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Self help group is an effective microfinance model for socio-economic empowerment of women: Evaluation from Bodoland Territorial Region in Assam, India

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Abstract: Self-Help Groups (SHGs) have emerged as an effective strategy for women's empowerment in many South Asian countries. In India, the Self-Help Group Bank Linkage Programme (SBLP) has been a key initiative that connects Self-Help Groups with banks to improve social cohesion, financial inclusion, and income generation. This study considered 280 participants to investigate how SHG participation impacts women's socio-economic empowerment in the Bodoland Territorial Region (BTR), Assam. We used various statistical tools, such as chi-square, t-tests, regression analysis, and Kruskal-Wallis tests, to analyze the data collected through a structured questionnaire. The results of the study revealed that SHG membership significantly improves women's ability to access health services, participate in group meetings, and manage banking activities. Chi-square tests indicated strong associations between SHG involvement and improvements in household decision-making in some areas, such as children's education, family planning, asset accumulation, and financial management. A paired-samples t-test further confirmed a statistically significant increase in monthly income following SHG membership. Logistic regression results showed that expenditure on food positively influences economic empowerment, whereas spending on clothing and health had an inverse association. Additionally, a Kruskal-Wallis test revealed no significant differences in entrepreneurial traits across educational levels, suggesting that SHGs promote entrepreneurship regardless of formal education. These findings highlighted how SHGs have the potential to be inclusive and transformative in boosting women's economic agency, decision-making authority, and entrepreneurial skills. The study highlighted SHGs as effective platforms for fostering sustainable and equitable empowerment, capable of bridging socio-economic disparities among women in BTR.

Keywords: *Logistic regression, Microfinance, Self-help Group Bank Linkage Programme, Self-Help Group, Women empowerment.*

1. Introduction

Self-Help Groups (SHGs) have been recognised as effective tools for empowering women in South Asian countries like India, Nepal, and Sri Lanka, following the successful implementation of the group-based approach in Bangladesh by Dr. Mohammad Yunus [1, 2]. An SHG is a group of self-managed individuals, usually consisting of 10 to 20 members with similar socio-economic backgrounds, who come together to work towards a common goal. The inception of SHGs in India can be attributed to the pioneering efforts of Ela Ramesh Bhatt, who championed women's empowerment and financial inclusion through the establishment of the Self-Employed Women Association (SEWA) in 1972 [3-5]. At first, SEWA was not widely recognised as an integral part of the SHG movement. The formal emergence of Self-Help Groups (SHGs) in India took place in 1985 with the initiative taken by the Mysore

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Resettlement and Development Agency (MYRADA) [6]. SHG members generally receive support from local NGOs and government initiatives and use formal banking services. Over the past three decades, women in self-help groups have played an increasingly significant role as agents in implementing various government projects aimed at raising grassroots-level awareness in health and nutrition and addressing social issues in multiple countries [7-10].

Inspired by the success achieved by Bangladesh, the Government of India has launched several effective schemes for women's financial inclusion, social cohesion, and income generation through SHG participants. Among all the government programs, Swarnajayanti Gram Swarozgar Yojana (SGSY) was an important contributor, bringing a drastic change in the socio-economic status of women in India. This programme was designed to promote microcredit facilities for disadvantaged rural women and link them with formal banking institutions.

The Swarnajayanti Gramme Swarozgar Yojana (SGSY) programme significantly propelled the advancement of Self-Help Groups (SHGs) before the introduction of the National Rural Livelihood Mission's (NRLM) initiative in India. Many communities across various states in India have made significant progress by utilising services and participating in self-help groups (SHGs) with support from NABARD under the SGSY initiative. This progress is evident throughout all states in India, including Assam and the Bodoland Territorial Region (BTR). Marginalised populations in several Indian states, including Assam and BTR, have experienced substantial improvements in service access and participation in self-help groups (SHGs) as a result of NABARD's engagement under the Self-Help Group Bank Linkage Program (SBLP) [11, 12]. This programme aims to expand income-generating self-employment opportunities for underprivileged women, particularly in rural areas, by providing capacity-building support and microcredit. The main goal of the program is to empower members of the Self-Help Group (SHG) by enhancing their socioeconomic conditions, making it a crucial strategy for sustainable development.

The SBLP has catalysed the expansion of the SHG movement and has provided significant promotional support, including complete refinance assistance. This support allows SHGs to obtain credit facilities without the necessity of collateral. This largest microfinance project focuses on advancing financial inclusion for rural women through training programs and supports the formation and strengthening of joint liability groups (JLGs) within SHGs [13-16]. By March 31, 2023, NABARD had provided training in capacity-building and credit facilities to approximately 47.33 lakh participants of SHGs. As of the same date, a total of 20,174 SHGs had received a total grant support of ₹ 52.39 crore under the Micro Enterprise Development Programs (MEDPs), benefiting over 5.85 lakh members [17].

2. Literature Review

Women's empowerment is a multidimensional concept that can be assessed in various ways [18-22]. Much of the existing literature used indicators like mobility, decision-making power over the allocation of household resources, participation in political processes, the strength of social networks, etc., as proxy measures for measuring women's empowerment [23]. Several studies demonstrated a strong positive association between membership in self-help groups (SHGs) and women's social and economic empowerment [24].

Furthermore, self-help groups (SHGs) are often linked with microfinance initiatives, which have been shown to promote employment and income generation Das and Bhowal [25]; Deepika and Sigi [26]; Maity and Sarania [27]; Maity [28]; Maity [29] and Panda and Atibudhi [30]. Brody, et al. [31] found that women's self-help organisations enhanced their mobility, economic and political empowerment, and control over family planning. SHGs have played a transformative role in rural areas, contributing to improved empowerment and socio-economic advancement [32, 33]. In the context of BTR of Assam, Maity and Sarania [27] observed that SHG participation had a significant positive impact on monthly income, number of employment days, and financial inclusion when compared to non-

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participants. However, there is a lack of focused research specifically examining the relationship between women's empowerment and SHGs within the BTR.

3. Objectives

- To analyse the impact of SHGs on the socio-economic empowerment of women in the area under study.
- To explore the development of entrepreneurial traits among the SHG members.
- To investigate the constraints confronted by the SHG members in the successful functioning of the groups.

4. Methodology

This study aims to assess the impact of SHGs on the socio-economic empowerment of women participants. It also aims to identify the challenges they face within these groups. The BTR of Assam was selected as the study area in light of the literature review, which revealed a lack of focused research on the influence of SHGs on women's empowerment in this region. The Bodoland Territorial Region (BTR), predominantly inhabited by the Bodo community, spans an area of 9,612 square km and comprises four districts: Kokrajhar, Baksa, Chirang, and Udalguri.

We used a multi-stage purposive random sampling method to select the samples. In the first stage, one block was selected from each district based on the presence of highly active SHGs. Using data obtained from the National Rural Livelihood Mission (NRLM) offices and district websites, the following blocks were chosen for the second stage of sampling: Borobazar in Chirang, Kachugaon in Kokrajhar, Barama in Baksa, and Udalguri in Udalguri district. In each chosen block, we selected Self-Help Groups (SHGs) in proportion to their size and level of activity. Lastly, one participant from each of the 280 SHGs was chosen randomly, with a requirement that they had been members for a minimum of two years. This approach was adopted to ensure a comprehensive understanding of the long-run impact of SHG participation on women's empowerment.

The study collected primary data through a pre-structured questionnaire administered to female members of the selected SHGs. The questionnaire was designed to capture a comprehensive range of demographic information, including variables such as age, caste, family structure, marital status, occupation, and educational qualifications. The questionnaire also contained additional details, like their involvement in household decision-making, family consumption patterns, mobility, and the personal constraints they face in their daily lives. The questionnaire also included questions related to the reasons behind joining the SHGs, changes in household income before and after SHG participation, improvement of entrepreneurial skills, and other related aspects linked to socio-economic empowerment. Prior to data collection, the survey objectives and purpose were clearly communicated to all respondents, in adherence to standard ethical research practices. To ensure accurate data collection, illiterate respondents were supported by literate co-members within their respective groups. The study included only women who had been actively involved in SHGs for at least two years.

The study used various statistical tools, such as the chi-square test, paired sample t-test, logistic regression, and the Kruskal–Wallis test, to analyse the primary data. The Pearson chi-square test assessed the relationship between participants' mobility and their marital status, while another chi-square test was used to study enhancements in household decision-making after SHG participation. A paired sample t-test was conducted to compare household income levels before and after joining SHGs, thereby evaluating the economic impact of participation over time.

To explore the determinants of financial independence, a logistic regression analysis was employed, with a particular focus on how participants' spending behaviour influenced their likelihood of achieving it. Additionally, the Kruskal–Wallis test, which is a statistical method that doesn't require a specific distribution and is good for comparing more than two groups, was used to look at the different personal challenges faced by SHG members. These challenges included discouragement from family members,

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household responsibilities, lack of self-confidence, risk aversion, and limited educational attainment among self-help group members.

5. Results and Discussion

The study first aimed to assess the demographic profile of the participants. Demographic characteristics are widely acknowledged as key predictors of various socioeconomic outcomes. Previous research suggests that individual well-being and empowerment vary considerably across factors such as age, caste, marital status, education level, type of family, and occupation. In light of this, the present study incorporates detailed demographic information about the respondents in the following section.

The age distribution of the respondents indicates that 18.06 per cent were between 20 and 29 years, 29.04 per cent were between 30 and 39 years, 32.9 per cent were between 41 and 50 years, and 18.2 per cent were aged 51 and above. This data indicates that the highest number of respondents belonged to the 41-50 age group, followed by the 30-39 age group.

To ensure representativeness and minimise caste-based bias, the study included SHG members from across major social categories in the region: 27.9 percent from the general category, 28.6 percent from the scheduled caste (SC), 27.9 percent from the scheduled tribe (ST), and 15.7 percent from the other backward classes (OBC). A similar representation of General, SC, and ST groups suggests a well-balanced sample.

Regarding marital status, 66.1 per cent of participants were married, while 14.3 per cent were widowed. The remaining categories, including unmarried women and separated women, constituted a negligible proportion of the sample. In terms of family structure, 31.1 per cent of the respondents lived in joint families, whereas the majority belonged to nuclear families.

Educational attainment varied across the sample: 10.7 per cent of respondents are illiterate, 35.7 per cent had completed primary education, and 31.8 per cent had studied up to the matriculation level. 14.3 per cent had attained higher secondary education, and 7.5 per cent had completed a degree or higher. These figures reflect a moderate level of educational diversity among the participants and provide relevant context for analysing the socio-economic impacts of SHG involvement.

Table 1 presents the reasons cited by respondents for joining SHGs. A substantial proportion (32.14 per cent) reported joining SHGs to access credit and government subsidies, indicating that many women perceive SHGs as an effective platform for obtaining financial resources and institutional support that may otherwise be difficult to access individually. Additionally, 18.57 per cent of respondents joined SHGs to achieve financial independence and contribute to household income, reflecting a clear aspiration for economic autonomy.

Table 1.
Frequency distribution of Reason for Joining SHG.

	Reason for joining SHG	Frequency	Percent
Valid	Financial Independence	52	18.6
	To help family by income	52	18.6
	Avail a loan and govt. subsidy	90	32.1
	Enhance investment power to generate more income	41	14.6
	To develop a savings habit	45	16.1
	Total	280	100

A further 16.07 per cent of participants indicated that their motivation stemmed from a desire to enhance their investment capacity and income-generating potential. These findings underscore a strong sense of familial responsibility among women and highlight their significant role in promoting household economic stability.

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Table 2.
Descriptive Statistics chi-square test for household decision making of the respondents.

Test Variables	N	Mean	No Impact	Increased after joining SHG	Expected Value
Education of Children	280	0.76	68	212	140
Family Expenditure	280	0.72	79	201	140
Family Planning	280	0.79	60	220	140
Asset Building	280	0.79	60	220	140
Bank Account	280	0.69	87	193	140
Laon Taking	280	0.61	108	172	140

Table 3.
Chi-square Test Statistics for house-hold decision making of the respondents.

	Education of Children	Family expenditure	Family planning	Asset building	Bank Account	Loan taking
Chi-Square	74.057[a]	53.157[a]	91.429[a]	91.429[a]	40.129[a]	14.629[a]
df	1	1	1	1	1	1
Asymp. Sig.	0	0	0	0	0	0

Note: a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 140.0.

To assess the relationship between SHG participation and household decision-making, chi-square tests were conducted on various socio-economic indicators, as summarised in Table 2 and 3. The analysis revealed statistically significant associations between SHG membership and key indicators such as children's education, family expenditure, family planning, asset accumulation, bank account ownership, and loan acquisition:

- Children education: χ^2 (1, N = 280) = 74.06, $p < .001$
- Family expenditure: χ^2 (1, N = 280) = 53.16, $p < .001$
- Family planning: χ^2 (1, N = 280) = 91.43, $p < .001$
- Asset building: χ^2 (1, N = 280) = 91.43, $p < .001$
- Bank account ownership: χ^2 (1, N = 280) = 40.13, $p < .001$
- Loan taking: χ^2 (1, N = 280) = 14.63, $p < .001$

These results suggest that SHG participation is strongly associated with improvements in women's decision-making capacity within the household, particularly in areas such as education, financial management, and resource ownership. All reported p-values are less than .001, denoting highly statistically significant associations at the 5% level. The degrees of freedom (df = 1) indicate that each test assessed binary outcomes, typically framed as "no impact" versus "increased after joining SHG.

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Table 4.
Pearson Chi-square test on the basis of Marital Status and Mobility of the participants.

Variables	Chi-square	Asymp. Sig.(2-sided)	Result
Mobility to visit market	11.682	0.58	Insignificant
Mobility to visit hospital	30.823	0.014	Significant
Mobility to visit relatives house	25.391	0.063	Insignificant
Mobility to visit group meeting	27.768	0.034	Significant
Mobility to visit bank and office	26.529	0.047	Significant

We conducted a Pearson chi-square test to examine the association between respondents' marital status and their mobility based on selected indicators. The results indicated a significant association in participants' mobility after joining SHGs. Specifically, mobility improved for visits to hospitals, χ^2 (16, N=280) = 30.82, p = .014; group meetings, χ^2 (16, N=280) = 27.77, p = .034; and banks and offices, χ^2 (16, N=280) = 26.53, p = .047. These findings suggest that SHG membership positively influenced women's ability to access essential services and engage in group-related activities. However, no significant changes were observed in mobility related to visiting markets (χ^2 (4) = 11.68, p = .580) or relatives' houses (χ^2 (16) = 25.39, p = .063).

Table 5.
Paired Samples Statistics of Monthly Income before joining SHG and after joining SHG.

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Monthly income after SHG	3.21	280	1.342	0.080
	Monthly income before SHG	2.70	280	1.291	0.077

We also conducted a paired-samples t-test to compare the participants' monthly income before and after joining SHGs. The result revealed a statistically significant increase in income following SHG membership (M = 0.514, SD = 1.843), t (279) = 4.669, p < .001, with a 95% confidence interval for the mean difference ranging from 0.297 to 0.731. This outcome suggests that SHG participation had a significant positive impact on the economic empowerment of women, as evidenced by the increase in monthly income.

Table 6.
Paired Samples Test of Monthly Income before joining SHG and after joining SHG.

Paired Samples Test									
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Monthly income after SHG Monthly income before SHG	0.514	1.843	0.110	0.731	0.297	4.669	279	0.000

Edelweiss Applied Science and Technology
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Table 7.
Output of Logistic Regression Test for consumption Pattern of the participants.

Variables in the Equation									
		Coefficient	S.E.	Wald	df	Sig.	Odds Ratio	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	Food	3.567	1.254	8.089	1	0.004	35.395	3.030	413.421
	Frequency meals per Day	0.486	0.518	0.878	1	0.349	1.626	0.588	4.491
	Clothing	-2.540	1.195	4.519	1	0.034	0.079	0.008	0.820
	Utilities	0.550	0.869	0.402	1	0.526	1.734	0.316	9.515
	Health	-0.961	0.475	4.090	1	0.043	0.383	0.151	0.971
	Education	-0.741	1.038	0.510	1	0.475	0.477	0.062	3.647
	Savings	-0.406	0.791	0.264	1	0.608	0.666	0.141	3.140
	Constant	1.071	0.252	18.130	1	0.000	2.919		

Note: a. Variable(s) entered on step 1: Food, Frequency meals per Day, Clothing, Utilities, Health, Education, Savings.

A binary logistic regression analysis was conducted to examine the effects of various household and personal expenditure factors on the likelihood of economic empowerment. The model included predictors such as food, meal frequency, clothing, utilities, health, education, and savings. The overall model was statistically significant, χ^2 (4, N = 280) = 0.015, and explained between 6.2% (Cox & Snell R^2) and 8.5% (Nagelkerke R^2) of the variance in economic empowerment status, correctly classifying 74.3% of cases.

The results indicated that certain predictors were statistically significant, including food, clothing, and health. The variable food had a significant positive effect on the outcome, $B = 3.57$, SE = 1.25, Wald χ^2 (1) = 8.089, $p = .004$. The odds ratio (OR) for food was 35.40, 95% CI [3.03, 413.42], indicating that individuals with food-related expenditures were approximately 35 times more likely to be economically empowered compared to those without.

In contrast, clothing had a significant negative effect, $B = -2.54$, SE = 1.195, Wald $\chi^2(1) = 4.52$, $p = .034$, OR=0.08, 95% CI [0.008, 0.82], indicating a reduced likelihood of economic empowerment. Similarly, health expenditures showed a significant negative relationship, $B = -0.96$, SE = 0.48, Wald χ^2 (1) = 4.09, $p = .043$, OR = 0.38, 95% CI [0.15, 0.97].

Other variables, including meal frequency, utilities, education, and savings, were not significant predictors of the outcome, as their p-values exceeded the standard threshold of .05, and their 95% confidence intervals for odds ratios included 1.

In summary, the findings highlight that food-related expenses significantly increased the likelihood of economic empowerment, whereas expenditures on clothing and health were associated with a reduced likelihood, indicating complex economic influences on the dependent variable.

Table 8.
Kruskal-Wallis Test of Entrepreneurial traits of the participants.

Test Statistics[a,b]	
	Empowerment of Entrepreneurial traits
Chi-Square	2.715
df	4
Asymp. Sig.	.607

Note: a. Kruskal Wallis Test
b. Grouping Variable: Educational level.

The Kruskal-Wallis test was used to see if there were important differences in the empowerment of certain entrepreneurial traits—like leadership or risk-taking—among participants with different education levels: illiterate (N = 30), primary (N = 100), matriculating (N = 89), up to higher secondary (N = 40), and graduating and above (N = 21). The test showed that there were no important differences between the groups, χ^2 (4) =2.72, p=.607. The test revealed no statistically significant differences

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among the groups, χ^2 (4) =2.72, p=.607. The result indicates that the level of education does not significantly influence entrepreneurial empowerment. These findings highlight the role of SHG in promoting economic empowerment regardless of participants' educational attainment and underscore the broader potential of entrepreneurship as a pathway to economic empowerment.

Table 9.
Robust Tests of Equality of Means of personal constraints of the participants.

Robust Tests of Equality of Means					
Statistic[a]			**df1**	**df2**	**Sig.**
Family Discouragement	Brown-Forsythe	0.255	4	164.488	0.906
Family Responsibility	Brown-Forsythe	0.199	4	139.495	0.938
Lack of Self-Confidence	Brown-Forsythe	4.491	4	149.163	0.002
Lack of Risk Bearing Capacity	Brown-Forsythe	1.239	4	134.316	0.298

Note: a. Asymptotically F distributed.

The personal constraints faced by the SHG participants were examined using ANOVA, and the Brown-Forsythe test was done because the data were not normally distributed. The results indicate that, even though there are differences in education levels, participants generally do not show significant differences in personal challenges related to SHG participation, since the p value for all three indicators, except for a lack of self-confidence, is greater than 0.05.

6. Conclusion

This study comprehensively examined the socio-demographic characteristics and economic empowerment outcomes of women participating in Self-Help Groups (SHGs). An important finding is the balanced representation across caste categories and educational backgrounds, with most participants falling in the 30–50 age range—an economically active group likely to benefit from empowerment interventions.

The results from the Pearson chi-square tests suggest that SHG membership significantly enhanced women's mobility, particularly in accessing hospitals, attending group meetings, and visiting banks and offices. However, mobility improvements for visiting markets and relatives' houses were not statistically significant, indicating that cultural or contextual barriers may persist in certain domains of autonomy.

The analysis of decision-making indicators showed strong associations between SHG membership and enhancements in household-level decision-making. Women reported greater involvement in decisions related to children's education, family expenditure, family planning, asset accumulation, bank account ownership, and loan acquisition, with all associations highly statistically significant. These results underscore the empowering effect of SHGs in shifting women from passive recipients to active participants in household governance and financial management.

In terms of economic outcomes, a paired-samples t-test indicated a statistically significant increase in monthly income after joining SHGs, reinforcing their role in fostering economic empowerment. Logistic regression results revealed that the expenditure, particularly on food, positively influenced economic empowerment, whereas clothing and health expenditures were negatively associated. This points to the nuanced role of spending behaviours in empowerment trajectories.

The Kruskal-Wallis test found no significant differences in entrepreneurial traits such as leadership and risk-taking across different education levels, suggesting that SHG participation does not significantly influence entrepreneurial empowerment. Collectively, these findings highlight the multifaceted impact of SHG participation on women's empowerment. SHGs emerge not only as vehicles for financial inclusion and income enhancement but also as transformative avenues for improving mobility, decision-making authority, and entrepreneurial capacity. Importantly, these impacts appear to cut across educational and social boundaries, reinforcing the inclusive potential of SHGs in fostering

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sustainable and equitable empowerment among women. Typically, we frame binary outcomes as "no impact" versus "increased after joining SHG".

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Authors' Contributions:

This study was carried out in collaboration. The first author designed the research, collected and examined the data and drew the conclusion. The second author developed the methodology part and discussed the findings and finalised the manuscript. The write-up was jointly

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References

[1] C. M. Maheshwari and S. Goyal, "Role of self help groups in socio-economic empowerment of women: A review of studies," *Pacific Business Review International*, vol. 7, no. 2, pp. 85-93, 2014.

[2] J. S. Anand, "Self-help groups in empowering women: Case study of selected SHGs and NHGs," Kerala Research Programme on Local Level Development, Centre for Development Studies. Discussion Paper No. 38, 2002.

[3] S. K. Annim, "Sensitivity of loan size to lending rates evidence from ghana's microfinance sector," *African Review of Money Finance and Banking*, pp. 85-107, 2010.

[4] J. M. Baland, T. Demont, R. Somanathan, and M. Tenikue, *Microfinance mechanisms: evidence from observational panel data about Self-Help Groups in India*. Mimeo: Namur University, 2011.

[5] N. Guyen and V. I. Cuong, *Is a governmental micro-credit program for the poor really pro-poor?* Evidence from Vietnam. Https://Doi.Org/10.1111/J.1746-1049.2008.00061x, 2008.

[6] A. P. Fernandez, *History and spread of the self-help affinity group movement in India: The role played by IFAD*. Rome: International Fund for Agricultural Development, 2007.

[7] S. Bisai and D. Mazumdar, *An analysis of poverty and inequality among the members of SHGs in West Bengal, India. In Handbook of Research on Micro financial Impacts on Women Empowerment, Poverty, and Inequality*. IGI Global. https://doi.org/10.4018/978-1-5225-7962-3.ch013, 2019.

[8] R. Vinodhini and P. Vaijayanthi, "Self-help group and socio-economic empowerment of women in rural India," *Indian Journal of Science and Technology*, vol. 9, no. 27, pp. 67-89, 2016. https://doi.org/10.17485/ijst/2016/v9i27/97629

[9] P. O. Were and S. W. Kimaru-Muchai, "Evaluation of self-help groups in promoting women socio-economic empowerment in Kibra Sub-County, Nairobi County, Kenya," *Journal of Global Awareness*, vol. 2, no. 1, pp. 1-6, 2021.

[10] G. Yaron, R. Gordon, J. Best, and S. Choudhary, "Microfinance for the marginalized: The impact of the Rojiroti approach in India," *Enterprise Development & Microfinance*, no. 1, pp. 80-93, 2018. https://doi.org/10.3362/1755-1986.17-00011

[11] D. Baghel and A. Shrivastava, "Role of self-help groups in socio-economic development of rural women: A study on Durg District of Chhattisgarh," *EXCEL International Journal of Multidisciplinary Management Studies*, vol. 5, no. 11, pp. 1-23, 2015.

[12] K. S. Imai, T. Arun, and S. K. Annim, "Microfinance and household poverty reduction: New evidence from India," *World Development*, vol. 38, no. 12, pp. 1760-1774, 2010. https://doi.org/10.1016/j.worlddev.2010.03.004

[13] M. Islam and J. K. Sarmah, "Impact of self-help groups in empowering women: A study of rural Assam," *Social Change and Development*, vol. 11, no. 2, pp. 90-97, 2014.

[14] S. Malhotra, "Contribution of self help groups in the socio economic development of the women," *International Journal of Research in Social Sciences*, vol. 6, no. 8, pp. 333-344, 2016.

[15] L. Vandewalle, *Microfinance in India: Socially disadvantaged groups, organization and collective action*. Doctoral Dissertation, UNamur-Université de Namur, 2011.

[16] M. M. Pitt and S. R. Khandker, "The impact of group-based credit programs on poor households in Bangladesh: Does the gender of participants matter?," *Journal of Political Economy*, vol. 106, no. 5, pp. 958-996, 1998. https://doi.org/10.1086/250037

[17] Status of Microfinance in India, "Status of Microfinance in India 2022–23," Retrieved: https://www.nabard.org/auth/writereaddata/tender/status-of-microfinance-in-india-2022-23, 2022.

[18] R. Agarwala and S. M. Lynch, "Refining the measurement of women's autonomy: An international application of a multi-dimensional construct," *Social Forces*, vol. 84, no. 4, pp. 2077-2098, 2006. https://doi.org/10.1353/sof.2006.0079

[19] N. Kabeer, "Resources, agency, achievements: Reflections on the measurement of women's empowerment," *Development and Change*, vol. 30, no. 3, pp. 435-464, 1999. https://doi.org/10.1111/1467-7660.00125

[20] S. S. Miedema, R. Haardörfer, A. W. Girard, and K. M. Yount, "Women's empowerment in East Africa: Development of a cross-country comparable measure," *World Development*, vol. 110, pp. 453-464, 2018. https://doi.org/10.1016/j.worlddev.2018.05.031

[21] P. Pratley, "Associations between quantitative measures of women's empowerment and access to care and health status for mothers and their children: A systematic review of evidence from the developing world," *Social Science & Medicine*, vol. 169, pp. 119-131, 2016. https://doi.org/10.1016/j.socscimed.2016.08.001

[22] M. V. Santoso, R. B. Kerr, J. Hoddinott, P. Garigipati, S. Olmos, and S. L. Young, "Role of women's empowerment in child nutrition outcomes: A systematic review," *Advances in Nutrition*, vol. 10, no. 6, pp. 1138-1151, 2019. https://doi.org/10.1093/advances/nmz056

[23] S. Chowdhury, M. M. H. Khan, and M. A. Haque, "Construction of women's empowerment index for Bangladesh," *Frontiers in Sociology*, vol. 9, p. 1356756, 2024. https://doi.org/10.3389/fsoc.2024.1356756

[24] P. Satish and N. Mehrotra, "Credit market for small farms: Role for institutional innovations, III EAAE-IAAE seminar on small farms: Decline or persistence," 2009.

[25] S. K. Das and A. Bhowal, "Quality assessment of Self help groups on stakeholders perspectives: A psychometrics analysis," *International Journal of Economics, Finance and Management Sciences*, vol. 1, no. 6, pp. 347-366, 2014. https://doi.org/10.11648/j.ijefm.20130106.22

[26] M. Deepika and M. Sigi, "Financial inclusion and poverty alleviation: an alternative state-led microfinance model of Kudumbashree in Kerala, India," *Enterprise Development & Microfinance*, vol. 25, no. 4, pp. 327-340, 2014. https://doi.org/10.3362/1755-1986.2014.030

[27] S. Maity and R. Sarania, "Does microfinance alleviate poverty and inequality? Studying self-help groups in Bodoland, Assam," *Development in Practice*, vol. 27, no. 7, pp. 1006-1019, 2017. https://doi.org/10.1080/09614524.2017.1355353

[28] S. Maity, "(). Self-help groups, microfinance, financial inclusion and social exclusion: Insight from Assam," *Heliyon*, vol. 9, no. 6, p. e16477, 2023. https://doi.org/10.1016/j.heliyon.2023.e16477

[29] S. Maity, "Rawls' difference principle, self-help group, financial inclusion and social cohesion—lore or actuality? Experience of Central Assam," *Humanities and Social Sciences Communications*, vol. 11, no. 1, pp. 1-13, 2024. https://doi.org/10.1057/s41599-024-02708-z

[30] D. K. Panda and H. Atibudhi, "A study on self-help group based microfinance impacting poor rural households," *IIMS Journal of Management Science*, vol. 2, no. 1, pp. 35-45, 2011. https://doi.org/10.1177/ims.2011.2.1.35

[31] C. Brody *et al.*, "Can self-help group programs improve women's empowerment? A systematic review," *Journal of Development Effectiveness*, vol. 9, no. 1, pp. 15-40, 2017. https://doi.org/10.1080/19439342.2016.1206607

[32] R. Sarania, "Impact of self-help groups on economic empowerment of women in Assam," *International Research Journal of Interdisciplinary & Multidisciplinary Studies*, vol. 1, no. 1, pp. 148-159, 2015.

[33] L. Mayoux, "Micro-finance and the empowerment of women: A review of the key issues," ILO Working Papers, No. (993441343402676), 2000.