



## Impact of Microfinance on Household Income: Evidence from Village Level Study in Orissa

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### ABSTRACT

This studies, the impact of microfinance interventions on the income of rural households in orissa. A stratified random sampling technique was employed to select households from four districts in the state of Orissa. The sample households were further classified into two groups according to their livelihood patterns: agriculture & allied activity and micro-enterprise & trading activity. A comparison between the target group of households participating in microfinance programs and a control group was carried out by a univariate z-test and by multiple regression analysis. The inequality in income distribution was analysed in terms of the Gini coefficient and the Lorenz curve. The study provides strong evidence of the positive effect of microfinance programs on the income of the participating households.

**KEYWORD:** Microfinance, Household income, Microenterprise, Gini coefficient

### INTRODUCTION:-

Microfinance has become a widely accepted and effective poverty-alleviation instrument for capital-deficient people in developing countries. . It is a major developmental intervention for income generation and poverty alleviation in rural India. Many impact assessment studies of microfinance programs have been conducted in India, and the researchers have arrived at the conclusion that programs based on the Self-Help Group (SHG) have a positive effect on the socio-economic development of the poor.

Microfinance interventions thus cannot be universally accepted as a tool for income improvement and poverty alleviation. While the ongoing impact-assessment research has made an important contribution to understanding the complex interactions between microfinance interventions and the various dimensions of poverty reduction, there remains a considerable gap in the

potential contribution of various micro-geographical and locational researches, which differ in methodology, scale, and magnitude. In this study we have made an attempt to measure the impact of microfinance interventions on the income of rural households in the state of Orissa in India.

Most of people in developing countries derive their incomes from the informal sector, thus the need for good financial mechanisms to support wealth creation and financial services in this sector.

Microfinance promotes not only credit, but also inculcates savings that accumulate assets for poor people and benefit country reserves. A low saving rate is one of the serious resource constraints developing countries face. "With low domestic saving there are limited possibilities for indigenous private investment".

Microfinance can support voluntary approaches to empower "women with skills, literacy, numeracy, and economic rights to engage in off-farm employment".

"To improve women's economic opportunities, governments need to guarantee women effective and independent property ownership and access to security rights, especially land and housing, both in law and in practice". Women's rights to own and accumulate assets are enhanced by their access to financial tools, such as microfinance, for housing renovation and development. Furthermore, property rights can impact women's ability to leverage their assets through credit and invest in opportunities to grow their wealth.

Microfinance can contribute to financing health initiatives and create wealth for low-income people so that they can afford health services. Healthy clients also reduce credit risk.

Microfinance is critical to upgrading health services though savings, loans and insurance products for poor people; and by investing in professional medical entrepreneurs. "Care International, working in more than 70 countries, reaches 45 million people with emergency and humanitarian relief efforts in addition to longer term primary healthcare,

education, savings and loan schemes, and agriculture programs. Such efforts can be hugely important for achieving the broad range of health MDGs”

In view of above prospective a study on “Impact of Micro Finance on Development : Evidence from Orissa State” was undertaken with following objectives.

**Objectives**

- i. To study the Socio-economic profile of sample households.
- ii. To compare the household income between target and control group.
- III. To suggest policy measures based on findings of the study.

**METHODOLOGY;-**

The research was conducted using primary information collected in a field survey. A multi-stage stratified random sampling method was applied to construct a cross-section of 160 households, which were interviewed using a pre-tested, structured household schedule. In the first sampling state, 2 districts were randomly selected in the state of Orissa. These two districts represented two different regions i.e. the coastal region and the western region of the state. In the second stage 4 blocks from each district were randomly selected. In the third stage, two villages with ongoing microfinance programs were randomly selected from each block, giving a total of 8 villages. Finally, in the fourth stage, 10 households were selected from each village; 5 households for the target group were selected. In total the study sample included 160 households in 16 villages: 80 households in the target group and 80 households in the control group from 40 villages

The sample households were accordingly stratified by two livelihood patterns; (i) agriculture & allied activities and (ii) micro-enterprise & trading activities. Households with primary occupation in crop and livestock farming were put under agriculture & allied activity; households with primary occupation in trade and micro-enterprise, such as pottery, blacksmiths, handicrafts, retail stores, food grain trading etc., were put under micro-enterprise & trading activity. In total, there were 160 sample households each for agriculture & allied activities. In total, there were 40 sample households each for agriculture & allied activities and for micro-enterprise & trading activities (20 in the target group and 20 in the control group for each activity category).

**RESULTS AND DISCUSSION;**

The results derived from the analysis of the data related to the various aspect of the present study are critically discussed in this chapter. The results and interpretation are depicted under following segments.

- 1 Socio-economic profile of sample households
- 2 Comparison of household income between target and control group
- 3 Policy measures

**SOCIO-ECONOMIC PROFILE OF SAMPLE HOUSEHOLDS**

An analysis of basic characteristics of the sample households is considered to be significant as it provides relevant background information against which the analysis is to be attempted. The detailed socio-economic profile and structure of the sample households according to the farm size groups have been discussed.

**Age of the sample farmers**

The distribution of sample Loan holders across the age (**Table-1**) reveals that in case of loan beneficiary 53.75 per cent are in the age group of 20-35 years as compared to 32.5 percent in 36-50 years age and 13.75 per cent above 50 years age group. The study includes 160 farmers as the sample for the study. It indicates that majority of the sample farmers are below 50 years age and are expected to have better managerial ability.

**Table 1:Age of the Respondent**

Age group	Crop loan	
	No. of person	Percentage
Less than 20 years	0	0
20-35	86	53.75
36-50	52	32.5
Above 50 years	22	13.75
<b>Total</b>	<b>160</b>	<b>100</b>

Source: Field Study

**Education of the Sample farmers**

Majority of the respondents in the sample had school education (60 per cent). 25 out of 80 respondents had formal education (**Table-2**). Majority of the respondents (83.75 per cent) have formal education as against 16.25 per cent not having any formal education. It is envisaged that higher the level of education, the transaction would be easier for the loan holders.

**Table 2: Education of the Sample Farmers**

Educational qualification	Crop Loan	
	No. of person	Percentage
No formal education	26	16.25
School education	96	60
Degree and above	38	23.75
<b>Total</b>	<b>160</b>	<b>100</b>

Source: Field Study

**COMPARISON OF HOUSEHOLD INCOME BETWEEN TARGET AND CONTROL GROUP**

Participation in microfinance programs was observed to have a statistically significant effect on household income. The household income in the target group was found to be 26.31% higher than in the control group<sup>5</sup> (the difference was statistically significant at 1% by z-test).

The household income in the target group showed less variation than that in the control group, as is evident from the coefficients of variation presented in parentheses in

**Table 3**

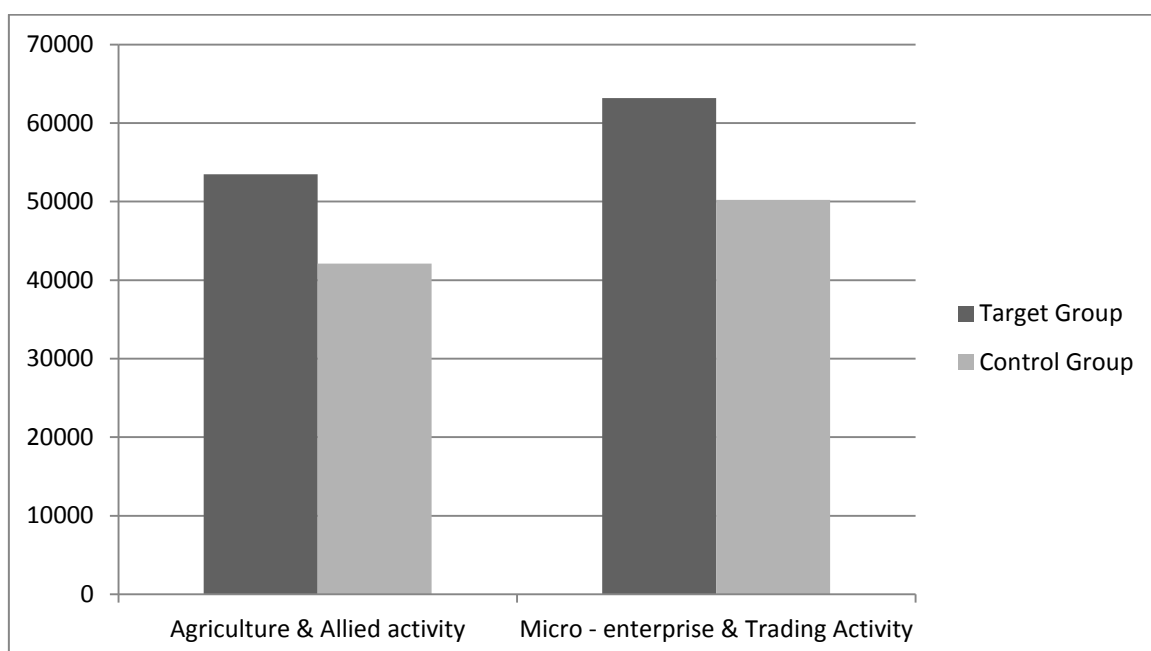
**Table-3 : Comparison of household income between target and control group**

Occupation	Number of observations in each group	Average annual income per households (rupees)		Percentage difference over control group	z-value
		Target group	Control group		
Total sample	160	58,215 (28.7)	46,087 (35.9)	26.31***	10.38
Agriculture & allied activity	80	53,468 (30.5)	42,106 (38.7)	26.98***	6.98
Micro-enterprise & trading activities	80	63,172 (25.2)	50,216 (31.8)	25.79***	8.14

\*\*\*Significant as 1 per cent level.

Figures in parentheses represent the coefficient of variation.

**Figure-1 : Annual household income in the target and control group by occupational activity**



A significant impact of participation in microfinance programs was observed (for each of the two occupational patterns present in the sample agriculture & allied activity and micro-enterprise & trading activity (Table 3, Figure-1). The income achieved by the households in the target group was 26.98% higher than the control group income for agriculture & allied activity (statistically significant) and 25.79% higher than for the micro-enterprise & trading activity (statistically significant). Household income in the target group showed less variability (as measured by the coefficient of variation) than that in the control group for both occupational patterns . Overall, the household income in the agriculture & allied activity group was found to be lower than (Table 3)the micro-enterprise & trading activity group. This occupation effect was observed irrespective of the participation in microfinance programs (Table 3, Figure1).

Inequality in household-income distribution in the target group and the control group was analysed using the

Gini coefficient (Table 5) and the Lorenz curve .The Gini coefficient of the target group was lower than that of the control group (0.15 and 0.20 respectively), suggesting greater equality in the distribution of household income in the target group. However, the differences in the Gini coefficient between the target and the control group were slight and the Lorenz curve of the target group practically overlapped that of the control group .

**Table 4: Comparison of household income between agriculture & allied activity and micro-enterprise & trading activity in target and control group**

This finding points to a weak (though positive) impact of the microfinance interventions on producing more equality in income distribution among the beneficiary households. The suggestion of greater equality in income distribution due to microfinance interventions is observed in the Gini coefficients of both occupational activity groups (Table 5).

**Table 4:- Comparison of household income between agriculture & allied activity and micro-enterprise & trading activity in target and control group**

Study group	Micro-enterprise & trading activity n = 80	Agriculture & allied activity n =80	Percentage difference over agriculture & allied activity
Target group	63,172	53,468	18.15**
Control group	50,216	42,106	19.26**

\*\*Significant at 5 per cent level.

**Table 5: Gini coefficient of annual income distribution for target and control groups by occupational activity**

Study group	Number of observations in each group	Sample Gini coefficient	
		Target group	Control group
Total sample	80	0.15	0.20
Agriculture & allied activity	40	0.16	0.21
Micro-enterprise & trading activity	40	0.13	0.18

The univariate z-test results presented above were strengthened by a multiple regression analysis, with annual household income (in rupees) as the dependent variable. Four explanatory variables were used in the regression: (i) participation in a group-based microfinance program (a binary 1-0 variable), (ii) number of literates in the household, (iii) number of family members, and (iv) the value of the assets in the household (in rupees). The regression was run for the entire sample (160observations) and also for each occupational activity separately (80observations for each activity category).

**Table 6: Multiple regression results using annual household income (in rupees) as the dependent variable**

Sl. No.	Predictors	Total sample (n=160)		Agriculture & allied activity (n=80)		Micro-enterprise & trading activity (n=80)	
		Coefficient	t-ratio	Coefficient	t-ratio	Coefficient	t-ratio
1	Constant	25200.4***	8.40	27049.2***	5.92	29288.4***	8.88
2	Participation	9760.8***	8.12	1349.5***	5.59	5547.2***	7.72

	group-based microfinance program (binary variable) 1-0						
3	Number of literates	2627.7***	4.25	5259.9***	6.82	3321.3***	7.23
4	Value of assets (rupees)	0.02953***	7.07	0.02928***	5.12	0.06388***	6.43
5	Number of family members	758.1	1.50	557.5	0.89	726.5**	1.89
	R-square	0.82		0.84		0.93	

\*\*\*Significant at 1% level, \*\*Significant at 5% level

The multiple regression estimates are presented in **Table-6**. The participation in microfinance programs is seen to have a positive effect on the annual household income for the total sample and for each activity group separately-agriculture & allied activity and micro-enterprise & trading activity. This is evident from the highly significant positive coefficient of the corresponding explanatory variable in line 2 of Table 6. Participation in microfinance programs was one of the factors contributing to higher household income and thus leading to poverty alleviation. Both the literacy status and the value of assets (endogenous variables) controlled by the household also significantly determine the household income.

#### POLICY MEASURES

The Indian microfinance sector is expected to grow nearly ten times by 2011 to a size of about Rs250 billion from the current market size of Rs27 billion, at a compounded annual growth rate of 76%. Microfinance in India started evolving in the early 1980s with the formation of informal Self Help Group (SHG) for providing access to financial services to the needy people who are deprived of credit facilities. One of the fastest growing sectors of India, microfinance is spearheading intense competition among the largest players. Microfinance institutions at present serve an estimated 120 million clients in the world. By the end of March 2007, microfinance institutions expanded their outreach to 50 million households and about 36.8 million borrowers. The microfinance institutions are organised under three models: SHG, Grameen model/Joint liability groups and Individual banking groups as in cooperatives.

- Indian microfinance market is dominated by SHG bank linkage and MFI model. So Government should active to increase the formation of SHG group .

- The present study found strong evidence of income enhancement in households participating in microfinance programs, but the microfinance interventions did not have a significant impact on the equality of income distribution. The donors and policy makers should therefore place greater emphasis on the equality of income distribution in the design of microfinance programs, as otherwise the effect of higher income combined with unchanged inequality of income distribution would create distinct income classes among the beneficiaries. Regional differences in the impact of microfinance programs on household income were observed in this study, and policy makers and donors should ensure equal application of microfinance programs across all regions.

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