



FRESHWATER ORNAMENTAL FISH FARMING AS A TOOL FOR SOCIOECONOMIC DEVELOPMENT OF BACKWARD WOMEN SELF-HELP GROUPS (SHG'S) TO RESTORE LIVELIHOOD SECURITY

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ABSTRACT

The present study emphasizes on to the socio-economic development of different backward women Self-Help Groups (SHG) through ornamental fish farming of Paschim Medinipur district and to evaluate the functions of SHG to act as an important tool for major poverty elevation. Major recurring cost for ornamental fish rearing is cost for seed and feed. To minimize the recurring cost live bearer ornamental fishes are to be cultured with the help of live fish food. To culture of live bearer, there is no need of seed, as the seed are produced by the adult fish themselves within short time but the seeds have to be separated time to time from the culture system to avoid cannibalism. But in case of egg laying ornamental fishes the seeds are to be collected from other sources by paying huge money. To avoid this farmer can produce their own seed in a separate system and can achieve maximum benefit. This investigation based on ornamental fish culture, breeding, management practices and marketing with special emphasis on Mollies, Platies, Guppies, Sword tail, Gold fish and Siamese Fighting fish and also its impact on rural economy. Subsequently, it will be helpful to the backward rural women Self Help Group through the selling of colossal fish seed at a time. Therefore, in this way they can overcome own economic crisis and as well as to restored livelihood security.

KEY WORDS: Backward women, ornamental fish culture, marketing, seed production, economic development.

INTRODUCTION

Ornamental fish culture becoming a source of income day by day for the rural people. Some people in our state and also in our country are maintaining their livelihood through this culture. Since independence, India has pursued a planned approach as a liver of its social and economic change, thereby actualizing all-round economic development. As part of the poverty alleviation measures, the Government of India (GOI) launched the Swarnjayanti Gram Swarozgar Yojana (SGSY) in 1999 where the major emphasis is on Self-Help Group (SHG) formation, social mobilization and economic activation through Micro-credit finance. The Government supports the National Bank for Agriculture and Rural Development (NABARD) to take up activities for economic empowerment of the rural poor. In West Bengal, more than 1,00,000 self-help groups have been formed by different organizations (both Government and Non-Government) with Swarna Jayanti Gram Swarozgar Yojana (SGSY-SHG based programme implemented by Rural Development Department) contributing formation of about 55699 SHGs.

The primary focus of Self-Help Groups is to provide emotional and practical support and an exchange of information. Such groups use participatory processes to provide opportunities for people to share knowledge, common experiences, and problems. Through their participation, members help themselves and others by gaining knowledge and information, and by obtaining and providing emotional and practical support. These groups have been particularly useful in helping people with chronic health conditions and physical and mental

disabilities. Now ornamental fish farming, fish culture, fish seed production, fish feed production etc. are included as different activities of SHGs and also play an important role to maintain livelihood of the local people. The Objective of SHGs is to bring the assisted poor families (Swarozgaris) above the Poverty Line by ensuing appreciable sustained level of income over a period of time, through the process of social mobilization, their training and capacity building and provision of income generating assets. Therefore, there is an urgent need for up scaling the operations in this area keeping in view the mammoth requirements in the country.

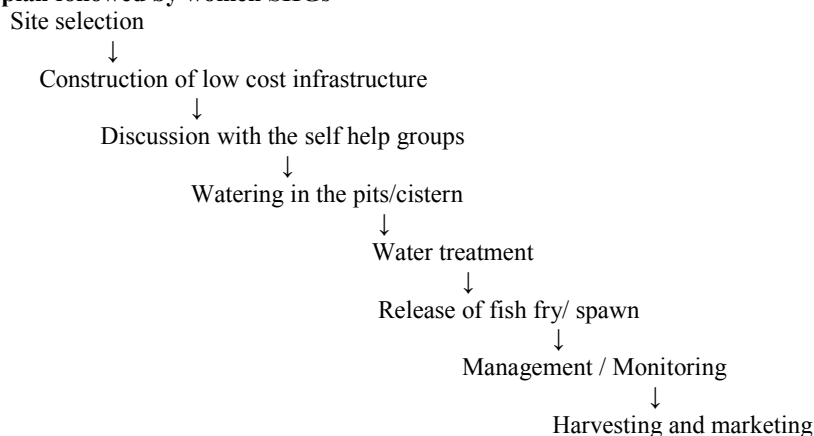
MATERIALS AND METHODS

The experimental work has been carried out in different Blocks of Paschim Medinipur district under the state West Bengal. A Self-Help Group (SHG) is formed through some steps. At first a Resource Person(2 R.P in each Gram Panchayet), who have already member of any established Self-Help Group, take a responsibility to motivate the poor and rural people and make understand about the facility and scope of money earnings and as well as their social and economic improvement. However, generally 7-10 peoples are enlisted for a self help group formation. The poor women lying under BPL level are generally preferred for SHG formation. After a bank account is opened and a revolving fund is created which is very small amount, for the initiation of group work. In West Bengal, Swarna Jayanti Gram Swarozgar Yojana takes an important step in the formation of SHGs. The D.R.P (District Resource Person) organizes some training programme to trained the

members of SHGs. The training is generally completed through two types- Technical training (Skill Development Training) and Banking training. Skill Development Training is given by respective departmental technical officer and WBCADC's technical officer. The banking training is generally given by retired bank employee.

After 7-8 months or 1 year if the SHG group started its work properly and the revolving fund is remain active, in a word if the group passes Grade-1, then it take under the credit linkage, a large amount of (about 5.0 lakh) financial assistance from bank, to complete the project work. The

Layout of work plan followed by women SHGs



money is fully refundable to bank but no interest is claimed from SHG group. If the SHG group is able to money return back to bank, then it passed Grade-2 level. In some cases (according to no. of BPL candidate) financial subsidy is offered from bank up to 1.5lac. Now it is trying to take under all SHGs into cluster, sub- cluster and federation. Generally one federation is formed in one block. However till now it is possible to form federation in Jhargram, Garhbeta-1, and Chandrokona-1 of Paschim Medinipur district. In this way a SHG group is formed and monitored.

Moreover, in order to understand the activities of women SHGs in different Block of Paschim Medinipur a survey has been made and few selected groups are listed below:

Group - 1	
Name of the SHG	ASHARALO
Secretary	Shefali Hansda
Activities	Fish feed production
Number of candidate	10
Allotted money for project	Rs 1, 50,000.00/-
Target of total net income / year	Rs 60,000/-
Group - 2	
Name of the SHG	BHAGININIVEDITA
Secretary-	Kajal Mandi
Activities	Fish marketing
Number of candidate	10
Allotted money for project	Rs 1, 50,000.00/-
Target of total net income / year	Rs 60,000/-
Group - 3	
Name of the SHG-	SITALADEVI
Secretary	Gita Tudu
Activities	Ornamental fish production
Number of candidate	10
Allotted money for project	Rs 1, 50,000.00/-
Target of total net income / year	Rs 60,000/-
Group - 4	
Name of the SHG-	CHALTAGERIA PRAGATI
Secretary-	Chandana Jashu
Activity cluster	Fish seed production
Number of candidate	10
Allotted money for project	Rs 1, 50,000.00/-
Target of total net income / year	Rs 60,000/-

Therefore, technical training like culture of ornamental fish, production of feed, production of seed, construction of aquarium, marketing etc has already been completed by WBCADC by the financial assistance of DRD Cell of

Paschim Medinipur Zilla Parisad. The DRD Cell, Paschim Medinipur Zilla Parisad has already placed fund of Rs 19, 50,000.00 (nineteen lakh fifty thousand) only in favour of the Activity Cluster.

RESULTS

The approach of the study is participatory. The breeding performance of Molly, Guppy, Sword tail, Gold fish, Siamese fighting fish and Platy are recorded in different table. From the tabulated result it has been cleared that, table -1, 2 and 3 represents the breeding performance of Molly, Guppy and Sword tail and they start breeding at the age of 5-6 months. At the time of first issue they have delivered 50 to 60 babies. Intermediate period of these species is 3- 4 weeks. Most live bearing species give birth to their young with little or no direct involvement by the fish farmers, the real skill lies in ensuring that the babies are not taken by other fish. Table – 4 shows the breeding result of goldfish, the intermediate period of goldfish varies between 24 and 31 days and their percentage of survivality depend on several factors like temperature, pH

and feed also. Table – 5 and 6 revealed the breeding result of Siamese fighting fish and platy. They attain maturity at the age of 8-12 months. 1st time they release eggs of about 850 numbers. Hatching percentage of Siamese fighting fish is greater than the platy because of their solitariness. The results of economic analysis of ornamental fish farming have been recorded in table-7. It indicates that low investment and quick return is possible within very short period. So that net income is more in the second crop this is due to low cost of production, since in the second crop the stocking fish was spawn instead of fry. In a 12 ft x 9 ft land and by investing Rs.5000/- as capital cost and one hour per day work can become the earning source of Rs1000/- per month of a rural women members of a Self Help Group.

TABLE 1: Breeding performance of Molly

No. of sets	1 st time		2 nd time		3 rd time		4 th time
	Age / No. of Babies delivered	Int. Period	No. of Babies delivered	Int. Period	No. of Babies delivered	Int. Period	No. of Babies delivered
1 st	183 days/ 64 babies	27 days	77babies	26 days	67 babies	26 days	58 babies
2 nd	153days/ 52 babies	28 days	53 babies	24 days	53 babies	25 days	60 babies
3 rd	178 days/ 43 babies	26 days	54 babies	27 days	61 babies	24 days	57 babies
Average	172days/ 53 babies	27 days	62 babies	26 days	61 babies	25 days	59 babies

TABLE 2: Breeding performance of Guppy

No. of sets	1 st time		2 nd time		3 rd time
	Age / No. of Babies delivered	Int. Period	No. of Babies delivered	Int. Period	No. of Babies delivered
1 st	124 days/ 46 babies	27 days	47 babies	23 days	57 babies
2 nd	186 days/ 53 babies	26 days	64 babies	24 days	53 babies
3 rd	144 days/ 54 babies	24 days	54 babies	22 days	46 babies
Average	152days/ 51 babies	26 days	55 babies	23 days	52 babies

TABLE 3 : Breeding performance of Sword Tail

No. of sets	1 st time		2 nd time		3 rd time		4 th time
	Age / No. of Babies delivered	Int. Period	No. of Babies delivered	Int. Period	No. of Babies delivered	Int. Period	No. of Babies delivered
1 st	127days/41 babies	26 days	44 babies	26 days	46 babies	31 days	52 babies
2 nd	152 days/51 babies	31 days	53 babies	23 days	54 babies	27 days	61 babies
3 rd	177 days/62 babies	26 days	72 babies	24 days	65 babies	24 days	56 babies
Average	152 days/52 babies	28days	57babies	25days	55babies	28 days	57babies

TABLE 4: Breeding performance of Gold Fish

No. of sets	1 st time		2 nd time		3 rd time		4 th time
	Age / No. of Babies delivered	Int.Period	No. of Babies delivered	Int. Period	No. of Babies delivered	Int. Period	No. of Babies delivered
1 st	132 days/27 babies	31days	32babies	27days	42babies	27days	43 babies
2 nd	147 days/40 babies	27 days	47 babies	25 days	41 babies	31 days	62 babies
3 rd	183 days/64 babies	24 days	72 babies	27 days	78 babies	24 days	71 babies
Average	154 days/44 babies	28days	51babies	27 days	54 babies	28days	59babies

TABLE 5 : Breeding performance of Siamese Fighting Fish

No. of Set	1 st time		2 nd time		3 rd time		4 th time	
	No. of species	Age/eggs laying	Hatching time	Hatched Eggs (%)	Int. Period	Eggs laying	Hatching time	Hatched Eggs(%)
Set-1	2 male & 1 female	1 year 850 no (approx)	81 hour	85 %	31 days	1260 no (approx)	82 hour	84 %
Set-2	2 male & 1 female	3 years 5130 no (approx)	97 hour	89 %	32 days	4870 no (approx)	84 hour	87 %
Set-3	2 male & 1 female	2 years 3045 no (approx)	86 hour	87 %	27 days	3850 no (approx)	91 hour	82%

TABLE 6: Breeding performance of Platies

No. of Set	No. of species	Age/eggs laying	Hatching time	Hatched Eggs (%)	Int. period	Eggs laying	Hatching time	Hatched Eggs (%)
Set- 1	1 male & 1female	9 months (approx)	31 hour	92 %	23 days	900 no (approx)	32 hour	93 %
Set- 2	1 male & 1female	13 months (approx)	29 hour	91 %	17 days	1500 no (approx)	36 hour	95 %
Set- 3	1 male & 1female	19 months (approx)	31 hour	94 %	27 days	2180 no (approx)	39 hour	94 %

TABLE 7: Economics of ornamental fish farming

Name of the Item	SHG- 1 (1 st crop /2 nd crop)	SHG- 2 (1 st crop /2 nd crop)	SHG- 3 (1 st crop /2 nd crop)	SHG- 4 (1 st crop /2 nd crop)
Survivality	95 % / 93%	98 % / 94%	96 % / 95 %	93 % / 95 %
Production (approx)	600 no /575 no	580 no /520 no	595 no /590 no	565 no /594 no
Capital cost (Rs.)	5000/-	5000/-	5000/-	5000/-
Cost of Production (Rs.)	450/- / 380/-	550/- / 350/-	650/- / 340/-	450/- / 370/-
Selling rate (Rs.)	@ 4/- / piece	@ 4/- / piece	@ 4/- / piece	@ 4/- / piece
Gross income (Rs.)	2400/- / 2300/-	2320/- /2080/-	2380/- / 2360/-	2260/- /2376/-
Net income (Rs.)	1950/- / 1920/- = 3,870/-	1770/- / 1730/- =3,500/-	1730/- /2020/- =3,750/-	1810/- / 2006/- =3,816/-

DISCUSSION

Few works has been done regarding the involvement of women in ornamental fish culture, breeding, management and marketing. Some of the relevant investigators are AKO, H Tamaru, C.S., Asanao, L., Yuen, B and Yamainoto, M. 2000, Archana Singh and Radha. C. Das 2004, Lalit A. 2005, Choudhury S. 2005, Patra, B. C. and Bandyopadhyay 2006, Laha, U. K. and Das, R. N. 2007, Mahapatra B.K., Sardar, P. and Chand *et al.*, 2007. The gradual increase in fry production with each spawning may be attributed to the positive correlation between fish body weight and fry production (Tamaru *et al.*, 2001). Now the women members of different Self Help Groups are engaged in this small scale industry. The State Government had taken a policy decision to set up Self Help Groups as major poverty alleviation initiative with a view to ensuring a robust economic growth that would be labour intensive and equitable combined with development of the social sectors specially directed towards the BPL (Below Poverty Line) groups. Various programmes administered by different Departments of the Central and the State Government, SHG Bank Linkage programme initiated by NABARD and the social intermediation programme followed by NGOs have accelerated the process of organizing the poor particularly women into Self-help groups. Now state Govt. and central Govt. give a special emphasis on Ornamental fish farming through different self help groups (SHGs) for socio economic development. From this investigation it is found that, the Self-Help Group is a process oriented scheme which involves organization of rural poor, their training and capacity building to enable them to evolve into a self managed organization.

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