



An Analytical Study on Self-help Groups and its Impact on Empowerment of Rural Women with Special Reference of Wardha District

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Abstract: Background: Self-help groups (SHGs) serve as informal, peer-governed associations that empower rural women in India through pooled savings, collateral-free credit, and collective decision-making, effectively tackling socio-economic disparities and patriarchal norms. While the microfinance model, bolstered by the National Bank for Agriculture and Rural Development's (NABARD) linkage programme, has enhanced economic agency and formal banking access, regional disparities persist. Specifically, the Wardha District in Maharashtra reveals penetration gaps and localized effects due to unique cultural and infrastructural hurdles.

Objectives: The primary objective of this research is to assess the impact of SHGs on rural women's empowerment in Wardha District, spanning economic, social, and institutional facets. Secondary objectives include investigating factors influencing empowerment and proposing evidence-based recommendations to enhance the effectiveness and sustainability of SHG interventions.

Methodology: A prospective, cross-sectional mixed-methods analytical study will be conducted in the rural region of Wardha District, Maharashtra, India, spanning four years from January 2023 to January 2027. The study will recruit a total of 424 eligible women aged 18-60 years, comprising active SHG members (with at least 6 months of involvement) and matched non-SHG counterparts, using a stratified convenient sampling method. Data collection will utilize structured surveys, semi-structured interviews, focus group discussions, and secondary records from NABARD. Quantitative data will be analyzed using SPSS 27.0 via t-tests, chi-square tests, and regression models, while qualitative data will undergo thematic analysis using NVivo software.

Conclusion: This protocol anticipates that rejecting the null hypothesis will affirm the significant positive impacts of SHGs on rural women's empowerment. The findings are expected to bridge localized evidence gaps and facilitate the refinement of guidelines to advance gender-equitable interventions for sustainable rural development.

Keywords: Self-help groups, Rural Population, Empowerment, Women's Health, Economics.

I. INTRODUCTION

In rural India, where women constitute nearly half the population yet face entrenched socio-economic disparities, self-help groups (SHGs) have emerged as a transformative mechanism for empowerment and poverty alleviation. Rooted in microfinance principles, SHGs enable marginalized women to pool modest savings, access collateral-free loans, and foster collective decision-making, thereby challenging patriarchal norms and enhancing economic agency [1]. These informal, peer-governed associations-typically comprising 10-20 members from similar socio-economic backgrounds-not only facilitate financial intermediation, such as micro-savings and group lending, but also build social capital through problem-solving dialogues and capacity-building [2]. The National Bank for Agriculture and Rural Development (NABARD)-backed SHG-

Bank Linkage Programme, initiated in 1992, has scaled this model nationwide, linking over 12 million groups and benefiting 140 million households by 2023. This dual focus on thrift, credit recycling, and mutual support has democratized access to formal banking, reducing reliance on exploitative moneylenders and promoting self-reliance. However, empowerment transcends financial gains [4]. As Kabeer (1999) posits, it encompasses resources (e.g., credit access), agency (e.g., household decision-making), and achievements (e.g., improved health and education outcomes), stressing the need to dismantle patriarchal norms beyond welfare gains [5]. Evidence from diverse contexts underscores SHGs' efficacy: in Rajasthan, they have spurred micro-entrepreneurship in sectors like handloom and dairy, elevating women's income and bargaining power despite cultural barriers [3]. Similarly, in Tamil Nadu's Thiruvavur district, SHGs have improved savings habits and economic status among rural women, though persistent illiteracy and infrastructural deficits limit broader impacts [2]. Studies affirm these multidimensional benefits, noting that SHGs enhance mobility, reduce domestic violence risks, and amplify political participation, with training-augmented groups yielding higher agency [6].

Despite these successes, regional variations persist. In Maharashtra, Wardha District lags with only 14,284 SHGs serving approximately 152,528 members amid low literacy (38%) and poverty rates exceeding 25%. Penetration remains suboptimal compared to states like Kerala or Andhra Pradesh [4]. This disparity highlights a critical research gap: while pan-Indian analyses abound, district-specific inquiries into Wardha—characterized by cotton-based farming, caste hierarchies, and limited NGO interventions—are scarce. Existing literature demonstrates SHG-driven income surges (45-60%) and social solidarity but largely overlooks localized socio-cultural moderators like gender norms and policy linkages in understudied agrarian belts [7]. Wardha's context, with its moderate SHG density (fourth nationally in Maharashtra) yet uneven diversification into non-farm enterprises, demands tailored scrutiny to inform sustainable scaling. Therefore, this study aims to bridge evidence gaps by assessing economic, social, and institutional dimensions, empowering policymakers to amplify SHGs as catalysts for gender-equitable rural development.

II. REVIEW OF LITERATURE

2.1 Theoretical Framework and Empowerment Dimensions

In rural India, self-help groups (SHGs) leveraging microfinance have become pivotal drivers of women's empowerment, fostering economic independence and social agency by addressing credit shortages and gender barriers [5, 8, 9, 10]. The study is grounded in Kabeer's (1999) multidimensional framework, which defines empowerment through three interrelated components: resources (conditions enabling choice), agency (the ability to define goals and act upon them), and achievements (outcomes such as well-being). This theoretical lens stresses that genuine empowerment must dismantle patriarchal norms rather than merely providing welfare gains [5]. Building on this, Cheston and Kuhn (2002) argue that while credit access promotes choice, true empowerment requires addressing deep-seated cultural constraints; their synthesis revealed that while 70-80% of women borrowers reported improved household influence, only 40% succeeded in entrepreneurial ventures without additional skill-building [9].

2.2 Regional Evidence of Economic Impact

Empirical studies across India demonstrate the economic efficacy of SHGs, though results vary by region. In Kerala, Dr. Reji (2013) observed a significant 45% increase in income ($p < 0.05$) among 200 SHG members post-linkage, attributing these gains to NABARD's collateral-free model [12]. Similarly, in Eastern India, Mula and Sarkar (2013) reported substantial uplifts in income (65.39%) and savings (120.02%) ($p < 0.001$), with benefits amplified in diverse groups [14]. Manikonda (2014) assessed 150 women in Andhra Pradesh, finding that SHG duration (> 2 years) strongly correlated with self-reliance ($\beta = 0.62$, $p < 0.001$) and financial literacy [7]. Conversely, Basargekar's (2009) study in Maharashtra highlighted a challenge: while 65% of loans were used productively, moderate gains ($d = 0.42$) were often offset by diversions for consumption [8].

2.3 Social Agency and Institutional Dynamics

Beyond economics, SHGs significantly influence social dynamics. Swain (2007) utilized a quasi-experimental design ($n = 300$) in Orissa to demonstrate significant boosts in self-confidence, mobility, and bargaining power ($p < 0.01$) among SHG members compared to controls [11]. However, these effects were moderated by group cohesion and training intensity [11]. In Karnataka, Kusugal (2020) found improved

mobility and bargaining power, yet noted that cultural barriers were often only superficially addressed [16]. Institutional factors also play a critical role. Randhawa and Mann (2007) in Punjab emphasized the necessity of capacity-building for sustainability, noting that groups saving Rs. 10-200 monthly required consensus-based operations to thrive [19]. In Tamil Nadu, Selvakumar and Maniyarasan (2022) found that while loan-driven gains improved banking access, persistent illiteracy and poverty continued to hinder broader reforms [2].

2.4 Research Gap

While pan-Indian analyses like the NABARD (2014) study affirm the role of SHGs in poverty reduction and literacy [1], district-specific inquiries into Wardha are scarce. Existing literature often overlooks localized socio-cultural moderators in understudied agrarian belts [7]. Specifically, few studies merge quantitative economic data with the analysis of caste hierarchies and limited NGO interventions characteristic of Wardha. This study aims to bridge that gap by employing a mixed-methods approach to assess the multifaceted empowerment effects in this specific region.

III. OBJECTIVES AND HYPOTHESES

3.1 Primary Objectives

The study is designed to address the following core objectives within the context of Wardha District:

- a) To assess the current status and functioning of self-help groups (SHGs), specifically focusing on their formation, membership patterns, operational activities, and institutional mechanisms.
- b) To examine the economic empowerment outcomes of rural women participating in SHGs, including metrics such as income generation, access to financial resources, and the creation of livelihood opportunities.
- c) To analyse the social empowerment effects of SHGs on rural women, exploring shifts in social status, decision-making roles within the household, and participation in community affairs.

3.2 Secondary Objectives

To provide a holistic view of the empowerment ecosystem, the study also aims:

- a) To investigate the diverse factors influencing the empowerment of rural women through SHGs, considering socio-cultural, economic, and institutional determinants specific to the region.
- b) To propose evidence-based recommendations for enhancing the effectiveness and sustainability of SHG interventions, thereby addressing identified gaps and challenges in Wardha District.

3.3 Research Hypotheses

Based on the existing literature and research gaps, the study will test the following hypotheses:

- a) **Null Hypothesis (H_0):** There is no significant impact of participation in self-help groups (SHGs) on the overall empowerment (encompassing economic, social, and decision-making dimensions) of rural women compared to those who are not involved in Wardha District.
- b) **Alternate Hypothesis (H_a):** Participation in self-help groups (SHGs) has a significant positive impact on the overall empowerment (encompassing economic, social, and decision-making dimensions) of rural women compared to those who are not involved in Wardha District.

IV. RESEARCH METHODOLOGY

4.1 Study Design and Setting A prospective, cross-sectional analytical study employing a mixed-methods approach (incorporating both quantitative surveys and qualitative interviews/focus groups) will be conducted in the rural region of Wardha District, Maharashtra, India. The study duration is scheduled from January 2023 to January 2027. Ethical approval for the study has been obtained from the Institutional Ethical Committee of Datta Meghe Institute of Higher Education and Research, Wardha.

4.2 Sample Size Determination The sample size was calculated using Yamane's (1967) formula for finite populations, a method widely adopted for large, heterogeneous rural populations. The formula is:

$$n = N/1+N(e)^2$$

Where:

- N is the estimated accessible population size (approximately 10,000 rural women, including 5,000 SHG members and 5,000 non-members, derived from NABARD and MSRLM data).
- e is the margin of error (0.05) at a 95% confidence level (Z=1.96).

Calculation:

$$n = 10000/1+10000(0.05)^2 = 10000/26 \text{ approx. } 385$$

To adjust for an anticipated 10% non-response rate and to achieve sufficient statistical power (80%) for detecting a medium effect size (Cohen's $d=0.5$), the final sample size was inflated to 424 participants.

4.3 Sampling Technique A stratified convenient sampling approach will be utilized.

- a) **SHG Members:** Identified through promoting agencies (NGOs, banks) via SHG registers.
- b) **Non-SHG Members:** Matched by age, socio-economic status, and location through village-level snowball sampling facilitated by community leaders.

4.4 Eligibility Criteria

→ **Inclusion Criteria:**

- a) Women aged 18-60 years residing in rural areas of Wardha District.
- b) SHG Group: Active members of registered SHGs for at least 6 months, with documented participation in activities like savings or loans.
- c) Non-SHG Group: Rural women not affiliated with any SHG, matched to the SHG participants.
- d) Willingness to provide written informed consent.

→ **Exclusion Criteria:**

- a) Women with severe cognitive or physical impairments preventing participation.
- b) Non-residents of Wardha District or urban dwellers.
- c) SHG members with less than 6 months of involvement.
- d) Incomplete data or voluntary withdrawal.

4.5 Data Collection Procedure The study will proceed in three phases:

1. **Preparation:** Permissions will be secured from local SHG federations and NABARD. Instruments will be pilot-tested with a cohort of 20 rural women to ensure validity.
2. **Training:** Five field investigators will be trained on ethical data collection and cultural sensitivity.
3. **Execution:**
 - a) Quantitative: Face-to-face structured surveys (30-45 minutes) administered to all 424 participants.
 - b) Qualitative: Semi-structured interviews (20-30 minutes) and 8-10 focus group discussions (6-8 participants each) to capture nuances of empowerment.

4.6 Statistical Analysis Quantitative data will be analyzed using *SPSS version 27.0*.

- a) **Descriptive Statistics:** Means, medians, standard deviations, and frequencies will summarize demographics.
- b) **Inferential Statistics:**
 - Independent t-tests or Mann-Whitney U tests for continuous variables (e.g., income, decision-making scores).
 - Chi-square tests for categorical associations.
 - Multiple linear regression to assess the influence of socio-economic factors on empowerment.
- c) **Significance:** Statistical significance is set at $p<0.05$.
- d) **Qualitative Analysis:** Thematic analysis will be conducted using *NVivo* software to identify emergent patterns.

V. STATISTICAL ANALYSIS

5.1 Quantitative Analysis

All quantitative data will be coded and entered into SPSS version 27.0 for analysis. The analysis will proceed in two stages:

1. Descriptive Statistics:

Participant demographics, SHG characteristics, and baseline empowerment outcomes will be summarized using descriptive metrics. Continuous variables will be presented as means with standard deviations or medians with interquartile ranges, while categorical variables will be reported as frequencies and percentages, supported by visualizations such as tables and graphs to map the sample distribution across Wardha District.

2. Inferential Statistics:

Hypothesis testing will be conducted to evaluate the impact of SHGs on empowerment:

- a) Comparison of Groups: Independent t-tests or Mann-Whitney U tests will be utilized to compare continuous variables (e.g., income levels, decision-making scores) between SHG participants and the non-SHG control group.
- b) Associations: Chi-square tests or Fisher's exact tests will assess associations between categorical variables, such as social status and group affiliation.
- c) Correlation Analysis: Pearson or Spearman correlations will examine relationships between specific variables, such as the duration of SHG participation and social empowerment metrics.
- d) Regression Modeling: Multiple linear regression models will be developed to determine the influence of socio-economic factors on overall empowerment while controlling for confounders like age and education.
- e) Longitudinal Changes: Where applicable, non-parametric Wilcoxon signed-rank tests will evaluate pre- versus post-SHG changes within groups.

5.2 Statistical Significance and Power

Statistical significance for all tests is set at a p-value of less than 0.05 ($p < 0.05$). Effect sizes will be reported to gauge practical relevance, alongside a post-hoc power analysis to confirm a minimum of 80% power ($>80%$) for detecting medium effect sizes.

5.3 Qualitative Analysis

Qualitative data gathered from semi-structured interviews and focus group discussions will be subjected to thematic analysis using NVivo software. This process will identify emergent patterns regarding challenges, perceptions, and coping strategies. These qualitative findings will be triangulated with quantitative results to provide a comprehensive, mixed-methods interpretation of the empowerment dynamics.

VI. EXPECTED OUTCOMES AND DISCUSSION

6.1 Anticipated Economic Impact

This mixed-methods protocol anticipates that participation in Self-Help Groups (SHGs) will significantly enhance the economic empowerment of rural women in Wardha District. Quantitative analysis is expected to reveal a marked increment in household income and savings among SHG members compared to the non-SHG control group. These findings would align with Dr. Reji (2013) in Kerala and Selvakumar & Maniyarasan (2022) in Tamil Nadu, where access to collateral-free loans successfully uplifted economic status despite prevailing literacy gaps [2, 12]. Furthermore, regression models are hypothesized to establish a positive correlation between the duration of SHG membership and financial literacy, echoing Manikonda's (2014) findings in Andhra Pradesh, where long-term engagement was key to self-reliance [7].

6.2 Social Agency and Contextual Moderators

Qualitatively, the study expects to uncover themes of improved physical mobility and enhanced decision-making power, reflecting the agency gains observed by Swain (2007) in Orissa [11]. However, the specific socio-cultural context of Wardha-characterized by rigid caste hierarchies and lower SHG penetration-may temper these effects. Unlike states with mature ecosystems, Wardha's environment might present entrepreneurial hurdles similar to those identified in Rajasthan by Meena & Jain (2022), where cultural norms limited the transition from credit access to successful enterprise management [26].

6.3 Testing the Hypothesis

The study is designed to vigorously test the null hypothesis (H_0). It is anticipated that the results will lead to the rejection of H_0 , thereby underscoring the context-dependent efficacy of SHGs amplified by NABARD linkages [4]. By demonstrating that empowerment is not a uniform outcome but one moderated by local policy and infrastructure, the findings will provide a nuanced rebuttal to "one-size-fits-all" development narratives.

6.4 Implications and Limitations

The findings will have direct policy implications, likely advocating for targeted skill training and livelihood diversification beyond traditional farm-based activities. However, the study acknowledges limitations inherent to its design. The cross-sectional nature limits causal inference, and reliance on self-reported data may introduce social desirability bias. These limitations will be mitigated through methodological triangulation, where survey data is cross-verified with focus group insights and secondary NABARD records. Future research avenues suggested include longitudinal designs and Randomized Controlled Trials (RCTs) to probe the long-term sustainability of these impacts, extending Kabeer's (1999) empowerment framework to intersectional dynamics [5].

VII. CONCLUSION

This protocol delineates a mixed-methods framework to evaluate the multifaceted empowerment impacts of Self-Help Groups (SHGs) on rural women in Wardha District, testing participation effects via economic, social, and institutional lenses. It integrates the SHG microfinance framework with multidimensional empowerment models to address the specific challenges rural women face in this region. Anticipating the rejection of the null hypothesis, the study aims to bridge localized evidence gaps, yielding tailored recommendations for NABARD enhancements. Affirming significant positive impacts could refine guidelines, advancing gender-equitable interventions for sustainable rural development amid socio-economic inequities. Ultimately, fortifying these SHG structures is critical for advancing Sustainable Development Goal 5, fostering gender-equitable rural prosperity.

VIII. REFERENCES

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