



Microfinance's Crucial Role in Helping Victims of a Natural Calamity

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ABSTRACT

This study aimed to examine microfinance's role in providing essential services to economically disadvantaged people in the aftermath of natural disasters. A study of 300 people who use microfinance was carried out in the tehsil of Taunsa, located in the district of Dera Ghazi Khan. In 2022, information was gathered from microfinance institution customers impacted by flooding. The purpose of this study was to determine whether or not microfinance helped them meet their basic needs during the natural disaster. The data was analyzed using the 21st edition of the Statistical Package for the Social Sciences (SPSS). The most important findings from this study were that most microfinance users were men; however, slightly more than one-third of microfinance users were females. This is an important finding because, in a natural disaster, financial assistance is provided to female-headed families so their basic needs can be met. The vast majority of those polled owned their homes, most of which were flooded. The findings of this study suggested that neither the government nor microfinance institutions provide significant assistance to disaster victims in their efforts to recover. According to preliminary findings from this study, low-income families facing difficult circumstances during or after a disaster are more likely to rely on themselves and the coping mechanisms provided by their communities than on any public or private assistance. According to the findings, policy interventions aimed at reducing flood losses and assisting improvement should consider the shifting risk profile that impoverished people face when it comes to natural disasters.

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1. Introduction

Microfinance institutions (MFIs) strive to close the wealth gap by offering financial services to people who would otherwise be excluded from the conventional banking system. USAID has been striving to strengthen MFIs' capacity to assist low-income communities afflicted by crises and make them more resilient to natural disasters via its Microenterprise Best Practices (MBP) Project (Islam, Kokubu, & Nishitani, 2021; Misra, 2021). Would microfinance be effective in the aftermath of natural disasters? This is an urgent issue that must be addressed by both MFIs and those working to mitigate the consequences of natural catastrophes (Qureshi, 2022; Tien Thanh & Bao Duong, 2021). Natural disasters strike many places regularly, while others only occasionally witness them. When a calamity hits, folks already in financial difficulty have many possibilities for satisfying their requirements. Published texts may include in-depth analyzes of these possibilities (Muneer & Khan, 2022).

These choices may be employed consecutively or in any combination, depending on the nature of the tragedy, the family's financial status, the assets at their disposal, and the state of the market at the time. A family, for example, may initially spend what they have on hand,

but if food becomes too costly or scarce, they may be forced to examine choices soon (Bangaan Abdullah, Yakob, Yakob, & Sharif, 2022). Some of these solutions may also be "reversible," enabling the family to resume normal operations after the danger has passed and the essential supplies have been supplied. The choices that require more permanent adjustments, such as relocating or selling long-term household assets, are less appealing (Khan, Ming, Ali, & Zhang, 2022).

After a devastating incident, spending less, selling goods, or moving around searching for work are not very desirable answers. These first three alternatives should be considered. Compared to before the catastrophe, survivors of catastrophic disasters tend to be in poorer health, have less money saved, and have a more difficult time reuniting their families. When they have no other choices, low-income families often resort to these strategies (Mohammed, Barrowclough, Kibler, & Boerngen, 2020).

Following recent natural disasters, this study focuses on microfinance and its commitment to social change and poverty reduction among the world's poorest people. Many low-income people could see significant improvements in their quality of life if they had access to microfinance. Because of the efforts of several MFIs and nongovernmental organizations, microfinance has become more accessible to low-income individuals who cannot benefit from the traditional financial system. It was assumed that, while microfinance may not be necessary for every individual, it would benefit most organizations. I have demonstrated the significant commitments made by microfinance in eradicating poverty by expanding access to income-generating activities and strengthening the capacity of economically disadvantaged people to access various development services such as healthcare and education. In light of this, the study's goal was to determine how microfinance can alleviate the severity of the rural poverty problem. The objective of the Research are as follows;

- To Investigate how microfinance institutions (MFIs) assist those in need following a natural disaster.
- To examine the monetary assistance provided by MFIs to those in need following a natural disaster.
- To learn more about how MFIs help those who suffer economically during natural disasters in ways other than financial assistance.

2. Microfinance and Needs of the Poor Following a Natural Disaster

The last three responses reveal the household's and community's pre-disaster safety net: does the household have access to accumulated wealth, a prominent standing in the community, previous borrowing ties, and strong family relationships? Low-income families must pick one of these six alternatives based on the strength of their support networks and the severity of the tragedy. How can families living in poverty prepare for the "unknown?"

Those living in poverty are conscious of their precarious circumstances (UI-Haq, 2020). According to research, most low-income households experience multiple problems in every worldwide sector. Individual family crises and "covariate" shocks impacting the community are both instances of such crises. Households have developed a variety of risk management measures to prepare for the unavoidable financial consequences of events such as the death, illness, or theft of a family member. Some suggested solutions include purchasing insurance, establishing an emergency fund, and amassing assets that can be liquidated if necessary (Hossain, Muhammad, Jibril, & Kaitibie, 2019).

Large-scale situations of unknown causes, such as natural catastrophes, are more difficult to prepare for. Low-income families may need help choosing between investing in their children's education, providing regular meals, and making their homes more hurricane-resistant. Most families in this situation would opt for the first option, which entails making a risk-free investment right away and moving in a direction that will benefit their lives (Basha, 2022). Because there is nothing low-income families can do to prevent tragedy, they are left with various strategies for dealing with its aftermath. Given this circumstance, low-income families seldom develop crisis preparations (Hassan, Jajja, Asif, & Foster, 2021).

The present study attempted to analyze microfinance's role in meeting the poor's basic needs during a natural disaster. In so doing, the current study examined whether or not

microfinance helped natural disaster victims to satisfy their basic needs and rehabilitate them during natural disasters. A survey was conducted from a sample of 300 microfinance users of Tehsil Taunsa, District Dera Ghazi Khan.

3. Microfinance in Pakistan

Given the importance of microfinance in alleviating poverty and strengthening social cohesion, the Pakistani government has taken several noteworthy steps, including developing a solid explanation for the inclusion of microfinance within the savings market. In 2000, Khushhali Bank was the first MFB, or microfinance special bank (Moahid, Khan, Yoshida, Maharjan, & Wafa, 2021). The government passed the Micro Finance Institutions Ordinance in 2001, a game changer (MFI). The Pakistan State Bank has established a separate administrative structure for microfinance institutions. As a direct consequence of this law, several microfinance banks have been established recently. In Pakistan, contributions from microfinance banks, individual MFIs, and national development programs run by nongovernmental organizations (NGOs) support the smaller-scale financing system (NGOs). The Pakistan Poverty Alleviation Fund, or PPAF, was established in 1999 to oversee non-bank MFI. This organization supports the distribution of loans to MFIs that the State Bank of Pakistan does not monitor since it serves as a credit distributor and merchant (Muhammad, Hassan, & Mehmood, 2020).

The number of persons who have received capital for their firms has increased from 60,000 to 1.5 million. Credits vary from \$150 to \$500 and have aided 9 million individuals nationwide in 111 counties (Muhammad et al., 2020). For mind-boggling establishment musings on Pakistan's microfinance sector in recent times, the Poverty Reduction Strategy Paper (PRSP) and its 2015-20 Medium Term Development Framework (MTDF), both of which identify poverty as the country's central problem and regard microfinance as an essential tool for advancement in each of the three regions (Cherotich, Sibiko, & Ayuya, 2022).

Although the microfinance industry in Pakistan has achieved significant progress and has enormous expansion potential, there are several issues that experts are attempting to address. MFFs are more successful than ever, yet the number of people they assist is still significantly less than required (Ruthbah, 2022). The Pakistan Microfinance Network (PMN) is a network of organizations in Pakistan that offer microfinance services and influence financial institution administration and the usage of small-scale financing in the country. PMN strives to change people's need for everyday conveniences while also providing possibilities for economically disadvantaged people (Hassan et al., 2020).

According to the World Bank, the Performance of the Pakistan Poverty Alleviation Fund (PPAF) is an important aspect of Pakistan's anti-poverty campaign, swiftly achieving its goals. Poverty affects many individuals, and it is the root cause of much verbal conflict that pervades our culture (Islam et al., 2021). This is mostly due to the wide range of causes that might lead to poverty. These can be classified based on where they come from: the individual's choices and actions in their immediate environment, basic societal needs and inequities, and government welfare privilege programs (Misra, 2021).

Because poverty is multifaceted, the basics may refer to items such as food, water, and shelter, or they may refer to social assets such as knowledge, education, health care, financial security, political influence, and social capital (Qureshi, 2022). Even though defining poverty is critical for designing arrangements and procedures, there needs to be more unanimity when we discuss it. This is even though the international community is attempting to reduce and mitigate poverty. As a result, people all over the world are working together to find solutions to the problem of poverty. Furthermore, "poverty exists in a society when one or more people do not attain a level of material well-being deemed by the society's standards to constitute a reasonable minimum (Isoto & Kraybill, 2019; Mia et al., 2019).

Regularly, poverty is rated on a scale from worst to best. For example, one could measure the family's income or spending in current units to determine whether or not the family is poor (Emeru, 2022; Mehedi et al., 2020). The poverty line is the income level above which a family is no longer considered poor by the country's economic standards. All families earning less than this amount are considered low-income.

4. Methodology

4.1 Research Design

The research approach for this study was influenced by the study's research questions and goals. After completing the literature research, the first questionnaire was developed. The literature analysis indicated various supply-side microfinance difficulties, allowing us to organize interviews with Microfinance Institution clients. A detailed interview schedule was created after categorizing empirical data and hypothetical concerns. The study's objectives were met thanks to data snippets provided by clients and MF service providers.

4.2 Research Hypotheses

The hypothesis of research are given below;

- H₁: MFIs have a significant positive effect on the children's education level
- H₂: MFIs have a significant positive effect on housing conditions
- H₃: MFIs during disasters increase expenditure on household items
- H₄: MFIs have a significant positive effect on household assets ownership

4.3 Population

In Tehsil Taunsa, located within District Dera Ghazi Khan, the Micro-WATCH report from October 2022 said that there were 61,941 consumers receiving microfinance services. Akhuwat, First Microfinance Bank, Khushhali Bank (KB), National Rural Support Program (NRSP), Punjab Rural Support Program (PRSP), and First Microfinance Bank were the institutions that were actively lending money to people (Mohammed et al., 2020). All the customers of the six microfinance institutions (MFIs) operating in the Tehsil Taunsa area of the District of Dera Ghazi Khan constituted the population for the current research.

4.4 Sampling Method

The final sample units for this investigation were determined using cluster sampling. The researcher began the study by selecting two MFIs (microfinance institutions) randomly from a larger pool of six. The organizations NRSP and KB were chosen randomly to participate in the study. In step two, an inventory of how many people were served by these two businesses was compiled. Within the Taunsa tehsil, these two businesses serve 42,000 customers. As a result, the participants in this study came from the clientele of these two Taunsa MFIs. The research was expensive because the clients of the two MFIs were dispersed throughout the area. This was especially true in the rural districts still within striking distance of Taunsa. Although there is much debate about the optimal sample size, the reality is that it will be determined primarily by the available resources. We used the following formula to determine the sample size for this study.

Yamane Formula for sample size computation

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

n = Number of samples

N = Total population

e = Error tolerance

The population size used in this investigation was 42000, and a significance threshold of 5 percent was established for the error tolerance.

$$\begin{aligned} n &= 42000 / (1 + (42000) (0.05)^2) \\ &= 396.226 \text{ or } 396 \text{ samples} \end{aligned}$$

A sample of 396 microfinance clients was taken for this study.

4.5 Data Collection

Face-to-face interviews were used to identify the primary decision-makers in each household as the study's respondents. The data comes from the district's outlying areas. The chosen MFIs were the only ones serving the rural area of the tehsil Taunsa, and this was

significant since helping people in rural regions is MFIs' major objective. This is why participants from rural areas were sought for the study.

4.6 Practical Framework

Microfinance institutions are bound to the same confidentiality norms as any other firm when interacting with its consumers. Before making contact with consumers, you must receive formal approval from Corporate. That is why the method was divided into phases.

- Contacting the firm directly by phone, email, or normal letter to request authorization.
- When the regional office presents a plan for approval, corporate headquarters will approve it and provide directions.
- The regional office must convey this information to the service sites.
- A representative customer officer (CRO) was appointed to the service center to assist with client access.

5. Data Analysis

This study aims to see whether there are any significant differences between catastrophe victims who are members of an MFI and those who are not. We show and explain the chi-square test results we received below. The Chi-Square test is important for determining whether or not there is a statistically significant difference between catastrophe victims who are MFIs and those who are not.

Table 1: Socio-demographic profile of the respondents

Demographics	No. of Respondents	Frequency
Sex		
Male	194	64.7
Female	106	35.3
Total	300	100
Age of respondents (in years)		
≤25	25	8.3
26-30	47	15.6
31-35	110	36.6
36-40	57	19.0
41-45,	33	11.0
46 and above	28	9.3
Total	300	100
Respondent of material status		
Single	7	2.4
Married	257	85.6
Window	36	12
Total	300	100
Family type		
Nuclear	52	17.4
Joint	248	82.6
Total	300	100
Mode of transportation		
Bicycle	186	62
Motor cycle	31	10.3
Public transport	83	27.6
Total	300	100
Profession		
Agriculture	168	56
Non-agriculture	51	17
Labor	81	27
Total	300	100

Table 2: Participation in a youth microfinance and education program

Variable	Statement	Chi Square	Df	P
EDU 1	Number of School going children	5.048	3	0.168
EDU 2	Highest qualification among school going children	25.741	5	0.000
EDU 3	Spending on children education	15.677	4	0.003

A value of 0.168 is more significant than 2 (3, n = 300), p 0.05 when comparing educational significance levels. In other words, at the 5% level, the Education 1 variable does not include merit evaluation for significance. As a result, there is insufficient information to indicate that catastrophe victim who belongs to an MFI have a higher percentage of their children than those who do not. The significance thresholds for Education 2 and 3 are substantially lower than 2 (3, n = 300) = 0.000, p 0.05, and 2 (3, n = 300) = 0.003, p 0.05, respectively. The figures, in this case, are zero and three-hundredths of a cent. In other words, we have enough information to suggest that catastrophe victims who are members of MFIs have dramatically different levels of education obtained by their children and spending habits on education than those who are not.

H1: MFIs have a positive association with the level of children's education

When the results of Education 1, Education 2, and Education 3 are combined, the microfinance project positively affects children's education. This is because two of the three indicators were statistically significant in the previous chi-square tests. Several studies have shown that microfinance helps children get a better education. In this article, we present the findings of two studies that show that participating in a microfinance project increases tuition and other related costs. Microfinance did not improve children's schooling as expected (Hassan et al., 2020; Ngango et al., 2022).

These findings are consistent with previous studies. However, the findings above contradict previous research findings. One possible explanation for experiment ED1's insignificant outcome is the existence of the family unit, in which parents can choose not to enroll their children in school. If this is true, all school-aged children will enroll, and microfinance participation below the conditions will have a negligible impact. However, they are now responsible for covering the higher costs associated with their children's education, which they can afford due to an increase in their income, allowing them to provide their children with opportunities to pursue higher levels of education. Participation in a cooperative MFI leads to higher educational attainment and greater financial investment in education as a result of Education 2 and 3. This suggests that the MFI significantly impacts young people's academic achievement.

5.1 Microfinance and Housing Conditions

Using a Chi-square test, the housing conditions of disaster victims who are MFIs were compared to those who are not, with the variables classified as HS1-HS5. The study's findings are as follows:

Table 3: Participation in MFI and Housing Conditions

Variable	Description	Chi Square	df	P.
HS 1	Repairs to house during last two years	34.694	1	0.000
HS 2	Used funds from enterprise to repairs	69.930	1	0.000
HS 3	Any improvement in water or sanitation	12.733	1	0.000

All three significant values, HS1 through HS3, add up to 0.00, which is a low figure. χ^2 (3, n = 300) = 0.000, p <0.05. This shows insufficient evidence to conclude that Housing Conditions do not differ significantly between new and returning clients. According to the data,

this is because there is no statistically significant difference between new and old customers in terms of Housing Conditions.

H₂: MFIs' association with improved housing conditions

Looking at the Chi-square results table, we can see that the MFI significantly impacted each of the variables. The outcomes allow us to see for ourselves. These findings indicate that people who are members of MFIs fare significantly better than those who are not during natural disasters. This evidence supports the conclusion that participation in MFIs improves living conditions. The following evidence supports this finding: Because there is not a lot of housing research available, we will only cover the findings from a few of them here. These findings suggest that microfinance significantly impacts the housing market. According to Brannen's research, individuals who participate in MFIs are more likely to own their homes and have the financial resources to invest in improving the overall quality of their homes.

5.2 Microfinance and Household Expenditures

The tehsil of Taunsa in Punjab has some of the province's lowest literacy and financial literacy rates. Regarding future budgeting and planning, the public needs to be more concerned about who will make which decisions. The Chi-Square test results show that they were hesitant to buy household necessities and share their income with their partner. According to the overall results based on these two factors, natural disaster victims who are members of an MFI use their funds for different purposes than those who are not.

Table 4: Chi-Square tests of Microfinance and Household Expenditures

Variable	Statement	χ ² Value	df	Sign.
EXP 1	Change in household earnings	32.725	1	0.000
EXP 2	Funds invested in income generating activities	17.391	1	0.000
EXP 3	Funds used to buy nutrition/clothes	3.297	1	0.069
EXP 4	Funds given to partner	0.997	1	0.318
EXP 5	Funds saved for emergency	6.306	1	0.012
EXP 6	Funds used to repay microfinance loan/other debt	9.914	1	0.002
EXP 7	Funds used for celebrations (weddings etc.)	10.227	1	0.013

H₃: MFIs' association with increased expenditure on household items during disasters

All else being equal, disaster victims who participate in MFIs spend more money on basic household necessities than those who do not. In this light, it is safe to say that participants in MFIs significantly affect household spending. As a result, three cannot be true. According to research directed by (Mashapure et al., 2022) and carried out by Effa and Herring, participants in MFIs make capital-effect purchases of household goods.

5.3 Microfinance and Ownership of Assets in use

Customers who have expressed an interest in the expanded program are more likely to own high-value items such as televisions, mobile phones, and motorcycles, according to studies conducted by Teng, Prien, Mao, and Leng (2011). The effectiveness of the program can be assessed in this manner. It is now possible to interpret the Chi-Square test results.

To summarize, only the ASSETS 4 variable has a p-value less than 0.05, indicating that microfinance is significantly related to asset ownership. However, none of the other variables, which have p-values greater than .05., support the alternative hypothesis. As a result, 8 of the nine variables are within the desired range of 2 (1, n), p.05.

Table 5: the test of Microfinance and ownership of Assets

Variable	Statement	Chi Square	Df	P
ASSETS 1	Ownership of House	1.194	1	0.167
ASSETS 2	Ownership of Agricultural land	3.805	1	0.051
ASSETS 3	Ownership of Refrigerator/TV	0.521	1	0.470
ASSETS 4	Ownership of Motor Cycle	15.573	1	0.000
ASSETS 5	Ownership of Sewing Machine	1.401	1	0.709
ASSETS 6	Ownership of Washing Machine	1.914	1	0.168
ASSETS 7	Ownership of Furniture	8.631	1	0.100
ASSETS 8	Ownership of Livestock	1.080	1	0.299
ASSETS 9	Ownership of Motor Pump	3.805	1	0.051

H4: MFIs' association with household assets

According to the Chi-square results, there is no statistically significant difference in household resources between disaster victims who participate in microfinance and those who do not, supporting hypothesis 4. The chi-square analysis confirms this. After receiving microfinance, clients' priorities are to meet their most basic needs, such as providing for their families nutritional needs, ensuring their children's access to quality education, and improving the quality of their living quarters. This is the most plausible explanation for why the results are not statistically significant.

The author also found no statistically significant relationship between participation in MFIs and any of the four categories of household assets measured by Kondo et al. Participants in Mckernan's study discovered that participation in MFIs is inversely related to household asset ownership.

6. Conclusion

Microfinance has helped alleviate poverty for many underprivileged Punjabis, and this research aimed to quantify that effect. Insights were gleaned at the family unit level, and progress in this area was anticipated to contribute to poverty reduction. Two Tehsil-based MFIs provided the data used for this analysis. The results show that microfinance helps those whose lives have been upended by natural disasters in major and positive ways. However, the least conclusive findings were found for personal possessions. Therefore they should have been considered. The principal source of income of microfinance customers was shown to be the most influential variable in their economic empowerment.

The current study examined the impact of elements associated with the financial well-being of customers' households. Because microfinance institutions (MFIs) often focus on a certain area of the economy, these impact studies are quite useful. MFIs will have more time to fine-tune their capacity rules for evaluating candidates outside the loaning system. According to a study, natural catastrophes have a catastrophic impact on the individuals who are directly affected. This is a serious problem in both Pakistan and Taunsa. Because Taunsa, like many other microfinance efforts, was not the focus of this study, experts and policymakers may find the data more accessible. Despite these shortcomings, the research contributes significantly to the value and effect evaluation of the microfinance business, notably in Pakistan. There are following recommendations;

- Some of our respondents have expressed worry that the amount we have collected in advance needs to be increased to get us started with our new business. Customers of the MFI would considerably benefit from additional investment opportunities if they were provided significant advances on their loans.
- MFIs should concentrate on a wide range of industries. They must motivate people to join the program and start new enterprises. In other words, it will be an extra source of revenue. Most microfinance banks have yet to have a specific branch to deal with the start-up requirements of customers who may or may not have huge business

aspirations. Furthermore, consumers receive a small capital advance; as a result, it is suggested that they be offered counseling sessions on the responsible use of this money. As a result, to better serve their customers, certain microfinance banks may establish specialized areas of business development emphasis.

- As a result, establishing specialized business development departments inside microfinance banks may benefit their clients.
- While MFIs have the necessary structure to manage disputes, this structure needs to be improved for monitoring loan use. Even though MFIs have reliable mechanisms to ensure payment delivery, more than these measures are needed to ensure accurate fuel usage estimates. Because credit was not truly traded for risk, this behavior must be observed infrequently. Credit should be used as little as feasible.
- Quarterly monitoring, for example, would be beneficial in identifying the difficulties customers are experiencing as they progress with their new institutions if such advancement is required once a year on any occasion. This is done to assess the customers' ability to deal with such difficulties. Almost all purchasers regarded the product as a consumable. Most consumers, due to their lack of financial literacy, require guidance on available upgrading discounts and reinvestment options throughout the life of their loan. Consumers need more financial literacy to differentiate between corporate and personal spending, as well as the mathematical acumen to calculate their benefit entitlements correctly. Advice on reinvestment rates and benefits should be provided, and a system for improving these calculations should be presented.

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