



Empowerment of Fisherwomen through Self-Help Groups: An Assessment in Thoothukudi District of Tamil Nadu, India

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HIGHLIGHTS

- Coastal communities in India rely on an invisible workforce of women who contribute significantly to the fisheries economy.
- The SHG membership has led to significant improvements in the economic well-being of fisherwomen.
- After joining self-help groups, household income has increased by 226 per cent.
- Suggests scaling up SHG initiatives, and improving access to credit and markets.

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ABSTRACT

The unpredictable nature of marine fisheries leads to unstable earnings, rendering fisherwomen vulnerable to financial insecurity and marginalization. The study evaluated the impact of self-help group (SHG) participation on their multidimensional empowerment across a sample of 240 SHG members from four coastal villages namely Thespuram, Vellapatti, Tharuvikulam, and Periyathalai in Thoothukudi district, Tamil Nadu, India in 2023. The SHG membership has led to significant improvements in the economic well-being of fisherwomen. After joining SHGs, participants experienced substantial increases in their monthly income (from Rs. 2,075 to Rs. 6,875), and savings (from Rs. 1,166 to Rs. 2,633). The SHG membership has substantially enhanced participants' understanding of social issues, educational opportunities, financial management, and engagement with government programs. The suggestions include scaling up SHG initiatives, improving access to credit and markets, and fostering skill development and entrepreneurship to promote the empowerment of fisherwomen and enhance the sustainability of coastal communities.

INTRODUCTION

Over the past few years, there has been an increasing recognition of the importance of gender equality and women's rights in the context of international development assistance policies. The focus has been on empowering women and promoting gender equality, as addressed in the Millennium Development Goals set by the United Nations (Porter, 2013). Global and national initiatives have emphasised the social and economic value of women's contributions (Murthy et al., 2008), highlighting that empowering woman benefits

their well-being and has positive effects on their families (Lewin, 2010; Sato, 2014). Several programmes, such as the Bangladesh Rehabilitation Assistance Committee (BRAC), a microcredit programme in Bangladesh, the Ishaq programme in Egypt, and the South African Intervention with Microfinance for Acquired Immunodeficiency syndrome (AIDS) and Gender Equity, have provided evidence of the positive impact of women's empowerment on family welfare.

Despite comprising more than half of India's population, women still face exclusion from economic activities and decision-

making processes. Their access to essential resources like healthcare, education, and nutrition remains limited, resulting in a low female labour force participation rate (Sato, 2014). Rural women in India play vital roles in agriculture, food security, and family well-being, yet they encounter challenges accessing markets, economic services, education, and healthcare (Lakhwinder et al., 2014; Jatav, 2020c). Traditional household roles further constrain their opportunities, and the limited recognition as farmers and restricted land ownership hinder their access to government schemes and credit, ultimately affecting agricultural productivity (Singh & Sanatan, 2014; Anderson et al., 2021). To address these challenges, the Government of India has adopted the microfinance approach to empower rural communities, particularly focusing on women's needs. Women's empowerment involves redefining the distribution of social power and control over resources, strengthening their cultural, political, social, and economic position (Narang, 2012). Increased participation and decision-making opportunities result in improved access to resources and enhanced confidence in their abilities (Nain & Kumar, 2010; Sharma & Sharma, 2014). In many developing countries, SHGs and microcredit programmes have proven instrumental in empowering individuals with limited income, particularly women (Raghunathan et al., 2023). However, despite these efforts, rural women need more access to finance, education, entrepreneurial opportunities, and risk-taking abilities, which hinder their full participation in economic and social activities (Husain, 2013).

The fisheries sector is critical in providing livelihoods for a substantial portion of India's coastal and nearby inland population (Ghosh et al., 2015; Shil et al., 2022). Coastal communities, whether in dry or wetland areas, hold significant importance as residential and business centres for the local populace (Singh, 2020; Vincent & Khatharine, 2021). The well-being of these settlements greatly impacts the lives of inhabitants. To address natural disasters, securing housing, employment opportunities, and access to necessary facilities are essential for coastal populations (Farrington et al., 1999). Fisherwomen play a crucial role in supporting their families within the fishing community, being involved in fish processing, marketing, and distribution, and providing an avenue for higher incomes based on their average annual working hours (Szaboova et al., 2022). Recognising the significant contribution of women to their families' socio-economic well-being, efforts have been made to promote income-generating activities for them. Nevertheless, fisherwomen's contributions often need better acknowledgement, as fluctuations in the fish trade can result in reduced decision-making authority at home when their income levels decrease (Bhatta & Rao, 2003). Enhancing the involvement of fisherwomen in decision-making processes can significantly contribute to the development of the fisheries sector (Dewangan et al., 2020). However, fisherwomen encounter various challenges rooted in cultural, social, traditional, economic, and legal constraints distinct from men, even in poverty (Khan et al., 2018). Overcoming these barriers is essential for empowering women and positively transforming the social structure, as observed in other countries like China. Access to finance, education, entrepreneurial opportunities, and risk-taking abilities impede fisherwomen's full participation in economic and social activities (Husain, 2013). To improve women's

livelihoods in coastal communities and encourage their active involvement in decision-making processes, the potential of SHGs and microcredit can be harnessed. Such empowerment of fisherwomen would enable them to access resources, enhance their economic situations, and make further contributions to the socio-economic development of their communities.

With these above, this study aims to: (1) evaluate the level of empowerment experienced by fisherwomen participating in SHG activities in the study location, and (2) analyse the various forms of empowerment achieved by fisherwomen within the SHG programme.

METHODOLOGY

Thoothukudi district serves as the primary centre for deep-sea fishing in the district, boasting a coastline that spans approximately 140 km. Along this extensive coastline, approximately 22 fishing villages are actively engaged in marine fishing activities. Four fishing villages were randomly selected for this study from the Thoothukudi district to represent both the northern and southern coasts. These villages include Threspuram, Vellapatti, Tharuvikulam, and Periyathalai. These villages were chosen specifically due to their active involvement of in various entrepreneurial activities. To ensure a comprehensive representation, six SHGs were randomly selected from each village, resulting in a total of twenty-four SHGs. From each SHG, ten members were further selected, yielding a final sample size of 240 individuals. Based on the simple random sampling method, a total of 240 samples were collected from these four villages. To gather data for this study, a meticulously designed and pre-tested interview schedule was developed. This structured interview schedule comprehensively covered all relevant variables necessary to achieve the study's objectives. Throughout the research process, this interview schedule served as a valuable tool for data collection and analysis.

To assess women's empowerment, adapted the dimensions that Meena et al., (2012) & Das (2012) identified. Respondents were provided with inventories containing relevant questions to assess these sub-dimensions. The responses were recorded on a five-point scale ranging from "Strongly Agree" to "Strongly Disagree," with scores of 5, 4, 3, 2, and 1 assigned to positive statements and vice versa for negative statements. The actual scores for each empowerment component were calculated by summing the values assigned to each dimension within a component. To standardise the scores into indices ranging from 0 to 1, the research employs an indicator-based methodology to compute the empowerment index. Current research work employs differential data to compute the empowerment index, thereby necessitating consideration of the normalization procedure. Therefore, the following equations are employed using the min-max method. Equations 1 and 2 were used to represent indications of the larger-the-better and smaller-the-worse types, respectively.

$$Z_{ij} = \frac{X_{ij} - \text{Min}(X_{ij})}{\text{Max}(X_{ij}) - \text{Min}(X_{ij})} \quad \dots (1)$$

$$Z_{ij} = \frac{Max(X_{ij}) - X_{ij}}{Max(X_{ij}) - Min(X_{ij})} \quad \dots(2)$$

$$i = 1, 2, \dots, I \text{ and } j = 1, 2, \dots$$

Where Z_{ij} is the variable index value, X_{ij} is the actual value, $Max(X_{ij})$ and $Min(X_{ij})$ is the maximum and minimum value of i^{th} indicator for the j^{th} household. Finally, the empowerment index for each household is calculated as an average of all the indicators.

To evaluate the impact of SHG participation on fisherwomen's empowerment, a paired-sample t-test was conducted for each of the four villages. This test aimed to determine the difference between the mean empowerment index scores before and after joining the SHG to gain insights into the effectiveness of the SHG in promoting women's empowerment in each village. The t-test formula used for each village was as follows:

$$t = \frac{(\text{mean after} - \text{Mean before})}{\frac{\text{Standard Deviation}}{\sqrt{\text{Sample size}}}}$$

This statistical analysis allowed for a comparison of average empowerment index scores before and after SHG participation, providing valuable insights into the SHG's effectiveness in promoting women's empowerment in each village.

RESULTS

Table 1 shows that fisherwomen experienced significant economic benefits, including increased income, expenditure (purchasing power), and savings, upon joining the SHG in the study areas. Before joining SHGs, the monthly income was only Rs. 2075, while it increased to Rs. 6875. Although joining SHGs led to an increase in expenditure, the increase was relatively smaller than the increase in income. To put it another way, a household's monthly savings were only Rs. 1166.66 before joining SHGs, but it increased to Rs. 2633.33 after joining SHGs.

Table 1. Monthly income, expenditure and saving behaviour of respondents

Variable	Joining the SHGs	Mean	Standard deviation
Monthly Income (Rs.)	Before	2075.00	1736.45
	After	6875.00	1739.583
Monthly Expenditure (Rs.)	Before – SHGs	1981.25	1863.73
	After – SHGs	4671.66	2682.69
Monthly Savings (Rs.)	Before	1166.66	879.64
	After	2633.33	1151.55

Source: Field Survey Data, 2023

The findings from the paired t-test (Table 2) suggest that SHGs had a considerable influence on the economic aspects of fisherwomen in the research area. The results demonstrate that joining SHGs led to a significant increase in fisherwomen's financial empowerment. These women depended on their families for financial support, but after becoming part of SHGs, they achieved independence and the capability to meet their financial

Table 2. Paired sample t-test - monthly income, expenditure, and savings

Pairs	Indicators	Paired differences
Pair 1	Monthly Income-Before and After Joining SHGs	4800.00* (27.56)
Pair 2	Monthly Expenditure-Before and After Joining SHGs	2690.41 (18.48)*
Pair 3	Monthly Savings-Before and After Joining SHGs	1466.66 (28.20)*

Source: Field Survey data, 2023. Note: * indicates per cent level of significance, and parentheses values are t- test values.

needs autonomously. This outcome highlights the transformative impact of SHGs, as fisherwomen are no longer solely reliant on their families and now have the means to address their financial requirements independently.

Empowerment Levels of SHGs

According to the data presented in Table 3, it is evident that the participants had a moderate level of overall empowerment (0.32) before joining the SHGs. They demonstrated moderate levels of empowerment in different areas, such as community upliftment (0.27), skill development improvement (0.28), economic empowerment (0.31), increased confidence (0.33), and refined choice strategies (0.34). Upon joining the SHGs, there was a significant increase in the levels of empowerment across all aspects. The most notable improvement was observed in economic empowerment (0.80), followed closely by enhanced confidence (0.77), refined choice strategies (0.77), improved skill development (0.75), and community upliftment (0.73). The SHGs significantly contributed in enhancing women's self-assurance, as SHGs members witnessed a remarkable 45.6 per cent growth. In addition, there was an increase in the levels of mental resilience and civic participation empowerment from low to medium. In general, there was a transition from moderate to elevated levels of empowerment, with economic empowerment demonstrating the most notable shift.

Comparison of SHG Participants' capacity building and awareness levels

The study revealed significant progress in addressing social problems, particularly within fisheries villages, following SHG membership (Table 4). Participants underwent positive transformations in their understanding, as evidenced by the average response values rising from 2.31 to 4.20 concerning familiarity with child labour practices, and from 2.30 to 4.09 in terms of comprehending child marriage practices. Although certain individuals might still be involved in child marriage or child labour due to their social circumstances, SHGs played a role in augmenting awareness about domestic violence and social inequality within economically disadvantaged groups, those with limited educational backgrounds, and marginalized segments of society. Average response values about knowledge about domestic violence and awareness of social inequality increased from 2.60 and 2.38 to 4.14 and 4.03, respectively, before and post joining SHGs. The collaborative activities within SHGs also enhanced participants' decision-making

Table 3. Empowerment levels of SHGs through entrepreneurial activities

Empowerment Variable	Mean score of Before Joining SHG	Mean score of After Joining SHG	Shift	Rank
Economic Empowerment	0.31	0.80	0.49	1
Skill Development Boost	0.28	0.75	0.47	2
Community Upliftment	0.27	0.73	0.46	3
Confidence Enhancement	0.33	0.77	0.44	4
Choice Strategy Refinement	0.34	0.77	0.43	5
Mental Resilience Empowerment	0.35	0.76	0.42	6
Overall Empowerment	0.32	0.74	0.42	7
Civic Participation Strengthening	0.27	0.64	0.37	8
Self-worth Enhancement	0.41	0.71	0.29	9

Source: Primary survey, 2023

Table 4. Comparison of SHG participants' capacity building and awareness levels before and after joining SHGs/using microcredit

Problems	Statement	Before joining SHG (mean scores)	After joining SHG (mean scores)	t-value
Social Problems/ Concerns/ Awareness	Familiarity with child labour practices	2.31	4.20	27.72*
	Understanding of child marriage practices	2.30	4.09	21.31*
	Knowledge of domestic violence	2.60	4.14	19.69*
	Awareness of social inequality	2.38	4.03	25.11*
	Position within the family	2.36	4.13	29.31*
	Position within the local community	2.38	4.38	28.51*
Educational Problems/Concerns/ Awareness	Participation in family decision-making	2.32	4.25	28.30*
	Proficiency in reading and writing	2.30	4.27	16.43*
	Female education	2.12	4.08	22.53*
	Knowledge of children's education	3.28	4.33	34.96*
Economic Problems/ Concerns/ Awareness	Awareness about education for girls	2.12	4.33	34.96*
	Capability to manage resources	2.16	3.97	33.39*
	Financial reliability	2.02	4.03	33.51*
	Independence from moneylenders	2.11	4.42	44.89*
	Banking behaviours/ habits	2.10	4.00	44.80*
	Potential for self-employment	2.06	4.10	44.80*
	Effective communication abilities	2.22	3.98	34.42*
Governance (Political) Problems/ Concerns/Awareness	Entrepreneurial aptitude	2.37	4.30	44.80*
	Accessing information regarding government programs	2.32	3.78	25.85*
	Understanding of women's rights	2.43	4.22	39.66*
	Understanding about equal property rights for women	2.19	4.02	39.64*
	Engagement in developmental initiatives	2.49	3.98	29.68*
	Capability to interact and communicate with government authorities	2.77	3.71	21.29*

Source: Field Survey Data, 2023. Note: The symbols *** denote significance at the 1% levels (df = 239). Rating Scale: 1. Very Low; 2. Below Average; 3. Average; 4. Above Average; 5. Very High.

skills and social standing, as evidenced by average response values that improved from 2.38 and 2.32 to 4.38 and 4.25 before and after joining SHGs. Moreover, SHGs fostered unity and facilitated the exchange of knowledge among family members, thereby enhancing their decision-making prowess.

Education plays a pivotal role in knowledge acquisition, skill development, and shaping attitudes (Narang, 2012). The data collected indicates a significant improvement in proficiency in reading and writing skills among SHG participants, with mean response values increasing from 2.30 to 4.27 before and after joining SHGs. Additionally, joining SHGs results in heightened awareness of female education, with the mean response value reaching 4.08. However, despite increased awareness, challenges such as work

pressure, familial obligations, religious reasons, cultural pressures, and inadequate facilities still hinder many girls from attending school.

Participants reported an increased sense of connection due to social similarities within these groups. The improvement in participants' resource management capabilities is evident in the change of mean response values, shifting from 2.1 to before joining SHGs to 3.97 after becoming a part of them. SHGs have played a significant role in enhancing participants' financial reliability and their access to loans through formal banking systems, thus diminishing dependence on moneylenders. Micro-credits and group activities have also elevated their potential for self-employment, as indicated by the increase in mean response value from 2.06 to

4.10 before and after joining SHGs. Participation in SHGs facilitated access to tangible assets, improved living conditions, and nurtured entrepreneurial and communication skills. This is discernible from the increase in mean response values, rising from 2.22 and 2.37 to 3.98 and 4.30 before and after joining SHGs, respectively. Overall, SHGs have played a pivotal role in empowering rural women and enhancing their quality of life.

Participation in micro-credit-based SHGs has had a positive impact on women's self-esteem and self-worth. Joining SHGs has resulted in heightened awareness of social and political issues, empowering women to transcend traditional isolation and engage more actively outside their homes. The research has revealed a notable increase in the mean response value from 2.32 to 3.78 after joining SHGs, indicating improved access to information regarding government programs. Furthermore, participants have reported an enhanced awareness of women's rights and equal property rights. The mean response values increased from 2.43 and 2.19 to 4.22 and 4.02, respectively, before and after joining SHGs. The study also identified a significant rise in participants' involvement in development programmes, as evidenced by the mean response value increasing from 2.29 to 3.98 before and after joining SHGs. Lastly, participants demonstrated a notable improvement in their ability to interact with government officials after engaging with other SHG members. The present study findings are in the line of Jayaraman (2002) findings indicate that these SHGs demonstrate impressive performance in accessing microcredit, effectively utilizing it, and making timely repayments. The microcredit program, facilitated through SHGs, significantly contributes to the socio-economic well-being and empowerment of fisherwomen

DISCUSSION

The present study results show that SHGs membership has dramatic role in the empowerment in the fisherwomen in the study area in terms of financial independence, social resilience and livelihood security. The present study results are aligned with the findings of study conducted by Nadar (2008) in Cairo, Egypt. His results demonstrated the positive socioeconomic impact of microcredit on women, leading to increased income and assets, and improved education levels among the participating women's children. Likewise, our findings are also aligned with the findings of Kayser et al., (2010), found that after joining the SHGs, their live has been changed in terms of psychological, social and economically. Decision making power is also symbol of women empowerment, as present study reported, and matched with the findings of Mahesh (2014). He was conducted a study in the three villages in Dakshina Kannada district of Karnataka using a multi-stage random sampling method. His findings revealed that 84.14 per cent of female fish vendors displayed a medium level of decision-making behaviour. Notably, fisherwomen were observed as the primary and independent decision-makers in all aspects of fish marketing, including fish sourcing, pricing, and transportation, ice usage, scales timing, equipment procurement, and credit management. The analysis highlighted the significant and positive contribution of self-confidence, among the profile characteristics studies, towards the decision-making behaviour of female fish vendors.

CONCLUSION

The study highlight the significant positive impact of self-help groups (SHGs) on the empowerment of fisherwomen in the Thoothukudi district of Tamil Nadu. The substantial increase in the mean empowerment index scores across all eight empowerment dimensions after fisherwomen joined the SHGs was observed. The SHG participation has a significant positive impact on the empowerment of fisherwomen in the study area. The analysis of monthly income, expenditure, and savings also showed a noteworthy differentiation before and after joining the SHGs, with fisherwomen experiencing increased income, purchasing power, and savings. Previously dependent on their families for financial support, these women have now achieved independence and the capability to meet their financial needs autonomously. The findings underscore the importance of SHGs in providing financial services, creating awareness, and fostering empowerment among women.

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