

ROLE OF AQUACULTURE IN POVERTY REDUCTION AND EMPOWERMENT OF WOMEN IN INDIA THROUGH THE MEDIUM OF SELF-HELP GROUPS

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ABSTRACT

Aquaculture remains as a suitable avenue in India for augmenting fish production, which is easy, cost effective and sustainable at the same time. It provides livelihoods to rural people through generating income and employment and reduces poverty by developing and strengthening community based approaches. The expansion of farmed fishery development in community water tanks and other water bodies makes remarkable additional contribution towards the nutritional well being and socio-economic advancement of rural farmers including women. This augurs well for the sustained development of these areas wherein fish can play an important role in providing required thrust in their economy and in the improvement of the economic status of the people living in the surroundings. In recent times, self-help groups (SHGs) have emerged as an alternative mechanism to promote savings habit among poor and to provide small and short term loans to its members at lower interest to meet their necessities, consumption and income generation activities like aquaculture. Women are considered as appropriate tool for implementing community and self-development programmes. Against this background, an attempt is made in this paper to review and examine the relevant literature regarding the efficacy of SHGs and other programmes and their impact on the fisherwomen and other stakeholders and also on aquaculture. Research results show that the SHGs are very successful as can be judged from the fact that a large number of people have accepted the system and taken up fish production as their main means of livelihood and source of main or additional income.

Keywords: Poverty reduction, fisherwomen, self-help groups, livelihood activities, aquaculture, income

INTRODUCTION

Poverty has been one of the persisting social evils haunting the rural masses in developing countries including India. It has also remained as the biggest challenge in India's development efforts to bring about a perceptible change in the quality of life of its teeming Millions. A large chunk of the rural masses are living below the poverty line and the task of uplifting them has become the constitutional responsibility of the Union, State and local Governments. India, being a developing country, a vast section of its population, especially women, suffers from malnutrition, unemployment, illiteracy and poor health care as a result of low income and manifestation of poverty [1,2]. It is a widely accepted fact that poverty has a gender bias, as an estimated 70 per cent of the people living in abject poverty are women. A number of international and national organizations have been working hard through funding and other means towards eradication of poverty and empowerment of women¹ [3]. In spite of over fifty years of planned economic development in India, the problems of poverty and unemployment continue to haunt the Indian women.

The growing problem of poverty in India has prompted economic planners to come up with various programmes that can help in combating it. While most of these programmes have failed to deliver the expected results, certain innovative efforts hold out fresh hopes. One such effort is the formation of Self-Help Groups (SHGs) for enabling the poor to participate in the process of development. It has been functional in Asian countries like Bangladesh, Malaysia, Korea, Philippines and Indonesia for a long time. In fact, in Bangladesh, the SHG approach has stabilized into a national programme and has shown remarkable results in poverty alleviation. In India, this approach has been extensively used by voluntary agencies for a long time, but incorporated in the conventional development programmes only in the present decade [4].

Aquaculture is regarded as one of the suitable avenues for eradication of poverty through augmenting fish production. It is an easy, cost effective mechanism and sustainable at the same time. It provides livelihoods to rural people through generating income and employment and reduces poverty by developing and strengthening community based approaches. It is realized that women are competent in adopting different livelihood activities [5]. It is also realized that there is sufficient scope to improve and extend the exposure of the developed technologies among the womenfolk engaged in fishing, aquaculture and other activities [6]. Keeping this in view, women self help groups (SHGs) are identified as a medium for group action and change in different coastal states. Against this background, an attempt is made in this paper to review and examine the relevant literature regarding the efficacy of Self Help

Groups (SHGs) and microfinance programmes and their impact on the fisherwomen and also on aquaculture. Specifically it is intended

- a) to evaluate fisherwomen SHGs in terms of their participation in different livelihood programmes and utilization of microcredit;
- b) to assess the impact of the above activities on employment and income generation and poverty eradication; and
- c) to suggest measures for better organization of SHGs.

This study is mainly based on the review of few micro studies and also on the reports of conferences and workshops. The first part of the paper presents the need for formation of SHGs, their evolution and structure and the promotional role of NABARD and other organizations. The second part deals with the results of micro level studies conducted in the states of Tamil Nadu, Orissa, Maharashtra and West Bengal.

WOMEN AND THEIR EMPOWERMENT

Women are an integral and inalienable part of the society, constituting about half of the total population of the world. The around development and harmonious growth of a nation would be possible only when women are given their desired place and position in the society and are treated as equal partners of progress with men. The plans and programmes pertaining to women are not charity but an investment in the country's future with high rates of return. Confinement and subjugation of women to routine household work, and the denial of productive skills and decision-making will do irreparable damage to the nation. It will make the nation weak and insecure, encourage internal domination and exploitation by caste, class and gender, external domination and exploitation. On the other hand, empowerment of women contributes to social development. Economic progress in any country whether developed or under-developed, could be achieved through social development [7]. Empowerment is a process, which generates changes in ideas and perceptions and creates awareness about one's rights and opportunities for self-development in all important spheres of life. It enables individuals and groups to change the balance of power by way of knowledge, know-how and experience to strengthen one's capacity and self-reliance. It creates circumstances and conditions in which people can make use of their potentialities and abilities up to the maximum level in furtherance of some common objectives. It involves delegation of power or assignment of authority for participation at different levels. Empowerment therefore means acquisition of authority and power and shouldering of greater responsibilities in several fields of activities. Empowerment involves both individual and collective actions for greater participation and sustainable development. Of all these facets of women's development, their economic independence or economic empowerment occupies an area of utmost significance for a lasting and sustainable development of the society [1]. Women, in direct or indirect association with menfolk, contribute a great deal to the growth of Indian economy [8,9,10, 11, 12].

In India, government has enacted many legislations, evolved policies, programmes, schemes, etc. and put into action through various five year plans. From Fifth Five Year Plan onwards there has been a marked shift in the approach to women's issues from welfare to development. Women empowerment has been recognized as the central issue in determining the status of women and it has been considered as one of the strategies to tackle the socio-economic poverty. Women have taken up self-help movement through savings as a mass movement. Development agenda of the country in the last few years placing the people, especially women, in the forefront has enabled formation of a large number of SHGs through out the country. The ultimate objective of all these efforts is to make women economically independent and self-reliant.

SELF-HELP GROUPS – ORIGIN AND GROWTH

In recent years, Self-Help Groups (SHGs) have become significant institutions for rural development even in India. This has been particularly so in the case of poor women. It is now being increasingly realized that instead of targeting the individual in the process of development, it would be more useful to adopt the approach of "group development". The poor women do not have enough capital to take up any business enterprise on an individual basis. The group approach makes available the collective wisdom and combined resources for any task [4]. Micro credit for SHGs is fast emerging as a promising tool of promoting income generating enterprises for reaching the

'unreached' for credit delivery in rural areas, particularly the women who are often considered to have very low net worth for availing any credit facilities from the formal financial institutions, the banks [13].

SHGs are small, informal, economically homogenous affinity groups of rural/urban poor consisting of 10 – 20 members voluntarily formed to attain some common goals both social and economical. They are created at the grass root level for the purpose of enabling members to reap economic benefits through mutual help, solidarity and joint responsibility. Most of its members have similar social identity, heritage, caste or traditional occupations and come together for a common cause and manage resources for the benefit of the group members. These groups are called "solidarity groups" as they provide monetary and also moral support to individual members in times of difficulties. The benefits are basically linked to obtaining savings and credit facilities and pursuing group enterprise activities among the rural poor women. In other words, SHGs are regarded as viable alternative for achieving the objective of rural development and community participation in all rural development programmes [2].

The main objective of SHGs is to promote savings habit among poor and to provide small and short-term loans to its members at lower interest to meet their necessities, consumption and income generation activities [14]. They have emerged in India, as an alternative mechanism to meet the urgent credit needs through later adjustment of their own savings in a regulated manner. In other words, they save and contribute to a common fund to be lent to its members as per group decision and for working together for social and economic uplift of their families and their communities [15]. Besides, it is a viable organized set up disbursing micro credit to rural women for the purpose of making them enterprising women and encouraging them to enter entrepreneurial activities. In brief, various credit needs of rural women can be fulfilled totally through SHGs. The women-led SHGs have successfully demonstrated how to mobilise and manage thrift, appraise credit needs, maintain linkage with the bank and face financial self-discipline [2].

Since the over all empowerment of women is crucially dependent on economic empowerment, women SHGs work in various fields including agriculture, forestry, fisheries and aquaculture seeking income generation activities with the help of micro credit [7]. In other words, SHGs are activity specific and women are considered as appropriate tool for implementing community and self-development programmes. At present (by 2006), there were over 5.4 millions of SHGs with more than 90 per cent of them having women members exclusively. They are functioning all over India carrying out various activities. Andhra Pradeshⁱⁱ, Tamil Nadu, Uttar Pradesh, Rajasthan etc. are the dominant states promoting SHGs.

ROLE OF NABARD IN SHG DEVELOPMENT

The SHG programme has been implemented in India under the aegis of the National Bank for Agriculture and Rural Development (NABARD). NABARD has taken up the microfinance initiatives, which resulted in the biggest programme of microfinance in the World with the help of SHGs. It has undertaken many initiatives for credit delivery to rural poor through NGOs, SIDBI, Rashtriya Mahila Koshi (Women Development Corporation). Funds also were provided by international organizations (UNICEF, UNDP, UNCDF, FAO, UNIFEM, ILO and ODA). It has supported farm and non-farm activities, provided assistance for income-generating activities (IGAs) through NGOs and registered organizations for employment generation, gave grants on selective basis for skill generation, technology upgradation etc. [3].

NABARD is a pioneer in conceptualizing and implementing the concept of group approach. It has been spearheading the SHG movement through Self Help Group-Bank Linkage Programme (SBLP), which has been initiated in February 1992. The SBL Programme provided the capacity for SHGs to increase their capital base to fund more members and bigger projects. In many Indian states, SHGs are networking themselves into federations to achieve institutional and financial sustainability. Cumulatively, 1.62 million SHGs have been banklinked with cumulative loans of Rs. 69 billion. In 2004-05 alone, almost 800,000 SHGs were banklinked [16]. SHGs were functioning successfully mostly because of the active involvement of over 3000 NGOs and 35000 branches of 500 banks over 520 districts in 30 states and union territories [17]. The activity enjoyed the support of Government of India, Reserve Bank of India and State governments. Studies by NABARD during 2000 [18] and 2002 [19] reported many positive results on the impact of participation of rural poor in the SHGs. There have been perceptible and wholesome changes in the living standards of the SHG members in terms of ownership of assets, increase in savings and borrowing capacity, income-generating activities (IGAs) and income levels [20]. The SHGs have not only fostered the growth

of livelihood of their members but also played a significant role in the growth of the economy. The SHG movement is a great hit as its growth itself shows its response and acceptance. NABARD has been making efforts to involve more and more women members in other parts of the country to bring them into SHG fold, particularly in the northern states.

SHGS AND THEIR SPREAD AMONG FISHERWOMEN

In India, women constitute nearly half (48.2 per cent) the human resource. The problems of an Indian woman have specific colouring depending on the socio-economic milieu, in which she has been nurtured and moulded. In rural India, agriculture and allied sectors employ about 90 per cent of the total female labour force [21]. In fisheries sector also, women belong to lower socio-economic group. There were 2.42 million fisherwomen in India as per 2000 census. The fishing community is mostly dependent on the sea fishery resources for their livelihood and the roles that fisherwomen play in this respect are of great importance for maintenance of the family [22]. In fisheries and aquaculture, work performed by women is multidimensional. They work for long hours and have dual responsibilities as in agriculture families. Women have an active role and extensive involvement in all sectors of fisheries namely pre-harvest, harvest and post harvest operations. They also play the major role of shouldering almost all the household responsibilities including looking after of children thereby indirectly encouraging active fishing by men. The increasing trend of multi-day fishing trips and the consequential long duration absence from home accentuated their role as household managers [23,22]. Further, they are involved in traditional practices of coastal aquaculture, by being actively engaged in seed collection, segregation, stocking, feeding, harvesting and marketing [24].

In line with other parts of the country, SHGs have also been formed among fisherwomen in different coastal states in a varying measure. In Kerala, SHG programme was taken up by the state government. A total of 2311 SHGs were formed in 10 districts covering 44,340 women. While Alappuzha district had the largest number of SHGs (472), Kollam district had the higher membership (7500). There are about 314 SHGs with 6000 members functioning in seven districts of Tamil Nadu. Of these, nearly, 98 SHGs with 2,019 members are functioning in Thoothukudi district itself (TMSSS Annual report, 2001-2002). In Orissa, there were some 2663 SHGs of fisherwomen by the end of October 2004 comprising of 10 per cent of the total SHGs in the coastal districts of the state. In Maharashtra state, 2017 SHGs had been formed as of March 2004. They account for 5.2 per cent of all SHGs in the state. In respect of Andhra Pradesh, there were nearly 1,000 fisherwomen groups alone in the district of Srikakulam. Fisherwomen SHGs are also formed in other districts of the state.

ROLE OF NGOS, RESEARCH ORGANIZATIONS AND GOVERNMENT AGENCIES

The members of women SHGs of fishing villages in various coastal states receive alternative livelihood training programmes. While NABARD has been spearheading the SHG movement with bank linkage and refinance, the Departments of Fisheries in various states have been undertaking training programmes in collaboration with different research institutes and Universities, Non-governmental Organizations (NGOs), and other government agencies. In the State of Tamil Nadu, the Government is proactive in the promotion of SHGs among women. Here, the Central Institute of Brackishwater Aquaculture (CIBAⁱⁱⁱ), National Institute of Ocean Technology (NIOT), Fisheries College and Research Institute (FC&RI), M S Swaminathan Research Foundation (MSSRF), Sugandhi Devadasan Marine Research Institute (SDMRI) etc. support and participate in various alternative training programmes and extend technical support. Besides, the government agencies like Tamil Nadu Apex Fisheries Cooperative Federation (TAPCOFED), District Rural Development Agency (DRDA) and others provide subsidies and other logistical services. Similarly, in Orissa state, research institutes like Central Institute of Freshwater Aquaculture (CIFA), National Resource Centre for Women in Agriculture (NRCWA) and NGOs like SAMUDRA, Mission Shakthi, MSSRF, Lok Sahayaka Samithi, Pencode and others. In Kerala state, the Central marine Fisheries Research Institute, Kochi, has provided training and technical support to SHGs for mussel culture. The Government Agencies such as Fish Farmers Development Agency (FFDA), Brackishwater Fish Farmers Development Agency (BFDA), etc. are taking part in this endeavour. In addition to these, Commercial banks, Regional Rural Banks (RRBs), Central Cooperative Banks (CCBs) participate in the provision of credit through linkages, while NABARD provides refinance. More or less similar trend is seen in other states also.

There are a number of livelihood activities, which are identified, and imparted alternative livelihood training programmes for economic uplift of fisherwomen in coastal fishing communities through adoption of SHG movement. These can be categorized under four heads and these are as follows:

- I) General: 1) Fish Vending (Marketing), 2) Production of dry fish and marketing, 3) Value added products such as fish and prawn pickle, fish cutlets, etc. and 4) Preparation of vermin compost.
- II) Fish farming: 1) Fresh water prawn farming; 2) Fish seed rearing; 3) Ornamental fish farming; 4) Brackish water prawn farming; and 5) Mariculture.
- III) Integrated Fish farming: 1) Fish culture with vegetables; 2) Fish culture with horticulture and floriculture and 3) Fish Culture with livestock such as poultry etc.
- IV) Coastal Fishery with Casuarina and Mangrove Plantations: Coastal horticulture; and non-farm sector items such as seashell crafts, articles from Bamboo and Palm leaves. Besides, there are some non-fishery activities also.

NABARD, as already specified, has been playing a significant role in the improvement of the socio-economic status of fisherwomen of coastal fisher communities by way of refinancing commercial banks for extending financial support to the target stakeholders. In this endeavour, the apex body has the support of Food and Agriculture Organisation, World Bank and the Central and State governments. The refinance support extended by NABARD, so far as socio-economic uplift of coastal fishers is concerned, is mostly by way of providing finance to SHGs, and is related, by and large, to survival activities of fishers who deal in dry and fresh fish marketing. While continuing this policy, NABARD is now shifting the focus gradually towards entrepreneurship development. It now aims at providing loans towards capital investment, technology infusion and capacity building. So far as FAO^{iv} is concerned, it accords an exclusive focus on fisherwomen's programmes in relation to SHGs and income generating activities within the system, among others. FAO is involved in credit initiatives for fisherwomen and the organization sees microfinance programmes as a means for fishing communities to gain access to much needed credit services that are appropriate to their needs. The Union Department of Animal Husbandry and Dairying is keen on exploring the possibilities of setting up an institution to meet the financial needs of groups of women interested in fish production, processing and marketing [25].

II

RESULTS OF CASE STUDIES

This section presents the results and observations of few case studies undertaken in Tamil Nadu, Kerala, West Bengal, Orissa and Maharashtra. Loveson Edward [14] carried out a study in five fishing villages of Thoothukudi district of Tamil Nadu covering both northern and southern coasts (Table 1). They are Tharuvaikulam, Vellapatti and Thirespuram fishing villages on the northern side, and Punnaikayal and Periyathalai on the southern side of Thoothukudi coast. The two fishing villages, viz., Vellapatti and Thirespuram were also studied separately by Patterson [26]. Jayaraman [13] also conducted another study in five fishing villages in Thoothukudi and Tirunelveli districts of Tamil Nadu. The findings of these studies are presented here under.

A close review of the results of above studies indicates that the fishermen of these villages solely depend on traditional fishing for their livelihood. The number of SHGs in villages varies with the population of the respective village. In each village, all groups come under a coordinator who meets the groups once in a month to assess and coordinate their activities. The SHGs play a lead role in small savings. They recirculate their loans among the needy members. They meet once in a week and discuss about the wise utilization of funds, repaying of the loans and the plan of the week. Savings varies among the groups and it ranges between Rs. 50,000 and Rs. 1,00,000 (US \$ 1064 and 2128). The fisherwomen SHGs were found to have regularly contributed to the savings and has paid the installments towards repayment of loans taken from the group. The repayment rate was exemplary, often exceeding 90-95 per cent, against which repayment rate of credit advanced for commercial and industrial purposes is not only far away behind but often dismal. Out of the sample 41 SHGs in Thoothukudi and Tirunelveli districts, 27 SHGs received Revolving Fund Assistance (RFA) (i.e. 61 per cent) from the banks. The study showed that out of 41 SHGs,

25 SHGs fisherwomen SHGs (61 per cent) received Rs. 1,91, 300 and Rs. 3,50,000 towards RFA in Thoothukudi and Tirunelveli districts. The studies showed that contrary to the common belief that poor women are not credit worthy, they are far more credit worthy, honest and most importantly 'bankable'. The women avail the loans mainly to help their family members to buy fishing materials and also for family functions.

The members of SHGs present in these villages received alternative livelihood training programmes from NGOs like MSSRF, SDMRI etc., research institutes or universities and government agencies. After obtaining training in ornamental fish culture, freshwater prawn farming, shrimp seed production, shrimp feed development etc. they started fish production on group or individual basis with the support of the above agencies and achieved good results. They are getting reasonable profits, which increased their self-confidence. The fisherwomen SHGs are having some basic awareness about the value-added fishery products and their preparation. Some SHGs had even started their own fish pickle preparation units with the financial support from MSSRF and technical assistance from FC&RI, and other agencies. The SHGS are given training in vermin compost for using their household waste and remains of fish and seaweeds as raw material in a biodegradable way. With their low input and labour, they are getting high profit (Table 1).

Table: 1 Activities of Self-Help Groups in the Fishing Villages

Activities	Tharuvaikulam	Vellapatti	Threspuram	Punnakaal	Periyathalai
1	2	3	4	5	6
Funding agencies	NIOT, District Admn. Dept. of Fisheries	N G O s , District Admn.	NGOs	Fisheries College, Thoothukudi	DRDA
Alternative livelihood training programme	Given	Given	Given	Given	Given
Opinion about value-added products	Having knowledge	H a v i n g knowledge	H a v i n g knowledge	H a v i n g knowledge	H a v i n g knowledge
Crab/lobster fattening	Lobster fattening	C r a b fattening	---	---	Crab fattening
Others	----	V e r m i n compost, fish pickle preparation	V e r m i n compost, fish p i c k l e preparation	Fish pickle preparation	Fish drying using solar dryer

Source: Loveson Edward, L., 2005, Fisherwomen's Self Help Groups Their Empowerment for Fisheries Development: a Case Study of Thoothukudi District of Tamil Nadu, *Fishing Chimes*, 25 (6), p. 28.

As the crab and lobster fishery resources near the fishing villages are being good, crab and lobster fattening projects were started by the SHGs of the villages with financial support from Thoothukudi district administration and also from Thoothukudi Multipurpose Social Service Society (TMSSS). Financial assistance varying from Rs. 3.5 to Rs.12 lakhs were provided for development of infrastructure facilities like buildings, wet labs and accessories, besides developing ponds for fattening crabs and lobsters. These projects are of great success not only in terms of generating extra income to the SHGs but also to create awareness among fisher folk about the value of resources and sustainable utilization.

The members of SHGs in the villages, particularly Periyathalai and other fishing villages, were given training by the FC&RI, Thoothukudi, in proper handling of fish catch and they were provided with aluminium vessels to fisherwomen for handling of seafood, hygienically as suggested by FAO. The fisherwomen of SHGs were used to dry their heavy catch on the sandy beach unhygienically resulting in lower prices for their dried fish and now they were provided with solar dryer for drying and pack them neatly and fetching higher prices. This was possible with the efforts of DRDA, who provided financial support to the tune of Rs. 8 lakh for the purchase of solar dryer and installation machinery.

Some more evidence is available relating to the fisherwomen SHGs in Tamil Nadu, i.e., in Nagapattinam, Kanyakumari and Chidambaram districts. In Kanyakumari district of Tamil Nadu, the Life Care Trust (NGO) has motivated fisherwomen to take to lobster fattening. The group was assisted under SGSY with subsidy from Government; land required was provided by district administration; fattening was done for about 3 months; and the recurring expenditure was Rs. 1 lakh and the net income for the group was reported at Rs. 1,75,000/-. At Keelamanaikudi in Chidambaram district 30 women groups were trained in backyard ornamental breeding. The families were supplied with cement tanks and nets, feed and pump, medicines, etc. Funds were provided by M.S. Swaminathan Foundation. The benefit was distributed equally among the active members of the SHG. It has been experimentally proved in Tamil Nadu that if women are trained to breed and rear ornamental fish in backyard kitchen ponds, an individual woman can earn a profit of Rs. 500/- per head per month [27]. M.S Swaminathan Foundation has taken up promotion of pearl culture in Gulf of Mannar area. Seaweed collection and sale have been also taken up by Women's Groups in Tamil Nadu. Previously most of them concentrated in small savings, but now, after receiving alternative livelihood training programmes, they are concentrating on self-employment too.

The review of above studies had revealed certain benefits that accrued to fisherwomen as a result of the above efforts and which are representative. They are as follows: a) High cost borrowings from moneylenders could be stopped; b) Members were able to upscale their fish trade by investing more working capital. Also they were able to undertake fish drying etc. in a more scientific way; c) Consumption needs during closed/lean season could be met from internal borrowings; d) Members could take up alternative activities like milk vending, rice trade, etc. during close/lean season with the help of internal borrowings; e) Internal borrowings were also used for needs like boat repair, net repair etc. by their family members; and f) These SHGs had also engaged themselves in social activities like clearing of drainage, construction of toilets etc. in their respective villages.

Apart from these fishing villages, there are also some non-fisherwomen SHGs doing fisheries related activities. To popularize fisheries activities in the state, the Department of Fisheries is conducting training programmes in collaboration with fisheries institutes like FC&RI, Thoothukudi. Through such training programmes, freshwater prawn farming has been implemented through SHGs in 0.25 ha area in Karunkulam village, by availing of 50 per cent subsidy from DRDA. Integrated fish farming is also being conducted in 0.25 ha area in the same village at a cost of Rs.1.7 lakh by availing 50 per cent from DRDA. Apart from technical support, the FC&RI has provided with 7500 numbers of fish seed for stocking this pond.

Results of case studies of successful women groups in fisheries in Orissa and Maharashtra were also presented hereunder. In the Orissa and Maharashtra States, field visits have been carried out by a team of NABARD Officials [3, 28] through Participatory Rural Appraisal (PRA) approach in all 6 coastal districts. They visited 25 SHGs, 7 fisherwomen cooperative societies and district fisheries offices and had discussions with 10 NGOs and a number of women SHGs were held. The major findings of these efforts are as follows:

Ten per cent of women population is covered under SHG movement in coastal districts. Most of the women SHGs engaged in inland fisheries are using gram panchayat ponds on lease basis. Most of the SHGs have taken fish farming as a joint activity under Swarnajayanthi Gram Swarojgar Yojana (SGSY) of Government of India. Some groups have taken up integrated fish farming activity, fish farming with vegetable crops and floriculture on the pond bunds. The majority of the SHGs are involved in dry fish processing and marketing. Dry fish trade was successfully introduced by the NGO Aparajita in villages Ameripal, Tikhri and Patapur in Kendrapara district with the help of Puri Bank. Aparajita also successfully introduced the trade on sound and hygienic lines in Patgasundarpur, Alasahi, Sisua and Kaliakum villages with funds provided by Puri Gramya Bank under United Central Co-operative Bank. Almost all SHGs have access to Bank accounts and maintain savings accounts for deposits. But the internal lending amounts are very small varying from Rs. 200 to Rs. 2000. The rate of interest on internal lending varies from 5 per cent to 10 per cent per annum where as before forming SHGs fisherwomen were taking loans from friends, relatives and moneylenders @ 60 per cent to 120 per cent or even per annum. More or less similar results are obtained in the study of Maharashtra [28].

Evidence of aquaculture activities through SHGs is also available from West Bengal. Jabarrah is a cluster of villages in Purulia district in west Bengal. Here, the women SHGs rear fingerlings of major carps in seasonal ponds or in small *dobas* (dugout depressions where water collects) for stocking larger ponds and tanks with the help of Eastern India Rainfed Farming Project (EIRFP) and Gramin Vikas Trust (GVT). After grown up in size, they will be sold to

perennial pond owners for Rs. 30 – 100/kg. The SHGs get bank loans. The SHGs raising fish had been successful and have the highest savings among groups. The 40 SHGs in Jabarrah currently have savings totaling millions of rupees and bank loans of hundreds of thousands of rupees. The support of EIRFP and GVT is the backbone of a development process in Jabarrah. This goes together with appropriate, flexible technical research by farmers with DFID NRSP support, and much improved micro-credit opportunities from Maubhum Gramin Bank. All these developments have provided key opportunities for women to gain respect and a voice, generate income, savings and security, to avoid seasonal migration, engage with the formal banking sector, and implement ideas [29].

Further, with the objective of imparting practical skills and technology pertaining to the culture aspects of selected ornamental species of fish and their trade to SHGs of fisherwomen hailing from rural background in North Bengal, the Aquaculture and Limnology Laboratory, Department of Zoology, University of North Bengal, had initiated a training-cum-research project in 2005. An SHG from Ranidanga village in Darjeeling district was selected for practical demonstration of Ornamental fish aquaculture. In two phases, members of the SHG successfully cultured ornamental species, namely, angel (*Pterophyllum scalara*) and gold fish (*Carassius auratus*) The average harvest weight of angel was 13.47 g and that of gold fish was 11.20 g. Survival rates were similar for the two species. It proved beneficial to fisherwomen [30]. Similarly, SHGs were encouraged to take up crab culture in several identified areas of North 24 Paraganas and South 24 Paraganas districts. The fishermen SHGs were organized and imparted training in net making and fish by-product preparations. Altogether 35 SHGs comprising of 326 fisherwomen were imparted training.

Mariculture of mussels and oysters and crab fattening practices has been taken up by women groups in Kerala state. Mohan Joseph [31] presented a case study in this regard. In respect of mussels and oysters, the activity began in a small way by small women SHGs of Padanna village, guided by scientists of Central Marine Fisheries Research Institute, Cochin. Now over 1000 women and 250 men were engaged in mariculture in Malabar area of Kerala. There were 13 persons on average in each group. The amount was given as loan to each group under DWCRA scheme, which is component of Integrated Rural Development Agency, was Rs. 76,000/-. The average production per group was 25 tonnes of mussels with an investment of Rs. 44,000/- and average return of Rs. 57,000/-. Oyster culture also became popular among SHGs of fisherwomen. Fisherwomen empowerment was the major benefit of this activity with rural households earning additional income through mariculture. The activity was so successful that it attracted the attention of neighbouring states. The Kerala initiative, a small step in mariculture, presented the potential for a giant leap in coastal livelihood and women empowerment of the country.

While quite a few agencies do concentrate on implementing development oriented activities, many others just believe in dry/fresh fish marketing as the main means for members of self help groups to earn their livelihood. There are, however, quite a few cases of entrepreneurial initiatives. In Andhra Pradesh women SHGs are encouraged to take up solar drying technology. There are 1000 SHGs formed in Srikakulam district, of which more than 500 groups were financed by banks. It was explained that some of the groups availed of second cycle loan linkage of the banks. The activity of the groups was mainly drying and salting of fish especially out of the catches of family members. These are some positive aspects of movement towards entrepreneurship.

IMPACT OF SHGS ON FISHERWOMEN AND THEIR SOCIO-ECONOMIC STATUS

The perusal of review of different studies indicates that the SHGs, formed by fisherwomen, are successful as can be judged from the fact that a large number of people have accepted the system and taken up fish production or related activity as their main means of livelihood and source of main or additional income. It was felt that a wealth of traditional knowledge in aquaculture already existed in the coastal villages and it was only now the women had started to participate in this activity. The SHG movement was gaining momentum; women could now avail not only of formal technical assistance but also of financial assistance [32]. The formation of common-interest groups consisting of primarily of fisherwomen has had a substantial impact on their lives. The impact on women empowerment and social security has been invariably an improvement from the status quo. The status of women has generally improved as they have developed stronger confidence, which has changed gender dynamics and their role in the household.

Forming themselves into SHGs, the fisherwomen now had an opportunity to acquire skills in aquaculture. They were happy to learn about shrimp feed preparation, which was rated by them as a viable avocation that could be taken up

with necessary technical and financial support as a group activity. They were much impressed with the technology demonstrations of scientific institutes like CIBA and felt that these would give them scope to avail of job opportunities. They were also interested to start small enterprises of their own [32]. The women expressed that the saline waters in their backyards offered an excellent earning opportunity to use them for seed storage/fish production.

Stories of change in villages like Jabbarah and Kaipara in West Bengal [33] indicate that revolutionizing changes have taken place in the lives of the people through organizing themselves into SHGs and the evolution of an excellent micro credit support scheme from the rural banking sector and the support provided to voice their views. Impact was seen in terms of differences in income, savings, occupational diversification, control over income, decision-making within the household, mobility of women and awareness about government programmes. The impact of SHGs has shown that alcoholism among men folk has reduced to a considerable extent and men folk are cooperating with women. Women have expressed that those who have come under the fold of SHG are leaning towards empowerment such as expressing their difficulties with the concerned authorities, operating bank accounts and running the SHGs in a democratic manner which are also giving them social and political empowerment.

The review further reveals that SHGs had set a new agenda for financial intermediation by banks in the form of micro credit. By the formation of SHGs, credits are demanded for various purposes (domestic, health, festivals, repayment of old debts, investment etc.). Similarly, different economic activities (collection, processing and marketing of fish, individual business, aquaculture etc.) are undertaken by the SHG members after joining the group. Habits of savings, economic independence, self-confidence, social cohesion, asset ownership, and freedom from debt, additional employment, etc. benefits are derived by the SHG members. Thus SHGs have served the cause of women empowerment, social solidarity and socio-economic betterment of the poor for their consolidation.

The cost effective, transparent and flexible approach adopted by NABARD to improve accessibility of credit from formal banking system to the disadvantaged poor has become a boon and advantageous for the SHGs. The twin problems faced by banks earlier in respect of recovery of loan installments and high transaction cost when dealing with small borrowers at frequent intervals were now solved by low cost deposit mobilization through SHGs. Therefore, formation of SHGs bridged the gap between bankers and poor villagers by building mutual trust and confidence [34, 35]. SHGs have successfully demonstrated how to mobilize and manage thrift, appraise credit needs, maintain linkage with banks and face financial self-discipline. Previously most of them concentrated in small savings, but now, after receiving alternative livelihood training programmes, they are concentrating on self-employment too. The above studies showed that the SHGs did play a positive role in helping the fisher folk in their socio-economic development, emancipation and empowerment.

CONCLUSIONS, POLICY IMPLICATIONS AND SUGGESTIONS

The present review of research has shown that women are appropriate tool for implementing community and self-development programmes. Women in fisheries are involved in a combination of three activities, i.e. fishing, processing and marketing, besides collection of fish and shrimp seed, sun drying of fishes etc., and housekeeping. In spite of their substantial contributions to fishery and aquaculture, there has been no recognition of their role in the activity and the problems faced by them continue to remain almost unnoticed. However, formation of SHGs for fisherwomen now has assumed greater significance and relevance and is seen to yield encouraging results.

The potential of the fisheries and aquaculture sector has not yet been utilized to the optimum level. There was a vast scope for development of aquaculture, particularly through utilization of village Panchayat ponds and unutilized saline land areas in various coastal states. This could ensure better economic returns equivalent to farming on land. To ensure that women utilize their potential in profitable activities like aquaculture, it is necessary to provide capacity building support to women, which will eventually lead to their empowerment. One such avenue is through enabling them to culture ornamental fish. There is great potential for expansion of ornamental fish trade, both in India and abroad. Therefore, more and more women need to be involved in production related activities using aquaculture as an option through SHG approach. They should be motivated through creation of awareness and conducting training programmes amongst stakeholders, fisheries extension officers and NGOs.

Another aspect that needs the attention of the Government and other developing agencies is the total absence of co-ordination of the work of the women's SHGs under various NGOs. Each NGO co-ordinates the work of the groups under its purview but there is a conspicuous absence of a coordinating system to streamline the work of each of the NGOs and bring into being a networking system among them. There has to be a networking of the activities of the various NGOs at least in each of the states.

The focus of credit programme should be gradually shifted towards entrepreneurship development and income generating activities through technical training may be undertaken through capacity building rather than financing survival activities. Repeated loans should be directed more towards capital investment, technology and capacity building and the programme should be made economically viable. An information campaign needs to be undertaken for creating awareness among the poor fisherwomen on availability and utilization of credit and greater understanding of policies, programmes and procedures relating to micro finance. In this context, sensitization of NGOs, Government officials and University personnel for facilitating SHG movement and playing the role of self help promoting institutions (SHPI) is needed. The need for a coordinated and comprehensive support strategy is imperative as the financial management issues of SHGs need to be addressed otherwise the benefits of the civil society impacts will be lost as SHGs will become overburdened and unsustainable.

There are certain constraints experienced by some of the members for their participation. They are lack of timely credit facilities and lack of adequate credit. Low amount of loan was available to them per member, where as the demand was for around Rs. 5000 – Rs. 10000 per member. Previous studies on SHGs clearly depict that works for poor is not credit alone, but a credit and strategy. Lack of cooperation among women groups, lack of adequate farm women oriented schemes, and delay in the operation of development programmes are the other constraints. In states like Orissa, Maharashtra and Gujarat, the marine fishing wing of the Fisheries departments is not proactive as their inland wing. Therefore, they are unable to link groups from coastal areas. Even, the penetration of NGOs in coastal areas also is limited. Steps should therefore be taken to adopt a proper financial plan that would hold the key for empowerment of women in coastal communities. This approach needs a coordinated effort by all the individuals and institutions concerned for optimal exploitation of fishery resources, which will lead to profitable employment. An important part of this effort is assistance from financial institutions, continuous technical guidance and encouragement from authorities concerned supported by regular monitoring.

While micro credit through SHGs might be able to usher in a new regime of better livelihood opportunities, macro economic policies such as development of adequate marketing network, communication, infrastructure, export facilities, marine fishing and aquaculture policies and subsidies were equally critical for sustainable development of small scale fishing communities along the coast.

While providing support to SHGS, it is necessary to keep in mind the sentiments and emotional values of rural women. Any support must be sensitive to their feelings, appropriate timely without being over-powering. The approach must be such that it should enthuse confidence among women. Moreover, the groups should be allowed to grow in an evolutionary manner. Any outside intervention to hasten the process of development` may leave the gap which could lead in future to cleavages. Natural growth is as important a factor for institutions as for individuals. This is particularly so in case of rural society where individuals are not equipped with systematic psychological skills for coping with various stress situations.

Thus, the formation of SHGs for fisherwomen assumes greater significance and relevance. Although women too are contributing a great deal to the fishing economy, they are still outside the orbit of the limelight of technocrats, bureaucrats, social scientists, researchers and bibliographers. In spite of the existence of SHGs over a decade in depth studies on their functioning and their impact on fisherwomen are lacking and there are gaps of information for evolving location specific policy options. Hence empowerment of women should be given top priority in all fisheries development programmes, research plans as well as policy decisions. The international organizations like FAO, World Bank and others should come forward and sponsor in depth studies on the impact of SHGs on fisherwomen, so that more and more fisherwomen can be brought into SHG fold for their betterment.

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ENDNOTES

- i. The United Nations General Assembly Resolution 52/94 passed on 18.12.1997 acknowledged importance of micro credit initiative as a tool for poverty eradication and empowerment of women to come up with in social status. Recognizing the importance of microfinance in poverty eradication, Government of India is implementing microfinance programme. NABARD is implementing the biggest outreach programme in the World by providing credit to 16.7 million poor families with 58 million population by linking over one million SHGs with Banks.
- ii. At present, Andhra Pradesh has a prominent place in SHG movement with 6,26,472 SHGs covering 78,65,847 rural women. Nearly 28 per cent of the members of the SHGs belong to Scheduled Caste category and 11 per cent belong to the Scheduled Tribe category. In terms of coverage, 20 per cent of women in the State are members of the SHGs. Majority of the groups in the State have been formed through the IKP project and the DRDA. As at end of March 2006, the SHGs have built a corpus of Rs.26, 197 million including thrift amount of Rs.12, 255 million. Now, more than half of the SHGs existing in the country are in Andhra Pradesh alone.
- iii. The CIBA is working on R & D programmes related to Brackishwater Aquaculture since 1987 and over the years the institute has developed technologies of shrimp seed production and culture, crab fattening and culture, shrimp seed formulation, seabass seed production culture, shrimp immunostimulants and DNA based white spot virus diseases diagnostic PCR technology which needs to be popularized among the farmers, industry and the state department personnel through training programmes, farmer's meets and other front line demonstration programmes [32].
- iv. The reduction of rural poverty, food insecurity and the promotion of rural livelihoods amid more equitable access to resources are the subjects of major strategies with in the strategic framework of FAO for the period 2000-2015. Small-scale fisheries are critical for food security and poverty reduction as highlighted by FAO's Committee on Fisheries at its 25th Session. As a supportive action, to increase the sustainable contribution of small-scale fisheries, a number of study projects were funded by FAO in different coastal states in India, subsequently sponsored consultative workshops and seminars on the results of the studies [35].