

Growth and Sustainability of Microfinance Program in India and Rajasthan: Tuky-HSD Post-HOC Comparisons

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Abstract: Study was undertaken to analyze the Growth and Distribution of Microfinance in India and Rajasthan towards SHG-BLP programme. Study was intended to assess the growth of financial lending program towards the SHG-BLP with reference to various regions of India and Rajasthan state to draw the major implication about growth and sustainability of Microfinance Program in India. Tuky-HSD Post-hoc comparisons were used for the analysis to draw the inferences by using the variables loan disbursements, number of SHGs, NPAs, loan outstanding and savings through SHG-BLP. Analysis was carried out Region-Wise, Bank-Wise and State-wise to investigate the all dimensional impact. Findings concluded that southern region of India was found the most effectively performing towards SHG-BLP due to effective implementation of SHPIs, and monitoring over-borrowings by SHGs. Commercial banks were found performing better than RRBs and CRBs in Rajasthan in extension of financial lending towards SHG-BLP but also contributing in the generation of highest amount of loan outstanding implies the repayment issues in borrowed loan by SHGs and overdue of banks. Rajasthan was found performing better in loan-disbursements towards SHG-BLP than many states of India but its financial lending program also consist higher loan outstanding implies over-borrowing issues, lack of monitoring, lack of coordination of SHPIs and receiving lower grants for conducting MEDPs, LEDPs, and other training programs.

Keywords: Microfinance, Sustainability, Tuky-HSD Post-Hoc, SHG-BLP, loan-disbursements, NPAs, Loan-outstanding

JEL Codes: G21, C23

1. INTRODUCTION

Microfinance in India is the program to extend financial help towards rural poor and Self-Help Groups bank linkages. Microfinance program was the initiative to uplift poor by empowering them with employment opportunities. Besides giving such opportunities it provides services such as savings, insurance, training and skill development. "Microfinance refers to small scale financial services for both credit and deposit-that are provided to people who farm or fish or herd; operate small or microenterprises where goods are produced, recycled, repaired or traded; provide services; work

for wages or commissions; gain 144 income from renting out small amount of land, vehicle, draft animals, or machinery and tools; and to other individuals and local groups in developing countries in both rural and urban areas" Robinson (2001). Microfinance has turned out to be an effective strategy for institutional financing agencies for the financing institutions, SHGs lending minimizes the transaction cost and at the same time they can make available small loans through groups. Banks can now devise appropriate loan and savings products and related norm including the size of the loan, unit cost size, maturity period, grace period, margin etc. Covering production, consumption need as well as other credit needs viz., housing the shelter improvement also. Four components were suggested (i) demand for microfinance, (ii) supply of microfinance, (iii) intermediation of microfinance and (iv) regulation of microfinance. All four components are applicable to RFS and urban small scale finance (Mahajan and Ramola, 1996). The structure of financial institutions is more quantitative and less qualitative. It was not able to help the common poor families to meet their needs by lending the loans (Misra & Alok, 2006). To alleviate poverty and to reach out rural poor effectively there was an emergence of microfinance institutions. This system approached to alternative credit system for the rural poor. (Battilana and Dorado, 2010; Morduch, 2000; Coleman, 2005). Therefore, there was a need to build a structure which is reachable to rural poor and can generate small finances to promote small businesses and self-reliance.

2. LITERATURE REVIEW

Koch and Soetjipto (1993) concluded that SHGs bank linkage programme has contributed loan in agriculture, social and economic activities in Indonesia. Study investigated the performance of commercial banks and suggested to improve its financial lending towards boosting microenterprises through small farmers and small businesses in Indonesia. Study covered five states of Indonesia viz. Bali, North Sumatra, North, West Java, and Yogyakarta. Study period was observed from 1988 to 1992. Study inferred that there was a rapid change in loan availing activities by 33%. The commercial banks extended help towards SHGs by 86%, social welfare activities by 46%, and economic activities by 42%. Thus the finding supported significant changes through commercial bank lending towards establishing small enterprises in Indonesia.

Puhazhendi, V. and Satyasai, K.J.S. (2000) analyzed the various aspects of microfinance but did not talk about the borrower's viewpoint. Study was an attempt to analyze the access of the poor to formal credit through SHGs and its cost efficiency.

Colette Dumas (2001) showcased various benefits of Self-Help Groups. They are providing the benefits of economies of scale, cost effective alternative for differential financial services, collective learning, democratic and participatory culture, a firm base and a platform for dialogue and cooperation. It follows the real principle of contribute according to your ability and extract according to your need.

Mayoux (2001) opined that such informal groups and its members have common urge towards collective action. They promote savings, and utilize the pooled resources for their consumption needs. Self-Help Groups are considered simple, accessible, cost effective and provides banking services to members. Study also addressed the issue of high transaction cost under the bank-linkages & lending credit to rural poor.

A study by APMAS (2006) concluded the impact of SHG-Bank linkage program in India has many issues related to members drop out from SHGs, internal politics, irregularities in maintaining book-keeping; equity records, non-payment of loans, defaulter members, and issues in social harmony. Thus the study raised a question of sustainability of SHGs for the long run.

Ramakrishna (2006) investigated the impact of SHG-Bank linkage program through a survey conducted for 27 public sector banks, 192 Regional Rural banks (RRBs), and 114 Cooperative banks of Tamil Nadu, West Bengal, Karnataka, Chhattisgarh, and Maharashtra. Study concluded that Commercial banks contributed largely in the share of credit extension and bank linkage and loan outstanding. The least market share for credit extension was observed for cooperative banks viz. 9 percent.

Yunus M. (2007) narrated a small model of credit delivery system was started from Bangladesh now involved providing over 100 million dollars loans. There are now 2300 branches of Grameen bank foundation running throughout the country to extend loans towards rural poor with a 98% recovery rate. The role of Grameen Bank foundation was found through internal survey that 5*% of borrowers had moved out of poverty.

Bapat (2010) tried to assess level of banking penetration basic services to find the connection between the bank account and various economic factors of the selected village as the sample. Study also covers the introduction and promotion of credit facilities provided to villagers and gaps in banking facilities such as deposits and credits. Paper studies a developed village as compared to under developed one studied in the past and tries to establish financial exclusion. Earlier studies covered mostly banking services link deposits and credit. This study covers the propensity for availing the credit facilities. Study is questionnaire based in a village of Gujarat which highly cooperate with dairy giant AMUL and helped

improving the living standard of people belongs to village. Questions were mainly related to banking services in rural region. Further, hypothesis has been generated based on holding bank account and availing credit facilities. Methodology also includes the Logistic Regression Model which tries to analyze relation between bank account and another variable. While the model concluded to be significant and valid, Logistic Regression indicates, bank accounts having significant relationship with income. Study included the respondents with 75% bank account holders and 26% of them already availed credit facility. Inequality in bank account holders and customers who availed credit facilities can be minimized through focus on banking penetration in rural area. Low credit avail by customers can be availed due to mainly supply and demand reasons. On supply side, there was lack of initiative from the bank to extend the facilities and from demand side, due to lack of interest of customers in availing the credit facilities. The study has also showed the significant relation between economic variables and bank account holders. Study suggests, bank should follow the method that suit local condition and not levy homogeneity.

Ghosh (2012) analyzed the SHG-BLP impact on socio-economic and poverty alleviation in India, study was carried out in six states of India. Study used multi-stage simple random sampling to collect the observations. Study concluded that southern region of India was found the most empowered in terms of growth of SHG-BLP and evidently found that majority of borrowers utilized their loans for small enterprises and economic

Shylendra (2013) tried to find in his study and discuss the related matters in adoption of Microfinance by cooperatives. The objective of the study is to analyze the role and success of cooperatives under SHGs-Bank Linkage Programme that how much cooperatives linked with Microfinance are in favour of the lower income group. Study is based on secondary data of SBLP (promoted by NABARD) with special focus on cooperatives. It has been evident from analysis from the past trend, the performance of cooperative remains disappointing. Lower income group does not benefit from the association of Cooperatives and Microfinance in most of the states. Failure of Cooperative in pulling the poor out of poverty line has stated due to various reasons like inadequate professional and administrative skills. However, Lags can be filled with active efforts by the Government and NGOs in internalizing the Microfinance. Also Cooperatives should not fully rely on Microfinance which can adversely affect in term of finance.

Using various indicators, the impact of Microfinance Banks on rural development in Nigeria has been evaluated in this study by (Agbaeze and Onwuka, 2014). Large proportion of population uses informal institution

for financial services in Nigeria apart from formal financial institution with barely 35 per cent. Lack of bank account especially among the rural citizen and absence of banks in neighborhood are the important reason for insufficient access to banking credits as studied by the paper. Study tries to find out impact of microfinance on rural development in Nigeria with certain objectives of determining the influence of MFI on long-run economic growth, on deposits in rural area, financial intermediation in rural region and to find how MFI impacts the credit facility in rural area. Study duration has been decided for 2006-2012 with five impact factors. Research hypothesis of "Micro-finance banks have impacted positively and significantly on rural economic development in Nigeria" has been generated for the study. Linear Multiple Regression Model has been used for the analysis with dependent variable of non-oil GDP at constant price with regressor of deposit mobilized, credit extended, loan penetration ratio and microfinance banks total finances. Government expenditure as controlled variable has been assumed for study in place of GDP and Gross Capital Formation (GCF). Empirical study suggests that Microfinance bank impact positively on rural economy of Nigeria. Not every factor analyzed in the study is statistically significant. Study suggests for improving the rate of deposits mobilization, serious action should be taken by working innovatively for attracting customers. Capacity building is much need by Microfinance Banks for training of staffs, organizational development etc. Need of innovative funding in MFBs to allow productive development.

3. RESEARCH OBJECTIVE

To assess the growth and sustainability of Microfinance Program in India and Rajasthan

4. HYPOTHESES

H₁: There is a significant difference in Region-Wise Growth of SHG-BLP in India

H₂: There is a significant difference in Bank-Wise Growth of SHG-BLP in Rajasthan

H₃: There is a significant difference in growth and distribution of microfinance in Rajasthan and other states of India

5. MATERIALS AND METHODS USED

Post-hoc Tukey-HSD method was used to assess the data collected and converted into natural log to avoid any inconsistency. Following variables were used in the model:

Table 1: Description of Variables Used in the Model

<i>Variables</i>	<i>Description</i>
Loan Disbursement (LD)	It's a dependent and very important variable of the empirical analysis. Considered as microfinance extension and its growth by loan disbursements cause of SHGBLP and its growth. It will help to explain the magnitude of change with respect to other variables in the model.
Loan Outstanding (LO)	Explanatory variable. Failure of repayment, considered as bad loan. Study is intended to assess the impact of bad loans on the loan disbursements by banks in Rajasthan.
Savings (Sav)	Explanatory variable. Savings through SHGs. To assess whether loans are being disbursed based on the saving generation through SHGBLP
No. of SHGs (NSHG)	Explanatory variable. Number of SHGs linked with banks. To assess whether loans are being disbursed based on increasing number of self-help groups in Rajasthan
NPAs	Explanatory variable. When increasing number of loan outstanding is converted into non-performing assets. Study has aim to see whether this variable is affecting the loan disbursements of banks.

6. STUDY PERIOD

Study period for regional analysis was taken from 2007-08 to 2019-2020 whereas to assess the growth of SHG-BLP in Rajasthan data were considered from 2008-09 to 2019-2020.

7. EMPIRICAL FINDINGS

7.1. Region-Wise Analysis of SHGs-Bank Linkage Program

The upward trend was observed in savings through SHG-BLP in the Southern Region followed by the Eastern Region in India for the period 2007-08 to 2019-2020. The lowest trend in growth of savings was found in North Eastern Region (fig.1). A rising trend in the growth of SHGs towards SHG-BLP was reported by southern region; however a downward trend was observed for last two years. The second highest growth was reported by Eastern Region of India and the lowest was found in North Eastern Region of India (Fig.5). The most upward and rising trend in loan disbursement was found in South Region followed by Eastern Region while the lowest was reported by North Eastern Region of India (Fig.2). The highest growth in loan outstanding was found in Eastern Region while the lowest was found in North Eastern Region of India (Fig. 3). A rising trend in NPAs was discovered by North Eastern Region over the period in comparison to other regions of India followed by North and Central Region of India (fig. 4).

Figure 1: Regional Microfinance Saving Trends in India

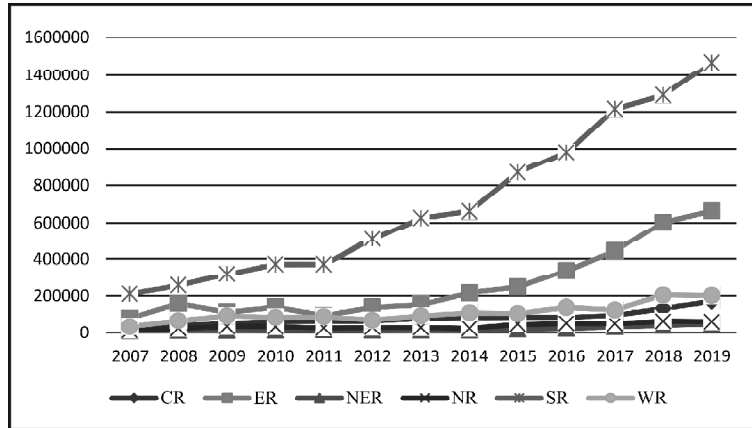


Figure 2: Regional Trends of Loan-disbursement towards Microfinance in Indian

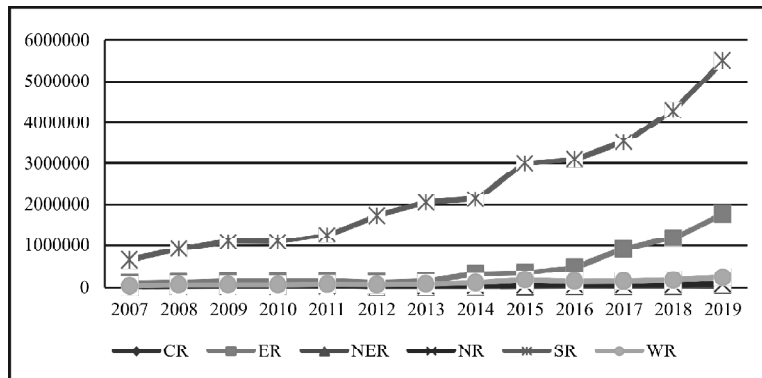


Figure 3: Regional Trends of Loan Outstanding towards Microfinance in India

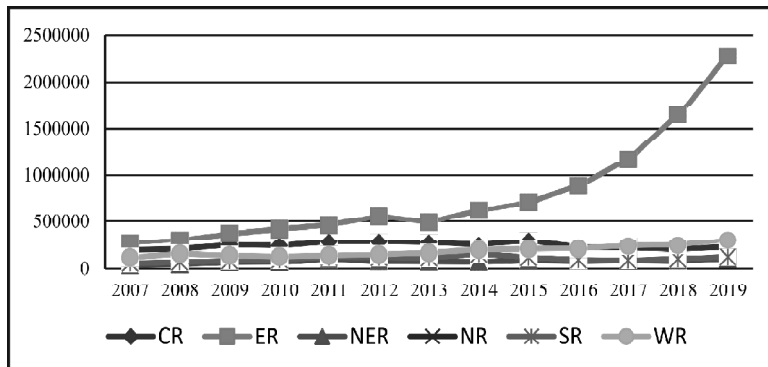
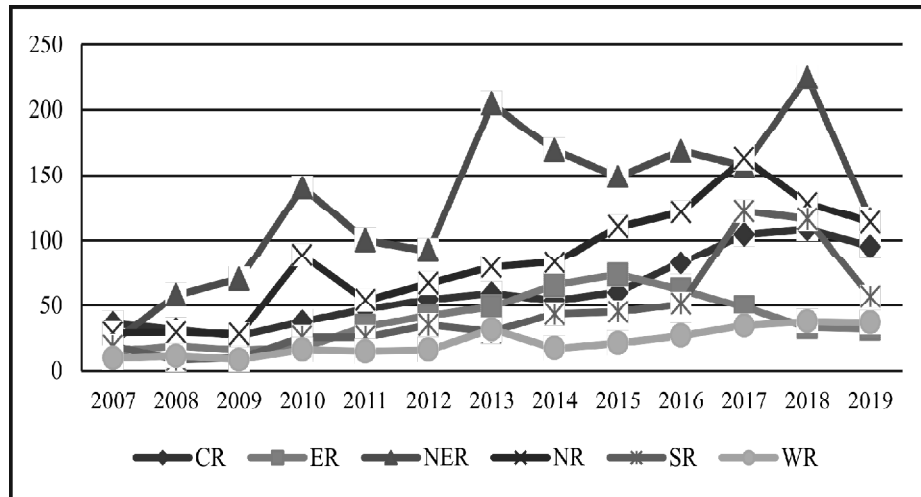
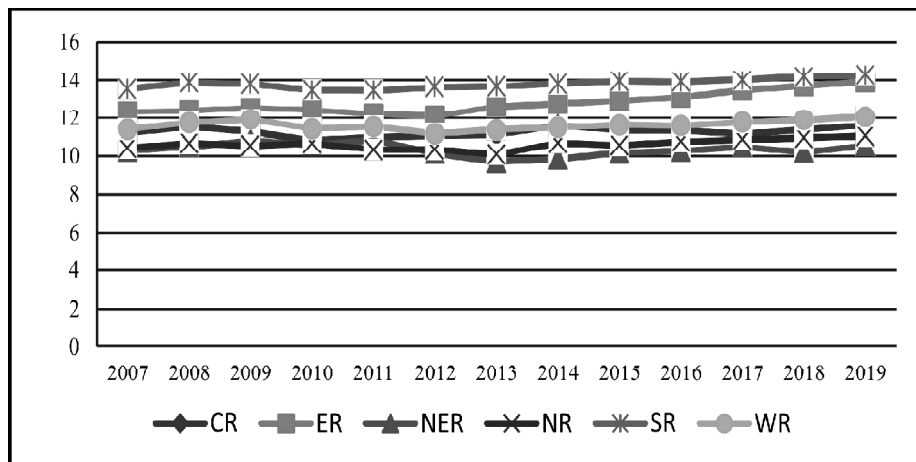


Figure 4: Regional Trends of NPAs towards Microfinance in India**Figure 5: Region-Wise Growth in number of SHGs Linked**

Source: Compilation is based on Microfinance Reports of NABARD (2008-09 to 2019-20)

7.2. Variations in Shgblp Outreach Among The Six Regions

Tukey HSD post-hoc method was used to highlight the differences between different combinations of regions, in each of the two parameters, through multiple comparisons. Only differences of those pairs that were statistically significant are discussed. Under the Regional comparisons, southern region of India was found the highest contributor of extension of loans and savings towards the growth of microfinance in India followed

by eastern region. Thus, it can be concluded that southern region of India is the highest performer of growth and distribution of microfinance in India. On the other hand, highest loan outstanding was reported by eastern region followed by the central region of India. On the other hand the NPAs towards SHG-BLP were found highest in north-eastern region followed by northern region of India. Based on the Tukey-HSD statistics; positive and significant mean differences were found for southern region with all remaining regions of India. Eastern region of India reported positive mean differences in growth with Northern, north-eastern, and central region of India whereas a negative and significant mean difference with southern region of India. A positive and significant mean difference was estimated for central region of India with north-eastern region whereas negative mean differences were estimated for southern and eastern region of India implies that Central Region is performing better than northern region of India. Western region had shown a negative and significant mean difference with southern and eastern region whereas positive and significant mean difference was found with north-eastern region. Lastly, the northern region does not show significant positive mean difference with north eastern region. Although both regions are under performing towards SHG-BLP program in India yet economic evidences support the northern region is relatively better performer than north-eastern region generates larger savings and less NPAs than north-eastern region. It is worth noting here that eastern region was found second largest performing region but generates highest loan outstanding. Increasing bad loans will hinder the growth of SHG-BLP as inferred by the loan-endogeneity models (refer table 4.17).

Southern Region was found significantly better performing in the growth of SHGs in comparison to other regions & Northern Eastern Region was found the lowest performer in SHG-BLP in India. It is worth noting that North-Region was significantly found second lowest performer as it covers the performance of Rajasthan state. However, Southern Region was found a better performing region throughout the year amongst the all regions of India but rising NPAs from year 2016-17 was observed a serious concern for policy makers. Tukey HSD analysis found significant mean difference of Southern Region with Eastern Region with regard to rising NPAs. On the other hand significantly lower NPAs were reported by Northern Region in comparison to North-Eastern Region of India.

7.3. Tukey-HSD Post-Hoc Comparisons of Growth and Distribution of Microfinance in Rajasthan

Table 2: Tuky-HSD Post-Hoc comparisons of Region-wise Growth and Distribution of Microfinance in India

Region (I)	(J)	Mean Differences (I-J)							Growth in no of SHGs
		Growth of Loan Disbursement	Growth of Loan Outstanding	Growth of Savings	Growth of NPAs	Growth in no of SHGs			
Central Region	ER	-1.38242*	-98462*	-1.04968*	22.45385	-1.55715*			
	NER	1.04762*	1.16828*	1.43115*	-67.21538*	.92359*			
	NR	.59563	.88723*	.77277*	-22.76692	.64900*			
	SR	-3.27728*	.88723*	-2.09003*	16.31538	-2.57938*			
Eastern Region	WR	-.31989	.29972	-.30265	39.80000	-.36078			
	CR	1.38242*	.98462*	1.04968*	-22.45385	1.55715*			
	NER	2.43004*	2.15290*	2.48084*	-89.66923*	2.48074*			
	NR	1.97805*	1.87185*	1.82246*	-45.22077*	2.20615*			
North Eastern Region	SR	-1.89486*	1.87185*	-1.04035*	-6.13846	-1.02223*			
	WR	1.06253*	1.28434*	.74704*	17.34615	1.19637*			
	CR	-1.04762*	-1.16828*	-1.43115*	67.21538*	-9.2359*			
	ER	-2.43004*	-2.15290*	-2.48084*	89.66923*	-2.48074*			
Northern Region	NR	-.45199	-.28105	-.65838*	44.44846*	-.27460			
	SR	-4.32490*	-.28105	-3.52118*	83.53077*	-3.50297*			
	WR	-1.36751*	-.86856*	-1.73380*	107.01538*	-1.28438*			
	CR	-.59563	-.88723*	-.77277*	22.76692	-.64900*			
Southern Region	ER	-1.97805*	-1.87185*	-1.82246*	45.22077*	-2.20615*			
	NER	.45199	.28105	.65838*	-44.44846*	.27460			
	NR	-3.87291*	0.00000	-2.86281*	39.08231	-3.22837*			
	SR	-.91552*	-.58751*	-1.07542*	62.56692*	-1.00978*			
Southern Region	WR	3.27728*	-.88723*	2.09003*	-16.31538	2.57938*			
	CR	1.89486*	-1.87185*	1.04035*	6.13846	1.02223*			
	NER	4.32490*	.28105	3.52118*	-83.53077*	3.50297*			
	NR	3.87291*	0.00000	2.86281*	-39.08231	3.22837*			
WR	2.95739*	-.58751*	1.78739*	23.48462	2.21860*				

contd. table 2

Mean Differences (I-I)						
Region (I)	(I)	Growth of Loan Disbursement	Growth of Loan Outstanding	Growth of Savings	Growth of NPAs	Growth in no of SHGs
Western Region	CR	.31989	-.29972	.30265	-39.80000	.36078
	ER	-1.06253*	-1.28434*	-74704*	-17.34615	-1.19637*
	NER	1.36751*	.86856*	1.73380*	-107.01538*	1.28438*
	NR	.91552*	.58751*	1.07542*	-62.56692*	1.00978*
	SR	-2.95739*	.58751*	-1.78739*	-23.48462	-2.21860*

Notes: Test of Homogeneity of Variances (Levene Statistic) are significant at 1% level for all variables (Savings Growth (1.498***), Growth of Loan Disbursement (6.409***), Growth of Loan outstanding (5.562***), Growth of NPAs (5.937***), Growth in No. of SHGs (4.453**)) Robust test of Equality of Means (Welch ANOVA & Brown-Forsythe) are also significant at 1% level for all variables. Savings Growth (56.044***, 68.361***), Growth of Loan Disbursement (85.830***, 93.768***), Growth of Loan outstanding (64.368***, 65.520***), Growth of NPAs (15.593***, 14.648***), Growth in No. of SHGs (258.229**, 194.929***)

Source: Author's Own Estimation

Table 3: Tukey-HSD Post Comparisons of Agency-wise Growth and distribution of Microfinance in Rajasthan

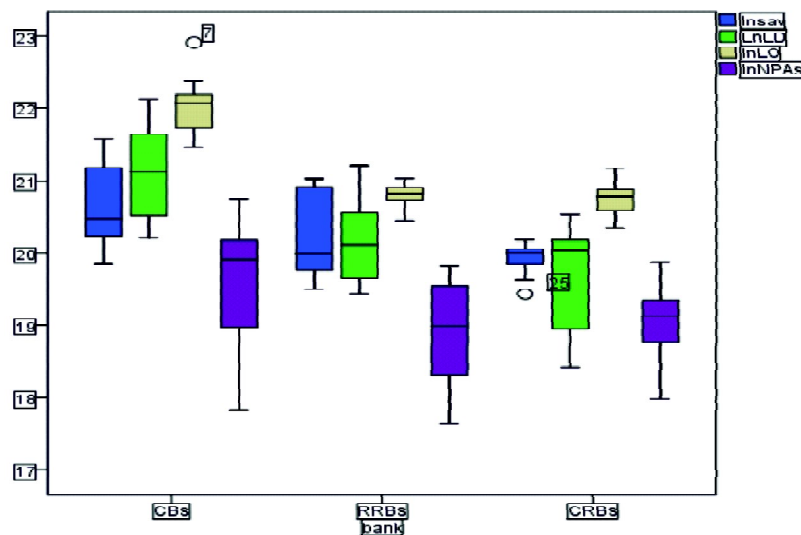
Bank/Agency	I	J	Mean Difference (I-J)				
			Growth of Savings	Growth of Loan Disbursement	Growth of Loan Outstanding	Growth of NPAs	Growth of no. of SHGs
CBs	RRBs		.39946	.97871*	1.20997	.72413	.45917
	CRBs		.70256*	1.42916*	1.28317	.58475	.89293*
RRBs	CBs		-.39946	-.97871*	-1.20997*	-.72413	-.45917
	CRBs		.30310	.45046	.07320	-.13938	.43376
CRBs	CBs		-.70256*	-1.42916*	-1.28317*	-.58475	-.89293*
	RRBs		-.30310	-.45046	-.07320	.13938	-.43376

Notes: Test of Homogeneity of Variances (Levene Statistic) are significant at 1% level for all variables (Savings Growth (8.190***), Growth of Loan Disbursement (1.165***), Growth of Loan outstanding (3.730***), Growth of NPAs (1.904***), Growth of SHGs (5.098**), Robust test of Equality of Means (Welch ANOVA & Brown-Forsythe) are also significant at 1% level for all variables. Savings Growth (8.488***, 6.305***), Growth of Loan Disbursement (13.609***, 15.165***), Growth of Loan outstanding (50.577***, 79.643***), Growth of NPAs (2.404***, 3.130***), Growth of SHGs (4.594**, 4.713**)

Source: Author's Own Estimation

Tuky-HSD post hoc comparisons for bank/agency-wise model found that commercial banks showed a significant and positive mean difference with savings with cooperative banks of Rajasthan whereas the mean difference was found insignificant with RRBs. Further, it has reported significant and positive mean difference with both RRBs and CRBs in the extension of loans and loan outstanding in Rajasthan towards microfinance. Model did not found any significant mean differences of Commercial banks with other agencies with respect to growth of NPAs although the differences were found positive. Growth of SHGs was also found positive and significant for commercial bank with CRBs but analysis did not found significant mean difference of CBs with RRBs. This implies that rising number of SHGs linking with RRBs over the period of time. RRBs did not show any significant mean differences with commercial and cooperative banks in saving growth while it was found negative and significant difference between CRBs and CBs. RRBs and CRBs further depicted a negative and significant difference with commercial banks in response to both loan outstanding and loan disbursement. RRBs did not show significant mean differences with CRBs. There were no significant estimation of mean differences found between CRBs and RRBs, however the differences between CRBs and CBs were found much larger than the differences between RRBs and CBs. None of the difference was found significant with

Figure 6: Agency-Wise Distribution of SHG-BLP over the Period 2008-19 in Rajasthan

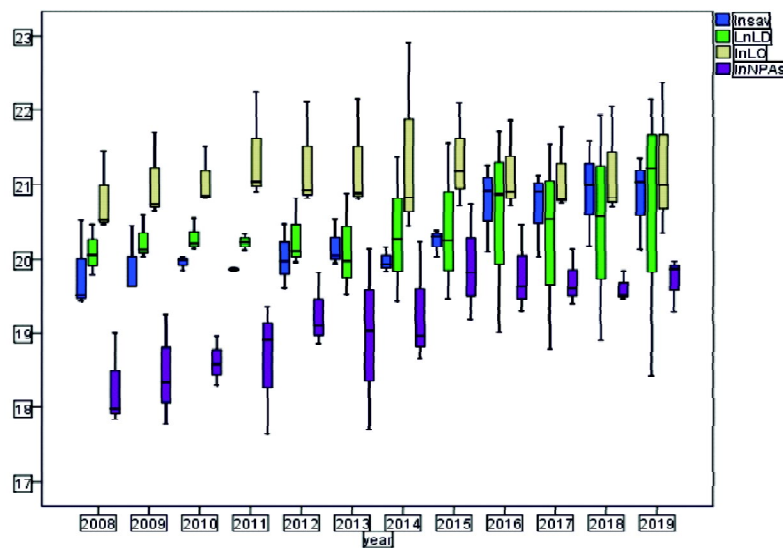


Source: Author's Compilation based on Microfinance India Reports (2008-09 to 2019-20)

regard to NPAs. Analysis concluded that commercial banks are the highest performing agency followed by RRBs and CRBs were found least performing agency towards the growth of SHG-BLP in Rajasthan.

This has been observed that growth of loan disbursements of commercial banks were maximum in comparison to other banks but the analysis found worrying trend i.e. rising loan outstanding exceeded the loan disbursement of commercial banks over the period 2008 to 2019. Growth of loan outstanding was found maximum and larger than loan disbursements during the year 2014. Situation remained unchanged during the year 2019 (Fig. 7).

Figure 7: Time-Wise distribution of SHG-BLP in Rajasthan



Source: Author's Compilation based on Microfinance India Reports (2008-09 to 2019-20)

7.4. Tukey-HSD Post-Hoc Comparisons of Growth & Distribution of Rajasthan State with other States of India

Tukey-HSD Post-Hoc Comparisons of Growth & Distribution of Rajasthan State with other States of India exhibited the positive mean difference of Rajasthan state with Andaman & Nicobar, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Himachal Pradesh, J & K, New Delhi, Punjab, and Goa with reference to growth of savings, loan disbursement, and loan outstanding. Model did not find any significant difference with respect to NPAs. Thus it can be concluded that Rajasthan was found better performing in SHG-BLP in comparison to these

states but at the same time, the growth of loan outstanding being higher than these states implies that Rajasthan's microfinance program and its' repayment rate is lesser than other states. Rajasthan SHG-BLP program needs to improve in this direction.

Table 3: Tukey-HSD Post-Hoc Comparisons of Growth and Distribution of Rajasthan With other States of India

	States	Growth of Savings	Growth of Loan Disbursement	Growth of NPAs	Growth of Loan Outstanding
Rajasthan	Chhattisgarh	.414	.698	3.79	.708
	Madhya Pradesh	.045	.450	-3.80	.255
	Uttarakhand	.455	.843	-7.14	.418
	Uttar Pradesh	.277	.869	-5.75	.278
	Andaman & Nicobar	4.28*	4.20*	6.10	4.40*
	Bihar	-.346	-.832	5.45	-.819
	Jharkhand	.561	.879	1.04	.491
	Odisha	-1.01	-1.14	-.267	-1.17
	West Bengal	-1.79*	-1.63	8.53	-1.63*
	Arunachal Pradesh	2.45*	3.25*	-4.97	2.73*
	Assam	2.07*	2.43*	-5.73	2.17*
	Manipur	4.28*	4.27*	-12.00	3.77*
	Meghalaya	3.28*	4.23*	-5.12	3.87*
	Mizoram	4.09*	3.97*	-5.29	3.55*
	Nagaland	3.74*	3.93*	.406	3.67*
	Sikkim	4.13*	4.59*	8.32	4.13*
	Tripura	2.04*	2.55*	-7.37	1.88*
	Haryana	1.34	1.65	-4.95	1.20
	Himachal Pradesh	1.60*	1.67*	1.89	1.58*
	Jammu & Kashmir	3.39*	3.16*	8.65	3.44*
	New Delhi	3.55*	4.56*	-1.53	4.29*
	Punjab	1.76*	2.48*	-1.57	1.90*
	Andhra Pradesh	-2.68*	-3.56*	10.02	-3.37*
	Karnataka	-1.66*	-2.50*	9.15	-2.13*
	Kerala	-.969	-1.55	7.24	-1.31
	Goa	2.59*	2.61*	9.00	3.03*
	Gujarat	.007	.464	4.06	.928
	Maharashtra	-1.43	-1.12	3.96	-.965

Notes: Test of Homogeneity of Variances (Levene Statistic) are significant at 1% level for all variables (Savings Growth (7.53***), Growth of Loan Disbursement (16.95***), Growth of Loan outstanding (34.43***), Growth of NPAs (7.5***)) Robust test of Equality of Means (Welch ANOVA & Brown-Forsythe) are also significant at 1% level for all variables. Savings Growth (109.76***, 56.53***), Growth of Loan Disbursement (134.1***, 55.91***), Growth of Loan outstanding (253.47***, 67.43***), Growth of NPAs (12.56***, 5.31***))

Source: Author's Own Estimation

Furthermore, negative and significant mean differences were obtained between Rajasthan and West Bengal, Andhra Pradesh, Kerala, Karnataka in the growth of SHG-BLP. Model estimates did not find significant mean differences between Rajasthan and these states with regard to growth of NPAs. This is worth noting here that the loan outstanding is largely generated by these states than Rajasthan in the growth SHG-BLP in India. The mean differences were not found significant between Rajasthan and Madhya Pradesh, Gujarat, Maharashtra, Odisha, Chhattisgarh, Uttarakhand and Uttar Pradesh.

8. DISCUSSIONS

There is no doubt that microfinance program is a very powerful means of poverty alleviation which not only opens up employment opportunities with small credit but also gives its identity to rural women. This study emphasizes the role of banks in this microfinance programme. This analysis is an attempt to uncover the trend of MFI's faulty loans and rising non-performing assets and to show how this could hamper the objectives of Microfinance in the near future. To improve this, it is necessary that the credit quality of the banks should be taken care of, it should be managed effectively. It is necessary that the repayment should be monitored; effective steps should be taken to increase the loan outstanding. The bad loans should be neutralized in time so that they do not turn into non-performing assets. It is also important to see the size of the loan. Intensive self-help groups should be monitored; records of self-help groups should be maintained through training and banking camps. Empiric of the analysis was also supported by the evidences.

Within the northern states of India, there were 54 SHGs per lakh population in Haryana, and the average loan of SHGs was 86.6 thousand rupees (NABARD, 2008), At the same time in south India, the number of SHGs per lakh population was 891, and the average loan for SHGs was 115.5 thousand (Tiwari & Arora, 2015). During the year 2012- 13, the decline in the number of SHGs savings associated with Banks has been reversed with a modest increase of less than 2%. The decline in numbers has been strategically significant and continued in resource-poor areas (with only showing southern region increase). In fact, Assam, Karnataka, Rajasthan, and Tamil Nadu were the only major states where the growth of saving linked SHGs reported high. The number of SHGs has steadily progressed since the new start of the SHGs program. During 2007–2014, the savings per SHG in southern regions, and the amount of loan disbursement for SHG, were higher than in any other region in India. Compared to other regions of India, the development of SHGs in the northeast states was the

lowest due to backward tribes and hill stations in the north-eastern states. It was difficult to open accounts of people and gather people for meetings. Social inclusion was found difficult at such places (Louis, 2015). The credit linkage of SHGs was found higher in the southern states like Telangana (54.96%), Karnataka (47.48%) as compared to the northern and north-eastern regions. Haryana (12.42%), Punjab (9.37), Manipur (2.54%) and Tripura were found with shallow debt distribution (1.90%) (Microfinance Report, 2017-18). This uneven debt distribution system influences the growth and performance of the SHGs in India, at national as well as at state level. According to (Tiken Das, 2013), the quantum of NPAs was found low, and the performance of the recovery in banks was satisfactory. The lack of motivation among NGOs and Bankers (Prasad, 2017) is the reason of the poor performance of SHGBLP in northeast region.

Bank loans to MFIs decreased in year 2016-17 by 7.2 per cent and outstanding were also increased by 13.7 percent and 14.3 percent during the year 2015-16 and 2016-17 respectively. The performance of SHBLP with reference to six regions of India implies that Southern Rajasthan was highest in loan disbursement, loan outstanding and savings amongst all and the lowest was North Eastern Region (Louis, 2015). The performance Southern Region was highest amongst all region of India towards SHG-BLP but rising NPAs from year 2016-17 was observed a serious concern for policy makers. Southern India reported a decline in saving linked SHGs from year 2018 onward (Microfinance Report 2019). In special circumstances such as economic slowdown, excessive rain, drought, epidemic etc., the repayment by SHGs should be monitored. The status of microfinance growth in India implies that there is a significant role MFIs, NGOs and SHGs in to boost the credit link program (Mahanta, Panda, Sreekumar, 2012). To enhance the loan productivity special training and skills have to be given priority in lending micro-credit. SHGs provide the credit supplement for poor people, deprived groups of society and women. They make people economically empowered and reduce the dependency of many lenders and non-institution sources (Chandran and Sandhya, 2012). **However, a low pace growth in outstanding loans were reported by Northern, Western, North-eastern and Central Regions of India due to lack of intensive SHPIs.** Despite adding good number of SHGs the loan outstanding of these regions was found much lower than Southern Region of India. Against this backdrop, NABARD has been striving to expand the SHG-BLP in certain priority States like Assam, Bihar, Chhattisgarh, Jharkhand, Odisha, Rajasthan, Uttar Pradesh, etc

If we view in context of Rajasthan, analysis found no significant association with the model of bank-loans endogeneity. However, the

analysis of post-hoc comparisons determined its significant growth relations towards SHG-BLP with other states of country. Rajasthan state was found better performing in SHG-BLP than Andaman & Nicobar, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Himachal Pradesh, J & K, New Delhi, Punjab, and Goa with reference to growth of savings, loan disbursement, and loan outstanding. Rising loan outstanding greater in proportion than these states implies loan repayment issues in the SHG-BLP of Rajasthan. Therefore; it can be concluded that Rajasthan has to opt quality lending through innovative SHG-BLP policy interventions. On the other hand Rajasthan's SHG-BLP program was significantly found under performance in comparison to Andhra Pradesh, Karnataka, and West Bengal. Policy interventions related to training under MEDPs, LEDPs, FIF, WSHG, and SHG-2¹ are required to undertake for the effective growth in SHG-BLP.

This has been observed that Rajasthan is lagging behind in receiving grants for conducting training programs from NABARD. MEDPs (Micro Enterprise Development Program), LEDPs (Livelihood Enterprise Development Programs), WSHG, FIF, and JLG (SHG-2) are some of the initiative of NABARD to improve the livelihood of members by providing them skill training. These interventions boost the micro-enterprises and productive utilization of SHG loans. It has been observed that Rajasthan is the least recipient of these interventions. No members were trained under MEDPs in Rajasthan during 2019-20 whereas 4140 and 2610 members were trained in Odisha and Andhra Pradesh Respectively. Training grant for all SHPIs received by Rajasthan were up to ¹ 3763.01 lakh whereas the highest grant received by Uttar Pradesh worth ¹ 11782.34 Lakh. (NABARD, 2019)

9. CONCLUSION & POLICY IMPLICATIONS

To enhance quality and performance of SHG-BLP; policies are required to be adopted to generate more savings through bank linkage programmes. The objective of eradicating poverty and income sources should not be overshadowed by the increasing practices of loan outstanding and bad loans. Thus, the microfinance institutions should follow a process while lending loans to monitor the purpose of availing loans, repayments, & conduction of training programs.

Based on the findings of Potential growth model commercial banks, regional rural banks and private banks were largely contributed in SHG-BLP of Rajasthan but all were found performing at border line due to rising loan outstanding and NPAs. Policies should be undertaken as pre-emptive measure for collection of loans and changing pattern of lending. They are required to address the client drop out ratio, & over borrowings.

To address the over-borrowing, Microfinance institution should conduct a robust analysis of loan borrowers from their multiple lenders. The SHG members do avail loans from other informal financial channels such as peers and moneylenders to meet their consumption needs. Such practices are required to avoid the risk of indebtedness and to extend the loans for sustainable business growth. Manual & incomplete bookkeeping should be monitored in coordination with SHGs and efforts should be made to improve transparency to reduce over borrowings by the members.

Rajasthan was found significantly better performing state in saving and loan disbursements than many other states of India but suffering with non-payment of loans, high NPAs and higher loan outstanding in the financial lending program. To acquire the effectiveness it is required to undertake quality policy intervention through banks and SHPIs in coordination with SHGs. NABARD is required to intervene and sanction the sufficient grant to this state to organize training programmes for the members to encourage effective utilization of loans. To strengthen micro-enterprises and start-ups Rajasthan needs to adopt the intervention of MEDPs and LEDPs widely.

The implementation of BIRD (Bankers Institute of Rural Development) intervention of NABARD to evaluate the financial lending towards SHG-BLP will also contribute in effective functioning & quality lending by banks and make them financially strong, sustainable and managerially efficient.

Thus it can be concluded that there is a need to address issues of Manual & incomplete bookkeeping by SHGs, inability of banks to monitor the records and functioning, lack of training through SHPIs/NGOs/JLG/MEDPs, & other intervention of NABARD, lack of transparency, the existence of informal financial channels of borrowing, Over borrowing, rising trend of loan outstanding and NPAs were found the huge hurdles in the growth of SHG-BLP in India. Despite these challenges, study significantly found the association of saving with loan disbursements and the states effects in India does not show any significant association with NPAs implies that financial Lending towards microfinance program has significant association with the growth of SHG BLP programme in India and Rajasthan.

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Note

1. A policy intervention of SHG-2 was adopted by NABARD in year 2012 to encourage voluntary savings, cash credit or overdraft for SHGs. The cash credit meets out

the purpose of loan availed by SHG members for economic and social needs. Also it enables the members to join the JLG (Joint liability group) within the SHGs for the expansion of economic and livelihood activities. However, SHG-2 has been on the declining trend due to restricted operations of SHPI and low credit coverage by some of the state and Regions such as Central and North-Eastern Region

References

- Agbaeze, Emmanuel & Onwuka, Ifeanyi. (2014). *Microfinance Banks and Rural Development: The Nigeria Experience*. International Journal of Rural Management. 10. 147-171. 10.1177/0973005214546597.
- Armendáriz, de Aghion and Morduch, J., 2000. *Microfinance beyond group lending*. Economics of Transition 8(2), pp. 401-20.
- APMAS, (2006), *Self Help Groups in India: A Study of the Lights and Shades*, APMAS, Hyderabad
- Bapat Dhanajay (2010) Perception on Banking Study in Rural India : An Empirical Study International Journal of Rural Management; SAGE Publications. 6(2):303-321
- Coleman, I., 2005. *Defending Microfinance*. Fletcher Forum of World Affairs, 26, pp. 181-190.
- Jayadev M. and D. K. Sunder. (2016). *Changing Contours of Microfinance in India*. New Delhi, India: Routledge India, New Delhi.
- B.Asha, Sivakumar and Agarwal. (2016). A Contemporary Study of Microfinance: A Study for India's Underprivileged. *IOSR Journal of Economics and Finance (IOSR-JEF)* , 23-31.
- Battilana, J. and Dorado, S., 2010. Building Sustainable hybrid organization: the case of commercial Microfinance organization. *Academy of Management Journal*, 53(6), pp. 1419-1440.
- Chandran, K.P., & Sandhya.P. (2012). Progress of SHGs-Bank Linkages in India: An Assessment of Key Issues. *Economic Affairs* , 57 (8), 307-314.
- Dumas, C. (2001). Evaluating the Outcomes of Microenterprise Training for Low-Income Women. A Case Study. *Journal of Developmental Entrepreneurship*, 6(2), 97-128.
- Ghosh, M. (2012). Micro-Finance and Rural Poverty in India SHG-Bank Linkage Programme. *Journal of Rural Development*, 31(3), 347-363.
- Koch, E and Soetjipto, S.M. (1993): *Target Groups at a Glance: Linking Banks and Self Help Groups after 3 years*, Savings and Development 17(4).
- Louis, M. (2015). Growth of SHG-Bank Linkage Programme – A Comparative Study of Six Regions in India. . *International Journal Of Research In Humanities And Social Studies* , 2 (8), 28-37.
- Mahajan V. & Ramola B. (1996). *Financial services for the rural poor and women in India: Access and sustainability*. *Journal of International Development*. 8(2). PP.211-224.
- Mahanta Padmalochan, Panda Gitanjali, Sreekumar. (2012). Status Of Microfinance In India - A Review. *International Journal of Marketing, Financial Services & Management Research* , 1 (11).

- Mayoux, L. (1998) Women's Empowerment and Micro- Finance Programme: Strategies for Increase Impact. *Taylor and Francis*.8 (2)
- Misra, Alok. (2006). *Micro Finance in India and Millennium Development Goals : Maximizing Impact on Poverty*. Discussion paper for Workshop on World Bank
- NABARD. (2008). Status of Microfinance 2007-08. Mumbai: NABARD.
- NABARD. (2009). Status of Microfinance 2008-09. Mumbai: NABARD.
- NABARD. (2010). Status of Microfinance 2009-10. Mumbai: NABARD.
- NABARD. (2011). Status of Microfinance 2010-11. Mumbai: NABARD.
- NABARD. (2012). Status of Microfinance 2011-12. Mumbai: NABARD.
- NABARD. (2013). Status of Microfinance 2011-12. Mumbai: NABARD.
- NABARD. (2014). Status of Microfinance 2012-13. Mumbai: NABARD.
- NABARD. (2015). Status of Microfinance 2013-14. Mumbai: NABARD.
- NABARD. (2016). Status of Microfinance 2014-15. Mumbai: NABARD.
- NABARD. (2017). Status of Microfinance 2016-17. Mumbai: NABARD.
- NABARD. (2018). Status of Microfinance 2017-18. Mumbai: NABARD.
- NABARD. (2019). Status of Microfinance 2018-19. Mumbai: NABARD.
- Prasad, K. (2017). *A Review on Performance of SHG-Bank Linkage Programme in India*. International Journal of Mechanical Engineering and Technology, 8(10), 829-835.
- Puhazhendi, V., & Satyasai, K. J. S. (2000). Microfinance for Rural People: An Impact Evaluation. Study Report, Mumbai: NABARD.
- Ramakrishna (2006). *R.V. Management Information System (MIS): SHG Bank Linkage Programme*, NABARD.
- Robinson M. (2001). *The Microfinance Revolution : Sustainable Finance for the Poor*. Washington, D.C.: World Bank. © World Bank.
- Shylendra, H.S (2013). *Microfinance and the Cooperatives in India: Can the Poor Gain from Their Coming Together?* International Journal of Rural Management 9(2) 151–181
- Tiken, D. (2013). *An Analysis of Non-Performing Assets and Recovery Performance of Self Help Group Bank Linkage Programme- Unique Preference to North Eastern Region of India*. IOSR Journal of Economics and Finance (IOSR-JEF) 1(1).
- Tiwari, A., & Arora, J. (2015). *Why are the Self Help Groups (SHGs) in Decline? A Case Study of SHGs in Gurgaon*. Research on Humanities and Social Sciences, 77-85.
- Yunus, M. and Jolis,A.(2007) "Banker to the poor" Penguin Book Publisher.