

Measuring Access of Microfinance on Poverty in India: Towards A Comprehensive Index

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Abstract

The outreach of microfinance programme is considered to be a means to enhance the economic well-being among the member households through poverty alleviation. A wide cross-country variation in the outreach of microfinance programme to the poor households is observed in the world. Despite the significant growth of microfinance institutions and its active borrowers, the penetration of microfinance lending services to the poor households in India is observed to be limited. In addition, there is a wide inter-state disparity in the achievement of microfinance outreach in India especially among the poor households. A composite index has been constructed using the penetration, availability and usage indicators of microfinance outreach to examine the interstate variations in the level of its achievement. Subsequently, attempt has been made to analyse the role of microfinance in alleviating poverty across the states of India. The result shows that out of 27 states and Union Territories, only in seven states (Kerala, Andhra Pradesh, Tamil Nadu, Goa, Himachal Pradesh, Tripura, and Karnataka) outreach of microfinance programme has made a significant impact on the reduction of poverty.

JEL Classification: G21, I32, O16, J16.

Keywords: Financial Inclusion, Microfinance, Poverty, Index of Microfinance Outreach Among the Poor Households, Asia, India

1. Introduction

Microfinance programmes are known as a well-designed institutional innovation to ensure a substantial flow of credit to collateral poor households, who were often been excluded by the conventional financial institutions. The potentiality of such programmes in enlarging the opportunity of rural poor is conditioned

upon its linkages to the poverty alleviation. It is widely believed that microfinance programme is not a panacea to alleviate poverty from grass root level. The programme is considered only as a means and not an end. However, it can be argued that microfinance intervention expand the access to resources, increase self-employment opportunities and thereby, reduce poverty, provided a proper government initiatives are taken in the direction of social mobilisation, capital formation, capacity building and pro-poor programme design (Burra *et al*, 2005). Without an effective intervention in a pro-poor macro policy environment, no such micro-policy intervention can be successful in alleviating poverty. A well targeted microfinance programme can address gender-specific poverty by expanding economic opportunities to women. In fact, it can be argued that outreach of microfinance programme is one of the anti-poverty measures that could avoid the problem of wrong targeting and promote the empowerment of rural women (Devi *et al*, 2011). It is expected that microfinance programme will make them realize about their potentiality which remain unexplored in case of women living below the poverty line. Any effort to unveil the untapped potentiality will inculcate leadership potentiality of women which has a far reaching impact on reducing the feminisation of poverty.

Microfinance programmes in Asia and Pacific countries are found to be successful in extending the services to the poorest and women sections of the population. In these continents, nearly 62 percent of the members covered under such programmes are considered as poor women (Maes & Reed, 2012). Historically, Bangladesh dominates among the countries of South Asia in terms of microfinance outreach and share of total borrowers. The Grammen Bank of Bangladesh is a well known people's

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Table 1: Progress Under SHG-Bank Linkage

Year	New SHGs Financed by Banks			Bank Loan**		
	During the Year			Outstanding as on 31 March 2011		
	No.(lakh)	Amount (Rs.crore)	Growth (%)	No.(lakh)	Amount (Rs.crore)	Growth (%)
2002-03	2,55,882	1,022.34	87.00	7,17,360	2,048.68	
2003-04	3,61,731	1,855.53	81.50	10,79,091	3,904.21	90.57
2004-05	5,39,365	2,994.25	61.37	16,18,456	6,898.46	76.69
2005-06	6,20,109	4,499.09	50.26	22,38,565	11,397.55	65.22
2006-07	11,05,749*	6570.39	--	28,94,000 @	12,366.49	--
2007-08	12,27,770*	8849.26	34.68	36,26,000	16,999.90	37.47
2008-09	16,09,586*	12,256.51	38.50	42,24,000	22,679.85	33.41
2009-10	15,87,000	14,453.30	17.92	48,52,000	28,038.28	23.62
2010-11	11,96,000	14,547.73	0.65	47,87,000	31221.17	11.35

Source: National Bank for Agriculture and Rural Development (NABARD), as mentioned in Economic Survey, 2011-12.

Note: * Include existing SHGs also, which were provided repeat bank loan.

** Includes repeat loans to existing SHGs.

@ from 2006-07 onwards, data in respect of number of SHGs financed by banks and bank loans are inclusive of SHGs financed under the Swarnajayanti Gram Swarozgar Yojana (SGSY) and the existing groups receiving repeat loans. Owing to this change, NABARD discontinued compilation of data on cumulative basis from 2006-07, as such data from 2006-07 onwards are not comparable with the data of the previous years.

institution for the poor women promoting small scale production by extending microcredit. Taking lessons from Bangladesh, microfinance programme has been emerging in a big way in India. In fact, India has achieved a considerable success in expanding the outreach of microfinance institutions to promote socio-economic development of the poor households. Microfinance as an instrument of doorstep financial access to the poor is performing well in southern region and it is followed by central, northern, north-eastern and eastern regions in India. Under this backdrop, an attempt has been made in the study to explore the inter-state variations in the extent of microfinance outreach among the poor households in India by constructing a comprehensive index of microfinance outreach encompassing penetration, availability and usage indicators. For convenience, the paper is divided into seven sections. The next section examines the extent of microfinance outreach of different states of India among the poor households. Section 3 develops the methodological aspects relating to the construction of an Index of Microfinance Outreach among the Poor Households (IMOP) and the empirical results and discussion in the context of India is presented in Section 4. The concluding remarks and policy implications appear in section 5.

2. Microfinance Penetration across States of India

The outreach of microfinance programme could play a significant role in facilitating financial inclusion, as they are uniquely positioned in reaching to the rural poor (NABARD, 2008). In India, SHG-Bank Linkage Programme (SBLP) has emerged as the predominant model of microfinance programme, even if there are other different models for extending microfinance in the country. The programme is being implemented by the commercial bank, RRBs and cooperative banks. The cumulative progress of SBLP has been shown in Table 1. The performance of the programme in outreaching its services has significantly scaled up subsequently during the period of study. The growth rate in the disbursement and outstanding of loan are observed to be positive in all time periods. However, a deceleration trend is observed in the formation of new SHGs financed by the bank from 2009-10. The number of new SHGs financed by banks decreased from 15,87,000 as on 2009-10 as against 11,96,000 SHGs in 2010-11, registering a decline of around 24.64 percent. Moreover, 47.87 lakh SHGs had outstanding bank loans of Rs. 31,221 crore in 2011, as against 48.5 lakh SHGs with bank loans of 28,038 crore as on 31 March 2010.

TABLE 2: Ranking of the States on the Basis of Indicators of Microfinance Outreach

State	SHG Members	Number of poor	Number of Population	Member/Pop	Rank	Member/Poor	Rank
Kerala	8160589	3960000	33387677	24.44	1	206.08	1
Tamil Nadu	14662198	12180000	72138958	20.32	3	120.38	2
Andhra Pradesh	17324941	17660000	84665533	20.46	2	98.10	3
Himachal Pradesh	571780	640000	6856509	8.34	10	89.34	4
Goa	102759	130000	1457723	7.05	12	79.05	5
Sikkim	58505	80000	607688	9.63	7	73.13	6
Tripura	396460	630000	3671032	10.80	6	62.93	7
Karnataka	8495947	14230000	61130704	13.90	5	59.70	8
Odisha	6103747	15320000	41947358	14.55	4	39.84	9
Maharashtra	10195377	27080000	112372972	9.07	9	37.65	10
West Bengal	7547997	24030000	91347736	8.26	11	31.41	11
Meghalaya	151563	490000	2964007	5.11	17	30.93	12
Nagaland	107971	410000	1980602	5.45	16	26.33	13
Assam	2922831	11640000	31169272	9.38	8	25.11	14
Arunachal Pradesh	83924	350000	1382611	6.07	13	23.98	15
Uttarakhand	392863	1790000	10116752	3.88	21	21.95	16
Mizoram	49904	230000	1091014	4.57	18	21.70	17
Gujarat	2406341	13620000	60383628	3.99	20	17.67	18
Rajasthan	2934042	16700000	68621012	4.28	19	17.57	19
Chhattisgarh	1540414	12190000	25540196	6.03	14	12.64	20
Manipur	157887	1250000	2721756	5.80	15	12.63	21
Punjab	452249	4350000	27704236	1.63	27	10.40	22
Haryana	487725	5000000	25353081	1.92	26	9.75	23
Jharkhand	1099360	12620000	32966238	3.33	22	8.71	24
Uttar Pradesh	5355188	73790000	199581477	2.68	24	7.26	25
Madhya Pradesh	1729076	26180000	72597565	2.38	25	6.60	26
Bihar	3435027	54350000	103804637	3.31	23	6.32	27
Jammu and Kashmir	64622	1150000	12548926	0.51	28	5.62	28
New Delhi	43554	2330000	16753235	0.26	29	1.87	29
India	97034841	354380000	1206864135	8.04	--	27.38	--

Source: Author's calculation based on Status of Microfinance in India (NABARD, 2012), Census 2011 and Poverty Estimates of Planning Commission, 2009-10 (Government of India, 2012).

This represents a decline of 1.3 percent in the number of SHGs and a growth of 11.4 percent in bank loans outstanding to SHGs (Government of India, 2012). The programme of SBLP is specially designed to cater the needs of women section of the population. It has been seen that around 80 percent of the SHGs linked were exclusive women SHGs and their share in the disbursement of loan is around 85.73 percent.

In this process of bank linkage programme, the role of Self Help Promoting Institutions (SHPIs) is crucial in the formation and nurturing of groups. These institutions are mainly consists of NGOs, rural clubs, Government agencies and individual 'volunteer' promoters. However, the outreach of the SHG-Bank linkage programme is much widespread in southern region. In the southern region, specifically Kerala and Tamil Nadu, more than 100

percent of the poor households have been covered under microfinance programme¹ (Table 2). The exceptionally high percentage may be due to the multiple membership of the same person in alternative financial institutions, viz., public sector banks, private sector banks, RRBs and cooperative banks. Out of 29 States and Union Territories in India, another ten states have been able to outreach its microfinance services to poor households above the national average of 27.38 percent. Remaining seventeen states have experienced as worst performer in including the poor section of the population under microfinance network and lying below the national average. The slow progress of microfinance outreach in the north-eastern and central parts of the country is a major concern in achieving financial inclusion through microfinance programme.

3. Towards Evolving a Comprehensive Index

Several indicators have been used in the literature to measure the level of microfinance outreach and its variations across the regions. These measures can broadly be divided into two categories; one based on the supply side indicators such as number of microfinance accounts (per 1000 adult population), number of microfinance institutions (per million people) etc. and the other is based on demand side indicators of microfinance outreach, such as the amount of micro-savings, micro-insurance, remittance, and outstanding credit. However, the measure of microfinance outreach based on either demand or supply side indicators provide only partial information on the level and extent of microfinance inclusion. In a similar attempt, Srinivasan (2009) at first constructed two indices, viz Microfinance Penetration Index (MPI) and Index of Penetration of Microfinance among the Poor (MPPI) to examine the inter-state variations in the level of microfinance penetration. MPI has been measured by the share of the state in microfinance clients as a proportion of the share of the state in population while, Index of Penetration of Microfinance among the Poor has been measured by the share of the state in microfinance clients as a proportion of the share of

the state in poor population². But, these indices are based only on supply side dimension of microfinance outreach which measures only the penetration aspect of microfinance across the states. An attempt has been made in the paper to construct a comprehensive measure of microfinance outreach taking into consideration both the demand and the supply dimensions of microfinance outreach. Indicators like penetration and availability of microfinance services are chosen as supply side dimension, while usage of microfinance is considered as demand side dimension³. The composite index is intended to be constructed to examine the inter-state variation in the level of microfinance outreach to the poor households. Formation of SHG and its linkage with commercial banks is an important institutional mechanism to enhance the microfinance outreach in India. It is broadly a poverty intervention measure. To evaluate the level of the microfinance outreach to the poor households, penetration dimension of the index has been constructed using the relative share of the SHG members to poor households (see Table 3). Index value of penetration dimension more than one indicates higher penetration of SHG members' vis-à-vis proportion of poor households in the state. Similarly, the availability dimension of microfinance outreach has been measured by taking into account the number of public sector bank branches and self-help promoting institutions (SHPIs), while, the usage dimension of microfinance outreach index has been measured by the volume of microfinance savings and credits disbursement. For a clear exposition, the description of indicators used in the construction of the index of microfinance outreach is given in Table 3.

Based on the penetration, availability and usage dimensions of microfinance outreach, the composite index of microfinance outreach among poor households (IMOP) has been constructed as follows:

1 In the inter-state analysis of microfinance outreach among the poor households, we have excluded the union territory of Puducherry due to a negligible number of poor households (i.e., 0.1 million) as reported in the Press Note on Poverty Estimates, 2009-10 of Planning Commission. Consequently, the penetration ratio among the poor shows an exceptionally high percentage figure.

2 The estimated values of MPI and MPPI (Srinivasan, 2012) across states of India are presented in Appendix table A1.

3 An inclusive microfinance system should entail as many targeted clients as possible in its network. In order to measure the microfinance penetration of the system, the number of microfinance members is considered as the "banked" population under microfinance network. However, merely having the availability of microfinance services is not enough for an inclusive financial system; it is also imperative that the microfinance services are adequately utilized. Usage of banking habit is crucial as it indicates the development of dealing with financial products subject to the constraint of the penetration and availability of microfinance services..

Table 3: Description of the Indicators and its Data Sources

Indicator	Description	Proportional measure	Data source
Indicator of Micro-finance Penetration to Poor Households (MP1)	Share of the state in SHG members with banks (public, private, RRBs and co-operatives) as a proportion of the share of poor households of the state	MP1=A/B Where A indicates the ratio of number of SHG members of the state to total number of SHG members in India, and B indicates the ratio of number of poor households of the state to total number of poor households in India	Status of Microfinance in India (NABARD, 2012) and Press Note on Poverty Estimates, 2009-10(Government of India, 2012)
Indicator of Micro-finance Availability to Poor Households (MP2)	Share of commercial bank and SHPIs of the state as a proportion of share of poor households of the state	MP2=C/B Where C indicates the ratio of number of commercial bank and SHPIs of the state to total number of such institutions in India	Status of Microfinance in India (NABARD, 2012) and Press Note on Poverty Estimates, 2009-10(Government of India, 2012)
Indicator of Micro-finance Usage to Poor Households (MP3)	Share of volume of micro-finance credit and saving of the state as a proportion of share of poor households of the state	MP3=D/B Where D indicates the ratio of volume of saving and credit of the state to total volume of saving and credit in India	Status of Microfinance in India (NABARD, 2012) and Press Note on Poverty Estimates, 2009-10(Government of India, 2012)

$$IMOP_s = \frac{\sum_{i=1}^3 w_i MP_{is}}{\sum_{i=1}^3 w_i}$$

where w_i ($i=1, 2, 3$) are the corresponding weights of the indicators. Data driven weights have been estimated using Principal Component Analysis. Depending on the values of IMOP, states are categorised into three categories. States with an IMOP value below 1 are considered to have a low level of microfinance outreach, those in between 1 to 2 a medium level and those above 2 a high level.

4. Microfinance Outreach Among Poor Households Across States of India

Penetration of microfinance is only one partial dimension of measuring microfinance outreach of a region. The depth of the level of microfinance outreach among the poor households is examined by constructing a composite microfinance outreach index using several indicators of microfinance outreach viz. penetration, availability and usage. The values of each dimension across the states of India associated with their ranks are presented in Table 4. A wide inter-state disparity is visible in the individual indicators of microfinance outreach. In respect of the penetration of microfinance services to the poor households, states like Kerala, Tamil Nadu, Andhra Pradesh, Himachal Pradesh, Goa, Sikkim, Tripura, and Karnataka belong to the category of higher outreach of

microfinance programme (as shown in column 2 of Table 4). Among these states, three southern states (Kerala, Tamil Nadu, and Andhra Pradesh) excel in outreaching microfinance programme to the most vulnerable sections of the population. In fact, the shares of SHG members in those states are observed to be three times in comparison to the share of poor households. On the other hand, nearly 72 percent of the states fall in the category of lower penetration of microfinance programme. The states in the lower end of the tail are mainly confined to the north-eastern, central, northern and eastern region. Inter-state disparity in the availability of commercial bank institutions and SHPIs is represented in column 4 of Table 4. It is evident that there exist a large network of commercial banks and SHPIs in Goa, Himachal Pradesh, Sikkim, Kerala, New Delhi, Jammu and Kashmir, Punjab, Uttarakhand, Tamil Nadu and Haryana. In more than 65 percent of the states, availability of commercial bank network and promotion of SHPIs are relatively weak. However, actual utilisation of microfinance services considers both savings and credit facilities. The usage of these facilities by the SHG members subject to the constraint of the penetration and availability of microfinance services actually determines their demand for microfinance. It is observed that the inequality in the usage of financial services is widespread across states of India. Once again, southern states (Andhra Pradesh, Kerala, Tamil Nadu, Goa, and Karnataka) retains their supremacy in utilisation of microfinance services. A poor rating of utilisation of microfinance products are observed

Table 4: Ranking of the States on the basis of Indicators of Microfinance Outreach

State	MP ₁	Rank MP ₁	MP ₂	Rank MP ₂	MP ₃	Rank MP ₃	IMOP	Rank IMOP
Goa	2.89	5	13.56	1	3.39	5	5.81	1
Kerala	7.53	1	4.50	4	4.94	3	5.81	2
Andhra Pradesh	3.58	3	1.59	14	8.43	1	4.82	3
Himachal Pradesh	3.26	4	6.81	2	2.07	7	3.75	4
Tripura	2.30	7	1.55	15	6.49	2	3.62	5
Tamil Nadu	4.40	2	2.09	9	3.45	4	3.46	6
Sikkim	2.67	6	4.73	3	1.32	8	2.71	7
Karnataka	2.18	8	1.81	12	2.85	6	2.33	8
Uttarakhand	0.80	16	3.11	8	1.16	9	1.53	9
New Delhi	0.07	29	4.21	5	0.06	29	1.13	10
Maharashtra	1.37	10	1.26	17	0.75	12	1.12	11
Punjab	0.38	22	3.39	7	0.25	20	1.11	12
Mizoram	0.79	17	1.87	11	0.85	11	1.09	13
Odisha	1.46	9	0.79	22	0.91	10	1.09	14
Jammu and Kashmir	0.21	28	3.46	6	0.17	24	1.03	15
Meghalaya	1.13	12	1.75	13	0.28	19	0.98	16
West Bengal	1.15	11	0.91	20	0.60	13	0.89	17
Haryana	0.36	23	2.05	10	0.30	17	0.77	18
Nagaland	0.96	13	0.90	21	0.37	15	0.74	19
Gujarat	0.65	18	1.46	16	0.31	16	0.73	20
Arunachal Pradesh	0.88	15	1.10	18	0.15	26	0.67	21
Assam	0.92	14	0.54	26	0.38	14	0.63	22
Rajasthan	0.64	19	1.06	19	0.29	18	0.62	23
Chhattisgarh	0.46	20	0.45	27	0.21	22	0.37	24
Jharkhand	0.32	24	0.63	24	0.24	21	0.37	25
Uttar Pradesh	0.27	25	0.59	25	0.17	23	0.31	26
Madhya Pradesh	0.24	26	0.66	23	0.12	28	0.31	27
Manipur	0.46	21	0.26	29	0.13	27	0.29	28
Bihar	0.23	27	0.32	28	0.15	25	0.23	29

Source: Author's calculation based on Status of Microfinance in India (NABARD, 2012) and Poverty Estimates of Planning Commission, 2009-10 (Government of India, 2012).

Note: MP₁: Indicator of Microfinance Penetration to Poor Households, MP₂: Indicator of Microfinance Availability to Poor Households, MP₃: Indicator of Microfinance Usage to Poor Households, IMOP: Index of Microfinance Outreach among the Poor Households.

in central, northern, eastern and north-eastern states. Thus demand for microfinance services in these states are adequately addressed by the supply of those products. The combined measure of penetration, availability and usage of microfinance outreach is measured by an index of microfinance outreach among poor households. In terms of IMOP, it is evident that only eight states (Goa, Kerala, Andhra Pradesh, Himachal Pradesh, Tamil Nadu,

Tripura, Sikkim, and Karnataka) have been classified under the category of high level of microfinance outreach. Seven states (Uttarakhand, New Delhi, Maharashtra, Punjab, Mizoram, Odisha, and Jammu and Kashmir) have fulfilled the criteria of medium level of microfinance outreach as the value of IMP lying in between 1 and 2. All the other states belong to the lower stratum in the ladder of microfinance outreach among the poor households.

5. Conclusions and Policy Implications

An attempt has been made in the study to examine the inter-state variation of microfinance outreach among the poor households in India by constructing a comprehensive index of microfinance outreach among the poor households. Empirical evidences suggest that an analysis on the inter-state variation in the microfinance outreach among the poor households suggest that only in eight states (Goa, Kerala, Andhra Pradesh, Himachal Pradesh, Tamil Nadu, Tripura, Sikkim, and Karnataka) outreach of microfinance programme has a significant impact on the reduction of poverty. Thus, there is wide variability in the outreach of microfinance across various regions of India. The southern region is leading in the outreach of microfinance programme, followed by central, northern, north-eastern and eastern regions. It is thus desirable to create conditions for enhancing the outreach of microfinance programme especially to low inclusive states so as to reduce the regional imbalances. It is predicted that an all-inclusive microfinance system would strengthen the process of financial inclusion in India and thereby helps in eradicating rural poverty.

Appendix

Table A1: MPI and MPPI Indices for Different States of India in 2011

State	MPI	MPI Rank	MPPI	MPPI Rank
Goa	1.14	9	7.26	1
Meghalaya	0.24	26	7.03	2
Mizoram	0.05	29	3.36	3
Jammu & Kashmir	0.03	30	2.47	4
Chhattisgarh	0.66	13	2.12	5
Rajasthan	0.35	23	2.06	6
New Delhi	0.13	28	1.77	7
Andhra Pradesh	4.2	2	1.67	8
Arunachal Pradesh	0.47	18	1.67	9
Punjab	0.18	27	1.61	10
Himachal Pradesh	0.62	14	1.21	11
Haryana	0.33	24	0.98	12
Uttarakhand	0.55	17	0.95	13
Karnataka	1.46	8	0.92	14
West Bengal	1.53	7	0.8	15

State	MPI	MPI Rank	MPPI	MPPI Rank
Manipur	4.23	1	0.66	16
Pondicherry	2.57	3	0.57	17
Nagaland	0.33	25	0.5	18
Jharkhand	0.47	19	0.46	19
Tamil Nadu	2	4	0.45	20
Assam	0.66	12	0.41	21
Kerala	1.06	10	0.39	22
Uttar Pradesh	0.36	22	0.39	23
Maharashtra	0.57	16	0.33	24
Madhya Pradesh	0.46	20	0.33	25
Bihar	0.43	21	0.31	26
Gujarat	0.59	15	0.3	27
Sikkim	1.6	6	0.24	28
Orissa	1.63	5	0.15	29
Tripura	0.84	11	0.11	30

Source: *State of the Sector Report, 2011*

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