

# A Study on the Impact of Women Self-help Groups (SHGs) on Rural Entrepreneurship Development-A Case Study in Selected Areas of West Bengal

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**Abstract-** The emergence of women entrepreneurs and their contribution to the national economy is quite visible in India. The women entrepreneurship is seen as an effective strategy to solve the problems of rural poverty as well as urban development. It promotes the quality of life by motivating female human potential. This proposed research work aims at focusing some specific areas pertaining to possibilities and constraints of developing rural entrepreneurship exclusively governed by rural women SHGs. Role of SHGs for promoting rural entrepreneurship using local skills, local knowledge and local resources involving women workforce has long been emphasized. During the last three decades rural development practitioners have been focusing on SHGs as an instrument for rural-entrepreneurship development in rural sector.

**Index Terms-** entrepreneurs, national economy, rural poverty, possibilities, constraints, self help groups, women.

## I. INTRODUCTION

The emergence of women entrepreneurs and their contribution to the national economy is quite visible in India. The number of women entrepreneurs has grown over a period of time, especially in the 1990's. The emergence of entrepreneurs in a society depends to a great extent on the economic, social, religious, cultural and psychological factors prevailing in the society. It is estimated that presently women entrepreneurs comprise about 10% of the total entrepreneurs of India and this percentage is growing every year. If prevailing trend continue, it is not unlikely that in another five years, women will comprise about 20% of the entrepreneurial force in India. (Nayyar et al 2007).

Women entrepreneurship is the process where women organize a business or industry and provide employment opportunities to others. Women entrepreneurship can be engaged in both organized and unorganized sectors. Entrepreneurship is a process where one person getting himself employed and provides job to others also. It is bred by self employment and enhances economic growth of the country. The women entrepreneurship is seen as an effective strategy to solve the problems of rural poverty as well as urban development. It promotes the quality of life by motivating female human potential.

Sidhu and Kaur(2006), revealed that entrepreneurship is the only solution for the growing employment among the rural youth. It helps to generate employment for a number of people within their own social system. Kuratka and Richard(2001), in

their book on entrepreneurship stated that entrepreneurship is the dynamic process of creating incremental wealth. This wealth is created by individuals who take the major risks in terms of equity, time and career. Commitment of providing value to some products or services, the products or services itself may or may not be new or unique but the value must somehow be infused by the entrepreneur by securing and allocating the necessary skills and resources. The delivery of microfinance to the poor is smooth, effective and less costly if they are organized into SHGs. Role of SHGs for promoting rural entrepreneurship using local skills, local knowledge and local resources involving women workforce has long been emphasized. Planning Commission as well as the Indian Government has rightly recognized the potentiality of women for livelihood improvement and economic development. During the last three decades rural development practitioners have been focusing on SHGs as an instrument for rural- entrepreneurship development in rural sector. In this context, attempts are being made to assess the role of SHGs in terms of their performance and effectiveness in grass root level.

## II. OBJECTIVES

1. To ascertain how far Self Help Groups (SHGs) motivated rural women to undertake rural based entrepreneurship in selected sample areas.
2. To study the impact of women-lead SHGs in terms of income generation, savings and promoting entrepreneurship.

## III. MATERIALS AND METHODS

### Sampling procedure:

This study had been carried out on three purposively selected districts of West Bengal. They are, viz: Nadia, 24-Parganas(North) and Bankura respectively. The first two districts are forerunners in terms of SHG- growth in West Bengal. Moreover, 24-Parganas district is relatively urban-oriented comparing to the rest districts of the state. Further, Nadia district is agriculturally advanced showing highest cropping intensity. In contrast, Bankura district lags far behind the above two districts. The chief reason for such selection was to examine the impact of SHGs in diversified and heterogeneous areas.

In the next stage, from each district, one block was chosen at random. The selected blocks are namely; North Barasat-1,

Chakdah, and Chhatna of 24-Parganas, Nadia and Bankura district respectively. Thereafter, two villages in each block were selected purposively. This was done in consultation with the block level officials considering concentration of SHGs, convenience and costs. The focused villages under study comprises the villages namely ;Chaltaberia and Duttapukur of North Barasat block -1, Ghoragaccha and Katabele of Chakdah block; and Hansapahari and Poragola of Chatna block.

In turn, a list of SHGs falling under these focal villages was prepared. Then, ten SHGs were selected randomly from the above villages. Finally, three members from each selected SHGs were selected randomly as sample stakeholders. Thus a total of ninety sample members were selected for the purpose of detailed study.

**Statistical tools and tests used:**

**K-Means Cluster Analysis-**

K-means cluster analysis is a tool designed to assign cases to a fixed number of groups (clusters) whose characteristics are not yet known but are based on a set of specified variables.

$$J(V) = \sum_{i=1}^c \sum_{j=1}^{c_i} (||X_i - V_j||)^2$$

Where

$||X_i - V_j||$  is the Euclidean distance between  $x_i$

and  $v_j$

' $c_i$ ' is the number of data points in  $i^{th}$  cluster

' $c$ ' is the number of cluster centers

**Algorithmic steps for k-means clustering**

Let  $X = \{x_1, x_2, x_3, \dots, x_n\}$  be the set of data points and  $V = \{v_1, v_2, \dots, v_c\}$  be the set of centers.

- 1) Randomly select ' $c$ ' cluster centers.
- 2) Calculate the distance between each data point and cluster centers.
- 3) Assign the data point to the cluster center whose distance from the cluster center is minimum of all the cluster centers.
- 4) Recalculate the new cluster center using.

$$V_i = (1/c_i) \sum_{j=1}^{c_i} X_j \quad \text{where, 'c' represents the number of data points in } i^{th} \text{ cluster.}$$

5) Recalculate the distance between each data point and new obtained cluster centers.

6) If no data point was reassigned then stop, otherwise repeat from step 3.

**Discriminant Analysis linear equation-**

Discriminant Analysis involves determination of linear equations like regression that will predict which group the case belongs to. The form of the equation or function is-

$$D = V_1 X_1 + V_2 X_2 + V_3 X_3 + \dots + V_i X_i + a.$$

$V_i$  = the discriminant coefficient or weight for  $i^{th}$  variable

$X_i$  = respondent's score for the variable

$a$  = a constant

This function is similar to a regression equation or function. The  $v$ 's are unstandardized discriminant coefficients analogous to the  $b$ 's in the regression equation. These  $v$ 's maximize the distance between the means of the criterion (dependent) variable. Standardized discriminant coefficients can also be used like beta weight in regression. Good predictors tend to have large weights. What we want this function to do is maximize the distance between the categories, i.e. come up with an equation that has strong discriminatory power between groups. After using an existing set of data to calculate the discriminant function and classify cases, any new cases can then be classified. The number of discriminant functions is one less the number of groups. There is only one function for the basic two group discriminant analysis.

**IV. RESULTS AND DISCUSSION**

In calculating the overall impact assessment of SHGs irrespective of space, we have created a virtual cluster comprising all the members. We want to see whether impact of SHGs has been translated in terms of income & savings equally across all the members or not. Table1 shows classification of all the members in reference to SHG's contribution in income & savings. The following table shows the distribution of members in four distinct classes.

**Table 1: Final Cluster Centers: 90 sample members**

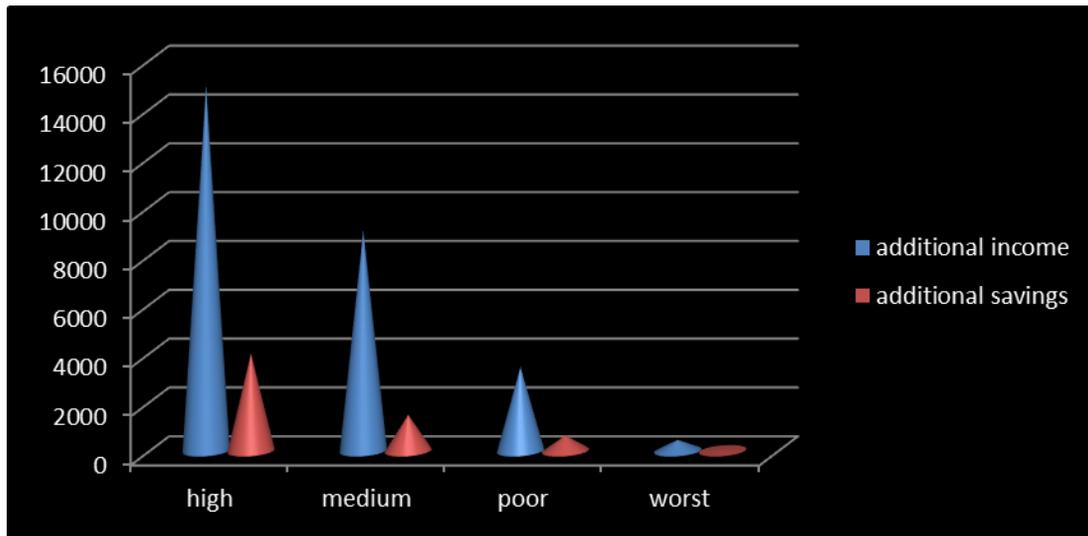
Components	Cluster			
	1(Worst group)	2(High group)	3(Medium group)	4(Poor group)
Family income(Rs)	4262	30000	20300	12892
Additional income(Rs)	454	15000	9067	3447
Additional savings(Rs)	70	4000	1483	641

A dismal picture of SHGs has been surfaced. Out of ninety members 83 have shown additional average income as meager as below 3447 after joining SHGs. On the contrary, only seven have shown average income more than Rs.10000.00 per month.

**Table 2: Number of Members in each Cluster: 90 sample members**

Cluster	Number of SHG members
1(Worst group)	47
2(High group)	1
3(Medium group)	6
4(Poor group)	36
Total	90

In our study, we consider those SHG members whose monthly income increased after joining SHGs to the tune of Rs.9000.00 or above as **entrepreneurs**. Thus we short listed 7 members as entrepreneurs based on above cited criteria.



*Fig. 1: Graphical representation of the impact of SHGs in terms of additional income and savings*

**Table3:Distances between Final Cluster Centers: 90 sample members**

Cluster	1(worst)	2(high)	3(mediaum)	4(poor)
1(worst)		29823.674	18258.641	9151.470
2(high)	29823.674		11645.946	20915.159
3(mediaum)	18258.641	11645.946		9336.536
4(poor)	9151.470	20915.159	9336.536	

**Table4: ANOVA: 90 sample members**

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Family income(Rs)	9.356E8	3	3615010.960	86	258.816	.000
Additional income(Rs)	2.143E8	3	1164676.796	86	183.980	.000
Additional savings(Rs)	9032554.900	3	78111.783	86	115.636	.000

Group variation in terms of income & savings is statistically evidenced from above ANOVA table.

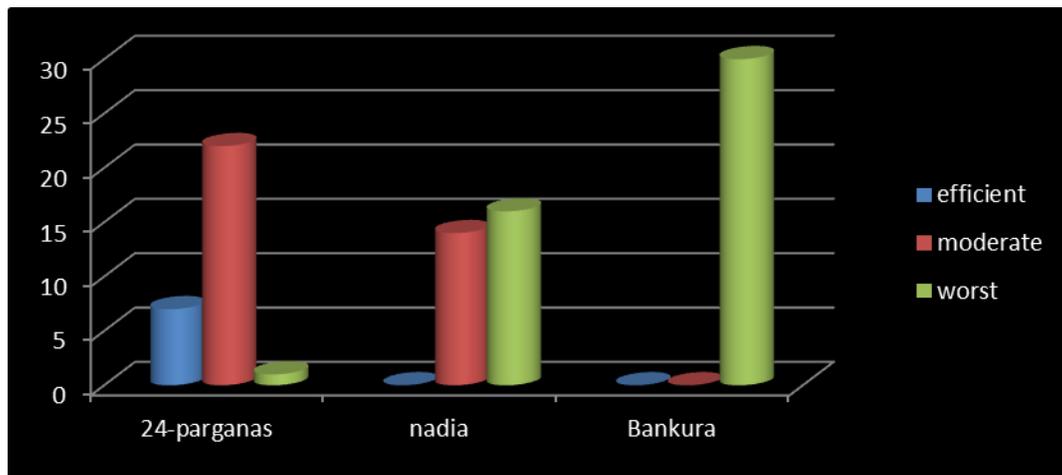
Distribution of entrepreneurs across clusters is shown below in Table5.

**Table5: Distribution of entrepreneurs across clusters: 90 sample members**

Cluster	Efficient group	Moderate group	Worst group
24 Parganas	7	22	1
Nadia	0	14	16
Bankura	0	0	30

In our study none of the members belonging to Bankura & Nadia clusters are entrepreneurs. All the so called entrepreneurs are being engaged in other than agricultural activities. All of them are associated with non-farm activities such as clay-pottery enterprise. It may also be mentioned here that all the SHG-

members undertaking pottery are not necessarily entrepreneurs. This has prompted us to discriminate between entrepreneurs and non-entrepreneurs in terms of several indicators.



*Fig. 2: Graphical representation of entrepreneurs across the three selected districts*

**Discriminant Analysis of the entrepreneurs: 90 sample members**

Here through discriminant analysis, we have divided the total of ninety sample members that have been randomly selected

from the three districts into two groups, viz; Non-Entrepreneur and Entrepreneur on the basis of certain indicators like family income, bank loan, education level and possession of land area.

**Table 6: Group Statistics: 90 sample members**

	Indicators	Mean	Std. Deviation
0 (Non Entrepreneur)	Family income(Rs)	8103.98	4763.774
	Bank loan(Rs)	3807.23	5538.023
	Education level(standard)	5.10	2.761
	Land(cotta)	22.67	28.406
1 (Entrepreneur)	Family income(Rs)	20514.29	6615.998
	Bank loan(Rs)	19571.43	8343.803
	Education level(standard)	10.57	2.699
	Land(cotta)	68.43	51.910
Total	Family income(Rs)	9069.22	5918.697
	Bank loan(Rs)	5033.33	7139.776

	Education level(standard)	5.52	3.113
	Land(cotta)	26.23	32.817

**Table 7: Tests of Equality of Group Means: 90 sample members**

	Wilks' Lambda	F	df1	df2	Sig.
Family income (Rs)	.681	41.203	1	88	.000
Bank Loan (Rs)	.646	48.140	1	88	.000
Education(standard)	.776	25.457	1	88	.000
Land(cotta)	.859	14.444	1	88	.000

It is observed from table 7 that economic status, particularly gross income of the family, educational level, asset possession (Land) and access to credit are statistically significant ingredients sufficiently discriminating between entrepreneurs and non-entrepreneurs.

$$D = 0.377 \text{ Gross income} + 0.473 \text{ Bank loan} + 0.223 \text{ Education} + 0.326 \text{ land}$$

Among all the variables bank-loan is the most powerful discriminator.

**The discriminant function is ;**

**Table 8: 90 sample members**

Family income(Rs)	.377
Bank loan(Rs)	.473
Education(standard)	.223
Land(cotta)	.326

**Summary of Canonical Discriminant Functions:**

**Table 9: Eigenvalues : 90 sample members**

Function	Eigen value	% of Variance	Cumulative%	Canonical Correlation
1	.740 <sup>a</sup>	100.0	100.0	.652

The Eigenvalue explains 100% of total within & between variation of the data matrix and shows the relevance of the function in discriminating groups in terms of above indicators.

Thus one function is statistically justified for measuring total variation between groups. The estimates of Wilk's lamda & chi-square value corroborates above findings.

**Table 10: Wilk's Lambda: 90 sample members**

Test of Function (s)	Wilks' Lambda	Chi-square	df	Sig.
1	.575	47.617	4	.000

**Standardized Canonical : Discriminant Function**

**Table 11: Coefficient : 90 sample members**

	Function
	1
Family income(Rs)	.377

Bank loan(Rs)	.473
Education(standard)	.223
Land(cotta)	.326

**Table 12: Structure Matrix: 90 sample members**

	Function
	1
Bank loan (Rs)	.860
Family income (Rs)	.796
Education (standard)	.625
Land (cotta)	.471

Pooled within groups correlation between discriminating variables and standardized variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.

**Functions at Group :**

**Table 13: Centroids : 90 sample member**

	Function (score)
0	-.247
1	2.928

Unstandardized canonical discriminant functions evaluated at group means.

**Table14: Classification Function Coefficients:90 sample members**

	0	
	0	1
Family income(Rs)	.000	.001
Bank loan(Rs)	.000	7.282E-5
Education level(standard)	.629	.886
Land(cotta)	.026	.060
Constant	-3.332	-13.416

**Table 15: Classification Results: 90 sample members**

0	Predicted Group Membership		Total
	0	1	
Original Count 0	78	5	83
1	1	6	7
% 0	94.0	6.0	100.0
1	14.3	85.7	100.0

(93.3% of original grouped cases correctly classified)

## V. SUMMARY AND CONCLUSION

Group-wise difference in terms of income, savings, expenditure and debt reduction have been found. Thus we say that from the point of equity SHGs failed to serve the society in equal proportion. In summary, we can conclude that SHGs have failed to cater entrepreneurship among the women in West Bengal. In summary, we conclude that SHGs have mixed response upon the women members. Despite social and economic barriers there are a number of promising women entrepreneurs groomed by SHGs. However, constant watch, monitoring and dissemination of skills, knowledge among the women –folk in a systematic way with linkages with different rural institutions will usher in new hope in rural areas.

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