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Role of Microfinance Through SHGs in Reducing Poverty & Inequality: A Study of Bankura District in West Bengal.

Abstract

"If we are looking for one single action which will enable the poor to overcome their poverty, I will focus on credit"

Dr. Mohammad Yunus

Micro-finance in its simplest form is termed as "banking for the poor". As it is clear from its name it implies small amount of money. Micro-finance has become one of the most discussed subjects in the last three decades all over the world. While one group advocates that it has significant impacts in reducing poverty; others caution against such optimism and point out to negative impacts; whilst there are still others which follow the middle path which argues that while microfinance does increase access of capital for the poor, in order to reduce poverty other non financial services must be added on.   Whatever may be the fact, there is no denying that, microfinance programs and institutions have become an increasingly important component of strategies to reduce poverty or promote micro and small enterprise development. Under this circumstance in the present paper an attempt has been made to judge at what extent Micro-finance through SHGs contribute to the reduction of poverty and inequality of income. In our study 15 SHGs under SGSY and 50 Non-SHG households belonging to the category of below poverty line have been selected by applying random sampling method form the Bankura District of West Bengal. The study concluded that the Non SHG households suffer worst and reduction of poverty and inequality of SHG households are still in process.

Keywords : Microfinance, SHGs, Poverty Alleviation, Income Inequality

Introduction

The concept of economic development has gone dramatic changes in recent years. Contrary to earlier notion which emphasized on maximization of GDP, the present thinking implies not only higher output but it means economic growth accompanied by a fall in the incidence of poverty, unemployment, income inequality etc. Alleviation of poverty, the core of all development efforts, has remained a very complex and critical concern among developing countries including India. The welfare and well being of a country is now judged not only by economic criterion but by criteria of social development also. Micro finance through SHGs is now recognized as a key strategy for addressing issues of poverty alleviation and women's empowerment. Micro finance in the form of Self help group (SHG) linkage model has been able to inspire hope in the lives of thousands of rural poor, particularly rural women and enable them to contribute to their families' well being through savings and borrowings. Through the generation of self employment and income the rural women are able to reduce poverty. Microfinance influences the quality of life of the rural women by providing easy finance. It is considered to be a powerful tool for empowering rural poor women by shifting them from debt-trap of informal credit sources to formal credit system.

So far various studies have been undertaken on the issue of poverty alleviation through microfinance in different countries. These studies have highlighted different aspects of poverty alleviation and women empowerment. Although it is generally hoped that women's access to credit by the working of the SHG, through the microfinance route can reduce poverty and inequality and finally empower women, the empirical evidence so far provided in support of this view is mixed. For example, Hulme and Mosley (1996) suggest that by and large micro finance

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has a positive economic effect. They also show that, this positive effect is often larger for those who are closer to the poverty line.

Mayoux (1997) in his study concluded with frustration by saying that impact of micro finance on women is not always positive. Even the increase in income for women can also come in exchange of heavier workloads and repayment pressure.

Yunus (1997) opined that for making a poverty free economy, micro credit is not enough. The poor people should be linked to markets, financial institutions and even multinationals. Moreover, he also added that the social investment is able to convert the disadvantaged sections of the society into entrepreneurs.

Dadhich (2001) in his study on microfinance a panacea for poverty alleviation explained the performance of SHGs and pointed out that properly designed and effectively implemented microfinance is not only to alleviate poverty and empower women but also be a viable economic and financial tool.

Robinson (2001) observes that commercial microfinance is not meant for core poor or destitute but is rather aimed at economically active poor. She opines that providing credit to people who are too poor to use it effectively helps neither the borrower nor the lender and would only lead to increasing of debt burden and erosion of self-confidence. She suggests that this segment should not be the target market for financial sector but of state poverty and welfare programs.

Harper (2003) in his study revealed that saving mobilization on a regular basis make the poor empowered and can contribute to an important in the quality of their lives. It serves to capitalize on the productive activities which sustain the family and thereby enhancing income of the family.

Hayes et. al (1998) have discussed the relationship between poor women's participation in micro credit programmes and their empowerment by taking both SHG and non-SHG members in rural Bangladesh. They used three indices, viz. interspersed consultation index, individual autonomy index and authority index to show this relationship. The results have shown that the SHG members are ahead of non-members in all the three indices of empowerment. The authors suggest that by providing independent sources of income outside home, micro credit is able to reduce economic dependency of the women on husbands and thus help enhance autonomy.

Swaminathan (2007) in his study points out that by providing microcredit to the poorest of the poor, the gap in the formal rural credit sector can be filled. Microcredit is able to overcome the weakness in the banking system. However, while small-scale rural credit is necessary, overall credit policy must build on the strengths of the banking system in India.

Banerjee et al (2010) in his study of Spandana finds no significant impact of microfinance on measures of women's decision-making over issues of household spending, investment, savings, or education.

Sarumathi & Mohan (2011) found that microfinance brought psychological and social empowerment than economic empowerment. Impact of microfinance is appreciable in bringing confidence, courage, skill development and empowerment. The SHG members feel free to move with their groups and leaders. It leads them to participate on various social welfare activities with good co-operation.
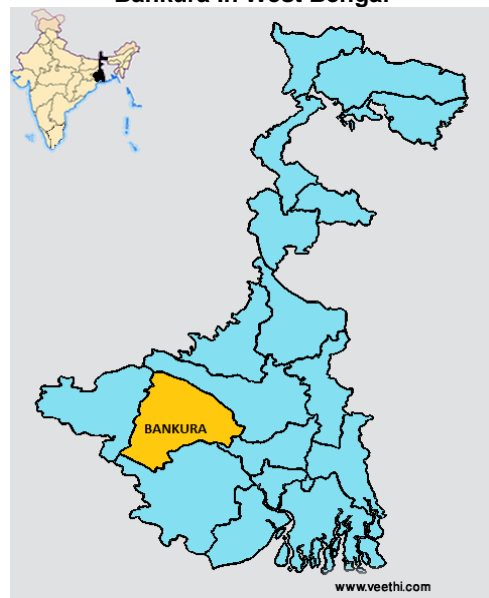
Study Design

The first section of this write-up covers the introduction. Our second section deals with the objective of the study, study area and Research Methodology. The third section depicts the income distribution of SHG and Non-SHG household members. In the fourth section we measure poverty & Inequality of Income. Finally we try to give some findings and concluding remarks in fifth section of this write-up.

Study Area

To give the objective a clear shape we have concentrated our study in the Sonamukhi Block of Bishnupur Sub-division of Bankura District of state of West Bengal. The District Bankura is surrounded mainly by three districts namely Bardhaman, Purulia and Paschim Medinipur. However, a very small portion of the district remains in touch of the Hoogly district. Our study block has a close contact with the Bardhaman district, the Rice Queen area of our state and thus possesses very rich land and producing generally three crops in a crop year. All are given in Map 1 & Map 2.

Map 1
Bankura In West Bengal

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Map 2
Bankura District

Objective of the Study

1. To find out the workability of the microfinance and SHG in the present socio economic scenario in the proposed area.
2. To find out the economic position of the SHGs and Non SHG household members.
3. To examine whether SHG activities have any impact in reducing poverty?
4. To examine whether the change in economic position of the SHGs members have any impact in reducing economic inequality.

Research Methodology

For shake of the present study we have selected 15 SHGs under Swarnajayanti Gram Sawarajgar Yojana (SGSY) scheme in which mainly the BPL people are being covered in the groups. The average size of the group in terms on number of members is 11. Thus as a whole we have 165 SHG members and accordingly 165 SHG households. We have used specially prepared SHG schedule and SHG household schedule for the collection of desired data. A very simple mathematical tool has been used for the presentation of the data. All the computations are being made on the basis of the receipt of returns from the respondents. Out of these 15 SHGs 9 groups laying on the bank of Sali River and remaining 6 groups from several areas of Sonamukhi Block of Bishnupur sub-division as given in Map 2. 14.

Again to measure the impact of the working of the SHGs we have taken also 50 poor households randomly from the same area that are not belonging to any SHGs. All of them belong to BPL category. We have also used the same household schedule for the collection of required information from these 50 poor households. Thus 15 SHGs, 165 SHG member households and 50 BPL non-member households become the universe of the study and the average family size for SHG household is 3.84 and same for Non-SHG household is 3.83

In this study we have used two indices to measure the poverty. One is report of the expert group under the Chairmanship of Dr. C. Rangarajan

submitted in June 2014 and other One is UNDP index. Again to judge the inequality of Income we have calculated Gini Coefficient for every distribution of income given here and we have also drawn Lorenz Curve to display the income inequality.
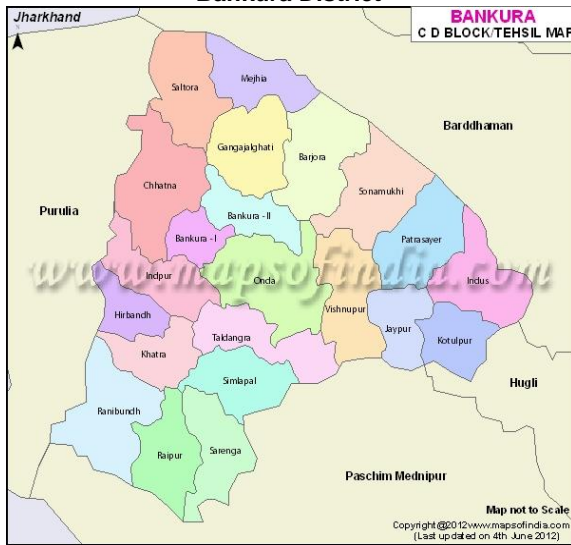
Impact on Income

There is no doubt that the working of microfinance can significantly increase the income of the poor family (Murdoch and Haley, 2002) and improve the living conditions of the rural poor (Chavan and Ram Kumar, 2002).In this chapter we deal with these in the light of the data collected from the study area. To assess the impact of the working of the SHGs on income we have considered the income of 165 SHGs household and 50 Non SHG households who belong to below poverty line.

Though it is very tough to calculate the income of the households by taking information from a single sitting. A rigorous interaction and at the same time a cross checking are needed to find out the accurate amount of income. We have noticed a common tendency among the respondents to hide their income in a fear that excess income will create a chance to earmark them as APL family. Here we try to overcome these problems by doing continuous cross checking in every aspect of income and expenditure items. Considering these limitations we have constructed the income distribution for both the SHGs households and Non SHGs households and their per capita income.

As mentioned earlier in this study have used two indices to measure the poverty. One is report of the expert group under the Chairmanship of Dr. C. Rangarajan submitted in June 2014 and other One is UNDP index. According to the UNDP index, a family whose income per capita per day is less than $1 is a poor family.

According to the expert group under the Chairmanship of Dr. C. Rangarajan submitted in June 2014, monthly per capita consumption expenditure Rs. 934.10 treated as the poverty line for rural West Bengal for 2011-12. Since our survey period is 2013-14, so we inflate Rs. 934.10 year to year, using CPI-$_{RL,}$ as published by ministry of Labour & Employment to get the poverty line for the year 2013-14 and finally we get Rs. 1014.80 per month per capita or Rs. 33.83 per capita per day as the poverty line for rural West Bengal in 2013-14.On the other hand, we consider the average rate 1USD= 61 INR during 2013-14 as the measure of poverty under UNDP Index. Since average family size in our sample for SHG household is 3.84, so Rs. 129.90 per day becomes the average poverty line for the households in our sample in Rangarajan Methodology. Same for the conventional method of UNDP stands at Rs. 234.24. On the other hand, average family size for Non SHG household is 3.83, thus Rs. 129.50 and Rs.233.63 becomes the poverty line according to Rangarajan Methodology & the conventional method respectively for Non SHG household.

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Table-1
Size Distribution of Income of SHG households by Income per Family

Annual Income per family (Rs.)	No. of Household	percentage	Cumulative Percentae
10000-15000	4	2.42	2.42
15000-20000	11	6.67	9.09
20000-25000	18	10.91	20.00
25000-30000	34	20.61	40.60
30000-35000	41	24.85	65.45
35000-40000	23	13.94	79.39
40000-45000	13	7.88	87.27
45000-50000	12	7.27	94.54
50000 & above	9	5.45	100.00
Total	165	100.00	-------

Mean=32836.48, SD=10372.63, CV=31.59

To analyse the impact of microfinance through SHG on poverty and inequality we have considered the family and per capita income of both SHG and Non SHG families. Table 1 depicts the income of SHG households by income per family. From table 1 we see that 20.00 percent households have failed to earn Rs 17.84 per capita per day or Rs.68.50 per family per day. If we increase this per capita per day income limit to Rs.24.97 per capita per day or Rs.95.89 per family per day then 65.45 percent households have failed to cross this income limit. If we further increase the income limit to Rs.32.11 per capita per day or Rs.123.30 per family per day then the above percentage figure has increased to 87.27 percent. If we classify all these households under four categories such as 'absolute poor', 'more poor', 'poor' and 'less poor' then we have seen that the percentage of households under each of the category become 20.00 percent, 45.45 percent, 21.82 percent and 12.73 percent respectively.

If we adopt the conventional method of measuring the households who lie below the poverty line by considering a Dollar per capita per day then a family is needed Rs. 84326.40 per annum . Then we see that not a single household is succeeded to cross the poverty line during the reference period. If, on the other hand, we follow the Rangrajan Methodology then a family is needed Rs. 46764.00 per annum. On the basis of this methodology 16 households in our study area are succeeded to cross the poverty line. That means 90.30 percent households are lying below the poverty line.

Table-2
Size Distribution of Income of Non SHG households by Income per Family

Annual Income per family (Rs.)	No. of Household	percentage	Cumulative Percentage
Upto 10000	7	14.00	14.00
10000-15000	8	16.00	30.00
15000-20000	12	24.00	54.00
20000-25000	10	20.00	74.00
25000-30000	8	16.00	90.00
30000-35000	4	8.00	98.00
35000&above	1	2.00	100.00
Total	50	100.00	-------

Mean=19267.00, SD=8448.47, CV=43.85

We have also constructed the income distribution table of the non-SHG households by income per family as given in Table 2. One can see from this table that around 74.00 percent households have been living in 'absolute poverty', 24.00 percent households have been living in a 'more poor' and only 2.00 percent have been living in 'poor' conditions. What is surprising is that not a single household of this group has succeeded to cross even the income limit of the 'less poor' as per our definition. Not only that, not a single household of this group has succeeded to cross the cut off level of income of poverty line as decided by the UNDP or Rangarajan Committee.

Now we like to examine whether the observed difference in annual average income between SHG and Non-SHG is statistically significant or not. For that purpose we apply Z test.

Null Hypothesis

H_0: $X_1 = X_2$ i.e., there is no significant difference in the average income of SHG households and Non SHG households.

Alternative Hypothesis

H1: X1>X2 i.e. average income of the SHG households is greater than the average income of the Non SHG households.

Table-3
Z-test on annual income differences (SHG & Non SHG households)

Characteristics	Value
X_1	32836.48
X_2	19267.00
n_1	165
n_2	50
SD_1	10372.63
SD_2	8448.47
CV_1	31.59
CV_2	43.85
Calculated Value of Z	9.41
Calculated Value of Z at 1% level of significance	2.33
Null Hypothesis	Rejected

Where,

X_1 = average annual income of the SHG households;

X_2 = average annual income of the non-SHG households.

n_1 = number of SHG households.

n_2 = number of Non-SHG households.

SD_1 = Standard Deviation of Income of the SHG households.

SD_1 = Standard Deviation of Income of the Non- SHG households.

CV_1 = Coefficient of Variation for the income distribution of the SHG households

CV_2 = Coefficient of Variation for the income distribution of the SHG households

Table 3 reveals that the calculated value of Z is greater than the table value at 1% level of

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significant. . Thus the null hypothesis is rejected. It implies that the observed difference in income is statistically highly significant. Thus we can say that the average income of the households of SHGs has increased as a result of working of the SHGs.

The value of the standard deviation of the income distribution of the SHG households is greater in comparison to the standard deviation of income of the non-SHG households. On the other hand, the value of the coefficient of variation for the income distribution of the SHG households is smaller than the value of the coefficient of variation for the income distribution of the non-SHG households. So, we can draw the conclusion that the income distribution of the SHG households is more homogeneous than the income distribution of the non-SHG households.

In order to examine the distribution of income we have also distributed SHG and Non SHG households by income per capita with the traditional assumption that per capita provides a better explanation than the annual income per family to explain the income distribution of two groups. Table 4 & 5 are revealed these distributions.

Table 4
Size Distribution of Income of SHG households by Income per Capita

Annual Income Per Capita in Rs.	No. of Households	P.C.	Cumulative P.C.
Upto 5000	15	9.09	9.09
5000-6000	10	6.06	15.15
6000-7000	20	12.12	27.27
7000-8000	29	17.58	44.85
8000-9000	33	20.00	64.85
9000-10000	15	9.09	73.94
10000-11000	16	9.70	83.64
11000-12000	9	5.45	89.09
12000 & above	18	10.91	100.00
Total	165	100.00	-------

Mean=8554.09, SD=2711.16, CV=31.69

Table 5
Size Distribution of Income of Non-SHG Households by Income Per Capita

Annual Income Per Capita in Rs.	No.of Households	P.C.	Cumulative P.C.
Up to 5000	25	50.00	50.00
5000-6000	9	18.00	68.00
6000-7000	7	14.00	82.00
7000-8000	4	8.00	90.00
8000-9000	2	4.00	94.00
9000-10000	2	4.00	98.00
10000 & above	1	2.00	100.00
Total	50	100.00	-------

Mean=5035.72, SD=2216.91, CV=44.02

One can see from Table 4 that 44.85 percent SHG households of our sample are failed to cross the income limit of Rs 8000.00 per capita per annum. On the other hand, if we increase the per capita income limit up to Rs. 10000.00 per capita per annum then we see that 73.94 percent households are failed to cross this income limit. From table 5 we see that same for the Non SHG Household stands at 90.00 percent and 98.00 respectively.

Here, also we like to examine whether the observed difference in annual average per capita income between SHG and Non-SHG households is statistically significant or not. For that purpose we apply Z test.

Null Hypothesis

H_0: $X_1=X_2$ i.e., there is no significant difference in the average per capita income of SHG households and Non SHG households.

Alternative Hypothesis

H_1: $X_1>X_2$ i.e. average per capita income of the SHG households is greater than the average income of the Non SHG households.

The calculated mean values of per capita income distributions for SHG and non-SHG households are Rs.8554.09 and Rs.5035.72 respectively. Here also the calculated value of Z (9.31) is greater than the table value of Z (2.33) at 1% level of significance. Thus the null hypothesis H_0: $X_1 = X_2$ is rejected. It implies that the observed difference in income is statistically highly significant. Thus the average per capita income of the households of SHGs has increased as a result of working of the SHGs.

However, the smaller value of the standard deviation of the income distribution of the non-SHG households in comparison to the standard deviation of income of the SHG households has permitted us to say that X_2 is more representative mean than X_1. But the value of the coefficient of variation for the income distribution of the SHG households is smaller than the value of the coefficient of variation for the income distribution of the non-SHG households. This has again permitted us to draw the conclusion that the per capita income distribution of the SHG households is more homogeneous than the income distribution of the non-SHG households.

Measure of Poverty

The common measure of over-all poverty is the head-count measure H, which measures the proportion of people who fall below the specified poverty-line income.

$$H= p/n$$

Where, p= the number of people who are identified as being poor.

n= the total population.

Another standard measure is the income-gap ratio I, is used to measure the intensity of poverty. Sen defined it as-

$$I= g/p\pi$$

Where, g= aggregate short-fall of income of all the poor from the specified poverty line.

π=the poverty line

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But the problem is that, the head-count measure H ignores the extent of income short-falls, while the income-gap ratio I ignores the numbers involved. Again, the combination of the two is still inadequate, because if a unit of income is transferred from a person below the poverty line to someone who is richer but still remains the below poverty line, then both the measures H and I will remain completely unaffected. So Sen has given another measure P to capture the Relative Deprivation among the poor.

$$P = H \{I + (1-I) G\}$$

Where, G= Gini coefficient of the distribution of income among the poor.

H=Head-count ratio.

I=Income-gap ratio.

We have used above measures to compare the poverty among the SHG and Non-SHG households using average annual income. As we have mentioned earlier that Rs. 130.58 per day is the average poverty line for the households in our sample using Rangarajan Methodology. We have used this poverty line for the following measures.

Table 6
Different Measure of Poverty

Households	Head Count Ratio(H)	Intensityof Poverty(I)	Gini coefficiet	Measureof Retive Deprivation(P)
SHG	0.90	0.35	0.38	0.54
Non-SHG	1.00	0.59	0.47	0.78

It is obvious from the above table that SHG households are in better position compared to Non SHG households in respect of all measures of poverty. Though 10% SHG households are succeeded to cross the poverty line during our survey period but none of the Non-SHG households succeeded to overcome the poverty line. Again, there is a huge gap in intensity of poverty. While poverty gap ratio for the SHG household is 0.35, it is as high as 0.59 for the Non-SHG households. The value of P as a function of H, I and G is considerably higher for Non-SHG households reflecting higher relative deprivation among them. Thus we can conclude that Self Help Group activities have positive impact in reducing poverty.

Measure of Income Inequality

Income Inequality refers to the extent to which income is distributed in an uneven manner among a population. We have already seen in table 4 that the value of Gini coefficient is higher in case of Non SHG household's income compared to SHG household's income. The diagram-I depicts the fact. We get the same fact in case of per capita income distribution where the value of Gini coefficient is significantly high for Non-SHG households compared to SHG households. The values of the Gini stand at 0.64 and 0.28 for SHG & Non-SHG households respectively. Now to visualize the income inequality we have drawn Lorenz Curve. Lorenz Curve is nothing but the visual representation of the income inequality of a nation graphically.
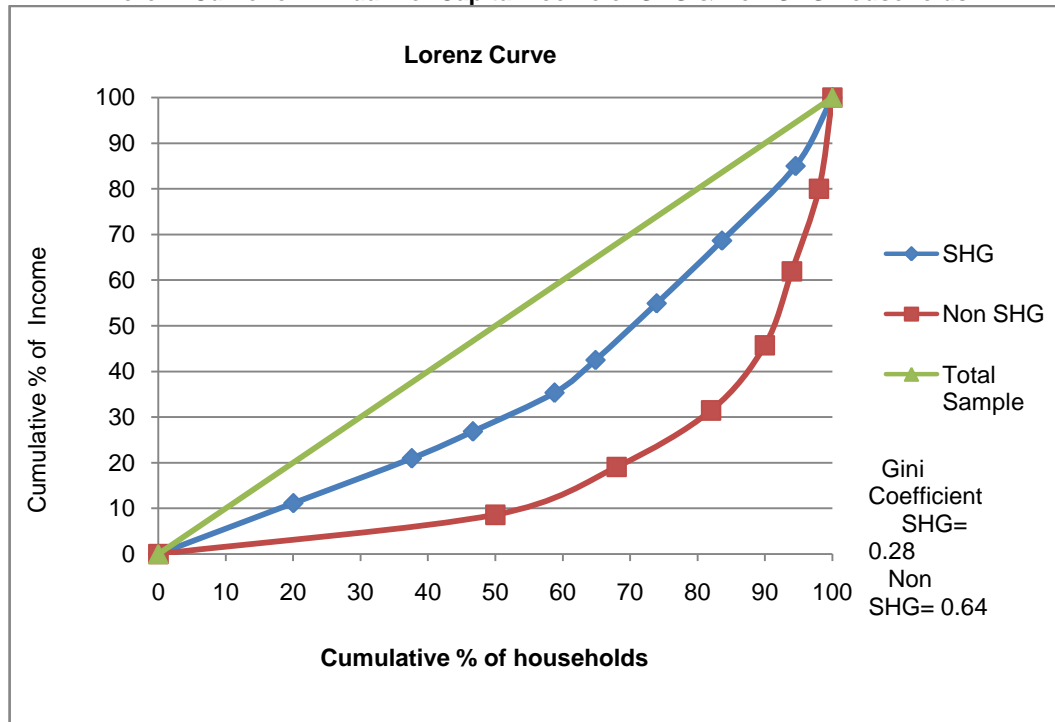
Diagram-1
Lorenz Curve for Annual Family Income of SHG & Non-SHG households

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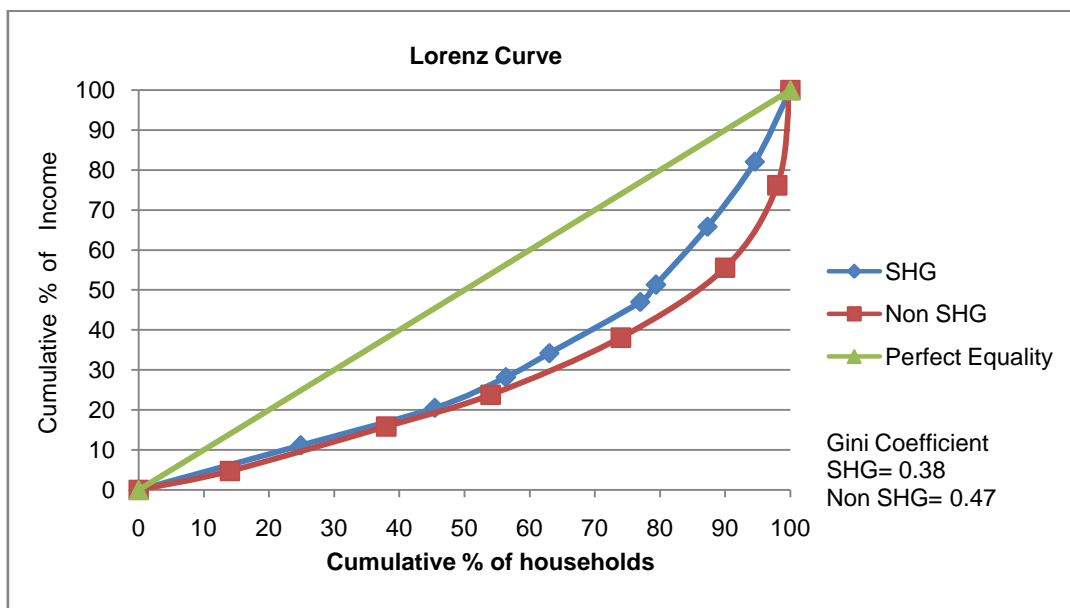
From the above diagrams-1 we see that Lorenz curves for SHGs are closer to the perfect equality curve compared to Non SHG. Here, bottoms 20% of income of SHG households in total sample are shared by around 45% population. If we double the income limit, then we see that bottom 40% of incomes are shared by around 70% of households.

On the other hand, bottom 20% and bottom 40% of incomes of Non SHG households in total sample are shared by around 48% & 77% of the population respectively. Top 20% of incomes are enjoyed by only around 7% and 1% SHG & Non SHG households respectively. Hence, we can conclude that SHG activities have succeeded to bring better distribution of household income compared to Non SHG households.

Diagram-2
Lorenz Curve for Annual Per Capita Income of SHG & Non-SHG households

From diagram-2 it is obvious that distribution of per capita income is more uneven for Non-SHG households compared to SHG household. The value of gini differs significantly and stands at 0.28 and 0.64 for SHG and Non SHG households respectively. While bottom 20% of income is shared by 38% SHG households, in case of Non-SHG households, the same percentage of income is shared by around 70% of the people. On the other hand 8% SHG households enjoy top 20% of income, but in case of Non-SHG the same percentage of income is enjoyed by only 1% households. So the variation in per capita income distribution is higher for Non-SHG households than the SHG households. Thus the curve of Non-SHG households is at a greater distance from the line of equal distribution, than the curve of SHG households. Thus we see that SHG activities bring more equal distribution in annual family income and annual per capita income compared to Non SHG households. Since the maximum number of Non SHG belongs to lower income group, the Lorenz Curve for per capita income distribution becomes more skewed towards bottom portion.

Some Important Findings
1. If we consider the poverty line according to Rangarajan Methodology then we see that 16 SHG households out of 165 (9.70%) are succeeded to cross the poverty line. However, the no of household reduces to zero, if we consider the traditional measure of UNDP.
2. Whatever methodology may we adopt; none of the non SHG households are able to come out from the poverty trap during our period of survey. We get its reflection in head count ratio which stands at 1, shown in table-6.
3. As far as the Intensity of poverty is concerned non SHG households suffer worst. The value of Intensity of poverty Index reaches to 0.59 for Non SHG households and it stands at 0.35 for SHG household which is quite low compared to non SHG households.
4. In case of measure of inequality of distribution of income, the values of Gini coefficients of Non-SHG households are higher for the distribution of both annual family income and annual per capita income compared to SHG households. Thus we see that SHG activities have succeeded to bring more equal distribution in annual family income and annual per

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capita income of SHG households. These facts have been depicted in Diagram-1 & 2.

5. However, the value of relative deprivation index (P) as a function of H, I and G is considerably higher for Non-SHG households reflecting higher relative deprivation among them compared to SHG households.

6. The result of Z test, between annual average family income and per capita income between SHG and Non-SHG households shows that the calculated value of Z is significantly higher than the table value of Z= 2.33 at 1% level of significance. Thus we can say that the income of the households belonging to SHGs has increased considerably as a result of working of the SHGs

Conclusion

From the above analysis it may be concluded that microfinance is one of the most effective methods that helps to deliver of financial services to excluded population and it makes a smooth path of financial inclusion of the rural poor particularly rural women in the study area. So, we recommend for bringing all the BPL and marginally APL households under the safety umbrella of the SHGs. However, as far as the SHG households are concerned the study concluded that the reduction of poverty and inequality is still in process at the moderate level in our study area. The empirical evidence of the study finds that there is variation among the groups regarding their physical & financial achievements. Success or failure story of SHG in a district in all respects depends on the workability of members, Panchayats, government officials, bank officials and SHG promoting institutions. So the responsibility of performance goes to all.There remains an urgent need for facilitation, nursing and hand holding support for the low performing groups. Training workshops must be organised. If the SHGs come up with a finished product; there should be infrastructural support for its marketing. Again, to increase outreach of the banking sector and ensure greater financial inclusion, they should change their traditional method of lending and be innovative.

References
1. Hulme, D & Mosley, P. (1996) Finance against poverty, Routledge, London
2. Mayoux, L (1997) "The Magic Ingredient? "Microfinance and Women's Empowerment", a briefing paper prepared for Micro Credit Summit, Washington
3. Yunus, Md. (1997), Towards Creating a Poverty Free World, Lecture delivered at Institute of Social science, New Delhi.
4. Dadhich C. L. (2001), Microfinance – A panacea for poverty alleviation: A case study of oriental Grameen project in India, Indian Journal of Agriculture Economics, 56(3):419-426
5. Robinson Marguerite (2001) "The Microfinance Revolution", the World Bank, Washington DC.
6. Harper M. (2003), Microfinance Evaluation, Achievement and Challenges, ITDG Publishing, UK, P. 25-26.
7. Swaminathan M. (2007), "The Microcredit Alternative"? Economic & Political Weekly, .XLII (13), March: 1171-1175.
8. Banerjee, Duflo E., Glennerster R., and Kinnan C. (2010). The Miracle of Microfinance? Evidence from a Randomized Evaluation. http:// ipl.econ. duke.edu/bread/abstract.php?Paper=278
9. Sarumathi S. & Mohan K. (2011). "Role of Microfinance in Women's Empowerment: An Empirical study in Pondicherry region rural SHGs", Journal of Management and Science, 1(1): Sep' 2011.
10. Hayes A., R. Amin & S. Becker (1998), Micro Credit and Women Empowerment, Journal of Develop Areas, 32(2):221-236
11. Sinha, F. (2005) "Access, Use and Contribution of Microfinance in India: Finding from a national study" EPW, April 23, 1714-1719.
12. Tripathy, K. K. (2006), Microcredit Intervention and Poverty Alleviation, Kurukshetra, 54(11), September: 3-8.
13. Khandker S.R. (1999), Fighting Poverty with Microcredit: Experience in Bangladesh, Oxford University Press, New York
14. Marcus, R. Porter, B & Harper, C. (1999), Money Matters: Understanding Microfinance Save the children. London
15. Sriram M. S. (2005) Microfinance and the State: Exploring Areas and Structures of Collaboration, Economic and political Weekly, 40(17):1699-1704.
16. Khandker, S. (2005) "Microfinance and Rural poverty, Evidence using panel data from Bangladesh", World Bank Economic Review, 19: 263-286.