



RESEARCH ARTICLE

WEAVING CHANGE TOGETHER: AN EMPIRICAL ANALYSIS OF SHGS AND WOMEN'S EMPOWERMENT IN RURAL WEST BENGAL, INDIA USING FACTOR ANALYSIS AND MNL

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ABSTRACT

Women's empowerment has become a pivotal driver of sustainable rural development, and Self-Help Groups (SHGs) have emerged as crucial grassroots institutions that extend beyond savings and credit to foster socio-economic transformation. This study investigates the role of SHGs in Falta C.D. Block, South 24 Parganas, by analyzing members' socio-economic status, assessing factors influencing women's empowerment, and identifying key challenges with corresponding recommendations. The study draws on primary data from a survey of 500 SHG members, supported by interviews and FGD, and secondary sources including census records, reports, and literature, employing descriptive statistics, factor analysis, and multinomial logistic regression to examine determinants of empowerment and satisfaction. Findings show that SHGs significantly improve women's income, savings, decision-making, and political participation, with education, occupation, training, funding, and family support as key determinants of empowerment; yet challenges such as irregular loan repayment, weak managerial skills, poor coordination, low awareness, and family resistance persist, underscoring the need for diversified skills, literacy, structured awareness campaigns, flexible credit, and family sensitization to ensure SHG sustainability. In conclusion, SHGs in Falta C.D. Block demonstrate remarkable potential as vehicles of women's empowerment and rural transformation, but their success depends on continuous capacity-building, institutional innovation, and inclusive policy support.

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INTRODUCTION

Women's empowerment has emerged as a critical determinant of sustainable development, particularly in rural India, where socio-economic inequalities and patriarchal structures often restrict women's access to resources, decision-making, and opportunities for self-reliance. Over the last three decades, the Self-Help Group (SHG) movement has played a pivotal role in addressing these concerns (Kayal & Chowdhury, 2020). Defined as a voluntary association of usually 10–20 women from similar socio-economic backgrounds who come together to save regularly, access microcredit, and support one another in economic and social endeavors, an SHG represents a grassroots-level institution for both financial inclusion and social transformation (NABARD, 2008; Srinivasan, 2010). The SHG movement in India is deeply rooted in the concept of microcredit, which refers to the provision of small loans to low-income individuals, particularly women, without the requirement of collateral. Popularized by the Grameen Bank model in Bangladesh under Muhammad Yunus during the 1970s, microcredit aims to empower women by enhancing their access to productive resources, encouraging entrepreneurial activities, and breaking cycles of poverty and dependency (Yunus, 2003). In India, microcredit through

SHGs has evolved into a large-scale socio-economic program supported by initiatives like the Self-Help Group–Bank Linkage Programme (SHG-BLP) launched by the National Bank for Agriculture and Rural Development (NABARD) in 1992. The program has since been integrated with the National Rural Livelihood Mission (NRLM), reflecting the government's commitment to grassroots empowerment. While the initial emphasis of SHGs was on collective savings and credit, their scope has gradually expanded to encompass livelihood diversification, capacity building, health awareness, education, political participation, and community development (Kabeer, 2005; Puhazhendhi & Satyasai, 2000). Thus, SHGs function not merely as microfinance collectives but also as platforms for achieving broader gender equity, fostering leadership, and reshaping social relations. In West Bengal, and particularly in Falta C.D. Block of South 24 Parganas district, SHGs have become instrumental in mobilizing rural women toward greater economic and social participation. The block, characterized by agrarian livelihoods, socio-economic vulnerabilities, and developmental constraints, provides a critical context for assessing the role of SHGs. Women members have reported improvements in income generation, household decision-making, and community involvement.

However, persistent challenges remain, including weak institutional capacity, inadequate training, limited access to markets, and entrenched patriarchal attitudes.

Statement of the Research Problem: Although SHGs in Falta C.D. Block have contributed significantly to women's socio-economic upliftment, their long-term impact on empowerment and sustainable livelihood security is yet to be fully understood. Existing studies have largely emphasized the financial dimensions of SHGs—such as savings and credit access—without sufficiently analyzing their transformative potential in social, cultural, and political domains. Moreover, the persistence of challenges like financial mismanagement, group conflicts, dependence on external agencies, and socio-cultural barriers raises concerns about the sustainability and inclusiveness of SHGs. Against this backdrop, the present study seeks to go beyond savings and credit, exploring SHGs as comprehensive instruments of women's empowerment. It examines how SHGs shape women's socio-economic status, what constraints limit their effectiveness, and how policy interventions can strengthen their role in ensuring inclusive rural development.

LITERATURE REVIEW

A considerable body of research highlights the significant role of SHGs in women's empowerment and rural development across India. Studies conducted in West Bengal demonstrate that SHGs act as a crucial instrument for enhancing women's autonomy, decision-making capacity, and socio-economic status (Garai, Majumder, & Maity, 2012; Bhattacharjee & Pal, 2012–13; Chakravorty, 2013; Panda & Adak, 2014; Chaudhary, 2017; Kayal & Chowdhury, 2020). Empirical evidence from Nadia and North 24 Parganas districts shows that SHG participation leads to higher empowerment scores across multiple dimensions such as political awareness, mobility, household decision-making, and community involvement (Garai et al., 2012; Bhattacharjee & Pal, 2012–13). Beyond West Bengal, case studies in Odisha and Uttarakhand also confirm that SHGs contribute to income growth and enhanced decision-making power among women (Sahoo, 2013; Rana & Ansari, 2017). Research in Maharashtra further emphasizes the collective strength of SHGs, noting that empowerment outcomes are often more visible at the group rather than the individual level (Goswami, Silva, & Chaudhary, 2018). Meanwhile, evidence from Tamil Nadu and Kerala underscores the impact of SHG programmes in improving self-confidence, self-esteem, and livelihood opportunities, while also identifying persistent challenges such as inadequate training, limited managerial skills, and weak institutional support (Nithyanandhan & Mansor, 2015; Jose, Chockalingam, & Velmurugan, 2020). Overall, these studies affirm that SHGs, rooted in the concept of microcredit, serve as powerful platforms for women's empowerment, though structural and operational barriers continue to constrain their transformative potential.

Research Gap: While existing literature extensively documents the positive role of SHGs in promoting women's empowerment and rural development across India, several gaps remain, particularly in the context of localized, micro-level studies. There is limited empirical evidence specifically addressing Falta C.D. Block in South 24 Parganas, where socio-economic, cultural, and geographic conditions may

uniquely influence the functioning and outcomes of SHGs. Moreover, while prior studies often assess empowerment at broader district or state levels, there is a lack of comprehensive, objective-wise analysis that examines: (i) the detailed socio-economic profile of SHG members, (ii) the multidimensional impact of SHGs on economic, social, and political empowerment, and (iii) the specific operational and structural challenges faced at the grassroots level. Additionally, previous research often highlights challenges in general terms without providing actionable, context-specific recommendations to enhance SHG effectiveness. Therefore, the present study addresses these gaps by focusing on the socio-economic characteristics, empowerment outcomes, and practical constraints of SHG members in Falta C.D. Block, aiming to generate insights that are both locally relevant and policy-informative.

Objectives

The present study has been structured around the following three broad objectives:

- To analyze the socio-economic status of SHG members in Falta C.D. Block.
- To examine the influence of socio-economic attributes and SHG-related dimensions on women's empowerment in the study area.
- To identify the major challenges faced by SHG members and to propose suitable recommendations for overcoming these constraints.

Study Area: Falta Community Development Block is located in the Diamond Harbour subdivision of South 24 Parganas district, West Bengal, at approximately extended from 22°18'07" to 22°21'45" N latitude and from 88°06'42" to 88°18'30" E longitude, with an average elevation of 8 metres above sea level (Fig. 1). It covers an area of 130.68 km² and is bounded by Budge Budge II and Bishnupur II CD Blocks in the north, Magrahat I to the east, Diamond Harbour I and II to the south, and the Hooghly River to the west, beyond which lies Shyampur I in Howrah district (Kayal & Chowdhury, 2020). The block is predominantly rural, comprising 129 inhabited villages under 13 gram panchayats, with its headquarters at Harindanga. According to the 2011 Census, Falta hosts a population of 249,561, of which nearly 91% live in rural areas. Literacy stands at 77.17%, with a noticeable gender gap, while the sex ratio is 955 females per 1000 males. Falta CD Block provides a compelling context for studying the impact of Self-Help Groups on women's empowerment due to its socio-economic profile and development potential.

The block demonstrates a balance between moderate poverty and evolving infrastructure, making it suitable for examining how SHGs can bridge gaps in income generation, financial inclusion, and decision-making. The relatively high but gender-skewed literacy rates highlight the scope for interventions aimed at reducing disparities and strengthening women's participation in household and community spheres. Additionally, the proximity to economic hubs, transport networks, and the Special Economic Zone offers women opportunities for market linkages, microenterprise growth, and exposure to formal structures of credit and employment. Evidence from across India indicates that SHGs contribute significantly to improved health practices, asset ownership, confidence, and social mobility for women; Falta, with its

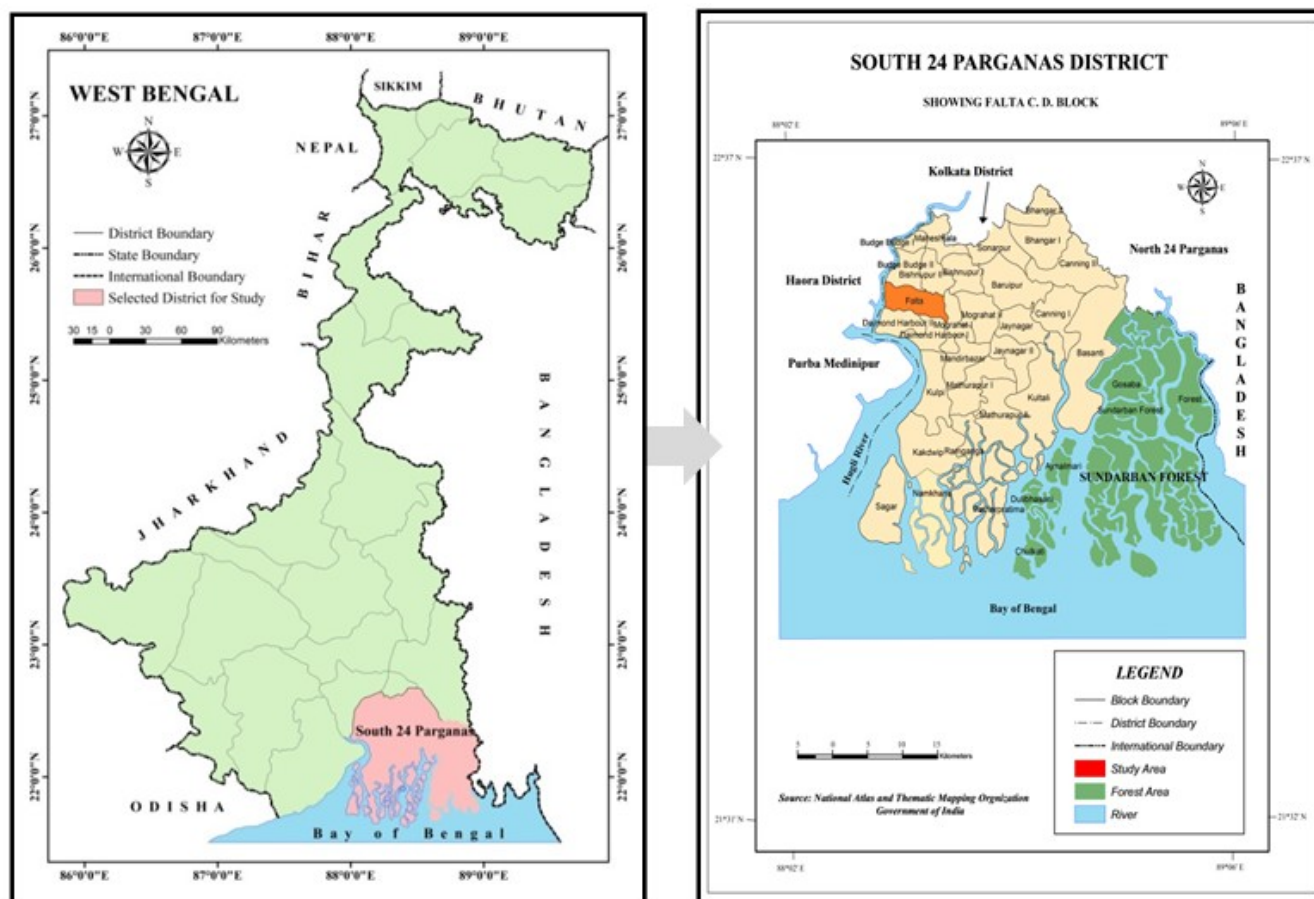


Fig. 1. Location map of the Study Area

Table 1. Description of Predictors Used in the Econometric Model (MNL)

Predictors	Description and Measurements
AGE	Categorical, 0 if the age is <i>below 25 years</i> , 1 if <i>25-35 years</i> , 2 if <i>36-45 years</i> , and 3 if <i>above 45 years</i> .
EDUCATION	Categorical, 0 if SHG member had <i>no education</i> , 1 if <i>up to primary</i> , 2 if <i>up to Middle school</i> , 3 if <i>up to Secondary and higher</i> .
OCCUPATION	Categorical, 0 if the primary occupation is <i>cultivator</i> , 1 if <i>agriculture labourers</i> , 2 if <i>daily wage labour</i> , 3 if <i>self-employment</i> and 4 if <i>service</i> .
MOTIVATION	Categorical, 0 if motivation to joining SHG is <i>economic upliftment</i> , 1 if <i>admission of children to school</i> , 2 if <i>to support family</i> , and 3 if <i>to cope with emergency situations</i> .
INFORMATION	Categorical, 0 if major source of information is <i>neighbours</i> , 1 if <i>social media</i> , and 2 if <i>television</i> .
GROUP COMPOSITION	Categorical, 0 if SHG having total group member is <i><4</i> , 1 if <i>4-6 members</i> , 2 if <i>7-10 members</i> , and 3 if <i>> 10 members</i> .
FUNDING	Categorical, 0 if Major source of funding of SHG is <i>NGO</i> , 1 if <i>NRLM</i> , 2 if <i>SGSY</i> , and 3 if <i>state projects</i> .
TRAINING	Binary, 0 if SHG members <i>getting training</i> , i.e. <i>no</i> , and 1 if <i>yes</i> .
FAMILY SUPPORT	Categorical, 0 if <i>disagree</i> , 1 if <i>moderately agree</i> , 2 if <i>highly agree</i> .

demographic diversity and institutional reach, presents an ideal microcosm to test and validate these impacts. Thus, choosing Falta as a study area ensures that findings will be both locally relevant and scalable to other rural-urban interface regions of West Bengal and beyond.

Table 2. Showing Result of KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.930
Bartlett's Test of Sphericity	Approx. Chi-Square
Df	190
Sig.	.000

Source: Computed by the Authors

Database: The present study is based on both primary and secondary sources of data. Primary data were collected through a pre-designed questionnaire comprising a combination of open-ended and close-ended questions. The open-ended

questions facilitated the collection of qualitative information, while the close-ended questions were designed to obtain quantitative data. A random sampling technique was employed for the survey. In this study, a total of 500 SHGs were identified for data collection. In addition, five key informant interviews and five focus group discussions were conducted to generate deeper insights into the dynamics of SHGs. Through this process, information relating to the socio-economic status of SHG members, educational attainment, age distribution, occupational status, motivation for joining SHGs, sources of information, levels of satisfaction, and the major challenges faced was systematically collected from primary sources. For secondary data, sources such as the Census of India (2011), newspapers, magazines, journal articles, and the District Gazetteer were consulted, providing a robust foundation for the study's contextual and literary framework.

METHODOLOGY

For analytical purposes, both descriptive statistics (such as percentages, means, and cross-tabulations) and inferential statistical methods were employed. In particular, factor analysis was applied to identify the major determinants of women’s empowerment through microfinance. Prior to extraction, the suitability of the dataset for factor analysis was examined using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett’s Test of Sphericity. The KMO test was used to assess sampling adequacy, ensuring that the data were appropriate for factor analysis, while Bartlett’s test confirmed that the correlation matrix was not an identity matrix and that sufficient interrelationships existed among variables to justify factor extraction.

The multinomial logistic regression (MNLr) model employed in this study is designed to estimate the log-odds of an SHG member’s satisfaction level relative to the reference category. By modeling the logarithmic transformation of the probability ratios, the MNLr framework captures the likelihood of an SHG member belonging to a particular satisfaction category as compared to the baseline category. The model is specified as:

log (P(Y = j) / P(Y = L1)) = β0j + β1jAGE + β2jEDUCATION + β3jOCCUPATION + β4jMOTIVATION + β5jINFORMATION + β6jGROUP COMPOSITION + β7jFUNDING + β8jTRAINING + β9jFAMILY SUPPORT

Where, log (P(Y=j) / P(Y=L1)) denotes the log-odds of the outcome falling into category jjj relative to the reference category of the dependent variable, namely “dissatisfied.” The predictors incorporated in the model are: AGE (age of the SHG member), EDUCATION (educational attainment of the SHG member), OCCUPATION (primary occupation of the SHG member), MOTIVATION (reason for joining the SHG), INFORMATION (source of information regarding SHG activities such as neighbours, social media, or television), GROUP COMPOSITION (total number of members in the SHG), FUNDING (source of financial assistance such as NGO, NRLM, SGSY, or state projects), TRAINING (participation in training activities), and FAMILY SUPPORT (extent of support received from family).

Each coefficient (β0j,β1j,...,β9j) captures the marginal effect of the corresponding predictor variable on the probability of selecting satisfaction category j, as compared to the baseline category of dissatisfaction. The independent variables, measured using robust scales adapted from prior studies (Deniz&Deniz, 2024; Dolui et al., 2025), are defined as follows (Table 1):

The dependent variable in this study is the level of satisfaction of SHG members regarding their socio-economic empowerment. Four categories were considered:

- Y = 0 (Dissatisfied): No significant impact of SHG on empowerment (reference category).
- Y = 1 (Moderately satisfied): Some improvement but limited transformative impact.
- Y = 2 (Satisfied): Clear positive effects of SHG participation on empowerment.
- Y = 3 (Highly satisfied): Strong agreement that SHG participation has led to significant socio-economic improvement and overall empowerment.

RESULTS AND DISCUSSION

Socio-Economic Status of SHG Members

Age Distribution: The age profile of SHG members is dominated by women in the 25–35 years category (53%), followed by 29 percent in the 36–45 years range. This concentration in the productive and reproductive age group signifies that SHGs are primarily attracting women who are actively engaged in family responsibilities and livelihood activities. The very low participation of women below 25 years (7%) indicates that younger women may face social and cultural barriers, such as restrictions on mobility, marriage-related constraints, or lack of awareness about SHG opportunities. Meanwhile, the relatively small share of older women above 45 years (11%) suggests that economic participation declines with age due to health issues, household caregiving roles, or reduced social acceptability of group involvement. The dominance of middle-aged women highlights the fact that SHGs are most effective in mobilizing women during the stage of life when they are seeking both economic stability and social recognition.

Educational Attainment: The educational background of SHG members shows that 2.5 percent are illiterate and nearly 40 percent studied only up to class VIII, while just 14 percent attained higher secondary education and above. This skew towards lower levels of education reflects structural disadvantages prevalent in rural areas, where women’s education historically receives less priority than men’s. The high proportion of members with basic or incomplete education highlights both a challenge and an opportunity: while limited literacy restricts managerial and financial skills, the very fact that semi-literate women are participating in SHGs indicates the role of these groups as platforms for informal learning, knowledge sharing, and confidence building. The relatively higher percentage with secondary and above education (41%) is significant because it provides SHGs with a human capital base capable of taking on leadership and administrative roles, which can improve group efficiency and expand livelihood prospects.

Occupational Background of Families: A striking feature of the occupational profile is the dominance of agriculture-linked livelihoods, with 43 percent of families dependent on agricultural wage labour and 32 percent engaged as cultivators. This heavy reliance on agriculture reflects the structural agrarian economy of Falta C.D. Block, where non-farm employment opportunities are limited. The significant presence of daily wage earners (18%) further underscores livelihood insecurity and the dependence on precarious, low-paying jobs. The very small share of families in self-employment (6.5%) and service (0.5%) highlights the lack of occupational diversification in rural areas. This occupational structure explains why SHGs have emerged as an attractive alternative to supplement income and reduce the risks associated with unstable agrarian livelihoods. It also suggests that SHG-led diversification into non-farm activities is essential for long-term economic resilience.

Motivation for Joining SHGs: The motivations for joining SHGs reveal a strong economic orientation, with 42 percent citing economic upliftment as their primary goal. This reflects the acute livelihood vulnerabilities and poverty levels among members, where SHGs serve as an entry point for accessing

Table 3. Showing Result of the Factor Analysis

Sl. No.	Variables	Component		
		1	2	3
Economic Features				
1	Increase in Income level	0.468	0.923	-0.120
2	Improve in Savings	0.572	0.770	-0.012
3	Undertaking Income Generating Activities	0.624	0.636	-0.142
4	Reduction of Poverty	0.640	0.664	0.114
Participation in Decision Making				
5	Increment in Savings	0.621	0.756	0.214
6	Reduction in Expenses	0.304	0.977	0.187
7	Children's Education	0.942	0.323	0.214
8	Able to deal with financial crisis of family	0.569	0.822	0.221
Social Features				
9	Moving Independently	0.852	-0.126	0.194
10	Freely expression of Views	0.950	-0.244	0.224
11	Able to discuss freely with Bankers/ Government Officers/ NGOs and other Officers	0.869	-0.466	-0.214
Protest against the social imparities				
12	Pollution	0.332	0.452	0.955
13	Drinking Water Problem	0.328	0.487	0.814
14	Dowry	0.487	0.354	0.710
15	Alcohol Use	0.124	0.145	0.849
Participated in Rallies on				
16	Women's Day	0.965	-0.274	0.124
17	Child Labour Abolition	0.224	0.214	0.710
Political Features				
18	Women Participation in Gram Sabha Meeting	0.849	0.522	-0.214
19	Able to caste vote independently	0.920	-0.395	-0.114
Eigen Values		13.465	3.078	1.867
% of Variance		70.868	16.199	9.826
Cumulative % of Variance		70.868	87.068	96.893

Extraction Method: PCA, Source: Calculated By the Authors

Table 4. Insights from the MNL Model Coefficients: Key Determinants Influencing Level of Satisfaction of Rural SHG Members (with respect to Social, economic and political empowerment) in Falta C.D Block

Predictors	Moderately Satisfied		Satisfied		Highly Satisfied	
	β	OR	β	OR	β	OR
Intercept	-6.432	0.001***	-1.612	0.210***	-10.021	0.247***
AGE (Ref:below 25 years)						
25-35 years	0.217	1.245***	0.975	2.688***	0.845	2.402***
36-45 years	0.021	1.021 ^{NS}	-0.604	0.527**	0.464	1.574***
> 45 years	-0.212	0.798**	-0.467	0.598*	0.181	1.198*
EDUCATION (Ref:illiterate)						
Up to primary	-0.502	0.584*	-0.612	0.526	-0.752	0.452
Up to Middle school	0.169	1.176**	-0.021	0.974 ^{NS}	-1.134	0.312*
Up to Secondary	0.402	1.516**	-2.168	0.108**	0.714	2.047***
≥ Higher secondary	-0.243	0.768***	0.846	2.342***	0.094	1.102***
OCCUPATION (Ref:cultivators)						
Agriculture labourers	-0.212	0.798*	-0.467	0.598*	-0.942	0.374*
Daily wage labour	-10.021	0.247*	-15.381	0.001	-11.302	0.000
Self-employment	-0.402	0.647**	1.712	5.477**	3.077	21.701***
Service	-0.487	0.604**	2.354	10.512**	-5.542	0.003***
MOTIVATION (Ref:economic upliftment)						
Admission of children to school	-0.036	0.946 ^{NS}	-0.312	0.713***	-0.469	0.617***
To support family	-0.204	0.802**	-0.264	0.727**	1.247	2.276***
To cope with emergency situations	-0.437	0.634**	1.627	1.186***	-2.397	0.089**
INFORMATION (Ref:neighbours)						
Social media	-0.437	0.634**	-1.627	0.186***	-2.397	0.089**
Television	-0.312	0.713***	-0.469	0.617**	1.247	3.261***
GROUP COMPOSITION (Ref:< 4 members)						
4-6 members	-0.048	0.421***	-2.345	0.092***	-11.014	0.000***
7-10 members	0.001	1.001*	0.003	1.002*	0.003	5.002***
>10 members	-0.667	0.502***	0.342	3.428***	0.746	2.141**
FUNDING (Ref:NGO)						
NRLM	-0.054	0.944***	0.049	1.024**	2.602	13.512***
SGSY	-2.345	0.092**	-11.014	0.000**	-12.146	0.000***
State Projects	0.003	1.002*	0.003	1.002*	0.002	1.003**
TRAINING (Ref:No)						
Yes	0.068	1.068 ^{NS}	-0.612	0.524***	0.352	6.422***
FAMILY SUPPORT (Ref:Disagree)						
Moderately agree	-0.078	0.902**	-0.742	0.412**	0.402	2.647***
Highly agree	0.045	1.056*	-1.612	0.194*	0.487	7.604***

The reference category is: Dissatisfied; Number of observation: 500 ; Deviance: 448; AIC: 744; Mc Fadden's R-squared (R^2_{McF}): 0.517; Cox and Snell's R-squared (R^2_{CS}): 0.213; Nagelkerke's R-squared (R^2_N): 0.562; **Overall Model Fitting**: Chi-square test: 487; Degree of freedom: 41; Significance: <.001, ***, **, * Significant at less than 1, 5, and 10% probability level, respectively; Note: OR odds ratio

Source: Computed by the Authors

credit, savings, and income-generating opportunities. A quarter of members (25%) joined to support family needs, emphasizing the role of SHGs in household survival strategies. Coping with emergencies (21%) highlights the importance of SHGs as informal social security mechanisms in contexts where formal safety nets are inadequate. Only 12 percent identified children's education as a motivation, suggesting that while education is valued, immediate economic concerns dominate decision-making. The predominance of economic motivations demonstrates that SHGs in Falta are largely viewed as livelihood-enhancing collectives rather than purely social or political organizations.

Sources of Information: More than half of the members (54%) first learned about SHGs through neighbours, followed by 35 percent through social media, while television accounted for only 11 percent. The dominance of neighbour-to-neighbour communication reflects the importance of local social networks and trust in the diffusion of information in rural areas. This also indicates that formal institutional awareness campaigns may be insufficient in reaching women directly. The growing role of social media (35%) is significant, as it demonstrates a gradual digital penetration in rural spaces, offering a potential channel for expanding outreach, training, and knowledge dissemination. The low reliance on television (11%) highlights that passive mass communication has less influence compared to personalized, community-based information flows.

Group Composition: Most SHGs consist of 7–10 members (75%), with only small proportions having fewer or larger memberships. This aligns with the recommended group size for SHG functioning, which ensures both manageability and collective solidarity. Smaller groups (<6 members) are relatively rare, as they lack sufficient financial pooling and bargaining strength, while larger groups (>10 members) can face coordination difficulties. The predominance of the ideal group size demonstrates adherence to effective institutional guidelines and reflects community preference for smaller, manageable collectives that promote accountability and participation.

Funding Sources: The financial base of SHGs in Falta is overwhelmingly supported by the National Rural Livelihoods Mission (NRLM), which accounts for 71.5 percent of funding. This highlights the central role of state-led institutional interventions in scaling up and sustaining women's collectives. State projects (21%) also provide substantial support, while older schemes such as the Swarnajayanti Gram Swarozgar Yojana (7%) continue to have a residual presence. The negligible role of NGOs (0.5%) underscores a decline in non-governmental involvement, possibly due to the dominance of government-driven livelihood programmes. The significance of NRLM funding lies in its ability to provide stable, structured, and large-scale support, though this also suggests a dependency on external institutions, raising questions about the long-term financial autonomy of SHGs.

Training Opportunities: The vocational training provided to SHG members is overwhelmingly concentrated in tailoring (56%), followed by embroidery (12%) and pickle-making (14.5%). This indicates a strong gendered orientation of training towards traditional, home-based skills that are culturally acceptable and require minimal capital. While such training has created immediate income-generating

opportunities, the narrow concentration on tailoring suggests limited diversification, which may restrict women's ability to adapt to changing market demands. The relatively lower emphasis on cattle rearing (9%) and poultry farming (8%) is significant, as these activities have the potential for sustainable returns in an agrarian economy like Falta. The negligible focus on craft making (0.5%) highlights missed opportunities for promoting region-specific artisanal skills that could fetch higher market value. Thus, while training has been a gateway to economic empowerment, its scope needs to be broadened to include modern, market-driven, and non-traditional sectors to ensure long-term livelihood security.

Meeting Frequency and Participation: The majority of SHGs meet twice a month (47%), followed by once a week (30%) and once a month (23%). This frequency indicates a consistent rhythm of interaction, ensuring group cohesion and accountability. However, the level of participation is largely moderate (51%), with only 32 percent reporting high participation and 17 percent reporting low. The predominance of moderate participation reflects the balancing act women perform between household responsibilities and group involvement. While high participation demonstrates strong commitment and ownership among some members, low participation points to constraints such as domestic workload, social restrictions, or lack of confidence. The significance of these patterns lies in the fact that meeting frequency provides a platform for dialogue, collective decision-making, and capacity-building, but actual empowerment depends on active participation rather than mere attendance.

Family Support: Family support emerges as a crucial factor influencing the effectiveness of SHG participation. A majority (62%) reported receiving moderate support from family, while 21 percent experienced high support and 17 percent reported no support at all. Moderate family support indicates a gradual acceptance of women's engagement in SHG activities, though full endorsement remains limited. High support demonstrates that some households recognize the economic and social benefits of women's involvement, thereby creating an enabling environment for empowerment. Conversely, the absence of family support for nearly one-fifth of members reflects persistent patriarchal norms and intra-household resistance, which can hinder women's confidence and limit their participation. The significance of this finding lies in showing that women's empowerment through SHGs is not only an institutional process but also a negotiation within family structures, where greater sensitization is needed to normalize women's active public roles.

Impact of SHGs on women's empowerment: The factor analysis conducted to identify the major determinants of women's empowerment through microfinance was first tested for sampling adequacy and validity. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy yielded a value of 0.930, which is well above the threshold of 0.60, indicating that the data are highly suitable for factor analysis (Table 2). Furthermore, Bartlett's Test of Sphericity produced a Chi-square value of 4157.867 (df = 190, $p < 0.001$), confirming that the correlation matrix is not an identity matrix and that the variables are sufficiently interrelated to proceed with factor extraction. Applying Principal Component Analysis, three dominant factors with eigenvalues greater than 1 were extracted, collectively explaining 96.89% of the total variance. The first factor (eigenvalue = 13.465) accounts for 70.87% of

the variance and is largely associated with economic and social empowerment features (Table 3). High factor loadings were observed for variables such as *children's education* (0.942), *freedom of expression* (0.950), *independent mobility* (0.852), and *ability to discuss with officials* (0.869), along with economic variables like *increase in income level* (0.923) and *improvement in savings* (0.770). This suggests that microfinance significantly enhances women's decision-making capacity, social participation, and economic independence. The second factor (eigenvalue = 3.078), explaining 16.20% of the variance, reflects financial management and household welfare. Key loadings include *reduction in expenses* (0.977), *ability to deal with financial crises* (0.822), and *undertaking income-generating activities* (0.636) (Table 3). This factor highlights how microfinance initiatives not only increase income but also improve women's capacity to manage household finances, reduce economic vulnerability, and support long-term family welfare. The third factor (eigenvalue = 1.867), contributing 9.83% of the variance, is associated with political and social consciousness. Strong loadings are observed for *protest against social disparities such as pollution* (0.955), *dowry* (0.710), and *alcohol use* (0.849), as well as *participation in rallies on women's day* (0.965) and *independent voting rights* (0.920). This suggests that microfinance interventions extend beyond economic gains, fostering political awareness, collective action, and the ability to challenge entrenched social inequalities. Taken together, the results demonstrate that microfinance is a multidimensional tool for women's empowerment. It not only contributes to economic upliftment and financial security but also enhances social mobility, freedom of expression, and decision-making ability. Most importantly, it fosters political participation and resistance to social injustices, enabling women to move from individual empowerment toward collective social transformation. The very high explanatory power of the extracted factors (cumulative variance = 96.89%) underscores the robustness of these findings and validates the critical role of microfinance in promoting holistic women's empowerment in rural contexts. The multinomial logistic regression (MNL) model assessing the determinants of satisfaction among rural SHG members in Falta C.D. Block reveals a strong and statistically significant overall fit ($\chi^2 = 487$, $df = 41$, $p < 0.001$). The goodness-of-fit statistics, including McFadden's R^2 (0.517), Cox and Snell's R^2 (0.213), and Nagelkerke's R^2 (0.562), demonstrate that the model explains a substantial proportion of the variation in satisfaction levels across the categories of "Moderately satisfied," "Satisfied," and "Highly satisfied," relative to the base category of "Dissatisfied" (Table 4). These results confirm that the selected socio-economic and institutional variables collectively play a crucial role in influencing the empowerment experiences of SHG members.

Age emerges as a significant predictor of satisfaction. Members aged 25–35 years are considerably more likely to express satisfaction, with odds ratios of 2.688 ($p < 0.01$) for "Satisfied" and 2.402 ($p < 0.01$) for "Highly satisfied," compared to the youngest group (<25 years). The 36–45 years cohort exhibits a mixed pattern: they are significantly less likely to be satisfied ($OR = 0.527$, $p < 0.05$), but more likely to be highly satisfied ($OR = 1.574$, $p < 0.01$). Conversely, members above 45 years report lower odds of satisfaction ($OR = 0.598$, $p < 0.05$), suggesting that empowerment benefits are concentrated among middle-aged participants, with declining returns for older members. Education is another robust determinant. Those with up to secondary education demonstrate significantly higher odds of being highly satisfied

($OR = 2.047$, $p < 0.01$), while members with higher secondary education show elevated odds of being satisfied ($OR = 2.342$, $p < 0.01$). In contrast, members with only primary education exhibit reduced satisfaction ($OR = 0.584$, $p < 0.10$), and those with middle school education display mixed effects, including a significantly negative association with high satisfaction ($OR = 0.312$, $p < 0.05$). This suggests that a threshold level of education—secondary or higher—is essential for members to fully leverage the benefits of SHG participation.

Occupation strongly shapes satisfaction outcomes. Self-employed members report sharply higher odds of satisfaction, with $OR = 5.477$ ($p < 0.05$) for "Satisfied" and $OR = 21.701$ ($p < 0.01$) for "Highly satisfied," underscoring the role of SHGs in fostering entrepreneurial opportunities. Members engaged in service also exhibit increased satisfaction ($OR = 10.512$, $p < 0.05$ for "Satisfied"), though the effect is weaker for "Highly satisfied." By contrast, agricultural labourers ($OR = 0.598$, $p < 0.05$) and daily wage earners ($OR < 0.01$ across categories) show significantly lower satisfaction, highlighting the persistent vulnerability of insecure occupational groups within the SHG framework. Motivation for joining SHGs influences satisfaction in distinct ways. Members motivated by family support show substantially greater odds of being highly satisfied ($OR = 2.276$, $p < 0.01$), while those driven by emergency needs exhibit reduced satisfaction ($OR = 0.089$, $p < 0.05$). Economic upliftment as the primary motive, although common, does not significantly differentiate satisfaction once members are engaged. This indicates that long-term, development-oriented motives are more empowering than short-term crisis responses. Sources of information also play a role. Accessing information through television significantly enhances satisfaction, particularly in the "Highly satisfied" category ($OR = 3.261$, $p < 0.05$), whereas reliance on social media is negatively associated with satisfaction ($OR = 0.186$, $p < 0.01$ for "Satisfied" and $OR = 0.089$, $p < 0.05$ for "Highly satisfied"). This suggests that traditional media continues to be more effective than digital platforms in shaping empowerment outcomes within rural SHGs. Group composition demonstrates that structure matters for empowerment. Medium-sized groups with 7–10 members show significantly higher odds of high satisfaction ($OR = 5.002$, $p < 0.01$), while very small groups (<4 members) or excessively large groups (>10 members) reduce or dilute satisfaction effects. Thus, optimal group size fosters collaboration, participation, and collective empowerment. Funding source is a critical institutional determinant. SHGs supported under NRLM funding show a strong positive association with empowerment, with $OR = 13.512$ ($p < 0.01$) for "Highly satisfied," reflecting the relative success of NRLM in strengthening SHGs. By contrast, SGSY-supported groups perform poorly, with very low odds of satisfaction ($OR = 0.092$, $p < 0.05$), suggesting limited effectiveness of earlier schemes. Training significantly enhances empowerment outcomes. Members who received training have much higher odds of being highly satisfied ($OR = 6.422$, $p < 0.01$), confirming that skill-building interventions directly translate into empowerment. Finally, family support is a powerful enabler of satisfaction. Members who report high family support are over seven times more likely to be highly satisfied ($OR = 7.604$, $p < 0.01$), while those with moderate support also show increased odds ($OR = 2.647$, $p < 0.01$). This finding highlights the importance of household backing in reinforcing women's participation and empowerment through SHGs. The model underscores that empowerment and satisfaction within SHGs are shaped by a combination of

socio-demographic factors, occupational structure, educational attainment, institutional support, and family environment. Middle-aged members, those with at least secondary education, self-employed women, groups supported by NRLM, and participants with access to training and strong family support are the most likely to achieve high satisfaction and empowerment. Conversely, older members, those with minimal education, insecure labourers, and SHGs lacking adequate institutional or familial support remain more vulnerable to dissatisfaction.

Major challenges faced by SHG members: The major challenges faced by SHG members in Falta C.D. Block may be outlined as follows: (1) Lack of awareness, reported by 11 percent of members, restricts access to schemes, training opportunities, and market linkages, leaving a sizable minority with limited understanding of SHG objectives and dependent on others, thereby highlighting the need for continuous capacity-building and orientation programmes; (2) Low educational levels, noted by 13 percent, act as a structural barrier that limits women's ability to maintain records, understand financial transactions, or diversify into non-traditional income-generating activities, reinforcing inequalities within groups and underscoring the importance of education for long-term empowerment; (3) Family pressure, cited by 9 percent, reflects patriarchal constraints that undermine women's confidence, autonomy, and continuity of participation, necessitating community sensitization to normalize women's economic and social involvement; (4) Lack of coordination among group members, identified by 19 percent, weakens collective functioning, loan management, and cohesion, with interpersonal conflicts undermining trust and effectiveness, thus requiring stronger leadership training and participatory decision-making; (5) Limited managerial skills, faced by 21 percent, represent a pressing issue of inadequate record-keeping, financial management, and organizational planning, which hampers SHG growth, enterprise diversification, and effective engagement with banks, markets, and agencies, emphasizing the urgent need for training in leadership, bookkeeping, enterprise development, and digital literacy; and (6) Irregularity in loan repayment, the most significant challenge reported by 27 percent, threatens financial sustainability due to members' reliance on unstable incomes, eroding both group credibility with banks and internal trust, thereby linking livelihood insecurity with financial discipline. Collectively, these challenges range from structural issues such as low education and livelihood insecurity to institutional weaknesses like poor managerial skills and repayment irregularities, as well as socio-cultural constraints such as family pressure, with irregular loan repayment and limited managerial capacity emerging as the most critical threats to SHG sustainability, requiring a multi-pronged strategy involving financial literacy, skill development, family sensitization, and institutional monitoring.

Policy Recommendation: To strengthen the long-term sustainability and inclusiveness of SHGs, the following policy recommendations are proposed: (1) Capacity-building and skill development through regular training in financial literacy, group management, and leadership to enhance managerial efficiency, transparency, and negotiation capacity with banks and government agencies; (2) Diversification of training beyond tailoring to modern, market-oriented skills such as food processing, digital literacy, eco-friendly products,

handicrafts, and small-scale entrepreneurship, enabling women to adapt to dynamic markets; (3) Enhanced awareness campaigns institutionalized through digital platforms, community workshops, and government-led initiatives to reduce information asymmetry and ensure outreach to marginalized women; (4) Family sensitization and support via household-level workshops to minimize resistance, encourage recognition of women's economic contributions, and strengthen their confidence in SHG participation; (5) Strengthened institutional monitoring under NRLM and allied agencies with regular follow-ups, peer-review mechanisms, and external facilitation to address repayment irregularities and coordination issues; (6) Improved credit access and flexibility by offering low-interest loans and adaptable repayment schedules, particularly during agricultural lean periods, to reduce financial stress and encourage sustainable enterprise development; and (7) Encouraging women's role as family earners by promoting household support for experimenting with income-generating activities, thereby enhancing financial security and accelerating socio-economic empowerment.

CONCLUSION

The study comprehensively fulfilled its objectives of analyzing the socio-economic status of SHG members in Falta C.D. Block, examining the influence of socio-economic and institutional factors on empowerment, and identifying the major challenges they face, revealing that while SHGs significantly enhance women's economic security, decision-making capacity, social mobility, and political participation, their effectiveness is moderated by variables such as age, education, occupation, training, funding source, and family support; yet, persistent challenges including irregular loan repayment, inadequate managerial skills, coordination issues, low awareness, and family resistance continue to constrain inclusive empowerment. The novelty of this research lies in its micro-level, empirical focus on a relatively underexplored region, combining statistical modeling with qualitative insights to demonstrate the multidimensional impacts of SHGs beyond savings and credit. Limitations of the study include its cross-sectional design, reliance on self-reported data, and limited exploration of intra-household gender dynamics, which restrict the generalizability of findings. Nonetheless, the results underscore that SHGs are transformative platforms for rural women, with future scope lying in longitudinal and comparative studies, integration of modern and market-oriented skills, digital literacy, and stronger institutional and household-level support to ensure sustainability. In conclusion, SHGs in Falta C.D. Block have emerged as critical instruments of women's empowerment and rural development, but their long-term success depends on overcoming structural, socio-cultural, and institutional barriers through continuous capacity-building, innovation, and inclusive policy interventions.

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PK: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Software, Validation, Visualization, Writing – original draft, Writing – review & editing. **AM:** Conceptualization, Investigation, Methodology, Writing – review & editing.

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