Socio-Economic Empowerment of Poor people in Bihar due to Intervention of Microfinance: an Impact Assessment

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Abstract: Microfinance came into existence in financial segment to fulfill financial needs of unemployed or low-income individuals or groups who would otherwise have no other means of gaining financial services. Over last 30 years it has been recognized internationally as the modern tool to combat poverty. Microfinance Institutions and SHGs these two prominent models are helping in reducing poverty, empowering women and are creating awareness on overall socio-economic empowerment of its members. The main aim of microfinance is to empower poor people socially and economically. In this paper, role played by microfinance in empowering poor people in Bihar is considered on two dimensions namely social and economical based on several of its individual indicators. The study is undertaken in Bihar geographical region. Mainly primary data has been used to understand socio-economic empowerment performance due to intervention of microfinance in the economy of Bihar. Socio-economic indicators used in this study represent true characteristics of socio-economic development. Stratified purposive sampling with a sample size of 450 is used for the purpose of this study. This paper attempts to assess the impact of microfinance on socio-economic empowerment of poor’s in Bihar. Socio-economic empowerment index is used for assessing the socio-economic empowerment of microfinance sampled members. The study finds that after joining the microfinance programme, there is a significant improvement in overall socio-economic conditions of sampled members. The study covers all MFIs (Trusts, Societies, Co-operatives, and NBFCs) registered in any legal form anywhere in India but are operating in Bihar as well as samples of SHGs Members (Created through different agencies like: Government or NGOs) in Bihar. Apart from this, the study did not attempt to assess any other organizations or voluntary organizations involved in social developmental activities.

Key Words: MFIs, SHGs, Economic Empowerment Index, Social Empowerment Index

I. INTRODUCTION

Nobel Peace Prize laureate Muhammad Yunus, founder and managing director of Grameen Bank of Bangladesh believes that “Poverty does not belong in a civilised society, its proper place is in a museum “, and he says “We have created a slavery-free world, a smallpox free world, an apartheid free world. Creating a poverty free world would be greater than all these accomplishments while at the same time reinforcing them. This would be a world we could all be proud to live in “.

The financial services commonly available to the poor in developing countries often have serious limitations in terms of cost, risk, and convenience. Microfinance Institutions play a complementary role to the banking system by extending credit to borrowers whom banks view as too costly or too risky to reach. Microfinance Institutions use a variety of strategies to reduce risks given low or nonexistent collateral; peer lending circles to serve as pre-screening devices to reduce information asymmetry; joint liability contracts among borrowers to enforce payment despite weak legal institutions; short-term loan contracts with regular repayment to substitute for information; social networks and shaming to increase repayment rates; and legal enforcement to extend credit to low-income borrowers without collateral assets. Microfinance helps in generating income and employment and alleviates poverty in developing countries. All institutions working in microfinance sector contributes at all levels and with the same strength. But, microfinance is not the solutions to all problems in developing countries, rather it should be focused on economically active poor who can afford to borrow and repay money on a regular basis. Microfinance is a dynamic field and there is clearly no best way to deliver services to the poor and hence many delivery models have been developed over a period of time across the world. Each delivery model has its share of problem and success. In India, various delivery models have been adopted by microfinance institutions. It can be categorized into the following broad categories: Self-Help

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Among above mentioned model Microfinance Institutions (MFI) Model and Self-Help Group Bank Linkage (SHG-BLP) dominate the sector. NGOs have been playing significant role in supporting and nurturing SHGs by extending credit and other financial services. Several NGOs have been playing a role of facilitator in formation of SHGs and also provide training support to SHG members. Trainings are provided by NGO to SHGs in book-keeping, basic accounting, leadership and group management, skills for income generating activities, marketing supports, etc. Apart from assisting in getting credit, NGOs also help SHGs members in getting insurance premium at cheaper rates. They further helps SHG members in taking up various social issues like sexual harassment, torture, alcoholism, dowry, gambling, etc.

Microfinance institutions works on a joint liability model which is a replication Grameen Bank Model. The MFIs raises funds from various sources (donor, equity investors and lenders) and then lends them directly to groups of low income women living in the same neighbourhood. Most of the MFIs have evolved from NGOs which had been closely involved with the SHG model, so they use SHG base to superimpose the JLG model of raising funds and then lends them to the group. The main difference between MFI model and SHG model is that, instead of commercial banks, MFIs themselves lend to SHGs.

This paper attempts to describe overall socio-economic empowerment of MFIs/SHG members due to microfinance interventions in Bihar using socio-economic empowerment index.

II. REVIEW OF LITERATURE

Impact assessment refers to the assessment of how financial products and services affected the lives of the poor. It is the measurement of the income growth, assets growth and vulnerability reduction of the poor by the microfinance programme. Impact assessment indicators are not limited to economic development only but also extended to developmental growth like health, education, empowerment, gender etc.

Qualitative as well as quantitative data collections tools are used for impact assessment. The qualitative tools are Participatory Rural Appraisal (PRA), Rapid Rural Appraisal (RRA), personal discussion, observations, etc. Qualitative impact assessment provides a broad idea, mostly open-ended, on the impact of microfinance programmes. The quantitative data collection tools are the schedule and structured questionnaires for household survey. Quantitative impact assessment requires various mathematical, statistical and economic models for analysis of data. Sometimes, both qualitative and quantitative methods are jointly used for overall impact assessment.

According to Deba dutta K. Panda (2009), Impact assessment is the structured study, which measures the impact on employment, income generation, nutrition, education, health, consumption, business development and gender equity on MFI’s clients. For actual impact assessment before and after intervention impact assessment method is used taking various parameters or variables.

As per Ravallion (2001), microfinance contribution to the economic growth of a country could be measured through production created by small entrepreneurship, improvement in human development indicators (health, nutrition, education) and reduction in poverty.

According to Dunn (2002) and Cohen, M. and Bourjorjee, D. (2003), Impact Assessment for microfinance can be carried out at three different levels i.e. household level, enterprise level, and individual level. Impact assessment of SEWA Bank in India, Chen and Snodgrass (1999) was carried on this model and the study reveals that participation in microenterprises services leads to an increase in the level of household income, improvement in housing, increase in microenterprise revenues, increase in self-esteem and self-confidence, etc.

Cohen and Chen (1997) in their studies explained framework for core hypothesis for measuring impact of microfinance at individual level. The framework was based on following broad parameters: material change (income, earning capacity, resources control, basic needs, etc.), cognitive change (knowledge, skills, awareness, etc.), perpetual change (self esteem, self confidence, future vision, respect, etc.), relational change (decision making, bargaining power, participation, self reliance, organizational strength, etc.)

Puhazhendi & Badatya (2002) did a study to assess the impact of microfinance channelized through SHG Bank Linkage programme implemented by NABARD since 1992 in Eastern areas (Orissa, Jharkhand & Chhattisgarh) of the country in 2001-02. The study was based on primary details collected from 115 members in 60 SHGs. The socio-economic conditions of the members were compared between pre and post SHG situations to quantify the impact. The findings of the study concluded that SHG Bank Linkage Programme has made significant contribution to social and economic improvement of the member households of SHGs.

Shrestha (2010) analyzed the Microfinance and social mobilization in the context of ADBL (Agricultural Development Bank, Nepal) in promoting SFCLs (Small Farmers Cooperative Limited) in his book entitled “Financial Performance of Small Farmers Co-operative Limited in Nepal.” She found that social
mobilization is also equally required in order to improve and maintain the better financial performances of SFCLs.

Bashyal (2005) studied and evaluated the impact of microfinance program on poverty reduction in her PhD dissertation entitled “Impact of Microcredit Programs on Poverty Alleviation in Nepal: A Case Study of Rupandehi District”. Giving more emphasis on women empowerment and gender equality for both qualitative and quantitative benefit of poor women she conducted her study. Overall objectives of the study were to evaluate the socio-economic impact and implications of microfinance on poverty alleviation through empowering women, and also evaluate the impact of natural resource management. She assumed that microfinance can reduce both income and human poverty over a period of time. In her study, she found that if women are empowered economically and socially, they can increase their skill and confidence level to think of themselves as equal to them.

Simojoki (2003) analysed the impact of micro-finance and opportunities to female micro-entrepreneurs in the informal sector in Nairobi, Kenya with the objective of clarifying how micro-entrepreneurs have benefitted from credit and financial services. The study showed the inter-relationship among social and economic empowerment. The Author found that microfinance with neo-liberal priorities has potential to increase self-confidence and their life standards. The author suggests that an explicit policy of empowerment and related activities needed for improvement of microfinance as well as women empowerment. The author also suggested that the government should promote various opportunities and fight against the exploitative features of the informal sector.

III. OBJECTIVE OF THE STUDY

The objectives of the study are as follows:
- To find the change in the economic status of poor people due to microfinance intervention in Bihar
- To find the change in the social status of poor people due to microfinance intervention in Bihar
- To assess the overall impact of microfinance intervention on socio-economic empowerment of poor people who are MFIs/SHG members

IV. HYPOTHESES

Keeping objective of study in mind following hypotheses has been drawn for this study:

Null Hypothesis (H_{01}): There is no significant impact of microfinance on overall economic empowerment of poor people in Bihar.

Alternate Hypothesis (H_{A1}): There is a significant impact of microfinance on overall economic empowerment of poor people in Bihar.

Null Hypothesis (H_{02}): There is no significant impact of microfinance on overall social empowerment of poor people in Bihar.

Alternate Hypothesis (H_{A2}): There is a significant impact of microfinance on overall social empowerment of poor people in Bihar.

Null Hypothesis (H_{03}): There is no significant impact of microfinance on overall socio-economic empowerment of poor people in Bihar.

Alternate Hypothesis (H_{A3}): There is a significant impact of microfinance on overall socio-economic empowerment of poor people in Bihar.

V. RESEARCH METHODOLOGY

Based on the review of literature and objective of the study following socio-economic empowerment index has been developed for this pioneer research:

**Economic Indicators:**

**Social Indicators:**
Social Awareness & Recognition: 7. Social Recognition 8. Social Awareness (AIDS, family planning, government schemes etc) 9. Ability to take up social issues like abuse, drugs, alcoholism etc. 10. Respect in the family

**Socio Economic Empowerment Assessment of MFIs/SHG**

For finding overall impact of microfinance intervention on MFIs/SHG member’s socio economic empowerment index method has been used. Socio-economic empowerment index measures relative social and economic profile of MFIs/SHG members. Change in socio-economic empower index before and after joining the
microfinance will indicate overall socio-economic empowerment of MFIs/SHG members due to microfinance intervention.

**Economic Empowerment Index**

For the purpose of this study, economic empowerment index is rating score of economic parameters measured in terms of household assets, household income, household expenditure, household savings, and loan and housing type of the MFIs/SHG members. It can be expressed as:

\[ \text{Economic Index} (En) = \frac{\sum E_i}{E_{i \text{(max)}}} \]

Where,

- \( \sum E_i \) = \( i \text{th Economic Indicators} \)
- \( E_{i \text{(max)}} \) = Maximum score \( i \text{th Economic Indicators} \)

**Social Empowerment Index**

In this study, for calculating the social empowerment index self confidence level, skills, social awareness and recognition and ability to access various public facilities and services have been considered. Based on these indicators, social empowerment index can be expressed as:

\[ \text{Social Index} (Sn) = \frac{\sum S_i}{S_{i \text{(max)}}} \]

Where,

- \( \sum S_i \) = \( i \text{th Social Indicators} \)
- \( S_{i \text{(max)}} \) = Maximum scores \( i \text{th Social Indicators} \)

**Combined Socio-Economic Empowerment Index**

The combined socio-economic empowerment index is the average weighted index of economic power index and socio empowerment index. This index measures the overall socio-economic index of MFIs/SHG members and the study on change of this index helps in determining the socio-economic impact of microfinance intervention on MFIs/SHG members. For the purpose of this study, formula for calculating the combined index of socio and economic empowerment is derived as under:

\[ SE_{In} = w_1 Sn + w_2 En \]

Where,

\[ SE_{In} = \text{Combined Socio-Economic Empowerment Index} \]
\[ Sn = \text{Social Empowerment Index} \]
\[ En = \text{Economic Empowerment Index} \]

\[ w_1 = \frac{\sum S_{i \text{(max)}}}{\sum S_{i \text{(max)}} + \sum E_{i \text{(max)}}} \]
\[ w_2 = 1 - w_1 \]
\[ w_1 = 65/(65+36) = .6435 \]
\[ w_2 = .3565 \]

Therefore,

\[ SE_{In} = 0.6435 Sn + 0.3565 En. \]

**Universe of the Study:** The Universe of the study consists of all the members of microfinance institutions and SHGs of Bihar whose data is available in public domain and has been reported either to NABARD or Sa-Dhan. There are total of more than 60 lakh members registered in microfinance sector in either of these models. As per last year report (2016), there are 34 MFIs operating in Bihar.

**Sample Size:** For the purpose of this study, 450 samples 50 sample each from 9 Divisions of Bihar has been taken. State has been divided at commissioners’ level.

**Sampling Method:** Stratified Purposeful sampling method was designed and adopted for selecting the samples from MFIs/SHG members.

**Sources of Data:** The study is based on primary data. This primary data has been collected through interview schedule from MFIs/ SHGs. Apart from that focused group discussions and observations method has also been applied to get concrete and real views at ground.

**Period of Study:** For analyzing the growth of MFIs/ SHG member primary data has been collected during the period of 2016-17. Therefore, the reference year of study is 2016-17.

### VI. DATA ANALYSIS

**Assessment of Economic Power Index**

Economic indicators have been defined keeping objectives of the study in mind and several factors which indicate economic status of a person. Table 1 represents different economic indicators along with its assigned value for preparing Economic Index.
Economic Empowerment of Poor people in Bihar due to Intervention of Microfinance: an ..

Table 1: Score of Economic Power Index

<table>
<thead>
<tr>
<th>Economic Indicators/Scores</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Max Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Household Assets</td>
<td>Below Rs. 5000</td>
<td>Rs. 10,000</td>
<td>Rs. 15,000</td>
<td>Rs. 20,000</td>
<td>Rs. 25,000</td>
<td>Above Rs. 25,000</td>
</tr>
<tr>
<td>2. Household Income</td>
<td>Below Rs. 2000</td>
<td>Rs. 4,000</td>
<td>Rs. 6,000</td>
<td>Rs. 8,000</td>
<td>Rs. 10,000</td>
<td>Above Rs. 10,000</td>
</tr>
<tr>
<td>3. Expenditure</td>
<td>Below Rs. 1,000</td>
<td>Rs. 2,000</td>
<td>Rs. 3,000</td>
<td>Rs. 4,000</td>
<td>Rs. 5,000</td>
<td>Above Rs. 5,000</td>
</tr>
<tr>
<td>4. Savings</td>
<td>Below Rs. 200</td>
<td>Rs. 400</td>
<td>Rs. 600</td>
<td>Rs. 800</td>
<td>Rs. 1,000</td>
<td>Above Rs. 1,000</td>
</tr>
<tr>
<td>5. Loan</td>
<td>Below Rs. 2,000</td>
<td>Rs. 4,000</td>
<td>Rs. 6,000</td>
<td>Rs. 8,000</td>
<td>Rs. 10,000</td>
<td>Above Rs. 10,000</td>
</tr>
<tr>
<td>6. Housing Type</td>
<td>Katcha House(rented)</td>
<td>Katcha House(Owne d)</td>
<td>Semi-Pucca (Rented)</td>
<td>Semi-Pucca(Owne d)</td>
<td>Pucca-House(Rented)</td>
<td>Pucca House(Owned)</td>
</tr>
</tbody>
</table>

Economic Empowerment Index: It is calculated by using the following expression.

\[ Economic \ Index \ (En) = \sum \frac{E_i}{E_{i(max)}} \]

Where,

- \( \sum E_i = i^{th} Economic \ Indicators \)
- \( \sum E_{i(max)} = Maximum \ score \ i^{th} Economic \ Indicators. \)

Economic empowerment Index of 450 microfinance respondents is calculated from the data of the situations before and after joining the MFIs or SHGs. Table 2 represents its Average Economic Empowerment Index.

Table 2: Average Economic Empowerment(EE) Index

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Range</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before Joining</td>
<td>450</td>
<td>3.50</td>
<td>1.00</td>
<td>4.50</td>
<td>2.2278</td>
<td>0.41669</td>
<td>0.01964</td>
</tr>
<tr>
<td>After Joining</td>
<td>450</td>
<td>4.17</td>
<td>1.00</td>
<td>5.17</td>
<td>2.8211</td>
<td>0.55465</td>
<td>0.02615</td>
</tr>
</tbody>
</table>

Source: Primary Data

The study revealed that the average economic empowerment index has increased from 2.2278 to 2.8211 after joining the microfinance, which shows an improvement in the economic status of the most of the sample microfinance members.

Another table, Table 3 gives the frequency distribution and percentage distribution of the defined economic power index.

Table 3: Economic Power Index (Frequency & Percentage Distribution)

<table>
<thead>
<tr>
<th>Economic Index</th>
<th>No. of Individual Microfinance(MFIs/SHGs) Member</th>
<th>Before joining Microfinance</th>
<th>After Joining Microfinance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
</tr>
<tr>
<td>UPTO 6</td>
<td>2</td>
<td>0.40</td>
<td>1</td>
</tr>
<tr>
<td>6-12</td>
<td>167</td>
<td>37.10</td>
<td>14</td>
</tr>
<tr>
<td>12-18</td>
<td>268</td>
<td>59.60</td>
<td>294</td>
</tr>
<tr>
<td>18-24</td>
<td>10</td>
<td>2.20</td>
<td>118</td>
</tr>
<tr>
<td>24-30</td>
<td>3</td>
<td>0.70</td>
<td>18</td>
</tr>
<tr>
<td>30-36</td>
<td>0</td>
<td>0.00</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>450</td>
<td>100.00</td>
<td>450</td>
</tr>
</tbody>
</table>

Source: Primary Data

Analysis of Frequency and Percentage Distribution data (Table 3) reveals that number of microfinance members having economic power index value less than 12 (33%) have reduced from 169 (37.50%) to 15 (3.3%) after joining microfinance programme. Thus, it is observed that microfinance helps in improving the overall economic status of sample members.

Hypothesis Testing:

Hypothesis testing is conducted to examine the significant impact of economic empowerment index by comparing before and after situation. The result of the hypothesis testing is presented below:

Null Hypothesis (H₀₁): There is no significant impact of microfinance on overall economic empowerment of poor people in Bihar.

Alternate Hypothesis (H₁₁): There is a significant impact of microfinance on overall economic empowerment of poor people in Bihar.
Soio-Economic Empowerment of Poor people in Bihar due to Intervention of Microfinance: an ..

Table 4: Paired Sample t Test on Economic Power Index

<table>
<thead>
<tr>
<th>Economic Empowerment Index of Microfinance Members</th>
<th>Paired Differences</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sign.(2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>After-Before</td>
<td>0.59333</td>
<td>0.18360</td>
<td>0.00866</td>
<td>0.57632</td>
<td>0.61034</td>
</tr>
</tbody>
</table>

Using SPSS( At 0.05 level)

Since t value is significant at α = 0.05 level, the above null hypothesis is rejected and alternative hypothesis is accepted. Thus, it can be concluded that there is a significant impact of microfinance on overall economic empowerment of poor people in Bihar.

Assessment of Social Empowerment Index

Scores assigned to different Socio Empowerment Indicators for preparing Socio Empowerment index is presented in Table 5. Research has been conducted based on this index.

Table 5: Score of Social Power Index

<table>
<thead>
<tr>
<th>Social Indicators/Scores</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Max Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Confidence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Confidenc of facing financial crisis Not at All</td>
<td>Very little</td>
<td>Somewhat</td>
<td>Much More</td>
<td>To a great extent</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>2. Confidence of meeting official people Not at All</td>
<td>Very little</td>
<td>Somewhat</td>
<td>Much More</td>
<td>To a great extent</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>3. Physical Mobilty No Mobility Seldom/Restricted</td>
<td>Sometimes/Occasional</td>
<td>More/Often</td>
<td>Free and Always</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Communication skills Hesitant to talk Talk only if asked Sometimes talks Normally/usually talks Freely and openly talks</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Business skills Extremely Poor Poor Satisfactory Good Excellent</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Financial skills Extremely Poor Poor Satisfactory Good Excellent</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Awareness and Recognition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Social Recognition Not at All</td>
<td>Very little</td>
<td>Somewhat</td>
<td>Much more</td>
<td>To a great extent</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>8. Social Awareness Not at All</td>
<td>Very little</td>
<td>Somewhat</td>
<td>Much more</td>
<td>To a great extent</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>9. Ability to take up social issues Submit to oneself Resist Lodge complain in the group Complain to relatives Warns</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Respect in the family Not at All</td>
<td>Very little</td>
<td>Somewhat</td>
<td>Much more</td>
<td>To a great extent</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Access to facilities/services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Medical facilities Extremely Poor Poor Satisfactory Good Excellent</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Hygiene sanitation facilities Extremely Poor Poor Satisfactory Good Excellent</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Drinking Water supply Extremely Poor Poor Satisfactory Good Excellent</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Social Empowerment Index

Social Empowerment Index has been calculated by using following expression for the present study:

Social Index (Sn) = \( \sum S_i / S_{i(max)} \)

Where,

\( \sum S_i \) \( i^{th} \) Social Indicators

\( S_{i(max)} \) = Maximum scores \( i^{th} \) Social Indicators

Table 6: Average Social Empowerment(EE) Index

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Range</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before Joining Microfinance</td>
<td>450</td>
<td>7.00</td>
<td>2.60</td>
<td>9.60</td>
<td>4.8787</td>
<td>1.25129</td>
<td>0.01964</td>
</tr>
<tr>
<td>After Joining Microfinance</td>
<td>450</td>
<td>5.4</td>
<td>6.40</td>
<td>11.8</td>
<td>8.2511</td>
<td>1.18083</td>
<td>0.05566</td>
</tr>
</tbody>
</table>

Source: Primary Data
Social Empowerment Index for 450 selected microfinance members is calculated from the data of the situations before and after joining the microfinance. It is found that average social empowerment indexed has increased from 4.87 to 8.25 after joining the microfinance programme.

Table 7: Social Power Index (Frequency & Percentage Distribution)

<table>
<thead>
<tr>
<th>Social Index</th>
<th>No. of Individual Microfinance(MFIs/SHGs) Member</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before Joining Microfinance</td>
</tr>
<tr>
<td></td>
<td>Frequency</td>
</tr>
<tr>
<td>13-23</td>
<td>146</td>
</tr>
<tr>
<td>24-34</td>
<td>283</td>
</tr>
<tr>
<td>35-45</td>
<td>18</td>
</tr>
<tr>
<td>46-56</td>
<td>3</td>
</tr>
<tr>
<td>57-68</td>
<td>0</td>
</tr>
</tbody>
</table>

Total | 450 | 100 | 450 | 100 |

Source: Primary Data

Further, it is found that number of microfinance members having social empowerment index above 40 percent increased from 4.67 percent to 83.33 percent after joining the microfinance programme. So, it is observed that there is a huge improvement in social empowerment index after joining microfinance programme.

**Hypothesis Testing:**

**Null Hypothesis (H02):** There is no significant impact of microfinance on overall social empowerment of poor people in Bihar.

**Alternate Hypothesis (H12):** There is a significant impact of microfinance on overall social empowerment of poor people in Bihar.

Paired sample t-test is used to test the hypothesis for establishing the impact on social empowerment index of microfinance members after joining microfinance programmes. The result of the hypothesis testing is shown below:

<table>
<thead>
<tr>
<th>Social Empowerment Index Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sign.(2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>After-Before</td>
<td>3.37244</td>
<td>0.40260</td>
<td>0.1898</td>
<td>3.33515</td>
<td>3.40974</td>
<td>177.69</td>
</tr>
</tbody>
</table>

Statiscal Tool Used:SPSS(Significance Level at .05 )

Since t value is found significant at α =0.05 level, the above null hypothesis is rejected and alternative hypothesis is accepted. Therefore, it can be concluded that there is significant impact of overall social empowerment of poor people in Bihar.

**Combined Socio-Empowerment Index**

For the purpose of this study, formula for calculating the combined index of socio and economic empowerment is derived as under:

\[ SEIn = w1Sn + w2En \]

Where,

\[ SEIn = \text{Combined Socio-Economic Empowerment Index} \]

\[ Sn = \text{Social Empowerment Index} \]

\[ En = \text{Economic Empowerment Index} \]

\[ w1 = \frac{\sum S_{i_{max}}}{(\sum S_{i_{max}}) + \sum E_{i_{max}}} \]

\[ w2 = 1 - w1 \]

\[ w1 = 65/(65+36) = 0.6435 \]

\[ w2 = 0.3565 \]

Therefore,

\[ SEIn = 0.6435Sn + 0.3565 En. \]
Combined Socio Economic Empowerment Index for 450 selected samples are calculated from the data of the situations before and after joining the microfinance by using the above equation of Combined Socio-Economic Empowerment Index.

From Table 9 it is found that the average combined empowerment index increased from 3.9336 to 6.3153 showing positive socio-economic impact of microfinance on sampled members.

It is also found from Table 10 that number of microfinance members having combined empowerment index above 40 percent increased from 4.67 percent to 64 percent. So, it can be concluded that there is huge improvement in majority of microfinance members post joining the microfinance programme.

Hypothesis Testing:
In present study, Hypothesis testing is conducted to assess overall socio-economic impact using t test by comparing pre and post situation of microfinance intervention.

Hypothesis to be tested:
Null Hypothesis (Hₐ3): There is no significant impact of microfinance on overall socio-economic empowerment of poor people in Bihar.
Alternate Hypothesis (Hₐ3): There is a significant impact of microfinance on overall socio-economic empowerment of poor people in Bihar.

Result of the above mentioned hypothesis is shown in below mentioned Table 11:

The researcher finds the value of t 186.8 which is very significant at 0.05 level of confidence. Hence null hypothesis is rejected and alternative hypothesis is accepted. Therefore, it can be concluded that there is a significant impact of microfinance on overall socio-economic empowerment of poor people in Bihar.
VII. CONCLUSION

Worldwide, poverty remains to be an obstacle to achieve sustainable development and improve the well being of people. It is globally believed that microfinance is a potential tool for poverty alleviation. It is based on the principle that poor people can initiate their own development out of poverty and improve their socio-economic condition, given they have the starting capital to do so. The present research tried to assess impact of microfinance intervention on a given economy. For this purpose, a case study on Bihar was conducted on several indicators of social and economic empowerment which was based on a defined parameter. The research found that there is a significant impact of microfinance on overall socio-economic empowerment of poor people in Bihar. It is also found that the socio empowerment index of sample microfinance members is significantly increased after joining the microfinance programme. So, it can be concluded that the overall impact of microfinance intervention on socio-economic empowerment of poor people is clearly visible.

VIII. RECOMMENDATIONS

Based on the ground experience while collecting data from all over Bihar, and several interview conducted from various personnel involved in this industry at different level, study on several secondary data and post analysis of primary data, researcher has following recommendations:

- Since intervention of microfinance has made positive impact on overall socio-economic growth of its sampled members, so efforts should be made to expand the reach of this industry to maximum poor people. Poverty in Bihar is very rampant, still 33.7 percent of population lives below poverty line in the state as per latest report.
- RBI should force all financing institutions to help in growing microfinance industry
- MFIs must not do a forceful recovery and must adopt industry code of conduct in letter and spirit.
- All NGOs who are helping SHGs in several ways should also adopt fair practice and financially literate SHGs member so that they can take care of their financial needs in a better way.
- State government should encourage this industry by helping them in getting credit easily.
- Central government should bring a uniform law covering NGOs (Trust and Societies) also in the ambit of microfinance regulations or should help these small players in converting them into NBFCs.
- MUDRA should help these NGOs/NBFCs by providing maximum credits, so that maximum poor people can have access to financial product and services.

IX. SUGGESTIONS FOR FUTURE RESEARCH

Following future areas in microfinance has been suggested by researcher based on this present study:

- Role of State Government in promoting microfinance in Bihar should be taken for future study.
- Impact of demonetisation on the growth of microfinance could be another area of research.
- Role of major agencies (NABARD, JEEVIKA, and SIDBI) in promoting microfinance in Bihar should also be studied.

REFERENCES
