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Socio-economic and functional analysis of agricultural self-help groups in Kupwara District, Jammu & Kashmir

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Abstract

Self-Help Groups (SHGs) have emerged as a transformative force for women's empowerment in rural India, particularly in marginalized regions. This study examines the socio-economic characteristics of 140 women members of SHGs in District Kupwara, Jammu & Kashmir. Using descriptive statistics, chi-square tests of independence and a simple logistic regression, the analysis considers age, education, marital status, landholding, family structure, income, access to information, social participation, and training exposure. Findings show that most members are middle-aged, reside in joint families, and fall within a medium-income bracket, while facing constraints such as marginal landholdings, low social participation, and limited training. Statistical tests indicate no strong block-level differences for most variables, although education and income show borderline heterogeneity across blocks. The paper concludes with policy-relevant recommendations to strengthen SHG effectiveness.

1. Introduction

Self-Help Groups (SHGs) are widely used in India as platforms for micro-savings, credit access and women's collective action. Beyond financial intermediation, SHGs often serve as sites for livelihood diversification, skill building and social mobilization. In geographically and politically marginal areas such as Kupwara (Jammu & Kashmir), SHGs can play an important role in supporting household resilience and fostering women's agency. Despite the proliferation of SHGs, systematic evidence on the socio-economic profile and functional constraints of women members in Kupwara remains limited. This study documents the socio-economic characteristics of 140 women SHG members from three purposively selected blocks in Kupwara and applies basic inferential statistics to assess block-level differences and predictors of training exposure.

2. Materials and Methods

The study was carried out in Kupwara district. Three blocks (Mawar Qalamabad, Qaziabad, Langate) were purposively selected from 24 blocks based on the high number of SHGs engaged in agricultural activities. From 1,012 SHGs active in the selected blocks, 140 SHGs were sampled using proportional allocation. The research employed an ex-post-facto design. Primary data were collected via a structured interview schedule (pre-tested) covering demographic, economic and participatory variables. Data were summarized using frequencies and percentages. To examine whether distributions differed across blocks, chi-square tests of independence were computed for categorical variables, and Cramer's V was reported as an effect size. A simple binary logistic regression (Training Received = Yes/No) using block as predictor (Langate as reference) was estimated to explore block-level differences in training exposure.

3. Results

Table 1: Socio-Economic Profile of Women SHG Members in District Kupwara (N = 140)

Parameter	Category	Frequency (N)	Percentage (%)
Age (years)	Below 21	19	13.57
	21-40	104	74.28
	Above 40	17	12.15
Education Level	Illiterate	18	12.86
	Primary	11	7.86

	Middle	18	12.85
	Secondary	31	22.15
	Higher Secondary	25	17.85
	Graduate & Above	37	26.43
Marital Status	Unmarried	63	45.00
	Married	77	55.00
Landholding (ha)	Below 0.50	103	73.57
	0.50 - 1.00	19	13.58
	Above 1.00	18	12.85
Family Size	Small (2-4)	17	12.14
	Medium (5-8)	110	78.57
	Large (>8)	13	9.29
Family Type	Nuclear	24	17.14
	Joint	116	82.85
Annual Family Income (₹)	Low (0.32-0.64 lakh)	8	5.71
	Medium (0.65-2.82 lakh)	117	83.57
	High (>2.82 lakh)	15	10.71
Source of Information Score	Low (7-13)	24	17.14
	Medium (14-18)	91	65.00
	High (>18)	25	17.86
Social Participation	Yes	35	25.00
	No	105	75.00
Training Received	Yes	41	29.28
	No	99	70.71

3.1 Statistical Analysis

Chi-square tests of independence (with Cramer's V as effect size) were computed to examine whether the distribution of each socio-economic variable differed across the three blocks (Mawar Qalamabad, Qaziabad, Langate). A simple binary logistic regression (TrainingReceived = 1 if Yes, 0 if No) was fit with block as predictor (Langate as reference) to assess block-level differences in training exposure. Results are summarized below.

Table 2: Chi-square summary (χ^2, df, p-value, Cramer's V)

Variable	χ^2	df	p-value	n	Cramer's V
Age (3 categories)	3.737	4	0.443	140	0.116
Education (6 categories)	17.960	10	0.0556	140	0.253
Marital status (2)	2.000	2	0.368	140	0.120
Landholding (3)	2.220	4	0.695	140	0.079
Family size (3)	6.553	4	0.160	140	0.137
Family type (2)	0.026	2	0.987	140	0.006
Income (3)	9.169	4	0.057	140	0.156
Source of information (3)	6.380	4	0.173	140	0.151
Social participation (2)	0.310	2	0.857	140	0.047
Training received (2)	1.851	2	0.396	140	0.115

Table 3: Logistic regression predicting Training Received (Yes=1) — Block predictors (Langate reference)

Predictor	Coef (log-odds)	Std. Err.	p-value	Odds ratio
Constant (intercept)	-0.435	0.387	0.261	0.65
Block = Mawar (vs Langate)	-0.643	0.478	0.178	0.53
Block = Qaziabad (vs Langate)	-0.465	0.508	0.359	0.63

3.2 Discussion (continuous narrative)

The socio-economic profile of the 140 women members of Self-Help Groups in Kupwara reveals broadly consistent patterns across the three study blocks. Across Mawar Qalamabad, Qaziabad and Langate, 67.16%, 80.00% and 82.14% respectively belonged to the 21-40 years age bracket, giving an overall share of 74.28%, while 13.57% were younger than 21 years and 12.15% were 40 years or older (mean age = 30, SD = 10). Education levels varied: graduate and above ranged from 20.00% to 31.34% across blocks (26.43% overall), secondary and higher secondary attainment were notable, and illiteracy remained at 12.86% overall. Married women comprised 55.00% of the sample and landholding was overwhelmingly marginal: 73.57% held less than 0.50 hectare. Most households were medium-sized (5-8 members, 78.57%) and joint family systems predominated (82.85%). The household income distribution concentrated in the middle band (₹0.65-2.82 lakh annually, 83.57%), and access to information tended to be moderate for the majority (65.00%). Social participation outside SHGs was limited (25.00% active), and only 29.28% reported receiving any training, leaving 70.71% without formal capacity-building exposure.

To test whether these socio-economic characteristics differed systematically by block, chi-square tests were computed. None of the variables reached conventional statistical significance at the 5% level. Education was closest to significance ($\chi^2 \approx 17.96$, $p \approx 0.0556$; Cramer's V $\approx$ 0.253), indicating a moderate association between block and education that may warrant further investigation. Income also showed a borderline pattern ($\chi^2 \approx 9.17$, $p \approx 0.057$; Cramer's V ≈ 0.156). Most other variables had small effect sizes (Cramer's V < 0.15), suggesting broadly similar socio-economic structures across the sampled blocks.

A binary logistic regression predicting training exposure using block as the only predictor produced estimated odds ratios below 1 for Mawar (OR $\approx$ 0.53) and Qaziabad (OR $\approx$ 0.63) relative to Langate; however, differences were not statistically significant ($p > 0.05$). In practical terms, while Langate appears to have somewhat higher training exposure, the evidence is not strong enough to conclude a block-level effect in this sample.

Overall, the statistical evidence alongside descriptive results suggests that the main constraints — marginal landholdings, limited training and low social participation — are district-wide issues rather than problems confined to a single block. This finding supports district-level, rather than

block-specific, policy interventions focused on literacy enhancement, targeted training programs (agri-techniques, value-addition, enterprise development), and measures to broaden women's participation in community organizations and markets.

4. Limitations
Analyses were performed on aggregate block-wise counts; individual-level microdata with joint distributions were not available. This limited our ability to run adjusted multivariable models controlling simultaneously for age, education, income and other covariates. Some contingency table cells had small expected counts (<5), which reduces the strict reliability of chi-square p-values for those comparisons. The logistic regression presented is unadjusted and therefore exploratory. Finally, the ex-post-facto cross-sectional design prevents causal inference.

5. Recommendations and Future Research
Based on the findings, we recommend: (1) district-level training programs prioritizing agri-technology, product diversification and enterprise skills; (2) literacy and numeracy modules tailored to SHG members with limited formal education; (3) initiatives to strengthen information access (extension visits, mobile information services); and (4) measures to increase women's social participation through federations and linkages with local institutions. Future research should use individual-level data to run multivariable analyses (e.g., logistic regression adjusted for key covariates), construct a socio-economic index (via PCA), and assess the causal impact of training on livelihood outcomes using experimental or quasi-experimental designs.

6. Conclusion
The present study provides a comprehensive socio-economic and functional profile of women members of agricultural Self-Help Groups in Kupwara district, Jammu & Kashmir. Analysis of 140 respondents from three purposively selected blocks revealed that the majority are middle-aged (21-40 years), moderately educated—with over one-quarter holding graduate or higher degrees but with persistent pockets of illiteracy—married, and living in joint family systems. Landholdings are predominantly marginal (<0.50 ha), household sizes are mostly medium (5-8 members), and incomes are concentrated in the medium band (₹0.65-2.82 lakh annually). Information access is generally moderate, but social participation outside SHGs is low (25%), and formal training exposure remains limited (29.28%).

Statistical tests confirmed that these patterns are largely consistent across blocks, with only education (p ≈ 0.0556; Cramer's V ≈ 0.253) and income (p ≈ 0.057; Cramer's V ≈ 0.156) showing borderline block-level variation. Logistic regression results indicated no statistically significant differences in training exposure between blocks, reinforcing the finding that constraints such as marginal landholdings, inadequate training, and limited social participation are district-wide rather than block-specific issues.

These findings highlight the need for coordinated district-level interventions to enhance SHG effectiveness. Priority areas include literacy and skill enhancement, especially in agri-technologies and enterprise development; broadening

women's access to information channels; and promoting stronger engagement in community networks and markets. While the ex-post-facto, cross-sectional design limits causal inference and some small cell counts temper the precision of chi-square estimates, the study nonetheless offers actionable insights for policymakers and development practitioners. Strengthening SHGs in Kupwara through targeted, inclusive, and skill-oriented programs has the potential to transform them from primarily savings-oriented collectives into robust engines of women's economic empowerment and rural livelihood resilience.

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