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Research Article

Assessing the Impact of Microfinance on the Income Level of Small-Scale Farmers

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ABSTRACT

The study analyzes the impact of microfinance in terms of income level of small-scale farmers due to involvement in microfinance. The impact has been observed in rural and urban settings of Nepal. Rural and urban areas are assumed according to the promulgation of the new constitution in 2015, where local administrative units were restructured into 753 local units. The sampling strategy involved in the research was multiple stages: district selection through purposive sampling, local unit selection through lottery sampling, and respondent selection through snowball sampling. Impact has been measured by employing paired sample t-test, revealing statistically significant increases in household income post-intervention ($p=0.001$) for both rural and urban households. The findings indicate a notable shift in income distribution, with a higher percentage of households transitioning into higher income brackets, especially those earning above 5 Lakhs. In rural areas, 25.2% of households moved to the higher income category after joining MFIs, compared to 11.3% before. Similarly, 26.7% of urban households shifted to this higher income bracket after joining MFIs. Therefore, the overall findings suggest that MFIs play a crucial role in enhancing household income, particularly by facilitating upward income mobility for small-scale farmers. In rural, urban and overall cases, the paired sample t-test shows a significant increase in household income after joining MFIs. Therefore, joining MFIs seems to positively impact household income levels in both rural and urban areas.

Keywords: Farmers, income, impact, microfinance, small-scale

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INTRODUCTION

Microfinance has been established as an effective tool for the socio-economic development of marginalised people, especially in rural areas where access to traditional financial services is limited or non-existent. In Nepal, microfinance services have been considered to support the livelihoods of marginalized groups, especially small-scale farmers. These institutions provide essential and basic financial services, including credit, savings, remittance, training and counselling, and proper guidance to insurance, which enable individuals to improve their economic standing and enhance their quality of life.

The impact of microfinance on socio-economic development has been widely documented. For instance, research conducted in Ethiopia by Mengstie (2022) demonstrates the significant role microfinance plays in empowering women economically. The study found that women who participated in microfinance programs saw substantial improvements in income, asset ownership, and savings (Mengstie, 2022). Similarly, Sango et al. (2023) explored the impact of microfinance in Zimbabwe and found that access to microfinance services resulted in a significant increase in women's income, enhancing their financial independence and overall economic empowerment. The study highlighted that women with access to microfinance were better positioned to improve their economic status, which in turn had positive effects on their households and communities (Sango et al., 2023).

In the context of Nepal, microfinance has been particularly impactful in rural areas where smallholder farmers, who often lack access to formal banking services, rely on these institutions to finance agricultural inputs, expand their farming operations, and manage risks associated with agriculture. This support not only boosts agricultural productivity but also enhances the farmers' resilience to economic shocks, thereby contributing to food security and poverty reduction in rural communities (Sharma, 2010; Thapa, 2021; Dhakal, 2016). Sharma (2010) emphasizes that microfinance fosters social capital by encouraging community building and mutual support among beneficiaries. This collective approach is crucial for the sustainability of microfinance initiatives and their long-term contribution to socio-economic development (Sharma, 2010; Dhakal & Nepal, 2017).

Microfinance services like loans and savings play a critical role in improving living standards among beneficiaries, particularly women. These services help beneficiaries start or expand businesses, which leads to increased household income and financial security, further underscoring the transformative potential of microfinance (Anselmi et al., 2016; Dhakal & Nepal, 2017).

Microfinance provides financial services to economically disadvantaged people who cannot access traditional services. These services, such as group lending systems, shared obligations, and no collateral, are provided innovatively. Physical collateral security is not required. MFIs aim to satisfy the financial requirements of underserved markets. Microfinance institutions promote development.

The primary development goals of microfinance include reducing poverty, enhancing the economic status of women and disadvantaged groups, increasing employment opportunities, and fostering entrepreneurship. Microfinance offers small-scale financial services such as microcredits, micro-savings, and micro-insurance to those typically excluded by traditional financial institutions. These services empower the impoverished by improving their income, household consumption, productivity, and resilience. Moreover, microfinance significantly contributes to women's empowerment by expanding their income, purchasing power, individual savings and assets addition for poverty alleviation and sustainable development (Wright, 2000; McGuire & Conroy, 2000; Khandker, 1998; Chan & Ghani, 2011; Sebstad & Cohen, 2000; Morduch & Haley, 2001; Li, Gan, & Hu, 2011).

Microfinance¹ is the provision of wide-ranging financial services including microcredit, saving deposits, payment services, training and insurance. They are ultimately for extending markets, reducing poverty, empowering the poor and fostering socio-economic change (ADB, 2008). Microfinance institutions are classical instruments to serve the poorest of the poor in developing countries like Nepal. They are considered the fundamental tools for poverty reduction and sustainable economic growth (Karlan & Zinman, 2009). Grounded in the principles of scientific inquiry, this study aims to explore the impact of microfinance on household income after joining the microfinance program.

Based on the literature review this study concentrates on the change in economic status in terms of income level, savings, consumption expenditure, and capital expenditure of farmers. The economic transformation model of micro-finance has been presented in the figure.

¹There are numerous definitions of microfinance. The one adopted for the purpose of this study is the CGAP definition gives as follows: 'Microfinance is the supply of loans, savings, and other basic financial services to the poor, those who do not have access in to the formal banking service.'

Figure 1*Economic Transformation Model of Micro-finance*

DATA AND METHODS

The primary focus of this research belongs to the examination of microfinance institutions as a source of funding for individuals involved in any kind of agricultural activity in the study area. The study examines both urban and rural populations as defined by the Government of Nepal's administrative classifications.²

Kaski and Bardiya districts were selected propensively. Kaski was chosen as a representation of the hilly region and Bardiya as a representation of the Terai region. Maximum users of microfinance are engaged in agriculture at Kaski and Bardiya districts (Upadhyay, 2019).

The second stage of sampling design utilized a lottery technique from a simple random sampling method was utilized to select the local units. Kaski district comprises one metropolitan city and four rural municipalities. So, Pokhara metropolitan city was by default, as it is the sole metropolitan city. An additional rural municipality, Annapurna Rural Municipality, was chosen through a random lottery draw. Similarly, out of six urban and two rural municipalities, Barabardiya municipality and Badhaiyatal Rural municipality were chosen through a random lottery draw.

In the final stage respondents (farmers having members of microfinance) was selected by using snowball sampling which is a technique of non-probability sampling. So, the sampling strategy involved in the research was multiple stages: district selection through purposive sampling, local unit selection through lottery sampling, and respondent selection through snowball sampling.

The research design employs a cross-sectional, comparative approach. Data were collected at a single point in time with microfinance participants. Information on their economic indicators of before joining the microfinance institution and after joining. This design permits

²Urban areas are defined as municipalities, while rural areas are defined as rural municipalities (Gaupalikas), according to the 2023 Nepal Financial Inclusion Report.

a comparative analysis of changes over the specified period in rural and urban contexts.

Primary data was collected from household-level surveys using a structured questionnaire, indicating that the research is quantitative in.

The theoretical population for this study includes all individuals who have borrowed money from microfinance institutions for agricultural purposes within the Pokhara, Annapurna, Barbardiya, and Badhaiyatal local units of Nepal. This broad definition ensures that the study's findings can be generalized to a wide range of microfinance borrowers engaged in agricultural activities in these regions.

With the recently restructured 'Constitution of Nepal 2015', 753 municipalities restructured geographically. In this restructuring, Kaski and Baridya districts have five and eight local units respectively. Annapurna, Machhapurchhre, Madi and Rupa are the rural municipalities of Kaski district. Similarly, Gerewa and Badhayatal are the rural municipalities of Baridya district. Pokhara is only the Metropolitan city in the sampled district. Barabaridya, Bansgadhi, Rajapur, Madhuwan, Thakurbaba and Gulariya are municipalities of Bardiya district out of Eight local units. The study population is the MFIs' borrowers who were from the snowball sampling techniques. First, the population was defined as a borrower of different MFIs in the selected four local units for agriculture purposes, which was 25181 (NRB, 2080). The study areas weres taken by lottery technique of simple random sampling method. In the final stage, the sample was selected by snowball sampling technique from the list of 25181 agro-borrowers of four local units separately. The sample size was determined by applying an established statistical formula by Taro Yamane which is 394.

$$n = N / (1 + Ne^2)$$

Hence, n=is sample size

N=is total population

e=Margin of error

RESULTS AND DISCUSSION

Understanding the demographic characteristics of the respondents is crucial for interpreting the findings of this study. These characteristics provide context for the analysis of how microfinance impacts household income among small-scale farmers in Kaski and Bardiya Districts, Nepal.

Table 2*Demographic Characteristics of Respondents*

Category		Freq.	Percentage
Gender	Male	3	0.8
	Female	377	99.2
	Total	380	100
Age	Less than 25 years	29	7.6
	26-35 years	129	33.9
	36-45 years	121	31.8
	46-55 years	71	18.7
	Above 55	30	7.9
	Total	380	100
	Education	Illiterate	163
	Literate	57	15
	Basic	74	19.5
	Secondary	79	20.8
	Graduate & Above	7	1.8
	Total	380	100
Municipality	Annapurna Rural Municipality	42	11.1
	Pokhara Metropolitan	97	25.5
	Barbardiya Municipality	124	32.6
	Badhayital Rural Municipality	117	30.8
	Total	380	100
District	Kaski	139	36.6
	Bardiya	241	63.4
	Total	380	100
Years of	Less than 5 years	83	21.8
Membership	5 to 10 years	212	55.8
	More than 10 years	85	22.4
	Total	380	100
Loan time	< 3 times	213	56.1
	4 - 6 times	112	29.5
	> 6 times	55	14.5
	Total	380	100

Member's	One	217	57.1
Participation in	Two	115	30.3
Different MFIs	Three and above	48	12.6
	Total	380	100

Source: Researcher Field data 2023, calculations on SPSS-21

Table 2 presents the demographic characteristics and information regarding 380 participants. It shows a strong female dominance, with 99.2% of total participants. This highlights Nepalese MFIs have emphasized for female members. The emphasis on female participation suggests that microfinance services empower women, potentially contributing to their economic status improvement.

The age distribution reveals that majority of respondent (33.9%) from 26-35 years and between 36-45 years (31.8%). This suggests microfinance program attract younger and middle aged farmers actively engaged in farming activities, indicating a strong potential to impact their economic status.

The educational background of respondents indicates that 42.9% are illiterate, while others have varying levels of education ranging from basic (19.5%) to graduate and above (1.8%). The accessibility of microfinance services to individuals with limited formal education suggests that these services effectively reach a broad spectrum of the population, including those who might otherwise lack opportunities for financial inclusion.

Respondents are fairly distributed across the four sampled municipalities, with the highest representation from Barbardiya Municipality (32.6%), followed by Badhayatal Rural Municipality (30.8%), Pokhara Metropolitan City (25.5%), and Annapurna Rual municipality (11.1%) The majority of respondents (55.8%) have been members of microfinance institutions for 5 to 10 years, indicating their long-term engagement. This sustained participation suggests that farmers find value in these services over time, which could contribute to gradual improvements in their economic status.

Most of the members (56.1%) have engaged in single microfinance institutions however 42.9% of members have taken out loans from multiple institutions. This information raises a question, why microfinance institutions can not build a stable relationship with a single institution for their stable economic empowerment?

Status of Income

The impacts of microfinance on income level of small-scale farmers have been assessed. The study measures the changes in the status of income of farm households after joining the MFIs.

Paired Sample t-test has been used to capture whether there exist any such differences in terms of income status across rural and urban areas. Data presented in Tables 3, 4 and 5 show a significant increase in the average household’s income after joining the MFIs. This situation holds among sample households in both rural and urban Nepal.

Table 3

Paired Sample t-test Results of Households’ Income

Sector	Average income of the household (in Nrs.)		Paired sample <i>t</i> -test
	Before joining MFIs	After joining MFIs	
Rural (N=159)	278082 (200319.6)	431025 (661155.7)	<i>t</i> (158) = -3.078 <i>p</i> = 0.001 (1-tailed)
Urban (N=221)	278810 (326098.8)	487783 (713849.7)	<i>t</i> (220) = -5.558 <i>p</i> = 0.001 (1-tailed)
Overall (N=380)	278505 (280101.5)	464034 (691966.4)	<i>t</i> (379) = -6.151 <i>p</i> = 0.001 (1-tailed)

Source: Field survey

Note: Figures in the brackets indicate the Standard Deviation, and N represents the number of sample households.

Table 4

Distribution of Households by their Levels of Income Before and After Joining the MFI

Level of Income ‘In Rs’	Rural (N=159)		Urban (N=221)		Overall (N=380)	
	Before joining MFIs	After joining MFIs	Before joining MFIs	After joining MFIs	Before joining MFIs	After joining MFIs
Up to 2.5 Lakh	57.9	47.2	67.9	43.9	63.7	45.3
2.51 to 5 Lakh	30.8	27.7	19.0	29.4	23.9	28.7
Above 5 Lakh	11.3	25.2	13.1	26.7	12.4	26.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

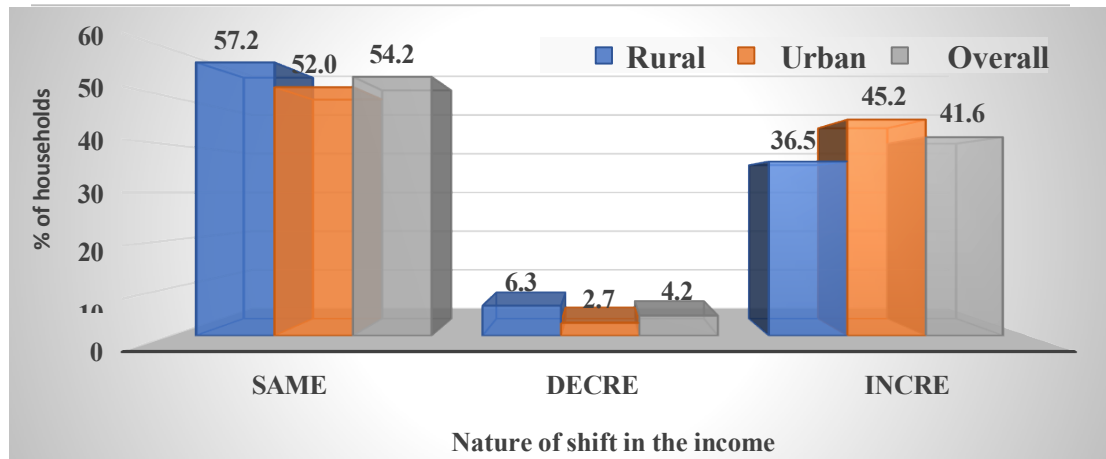
Source: Field survey, 2023

Table 5*Direction of Changes in the Household's Income After Joining the MFIs*

Sector	Income (Nrs) level before joining MFIs	% of households by the direction of shift in their income after joining the MFIs			Total
		Up to 2.5 Lakh	2.51 to 5 Lakh	Above 5 Lakh	
Rural	Up to 2.5 Lakh	66	18	8	92
		71.7%	19.6%	8.7%	100%
	2.51 to 5 Lakh	5	25	19	49
		10.2%	51.0%	38.8%	100%
	Above 5 Lakh	4	1	13	18
	22.2%	5.6%	72.2%	100%	
	Total	75	44	40	159
		47.2%	27.7%	25.2%	100%
Urban	Up to 2.5 Lakh	94	41	15	150
		62.7%	27.3%	10.0%	100%
	2.51 to 5 Lakh	3	21	18	42
		7.1%	50.0%	42.9%	100%
	Above 5 Lakh	0	3	26	29
	0.0%	10.3%	89.7%	100%	
	Total	97	65	59	221
		43.9%	29.4%	26.7%	100%
Overall	Up to 2.5 Lakh	160	59	23	242
		66.1%	24.4%	9.5%	100%
	2.51 to 5 Lakh	8	46	37	91
		8.8%	50.5%	40.7%	100%
	Above 5 Lakh	4	4	39	47
	8.5%	8.5%	83.0%	100%	
	Total	172	109	99	380
		45.3%	28.7%	26.1%	100%

Figure 2

The Direction of Shift in the Households' Income After Joining the MFI



Source: Field survey

Data presented in Figure 2 reveals no change in the level of income for 54.2% of sample farm households. For rural and urban areas, this figure remains at 57.2% and 52% respectively. The decrease (*shift of household income from a higher to lower level*) in the level of income was estimated for 4.2% (6.3% rural households and 2.7% urban households) households. The tendency of households to shift from a lower to a higher level of income was observed to be more among urbanites (45.2%) compared to their rural counterpart (36.5%). Overall, 41.6% of member households are observed to have shifted from a lower to a higher level of income. From this it is possible to infer that farmers are likely to be making productive investments out of the loan obtained from MFIs, and in turn, earning higher income.

CONCLUSIONS

The research evaluates the impact of microfinance on small-scale farmers in Nepal by focusing on rural and urban contexts before and after joining microfinance institutions (MFIs). The substantial rise in income status demonstrates a positive and significant impact of microfinance institutions (MFIs) on households in both rural and urban sectors. Sohn highlighting its role to enhance household income.

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