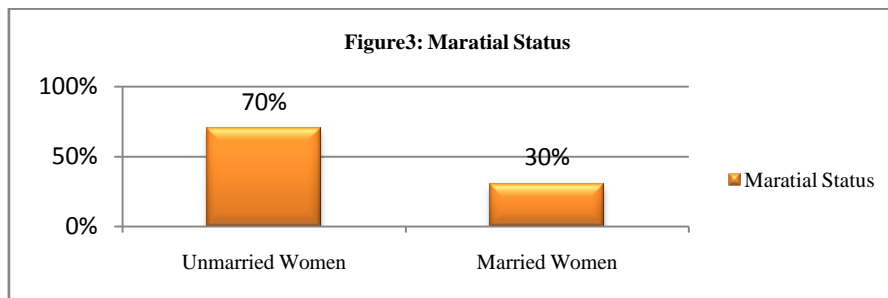
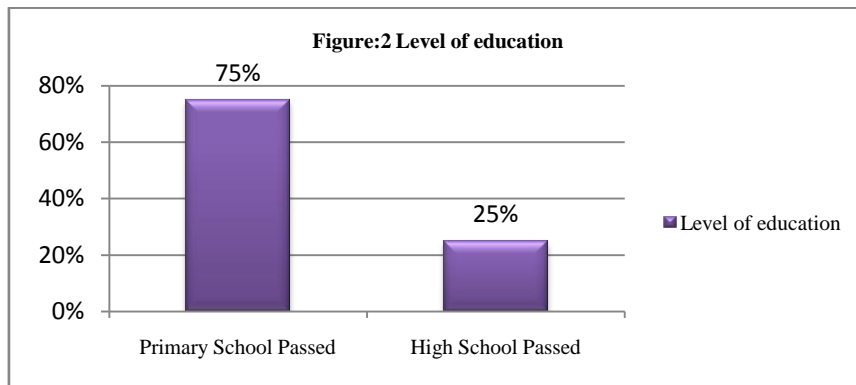
The Socio-economic profile of the respondents is discussed under the family characteristics, age, marital status, language, housing, education, experience and income.

1.1.1 Family Characteristics

Eighty per cent of the respondent's families belonged to Joint family pattern. The trend highlights that they still follow their traditional practices of living together as a joint family sharing the income and having a common hearth, their life style centering around community life. The modern trend of adopting to the nuclear families among 20 per cent of the respondents family shows that it is slowly gaining attention due to education and mobility for employment. Moreover, their contacts with outside world would have helped them to change their attitudes towards adoption of nuclear families for better standard of life. 77 per cent of the respondents families had 6-9 members and the rest 23 per cent were of small family with the present concept of having just 3 members in the family.



Primary school level education was rampant among the respondents (75 %). Only 25% of the respondents on an average had Secondary school education. With the primary school level education among the women farmer, it was surprising to note that they were able to handle all the mud crab farming with this level of education effectively without any difficulty. Majority of the respondents were unmarried (70%) and very few were married (30%).

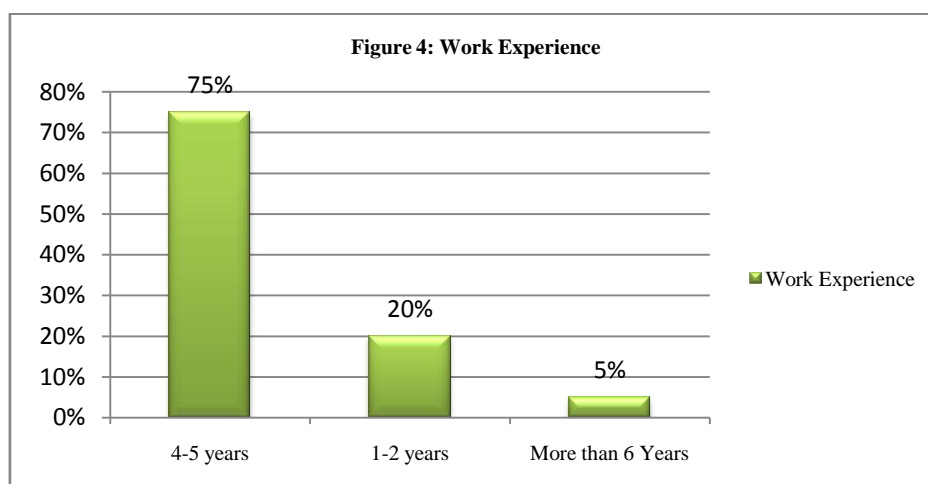


3.1.2 Employment Status

The employment status of the respondents is discussed under the Task performance in mud crab farming, motivating factors, facilitating factors, problems encountered, physical and psychological fatigue, decision making practices, attitude and satisfaction.

3.1.3 Work Experience

Majority of the respondents expressed that 75 per cent had a work experience in mud crab farming for 4-5 yrs, followed by 20 per cent with 1-2 yrs of experience and 5 per cent with 6 and above years of experience.

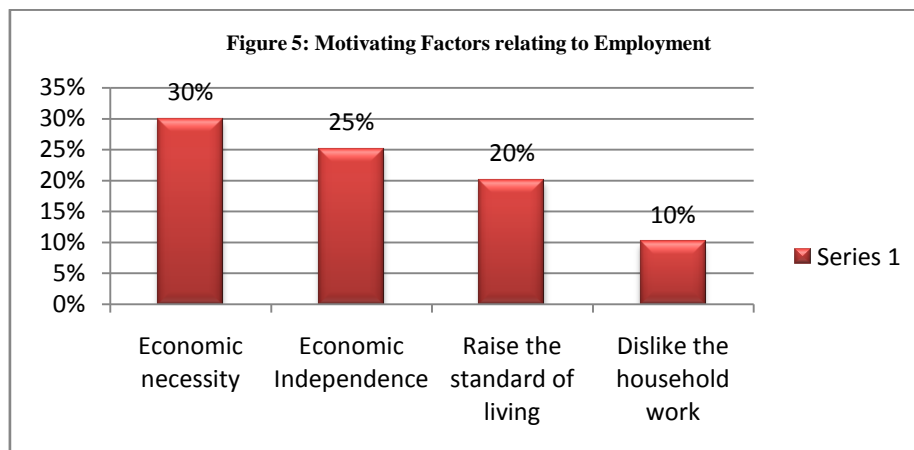


3.1.4 Task performance in mud crab farming

All the respondents were involved in all the following mud crab farming like ‘Brood stock maintenance’, Induced maturation, Feed preparation, Spawning, Larval rearing, Post larval production, Harvesting & Packing, Management of water supply system, Water Quality monitoring, Management of Air supply system, Live feed culture & Management, Seed packing and Post larval rearing. All the above crab farming was performed every day in turn basis. If one technician finishes her work she undertakes the next operation. Thereby all technicians get a chance of working in all areas of hatchery operations.

3.1.5 Motivating Factors Related to Employment

In general, 30 per cent of the respondents were motivated by the factors such as ‘Economic necessity’, followed by the factor ‘Economic Independence’ (25%) and ‘Occupy the time usefully’ and ‘Raise the standard of living’ (20%). It was astonishing to note that for a minority of 10 per cent ‘Dislike the household work’ was also a reason for taking up jobs. This also pinpoints the need for giving proper work environment to lessen drudgery in household work for the homemakers.



3.1.6 Decision Making Practices

The decision making practices prevailing among the respondents were analyzed. The activities to which ‘Women Alone’, ‘Men alone’ and ‘Both’ are mainly responsible for decision making was analyzed. It was observed that the women manager expressed that the factors such as ‘Plan of work for the day’ and ‘Managing the Technicians’ were planned exclusively by the women and the activities like ‘Purchase of materials required for crab farming’, ‘Keeping accounts’, and ‘Buying new equipments’ was decided by the ‘Men alone’ ie., The Proprietor. The remaining activities like ‘Expenditure of income’ and ‘Maintaining accounts’ were jointly decided by men and women. It was observed that the women manager played a major role in the decision making related to both hatchery and household activities.

3.1.7 Income

Women crab farmers were engaged on daily wages. Workers earn normal wages. The wages are decided between manager and the workers of the society. Regular women employees reportedly earn a rise in their salary @ Rs. 1500/- month. The expenditure for mud crab farming Rs.5-6 lakhs per crop with 1500-1800 kg crab (less than 100 gm) per bigha stocking density. the approximate production per crop

is 1700-2000 kg & gross income is Rs.8-10 lakhs per crop & net profit is Rs.3-4 lakhs per crop approximately.

TABLE 1: Showing the Average Economics (Capital Cost) of Crab Fattening over 1 Bigha (1,333 m²) at Sundarban Area

Sl. No.	Particulars	2011	2012
A	Capital Cost	Amount (Rs.)/Bigha	Amount (Rs.)/Bigha
1.	Construction of pond	80000.00	100000.00
2.	Inlet & outlet structure of the pond	6000.00	7500.00
3.	Pump house cum workshop	15000.00	15000.00
4.	Pumps (15 Hp)	12000.00	15000.00
5.	Electric installation with electrification	5000.00	5000.00
6.	Land & farm equipments	8000.00	10000.00
7.	Miscellaneous	30000.00	35000.00
	Total Cost	156000.00	187500.00

TABLE 2: Showing the Average Economics (Variable Cost) of Crab Fattening over 1 Bigha (1,333 m²) at Sundarban Area

Sl. No.	Particulars	2011	2012
B.	Variable Cost	Amount (Rs.)/Bigha	Amount (Rs.)/Bigha
1.	Chemicals & manure	20000.00	23000.00
2.	Water accumulation	7000.00	10000.00
3.	Seed cost	300000.00	330000.00
4.	Feed cost per kg.	40000.00	60000.00
5.	Fuel charge	5000.00	6500.00
6.	Electricity charges	5000.00	6000.00
7.	Labour charges	10000.00	12000.00
8.	Medicines	20500.00	22000.00
9.	Miscellaneous	20000.00	23000.00
	Total Cost	422500.00	492500.00

TABLE 3: Showing the Average Economics of Crab Fattening over 1 Bigha (1,333 m²) at Sundarban Area

Sl. No.	Particulars	2011	2012
C.	Revenue	Amount (Rs.)/Bigha	Amount (Rs.)/Bigha
1.	Stocking density 15000 nos. seed/bigha	300000.00	330000.00
2.	Selling price @ Rs. 600/kg in 2011 Selling price @ Rs. 630/kg in 2012	900000.00	945000.00
	Total Revenue	1200000.00	1275000.00

TABLE 4: Showing the Average Economics (Net Profit) of Crab Fattening over 1 Bigha (1,333 m²) at Sundarban Area

D.	Profit= (Revenue-Total Expenditure)	2011	2012
		Amount (Rs./Bigha)	Amount (Rs./Bigha)
	Total	621500.00	595000.00

3.1.8 Loan (Dadon) system

Crab collectors in most of the cases did not get actual price of their products due to intervention of brokers and loan burden. The crab collectors were bound to sell the crabs at a low price to the specified brokers or wholesalers who provided them loan in their lean period. Likewise, wholesalers were to sell their products to certain distributors who gave them loan in their business.

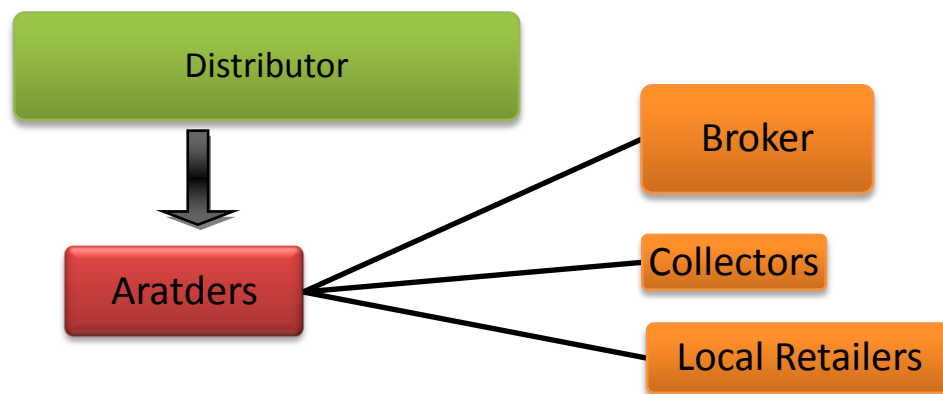


Figure 6: Showing the Loan System

IV. CONCLUSION

Crab fattening can improve the women’s empowerment within household and can provide a better opportunity to them that ultimately could bring change in their decision making empowerment. The present study suggested different training and extension services or working in a groups would be enhanced the skill and knowledge of the women who involved in aquaculture like crab farming in Deltaic Sundarban situation. This team has been working on gender studies and evaluating the socio-economics of low intensity aquaculture on employment income and sustainability in addition to the case which has been studies in this work. Women participation in aquaculture in all its segments is more of its reality in the current day context than a decade back. It can be safely observed that sustainability in aquaculture bears a direct and positive relationship with women participant in this enterprise.

REFERENCES

[1] FAO (1987) ADCP/REP/87/28-Women in Aquaculture. Proceedings of the ADCP/NORAD Workshop on Women in Aquaculture Rome, 13-16 April.

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Biography

Dr. Somen Sahu is an Associate Professor and Head in the Department of Fishery Economics and Statistics, Faculty of Fishery Sciences, West Bengal University of Animal and Fishery Sciences, W.B. He had an experience of more than 12 years in this field. He had a background of M.Sc. in Statistics, M.B.A. and Ph.D. He organised more than 5000 fish farmers at Purba Medinipur district and approximately 100 Crab farmers at South 24 Parganas District for transferring of technology through networking model targetted to their socio-economic upliftment.