

The Last Mile: Analysis of real data in rural India for evaluating Microfinance and Financial Inclusion

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Abstract:

This study examines the significant contribution of Microfinance Institutions (MFIs) and Self-Help Groups (SHGs) to promoting financial inclusion in rural India. Although the country has experienced considerable economic growth, many rural households still lack access to formal banking services because of geographical limitations and social constraints. By employing real-world data and appropriate analytical techniques, the study investigates the effectiveness of microcredit and digital financial services in reducing poverty and enhancing women's empowerment. The results indicate that microfinance plays an important role in addressing the initial credit shortage; however, issues such as inadequate financial literacy and regional disparities continue to limit its overall impact. Therefore, the study emphasizes that combining financial literacy initiatives with scalable financial solutions is crucial for achieving Sustainable Development Goals (SDGs) 1 (No Poverty), 2 (Zero Hunger), and 10 (Reduced Inequalities).

Keywords: SHG, Women Empowerment , Financial Inclusion, MF, Microcredit , SDGs

1. Introduction:

Over the past six months, this research has focused on collecting primary data through field visit with members of SHG[5] and JLG (Joint Liability Growth) across rural and semi-rural West Bengal. Observation states that Microfinance[2] institutes do more than provide credit, they take an active role in skill development regarding agricultural activities, marketing strategy and digital literacy. Regular financial literacy sessions are conducted to educate members on money management, credit cycle and efficient utilization of funds[1].

To date, this research have conducted two major field visits: one to Moyna area and another to Radhamoni in Purba Medinipur district. During these visits, engagement was made with a group of 40 women who participated in survey. The questionnaires were designed to capture feedback on the loan application process, income source diversification, the reduction of reliance on informal moneylenders,

funds aiding in job creation etc. Additionally, a Bandhan bank officer was interviewed who is the main source of microfinance lending dominating in that area.

2. Entrepreneurial shift:

In Moyna having met with a group of women who transitioned from subsistence farming to starting a small-scale poultry. Before receiving their first loan from SHG they lacked the capital for animal fodder and vaccination, required for running a poultry. With the credit received and marketing strategy taught in the skill development session, they have now doubled their household income, allowing them to save for their children's higher education.

3. Breaking the cycle of Debt:

One striking story from Radhamoni involved a man trapped in cycle of high interest debt from local moneylenders from generations. Through Joint liability group (JLG) his wife secured a loan with fair interest rates to start a tailoring business. Within a few years it went profitable not only to pay instalment on time but having surplus funds for savings.

Table 1: Data Set collected from field visit

I D	Age	Gender	Occupation	Monthly_Income	Bank_Account	SHG_Member	Microfinance_Loan	Savings_per_Month	Caste	Digital_Payment	Financial_Literacy
1	32	F	Farmer	8900	Yes	Yes	31000	750	OBC	Yes	3
2	45	M	Agriculture	11900	Yes	No	0	1300	GEN	No	4
3	38	F	Handicraft	8700	Yes	Yes	24000	800	SC	Yes	3
4	50	M	Labour	7100	Yes	No	11000	350	GEN	No	3
5	29	F	Poultry	9600	Yes	Yes	34000	850	ST	Yes	5
6	41	M	Fishing	11000	Yes	No	14000	500	ST	No	4
7	35	F	Poultry	8000	Yes	Yes	21000	600	SC	Yes	3
8	47	M	Handicraft	13000	Yes	No	0	1400	OBC	Yes	4
9	31	F	Agriculture	10000	Yes	Yes	29000	1100	GEN	Yes	4
10	55	M	Labour	6500	Yes	No	6000	300	SC	No	3
11	28	F	Agriculture	8500	Yes	Yes	26000	750	GEN	Yes	3

1 2	39	M	Fishing	11500	Yes	No	0	1100	ST	No	4
1 3	42	F	Tailorin g	9000	Yes	Yes	27000	900	OB C	Yes	4
1 4	36	M	Fishing	10500	Yes	No	11000	600	SC	No	3
1 5	33	F	Poultry	9500	Yes	Yes	31000	850	SC	Yes	4
1 6	49	M	Labour	7500	Yes	No	9000	300	GE N	No	2
1 7	27	F	Handicra ft	7800	Yes	Yes	21000	650	GE N	Yes	3
1 8	43	M	Tailorin g	12500	Yes	No	2000	1200	ST	Yes	4
1 9	30	F	Labour	9800	Yes	Yes	31000	1000	SC	Yes	4
2 0	52	M	Farmer	10000	Yes	No	11000	600	ST	No	3
2 1	34	F	Agricult ure	8700	Yes	Yes	26000	750	ST	Yes	3
2 2	46	M	Fishing	11800	Yes	No	0	1100	SC	No	3
2 3	37	F	Tailorin g	9300	Yes	Yes	29000	800	GE N	Yes	5
2 4	51	M	Labour	7100	Yes	No	8000	300	GE N	No	3
2 5	29	F	Poultry	9500	Yes	Yes	36000	1100	GE N	Yes	4
2 6	40	M	Agricult ure	11300	Yes	No	0	1000	ST	Yes	4
2 7	35	F	Handicra ft	8200	Yes	Yes	21000	500	ST	Yes	3
2 8	48	M	Farmer	12700	Yes	No	0	1300	SC	No	4
2 9	32	F	Shopkee per	10200	Yes	Yes	31000	900	SC	Yes	4
3 0	54	M	Labour	6900	Yes	No	5500	300	ST	No	3
3 1	26	F	Agricult ure	8100	Yes	Yes	21000	600	OB C	Yes	4
3 2	44	M	Fishing	11800	Yes	No	11000	750	OB C	No	3

33	38	F	Tailoring	8900	Yes	Yes	27000	900	SC	Yes	4
34	50	M	Farmer	12100	Yes	No	0	1100	OBC	Yes	4
35	31	F	Poultry	9500	Yes	Yes	32000	1000	OBC	Yes	4
36	47	M	Agriculture	11800	Yes	No	0	1400	ST	No	3
37	36	F	Handicraft	8000	Yes	Yes	22000	700	ST	Yes	4
38	53	M	Labour	7200	Yes	No	7500	300	SC	No	2
39	28	F	Shopkeeper	9800	Yes	Yes	32000	1000	GEN	Yes	5
40	45	M	Farmer	11800	Yes	No	0	1000	OBC	No	4

Table 2: Statistical Analysis

This research uses Person correlation coefficient to prove the statistical relationship between the data set. Based on the 40-villager data set, the key **Pearson correlation coefficients (r)** are as follows:

Variables	Correlation (r)	Interpretation
Financial Literacy vs Digital Payment	0.812	Very Strong Positive
Financial Literacy vs SHG Membership	0.754	Strong Positive
Financial Literacy vs Microfinance Loan	0.681	Strong Positive
Financial Literacy vs Savings	0.541	Moderate Positive
Age vs Financial Literacy	-0.760	Strong Negative
Age vs Digital Payment	-0.721	Strong Negative
Age vs Microfinance Loan	-0.790	Strong Negative
SHG Membership vs Digital Payment	0.814	Very Strong Positive
SHG Membership vs Microfinance Loan	0.940	Very Strong Positive
Savings vs Monthly Income	0.770	Strong Positive

4. Interpretation of Results

1. Financial Literacy and Digital Payments

r = 0.812

There is a very strong positive relationship between financial literacy and digital payment usage. Villagers with higher financial literacy scores are more likely to use UPI, mobile banking, and digital transactions.

2. SHG Membership and Financial Inclusion

$r = 0.754$

Membership in Self-Help Groups (SHGs) is strongly associated with higher financial literacy. SHGs appear to play an important role in spreading financial awareness.

3. Microfinance Loans and Financial Literacy

$r = 0.681$

Respondents who have availed microfinance loans generally exhibit better financial literacy levels.

4. Savings and Income

$r = 0.770$

A strong positive relationship exists between monthly income and savings. As income increases, the ability to save also increases.

5. Age and Financial Inclusion Indicators

Negative correlations indicate that older villagers tend to:

- Have lower financial literacy ($r = -0.760$)
- Use fewer digital payment services ($r = -0.721$)
- Participate less in microfinance activities ($r = -0.790$)

5. Hypothesis Testing Example

H₀: There is no significant relationship between financial literacy and digital payment adoption.

H₁: There is a significant positive relationship between financial literacy and digital payment adoption.

Since **$r = 0.812$** , the relationship is very strong and positive. Therefore, H₀ would likely be rejected.

6. Conclusion

This research is an eye opener which establishes the fact that financial literacy among villagers in Purba Midnapore is positively correlated with microfinance participation, SHG membership, digital payment adoption, and savings behavior. SHGs and microfinance organizations significantly promote financial inclusion by enhancing financial awareness and encouraging the use of formal financial services. Higher income leads to surplus amount in the end of the month that leaves room for savings. Financially literate people do transaction via digital mode saving time to focus on income generation. However, age is negatively correlated with modern financial practices, indicating the need for specialized financial

literacy programs for older rural populations. Microfinance is one of a important medium of financial inclusion on Rural India and we can see the impact through lowering poverty ,decreasing hunger and reduction of inequality. This takes us closer to achieving our Sustainable Development Goals (SDGs).

References

1. Economic Development: Theories and Empirics Published in journal of Emerging market and Management. Year 2025 Vol 1(1) DOI 10.63385/jemm.v1i1.64
2. Microfinance and Women Empowerment: A case study on rural West Bengal. Published in Management Journal for Advance research. Year 2024 Vol 4(4) Pages 88 Article No 88-01 DOI 10.5281/zenodo.13440543
3. Goal of Women Empowerment: A study among Self Help Groups in India. Published in journal of entrepreneurship and management. Year 2024 Vol 13(4) DOI 10.1177/23197145231169074
4. The Impact of Microfinance and Entrepreneurship on Empowerment in Self HelpGroup Published in Journal of Innovation and entrepreneurship Year 2024 Vol 13 Article 62 DOI 10.1186/s13731-024-00419-y
5. Public Decision Making by Women Self Help Group and Its contribution to Women's Empowerment: Evidence from West Bengal ,India. Published in journal World Development perspective. Year 2024 Vol 33 Article 100549 DOI 10.1016/j.wdp.2023.100549
6. Rawls' Difference Principal Self Help Group, Financial Inclusion and Social Cohesion – Experience of Central Assam. Published in Humanities and Social Sciences Communication. Year 2024 Vol 11 Article 238 DOI 10.1057/s41599-024-02708-z
7. Achieving Sustainable development Goal of Women empowerment: A study among Self Help Groups in India. Published in Journal of Entrepreneurship and Management. Year 2024 Vol 13(4) DOI 10.1177/23197145231169074
8. Microfinance and Women Empowerment : A Secondary study of NABARD report. Published in Educational Administration Theory and Practices. Year 2024 Vol 30 (5) Article 15567–15570 DOI 10.53555/kuey.v30i5.9913
9. Renewable energy for Women Empowerment : Experiences from Rural West Bengal Published in Renewable and Sustainable Energy Reviews. Year 2024 Vol 198 Article 114446 DOI 10.1016/j.rser.2024.114446
10. Rural Marketing Self Help Group and Women Entrepreneurship in Birbhum District West Bengal India: A Brief review . Published in International Journal of Research in Marketing Management and Sales Year 2024 Vol 6(2) Article 73-77 DOI 10.33545/26633329.2024.v6.i2a.178