P-ISSN: 2709-6254	Journal of Development and Social Sciences	Oct-Dec 2022, Vol. 3, No. 4
O-ISSN:2709-6262	http://dx.doi.org/10.47205/jdss.2022(3-IV)10	[94-103]

JDSS Journal of Development and Social Sciences
www.jdss.org.pk

RESEARCH PAPER

Microfinance for Poverty Reduction in Pakistan: A Sectoral Analysis

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ABSTRACT

The study analyzes the impact of microfinance provided by Khushhali Microfinance Bank Limited (KMBL) for poverty reduction in district Sargodha. It explores explicitly the sectors in which credit usage is more helpful for poverty alleviation. For this purpose, we collected the primary data of 300 households from KMBL. The findings revealed that microfinance played a vital role in poverty eradication. The binary logistic regression implied that males were more likely to be poor than female borrowers. There was a negative and statistically significant relationship between educational attainment of the respondent and poverty level of the household. The existence of the market and poverty level were negatively correlated. Most importantly, the trading and services sectors had a significant contribution to poverty reduction among all the sectors. Hence, there is a need to increase female participation in the credit program. Special attention should be given to the borrowers to utilize their loans in the trading and services sectors, which are more helpful in coming out of poverty.

KEYWORDS KMBL, Microfinance, Occupational Sectors, Poverty Reduction

Introduction

Poverty is a multi-facet phenomenon of insufficiency or lack of political, economic, cultural and social entitlements. Similarly, Alkire and Foster (2011) define it as an insufficient income or lack of means to satiate basic needs. Furthermore, there are numerous poverty indicators like hunger, low income and unavailability of shelter, sickness and lack of knowledge, poor health, unemployment and powerlessness, no freedom to speak and vote, and lack of clean drinking water. In addition, there are also some other factors that trap the people in poverty, such as political instability, gender disparities, big family size, natural disasters, corruption, and socio-economic and regional disparities.

Limited credit opportunities lead people to poverty. Generally, in less developed countries, both formal and informal financial sectors have been unsuccessful in catering to destitute people's needs. Collateral requirements, preference for rich people, a big amount of loans, and tedious bureaucratic processes exclude low-income people from the banking sector. Similarly, the informal financial sector has also denied providing credit to the poor due to a very high rate of interest and exploitation (Chowdhry, 2008).

In this respect, a microfinance program has been initiated to bridge the gap of the missing credit market for the poor. It has reversed the traditional banking system by providing collateral free loans to the needy people to earn their livelihood. Microfinance (MF) assists the poor by raising income and providing access to education and self-empowerment. Among all other anti-poverty strategies, MF is known as a successful anti-poverty strategy all over the world (Chughtai, Zaheer & Taj, 2015).

Microfinance is generally an umbrella term that refers to providing a broad range of financial services such as deposits, loans, payment services, money transfers and insurance to poor and low income households and their micro-enterprises. In short, microfinance provides de-collateralized small loans to the poor (Asmat, 2009). The idea of MF was floated

by a noble laureate Prof. Dr Mohammad Yunus in the late 1970s. His prime objective was to combat poverty and unleash the productive potential of the poor by providing them with the collateral free loan. Now microfinance has earned significant recognition as an essential tool for poverty mitigation among policy-makers (Chowdhury, 2008).

Poverty has been the most challenging issue in Pakistan since 1947. The poverty trend in Pakistan has been very fluctuating over time. According to Pakistan Economic Survey (2016), 29.50 percent of people are poor. Most people reside in villages, and their livelihood is based on the agricultural sector of the economy. Specifically, rural people live in a pathetic condition due to a shortage of basic facilities like drinking water, primary education, health facilities, roads, energy, communication, and unemployment.

Microfinance programs are functional in different forms and sizes for the last four decades as a key policy for poverty alleviation in Pakistan. The government of Pakistan has taken remarkable steps for the survival of the microfinance industry and its regulatory framework in the form of the Pakistan Poverty Alleviation Fund (PPAF) and Pakistan Microfinance Ordinance (PMO) 2001. Pakistan stands among the top three worldwide for its regulatory framework and overall business point of view for micro financing for the last few years (Pakistan Economic Survey, 2015). In Pakistan, different studies have explored the contribution of microfinance in poverty eradication. Different empirical studies revealed that microfinance programs played a very positive role in the eradication of poverty from Pakistan (Tasos, Amjad, Awan & Waqas, 2020; Imtiaz, Mehmood, Akram, & Irfan, 2014; Akram & Hussain, 2011; Durrani, Usman, Malik, & Ahmad, 2011; Waheed, 2009; Mawa, 2008; Manzoor & Akhtar, 2006; Ahmed, Naveed, & Ghafoor, 2004; Adil & Badar, 2003; Malik & Nazli, 1999).

Sargodha district has an extensive network of micro financing. As per Pakistan Microfinance Network (2017), Sargodha district stands among the top three districts of Pakistan, with an 11.11 percent increase in microcredit outreach all over Punjab by the end of 2016. In Sargodha, KMBL has three branches (Bhalwal, Sargodha, Sahiwal) to provide micro-financing facilities in the district Sargodha. The prime objective of the study is to analyze the impact of the microfinance program started by Khushhali Microfinance Bank Limited (KMBL) on poverty alleviation in the area of district Sargodha. Moreover, it also aims to identify the sectors in which credit usage is more helpful for poverty mitigation.

Literature Review

McKee (1989) examined the role of microfinance in improving the economic status of the women. According to him (1989), after getting microcredit, there was an increase in the borrower's income. The outcome showed that the microfinance program was a viable strategy for combating poverty. Khandker (1998) also explained the same thing in his study. He (1998) conducted the study to observe the effectiveness of three Bangladeshi micro financing programs and found that microcredit led to an increase in annual consumption expenditure. Microfinance had significantly improved the client's income. Chavan and Ramakumar (2002) analyzed the effect of micro financing on poverty elimination. The findings revealed that microfinance schemes had played a defining role in uplifting the clients' income. Goldberg (2005) also revealed that credit had a vital contribution in poverty eradication by raising the poor's income.

Gurses (2009) conducted a research and found that microfinance was an effective anti-poverty policy measure in Turkey. The study observed that poverty was a serious threat to 20 percent total population of Turkey, and the issue was being dealt by microfinance institution. Similarly, Kumar, Bohra and Johari (2010) believed that the availability of micro loan is an important solution to deal with poverty in India. Most people in India are living below the poverty line. That is why MF has a big market in India.

The effective utilization of microfinance is also attached to the provision of basic infrastructure. Ebimobowei, Sophia, and Wisdom (2012) observed the association between microfinance and the eradication of poverty in the Bayelsa State of Nigeria. The findings showed there was a positive relationship between microfinance and poverty eradication. The study also revealed that only the availability of microfinance could not eliminate poverty without the provision of basic infrastructures. Therefore, the study recommends that the governments of developing countries like Nigeria should also focus on the provision of basic infrastructure and micro financing.

Idown et al. (2012) pointed out the contribution of women in microfinance activities. The findings revealed that 73% borrowers of microfinance program were female. Therefore, with the increased share of females in micro financing, the outcomes were very encouraging and positive for poverty elimination because participation in microfinance program provided an opportunity to women to develop business and assist their families. Kireti and Sakwa (2014) analyzed the socio-economic effect of a microfinance program on women in Nakuru County, Kenya. The data of 370 women clients were taken by using a structured questionnaire. The study showed that the availability of microcredit facilities raised income and expenditure on education and health facilities. Miled and Rejeb (2015) identified the relationship between microcredit and poverty alleviation by collecting data from 596 microfinance institutions (MFIs). The findings showed that a country with a high level of microfinance provision had to lessen poverty and a higher level of per capita income.

In Pakistan, microfinance is also considered an effective anti-poverty policy at the national level. There are following different studies that have observed the role of microfinance in poverty mitigation over time. Ahmad et al. (2004) examined the effectiveness of the microfinance program initiated by Khushali Microfinance Bank Limited (KMBL) for poverty eradication in Tehsil Rahim Yar Khan, Pakistan. The outcomes described a positive link between credit and income, credit and saving, credit and yield per acre, credit and assets formation and credit and farm expenses. It was concluded that (KMBL) Rahim Yar Khan was efficiently working to serve the poor and assisting them to come out of poverty. Lodhi, Luqman, Javed and Asif (2006) evaluated the microcredit program carried out by NRSP. The findings showed that NRSP played a vital role in empowering females and also boosted women's living standards in the community.

Sherazi and Khan (2009) conducted a research study on microfinance initiated by PPAF in poverty reduction. To differentiate the poor households into different poverty groups and bands, they employed an official poverty line for the year 2003-2004 and observed that all groups had improved their status. During the observed period, the poverty level had been reduced by 3.08 percent points from 6.62 percent to 3.56 percent. Akram and Hussain (2011) examined the contribution of microcredit in boosting the level of income in the area of district Okara, Pakistan. Clients of three microfinance banks working in the district, namely Tameer Microfinance Bank (TMFB), Khushali Microfinance Bank Limited (KMBL) and The First Microfinance Bank (FMFB), were taken as population. The study observed that microcredit had a positive association with income level. It was suggested that the loan size be increased and the rate of interest must be decreased so that the poor may enjoy the benefits of micro financing in a real sense.

Imtiaz et al. (2014) examined the role of microfinance in poverty elimination in the Faisalabad district. The data was collected by using the household survey method from the borrowers of Khushhali Microfinance Bank Limited (KMBL), district Faisalabad. The findings described that microfinance had reduced poverty. Ghalib, Malki, and Imai (2015) observed the affiliation between microfinance and household poverty in Pakistan. The study wanted to assess whether participation in microfinance activities would lead to reducing household poverty or not. Primary data from 1132 households were used in the analysis. The outcomes revealed that MF contributed considerably to poverty lessening in Pakistan. Mahmood, Arby, Hussain and Satar (2016) analyzed the effect of microfinance on poverty

eradication and the clients' standard of living. The data of 400 borrowers of KBL had been gleaned by household survey method from the area of district Layyah and Dera Ghazi Khan. The result of the study revealed that MF had raised the level of consumption and income for the poor.

Material and Methods

The study is based on the primary data of the clients of Khushhali Microfinance Bank Limited (KMBL) operating in district Sargodha. The research uses per capita income as a proxy for poverty, as in other studies like Asghar (2012) and Waheed, (2009). The household has the following two categories:

1. Program Household (PHH): Households that have received more than one loan from KMBL.

2. Comparison Household (CHH): Households that have applied for micro financing and yet have to receive their first loan.

The study has used the probability proportional to size sampling (PPS) technique for the selection of the sample. PPS is an appropriate measure for sample selection when the units of the targeted population vary in their size. In this situation, an ideal solution is to assign probability proportional to their size. So that larger units may have a greater contribution to the total sample size. In this way, the selected sample would have more efficient estimates. Khushhali Microfinance Bank Limited has three branches in district Sargodha (Bhalwal, Sahiwal, and Sargodha), and its total active borrowers are 17,052 in 2022. All these three branches vary in terms of their total active borrowers. Sargodha branch has 60%, Bhalwal 30% and Sahiwal 10% weight to total active borrowers. The household survey method has been used for data collection with the help of a well-structured questionnaire. Thus, we have collected the data of 300 households from all these three branches by using PPS. Out of these 300 households, 150 belong to PHH and whereas remaining 150 to CHH.

Binary Logistic Regression (BLR)

Logistic regression is a suitable regression technique to carry out when the outcome variable is categorical in nature. Binary Logistic Regression (BLR) technique is deployed to investigate the association between a binary variable and different independent variables. When a dependent variable is dichotomous or categorical, the assumption of linearity in a normal regression analysis is violated. In such a situation, BLR uses logarithmic transformation on the outcome variable. In this way, logistic regression depicts the multiple linear regression equation in the logarithmic term known as Logit. It is a natural log of the ratio of probability. Logit model is widely recognized because it gives more rigorous outcomes. So, the research has used Logit model for econometric analysis.

Econometric Model

The econometric model is used to investigate the impact of microfinance on poverty eradication in the area of district Sargodha by identifying the sectors in which loan is more productive and provide quick relief from poverty. Thus, the study has constructed this model to know the role of occupational sectors in poverty lessening, and livestock has been set as a reference category.

$$Y = \alpha_o + \beta_1 GEN + \beta_2 EDU + \beta_3 EMKT + \beta_4 TRAD + \beta_5 MANU + \beta_6 SERV + \beta_7 OTHER + \mu \quad (1)$$

Y= poverty status of the household

$GEN =$ gender of the respondent

$EDU =$ educational status of the respondent (literate or illiterate)

$EMKT =$ existence of market in the locality

$TRAD =$ loan invested in trading sector

$MANU =$ loan invested in manufacturing sector

$SERV =$ loan invested in services sector

$OTHER =$ loan invested in other sectors

$\mu =$ error term of the model

$LVSTK =$ loan invested in livestock sector (reference catagory)

$(\alpha_o, \beta_i) =$ the parameters to be estimated

Now, this model is converted into a logistic regression model by applying the following mathematical procedure.

The general function is given as below:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 \quad (2)$$

Where Xs represent independent variables as

$X_1 =$ GEN, $X_2 = EDU, X_3 = EMKT, X_4 = TRAD, X_5 = MANU, X_6 = SERV, X_7 = OTHER$

$Y =$ Poverty (POVT)

A household is said to be poor if its monthly per capita income is less than 3757.85 (PKR) and non-poor if monthly per capita income is greater than 3757.85 (PKR).

$\alpha =$ intercept of the equation

$\beta_i =$ coefficient of the explanatory variables

Basically, Logit is expressed as logarithmic transformation of odds and it can be show as below.

$$Logit(Y) = \ln\left[\frac{Probability\ of\ happening\ of\ an\ event}{Probability\ of\ not\ happening\ of\ an\ event}\right] \quad (3)$$

$$Logit(Y) = \ln\left[\frac{p}{1-p}\right] \quad (4)$$

$p =$ p*robability of happening of an event*

$1-p =$ *Probability of not happening of an event*

To obtain logistic regression model equation (2) is put into the right hand side of the equation (4).

$$\ln\left[\frac{p}{1-p}\right] = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 \quad (5)$$

Results and Discussions

This section is an integral part of a research work which includes all the findings of a study. The outcomes of the study are classified into descriptive and econometric analyses.

Descriptive Analysis

Table 1 shows the distribution of poverty status of both types of households as per their duration of microfinance. As the duration of microfinance increased, the poverty status of the program households (PHH) improved. As per depiction, without participating in the microfinance program, 47.37 percent of comparison households (CHH) are poor. But after getting micro financing from KMBL, the poverty status of program households is decreasing along with the rise in the loan cycle. As we see, in the first loan cycle of 12-24 months poverty status of (PHH) has declined to 39.43 percent, and the non-poor percentage has increased to 60.57 percent. Finally, in the above 5th loan cycle, just 18.89 percent of (PHH) are poor. So, the overall poverty rate has declined from 47.37 percent in comparison households to 30.57 percent in program households. This reduction in poverty level indicates the role of MF in poverty mitigation initiated by KMBL in the area of district Sargodha. Thus microfinance has an effective contribution to poverty alleviation in district Sargodha.

Table 1
Poverty Status of the Household

Duration of Microfinance (Months)	Poor %	Non-Poor %
12-24	39.4	60.5
25-36	35.2	64.8
37-48	30.6	69.3
49-60	28.7	71.2
Above 60	18.8	81.1

Source: Author's own calculations.

In CHH, 72.85 percent are male and just 27.15 percent are female. Whereas in PHH, female participation in micro financing activities has increased to 32.43 percent and male's share has squeezed to 67.57 percent.

Table 2
Gender of the Respondent

Gender	Comparison Household %	Program Household %
Male	72.85	67.57
Female	27.15	32.43

Source: Author's own calculations.

Table 3 illustrates the educational status of the comparison household and program household. In comparison households, 46 percent are illiterate while 54 percent are literate respondents. While in program households, 48.23 percent are illiterate, and 51.77 percent are literate respondents. One of the reasons behind the low literacy rate in program households is that they have limited access to school (education) as compared to comparison households.

Table 3
Educational status of the Respondent

Education _Status	Comparison Household %	Program Household %
Illiterate	46	48.23
Literate	54	51.77

Source: Author's own calculations.

Table 4 describes the distribution of different sectors according to their share of the total loan invested. The study reveals that almost half of the loan that is 49.69 % is being invested in the livestock sector. 16.10 percent, 11.40 percent, 15 percent, and 7.81 percent are being invested in trading, manufacturing, services, and other sectors, respectively. Thus, the major share of total loan is going to the livestock sector, which reveals that most borrowers are attached to the agricultural sector.

Table 4
Loan Utilization

Variable	Percentage
Trading	16.10
Manufacturing	11.40
Services	15
Live Stock	49.69
Others	7.81

Source: Author's own calculations.

Econometric Analysis

The empirical findings of binary logistic regression (BLR) are presented in the following table . The poverty status of the household is a dependent variable. In contrast, gender, the client's educational status, the existence of the market in the locality, loans invested in trading, manufacturing, services, or others are explanatory variables.

Table 5
Estimates of Binary Logistic Regression (BLR)

Variable	Coefficient	S.E	P-Value	Odds Ratio
GEN	0.85	0.47	0.079***	2.10
EDU	- 0.39	0.14	0.033**	0.79
EMKT	- 0.25	0.47	0.603	0.89
TRAD	- 2.65	1.07	0.009*	0.04
MANU	- 0.71	0.78	0.215	0.48
SERV	- 0.80	0.55	0.096***	0.43
OTHERS	- 0.57	0.61	0.365	0.52
Constant	- 0.41	0.47	0.249	0.67

Note. -2LL = 149.73, Cox & Snell R Square = 0.146, Chi square = 23.07, Probability = 0.002
*(1% level), **(5% level) & ***(10% level)

Table 5 shows that the coefficient of gender is positive, and it is also significant at the 10% level in the case of the male respondent. It implies that males are more likely to be poor than female borrowers. One of the reasons behind this result is that 67.57 percent are male respondents in this study. However, this result is supported by Islam (2006) and Osmani (2007).

There is a negative and statistically significant association between the respondent's educational attainment and the household's poverty level. The odds ratio is less than 1, which indicates that the likelihood of being poor is less for literate as compared to an illiterate person. Education increases understanding and visualization. An educated person

has more knowledge and awareness about his duties and rights. Education is the most integral part of human development. The outcome of the study is in line with the studies of Awan, Malik, Sarwar and Waqas, (2011), and Haq, Ayub and Immadullah (2015).

The existence of the market and poverty level is negatively correlated. Access to the market leads to reduction in poverty level. If there is a market in a locality, then the odds of poverty existence will fall because it will reduce transaction cost for the poor. The result is in line with Haq et al. (2015).

The above table indicates that the trading and services sectors have a negative and statistically significant association with poverty. The odds ratio of the both these sectors is less than 1, which implies that if the loan is invested in trading as well as in services sectors, the likelihood of being poor will decline as compared to the reference category (Live Stock) because in both these sectors time lag between investment and revenue return is very short. This finding is in line with Jahiruddin et al. (2011). Loans invested in manufacturing and other sectors are also negatively associated with poverty, while their impact is statistically insignificant.

In the present study overall goodness fit of the model is estimated through likelihood ratio statistics which is based on chi-square distribution. In the study, the value of Chi-Square is 23.07, and its p-value is (0.002), i.e., less than 0.05, which means that model is a good fit and independent variables are significantly associated with the outcome variable.

Conclusion

The study analyzed the impact of microfinance on poverty eradication in district Sargodha. The finding showed that MF significantly reduced the poverty level of borrower households. The research found that without participating in a microfinance program, 47.37% of CHH were poor but, after getting microfinance, PHH got rid of poverty by every increasing loan cycle. The overall poverty rate decreased from 47.37 percent in CHH to 30.57 percent in PHH. So this reduction in poverty status showed the effectiveness, viability, and significance of the microfinance program initiated by KMBL in the area of district Sargodha. The empirical outcome of BLR implied that the chance of being poor for males was higher than for female borrowers. There was a negative and statistically significant relationship between the respondent's educational attainment and the household's poverty level. The existence of the market and poverty level was negatively correlated. Access to the market led to a reduction in poverty levels. Most importantly, the trading and services sectors had a negative and statistically significant association with the poverty level. These occupational sectors have a more positive and significant role in poverty alleviation. If the loans are invested in the trading and services sectors, they would be highly productive and helpful to come out of poverty because both these sectors require a minimum time to produce a return from an investment compared to other sectors.

Policy Recommendations

Though microfinance has a significant and confirmatory contribution to poverty alleviation in the area of district Sargodha, yet this intervention is not a panacea for the poor because as we know, poverty is a multidimensional phenomenon. The nexus between microfinance and poverty is not so simple. That is why microfinance should be used very consciously. The efficiency of microfinance can be improved by simultaneously taking some other steps. Therefore, along with the provision of micro financing to the poor, subsequent policy measures are suggested for policymakers and Khushhali Microfinance Bank Limited to use microfinance as a valuable tool in poverty reduction. The share of female borrowers should be increased. Special attention should be given to increasing the literacy rate. The borrowers should be trained and encouraged to invest in trading and services sectors to get quick relief from poverty. KMBL should establish more branches in the rest of the tehsils of district Sargodha to increase the coverage rate.

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