A study on the socio-economic factors influencing women's involvement in SHG programmes in Ambedkar Nagar district of Uttar Pradesh

ABSTRACT

In the present paper, an attempt has been made to understand the socio-economic conditions of the SHG members and factors determining women's participation in the SHG programme, utilizing pre-structured and pre-tested schedules to collect information from Ambekar Nagar district. Employed proportionate random sampling as well as purposive technique, 120 respondents were selected from two blocks i.e., Akbarpur and Bhiti based on higher number of SHGs. The data were analyzed with the help of suitable statistical tools like percentage, mean and binary probit models, to find the factors thateffectthe women's participation in SHG programme.Results revealed that 40% of the respondents were illiterate, with the remainder having varying levels of education, predominantly at the primary level. Family size was primarily medium (5-6 members), and landholdings averaged 1.4 hectares, reflecting a predominantly agricultural setting. Livestock ownership, particularly buffaloes and goats, contributed significantly to household livelihoods. The study employed a probit regression model to analyze the determinants of women's participation in SHGs, with factors such as age, family size, landholding, education, and net non-farm income examined. The results indicated that age and net non-farm income were statistically significant in influencing participation, with older women and those with higher non-farm income being less likely to engage in SHGs. Conversely, larger family size positively impacted participation. The findings suggest that rural development initiatives should prioritize younger women, expand education opportunities, and promote farm-based income generation to enhance SHG participation and, consequently, women's empowerment.

Key words: SHGs, NGOs, Socio-economic, Women's Participation and Probit Model.

Introduction

India's agricultural landscape is characterized by a high degree of cultivation, with approximately 51% of the land area under cultivation. Despite this extensive cultivation, the majority of farmers are small and marginal. Over 85% of these farmers manage landholdings of less than 2 hectares. In Uttar Pradesh, a significant 65% of households are engaged in agriculture, with an average landholding of 0.80 hectares, which is notably below the national

average of 1.15 hectares. The state comprises around 2.33 crore farmers who collectively own 176.22 lakh hectares of land. Notably, 92% of these farmers are classified as small farmers, with an average landholding of 1.43 hectares (Kumar et al., 2020).

Given this context, Self-Help Groups (SHGs) have emerged as a promising model for advancing rural development. An SHG is a small, voluntary association of low-income individuals, typically from similar socioeconomic backgrounds, who come together to address common financial difficulties through collective efforts. Membership in an SHG is capped at 20 to avoid the necessity of formal registration under Indian law. This size facilitates effective credit utilization and repayment through peer pressure and collective expertise (Surender and Kumar, 2010; Sarma, 2013).

The concept of SHGs gained significant traction with the National Bank for Agriculture and Rural Development (NABARD) piloting the Women's Self-Help Group-Bank Linkage Program' in 1992. This was further supported by the Government of India's launch of the Swarnjayanti Gram Swarojagar Yojana (SGSY) in 1999, aimed at providing microfinancial services to the rural poor through SHGs. Currently, the two primary models for microfinance lending in India are the "SHG-Bank Linkage Model" and the "Microfinance Institutions (MFIs)-Bank Linkage Model" (Patil and Kokate, 2017). As of recent reports, the SHG-Bank Linkage Program covers approximately 100 million families, with 8.00 million SHGs linked to savings (Mula and Sarker, 2013; Singh and Deshmukh, 2022).

The year 2001 was designated as the "Women's Empowerment Year" by the Indian government, highlighting the role of SHGs in poverty alleviation and women's empowerment. SHGs, supported by Self-Help Group Promoting Institutions (SHPIs) such as NGOs, banks, and government officials, have played a crucial role in promoting women's well-being, entrepreneurship, and self-employment. These groups provide a platform for savings, loan repayment, training, and regular meetings, and also address broader issues such as marketing, family planning, healthcare, basic literacy, and occupational skills (Vinodhini and Vaijayanthi, 2016).

In 2011, the movement evolved into the National Rural Livelihoods Mission (NRLM), becoming the largest global initiative for poverty reduction. NRLM has facilitated access to affordable financial services including bank accounts, savings accounts, credit, insurance, pensions, and financial counseling. SHGs are recognized for enhancing the effectiveness of women-owned businesses, fostering mutual trust, thrift, and group cohesion. Empirical evidence suggests that SHGs significantly improve the socio-economic status of rural communities in India (Amutha, 2011).

Similar methodologies have been employed to analyse the socio economic factor influencing women involvement in SHGs for instance, Joshi *et al.,* (2019)conducted research in the Nainital district of Uttrakhand in the year 2018. The goal of his study was to categorize the social and economic elements that influence women's participation in self-help groups (SHGs) for economic and social empowerment. Sucharita and Bishnoi *(2019)* study in the Ranapur area of Odisha's Naygarh district. Rana *et al.,* (2019) analyzed the role and performance of SHGs promoting women's empowerment in US Nagar and Dehradun district of Uttarakhand. Ray and Misra (2023) analysing and improving socio economic status of women SHGs.Waigaonkar et al., (2024) analysed the socio economic profile and constraints faced by SHGs member.With the above pretext this study was undertaken to address the following:.

1. To study the socio-economic status of the SHG members.
2. To examine the factors determining the participation of the rural women in the SHG members.

Materials and Methods

The present study utilized a proportionate random sampling method along with a purposive sampling technique for the selection of the districts, blocks, SHGs, and enterprises. The research was conducted in Ambedkar Nagar district, Uttar Pradesh, which has a total of 11,531 SHGs working under the Women Empowerment Division (NRLM).

Ambedkar Nagar was selected based on the availability of resources (though specifics need to be substantiated), a higher concentration of SHGs compared to other districts, its promising potential for enterprise promotion, and the economic development of SHG members. Two blocks, Akbarpur and Bhiti, were chosen from the nine blocks in the district due to their particularly high number of SHGs (National Rural Livelihood Mission Project).

A sample size of 120 respondents from SHGs was selected, though further justification for the sufficiency of this sample size is required. Data for the study were collected through both primary sources—survey schedules—and secondary sources, including government publications, the NRLM website, the District Development Office, NGOs, and various academic reviews. The specific sources for secondary data need to be clearly outlined.

Analytical Procedure: In the socio-economic status of the SHG member's simple descriptive statistics like Percentage and Mean etc were used.The binary response probit

model was given by Mcfadden, 1981. Which was further used by Kumar, 2021 to determine the factors that influence women's participation in Self Help Groups (SHGs).

The model will be specified as given below:

$$Y = \beta_0 + \beta_1 AW + \beta_2 FS + \beta_3 LH + \beta_4 EW + \beta_5 NI + U_i$$

where, Y= Participation of women in SHG programme,

β_0 = Intercept,

AW = Age of women (years),

FS = Family size,

LH = Landholding size (ha),

EW= Education (years),

NI = Net non-farm income

$\beta 1$-$\beta 5$ are the respective coefficients and U_i is the error term.

Results and Discussion

This part of the study was added to help with the interpretation of the results for the different goals. Given that each of the two objectives touches on either the social or economic facets of respondents' lives, a complete analysis of their socio-economic situation would provide a solid framework for assessing the results. This section discusses several socio-economic characteristics of the sampled households, such as age distribution, family composition, education level, land-use pattern, size of land holdings, livestock distribution and annual household income.

Age wise composition of the members

Age is an important component of a person's socio-economic conditions since it impacts their general functioning capability and decision-making abilities. The participants in this study were divided into three age groups based on their age. Table 1 shows that the bulk of the respondents were between the ages of 31 to 45 years, which is 47.5 percent of the sample population. while 13.33 percent were under 30 years. The remaining 39.16 percent of the population was above the age of 45.

Table No. 1Age wise composition of the members of SHGs

S. No.	Age Groups (Years)	Number	Average Age	Percentage (%)
I	Less than 30 (Young Age)	16	28.81	13.33
II	31 to 45 (Middle Age)	57	38.35	47.5
III	Above 45 (Old Age)	47	50.8	39.16

IV	Total	120	39.32	100

Educational status of the members of the SHGs

Education is essential for women's empowerment because it gives them with the self-confidence and support, they require to participate actively in SHG activities the educational backgrounds of the sample respondents are shown in Table No.2 depicted that the different educational status categories clearly shows that most of the respondents were literate. 40 percent of the population was illiterate. 24.17 percent of the literate had obtained primary education while 12.5 percent had received secondary education. Only 8.3 percent of respondents had a high school diploma, 4.17 percent of the Intermediate, while those with a college graduation made up only 10.83 percent of the sample population.

The respondents were not highly educated because the study was limited in rural areas, showing the backwardness and sluggishness of these places. The importance of education in motivating and encouraging women could not be overlooked because the bulk of the members were educated.

Table No. 2 Educational status of the members of the SHGs

S. No.	Educational Status	Number	Percentage (%)
I	Illiterate	48	40.00
II	Primary	29	24.17
III	Secondary	15	12.50
IV	High School	10	8.33
V	Intermediate	5	4.17
VI	Graduation	13	10.83
Total		120	100

Family structure of the members of SHGs

Family composition is an essential socio-economic attribute since it can impact people's living standard and resource allocation.The family category in this study were divided into three groups based on their members. The table shows that the bulk of the respondents were medium family size (5-6 person/household) which is 50.83 percent of the sample population. while 37.50 percent were under small size (Up to 4 members). The remaining 11.66 percent of the population was above the large family size (more than 6 members/household). In table no.3 members of the family are classified according to the size of the family.

Table No. 3 Classification of the members according to the family size

S. No.	Family Size (No. of members)	No.	Average size	Percentage (%)
1	Small (Up to 4)	45	3.68	37.50
2	Medium (5 to 6)	61	5.44	50.83
3	Large (More than 6)	14	7.57	11.66
4	Total	120	5.56	100

Family composition of respondent households

The family composition of the respondent households is shown in Table No.4 Males made up an average of 1.39 people per home, accounting for 27.13 percent of the overall sample population. Females made up 28.37 percent of the sample population with an average of 1.45 per home. The average number of children per home was 2.28. The normal functioning of civilization requires a healthy population of women. This obviously shows that women were numerically well represented in the study area, indicating their well-being.

Table No. 4 Family composition of respondent households

S. No.	No. of Members	Average no. per household	Percentage (%)
1	Adult males	1.39	27.13
2	Females	1.45	28.37
3	Children	2.28	44.49
4	Total	5.03	100

Land holding pattern of households

Land is the most significant factor in production, particularly in rural areas where agriculture is the people's major profession. The details of land holding area under different size group of sample farms discussed in Table No.5. The average size of land holding of marginal, small, medium farms were found 0.25, 3.31 and 1.4 hectares.

Table No. 5 Land holding pattern of the sample households

S. No.	Land holding pattern	Total	Average land holding	Percentage (%)
I	Marginal farmers (Less than 1.00 ha)	65	0.25	54.17
II	Small farmers (From 1.01 ha to 2 ha)	34	1.4	28.33
III	Medium farmer (From 2.01 ha to 4 ha)	21	3.21	17.50
Total		120	-	100

Distribution of livestock per household

For rural households, livestock performs a number of socio-cultural tasks, such as supplying food, providing income and employment, improving soil fertility, providing transportation, traction for agriculture, diversity, and long-term agricultural productivity.

Cows, buffaloes, bullocks, goats, and poultry birds were among the livestock animals present in the agri-households, as shown in table no.6. Each family had an average of 1.03 buffaloes, accounting for 36.79 percent of the total animal population. Per household, an average of 0.58 cows were available i.e., 20.71 percent of the total animal population. There were 4 bullock pairs and 4.64 percent sheep in some family. There are 35.72 percent of goat populationin the total animal population

Table No. 6 Distribution of livestock per household

S. No.	Livestock owned	Average No. per household	Total animal population (%)
1	Cow	0.58	20.71
2	Buffalo	1.03	36.79
3	Bullock	0.06	2.14
4	Sheep	0.13	4.64
5	Goat	1.00	35.72
6	Total	2.80	100.00

Annual income of the households

The average annual income of the respondent's household is shown in Table No. 7 Farm revenue, with a share of 39.41 percent of farm income and followed by non-farm income, with a share of 60.59 percent. Crop operations supplied 17.43 percent of overall farm income, while animals contributed 21.98 percent. Government or private jobs, business, and non-farm laborers were the main sources of non-farm income. Jobs provided 23.51 percent of the household income, while business provided 15.18 percent of total annual household income. As a result, to enhance the socio-economic status of the rural population, the government should increase and promote agriculture in rural areas.

Table No. 7 Annual income of the households

S. No.	Particulars	Amount (Rs,)	Percentage to total income

A.	Farm income		
1	Crop enterprise	28,284	17.43
2	Livestock enterprise	35,678	21.98
	Sub- total	63,963	39.41
B.	**Non-farm income**		
1	Govt./Private job	38,153	23.51
2	Business	24,633	15.18
3	Non-farm labour's	35,538	21.9
	Sub- total	98,324	60.59
	Total	**1,62,286**	**100**

Factors determining the participation of women in the SHG programme

The objective of this part is to highlight the variables that either benefited or harmed rural women's participation in the SHG initiative. Because not all women displayed active participation in the programme, it is critical to understand the impact of many elements in influencing women's participation in SHGs. It'splays aa crucial role in the transition from self-negation to self-reliance. The characteristics that influenced women's engagement in an SHG-led empowerment programme in Uttar Pradesh's Ambedkar Nagar area were assessed using probit regression.

Table 8 displays the results of the probit regression. Age, education, number of household members, size of landholding and net non-farm income were included as explanatory factors. The probit model employs maximum likelihood estimation, which is an iterative approach that converges after five iterations in this case. After five iterations, the fitted model's log-likelihood was -36.362. This was the greatest value of log likelihood, which resulted in the coefficient's unique maximum likelihood estimations. The high pseudo R^2 value of 1.017 demonstrated that the model fit the data well; the greater pseudo R^2 value,better fit. At a 5% level of significance, the probability of receiving the likelihood ratio (LR) chi square test statistic of 35.411 was 0.000.

Table No. 8 Influential elements affecting women's participation in Self-Help Group (SHG) initiatives: analysed through a probit model.

Explanatory variable	Coefficient	Z value	P> |z|	[95% Confidence Interval]		Marginal Effect
Age (Year)	.272	3.1030	.005*	.083	.461	32.9667
Family Size	.015	.1319	.910	-.244	.273	5.0500
Size of holding	.288	.2715	.289	-.244	.820	.6315
Education	.052	.0502	.300	-.046	.150	5.1833

Net non- form income	1.494E-5	4.3952E-6	.001*	6.327E-6	2.356E-5	9.4250E4
Log Likelihood	-36.362					
Pseudo R^2	1.017					
-R Chi^2 (5)	35.411					

Note: *Significant at 5% Level of Significant

The explanatory variables of education, size of land holding, and family size were not statistically significant. In contrast, the statistically significant variables were Net non- farm income and age of the woman at 5% level of significance. Age is the first explanatory variable in the table. At the 5% level of significance, the coefficient of explanatory variable i.e., age of women .272, was statistically negatively significant and inversely connected to the likelihood of participating in the SHG programme. The anticipated probability of involvement in the SHG programme reduced as the woman's age grew. this could be linked to the decline in women's health as they grow older, as well as pessimistic and a traditional attitude. (Anjugam and Ramasamy, 2007), who used age as one of the explanatory variables in explaining rural women's participation in SHGs. With a value of 32.96%, the findings of the probit model revealed that age was statistically negatively significant and other variables i.e., Net non-farm income statistically significant at 5 % level of significance with coefficient value 1.494E-5 findings showed that when net non-farm income increased than the participation of women in SHG decrease at 9.4250E4 times. There are some other variables statistically analyzed at 5 % level of significance family size influenced programme participation in such a way that as the number of household members increased, so did the predicted probability of participating in the SHG programme. The positive coefficient value of .015 justified this. The likelihood of participation increased by 5.05% for every additional member added to the household. (Sinha's, 2008) findings, which revealed that the probability of participating in the SHG programme increased as the size of the family increased. It is the most valuable asset for rural agri households and so has a position in the model. positive coefficient value of .288 justified that landowners with greater landholdings were less likely to participate in any SHG programme, implying that participation probability and landholding size were inversely connected. The relationship's magnitude was determined using the marginal effect estimate. With one unit increase in landholding size, i.e., per acre, the chance of involvement reduced by 6.3 %, according to the marginal effect of .6315.

Conclusion

From above discussion, concluded that a majority of respondents fell within the 31-45 age group, highlighting this as a key demographic for SHG participation, though age was found to inversely affect involvement, with older women participating less due to health and traditional attitudes. Education emerged as a vital factor for empowerment, but a significant number of women were still illiterate, pointing to a need for better educational opportunities. Larger families were more likely to be involved in SHGs, while women from bigger land-owning households participated less, possibly because they had other economic priorities. Owning livestock and earning from non-farm activities were crucial for household livelihoods.

However, an interesting trend emerged: as non-farm income increased, participation in Self-Help Groups (SHGs) tended to decrease. This points to a need to better integrate women engaged in non-agricultural work with SHGs. The Probit regression analysis revealed that age and non-farm income were significant factors affecting SHG participation, whereas education and landholding size had a smaller impact. The results suggest that targeting younger women, enhancing educational opportunities, and finding a balance between farm and non-farm income could be key strategies to increase SHG involvement and support the social and economic empowerment of rural women.

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Details of the AI usage are given below:

1. Chat GPT
2. Grammarly and
3. Quillbot

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