Impact of Village Group Financial Services on Women Empowerment and Poverty:
A Case Study of the First Micro Finance Bank Gilgit

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Abstract

Women consist almost half of the total population in Pakistan and majority of them are living in remote rural areas facing heavy burden of poverty. They are the most vulnerable and deprived segment of the society. For meaningful and sustainable economic development women participation in economic activities is equally important as men. Availability of economic opportunities for women are limited in rural area as a result their participation in integrated economic development is also limited. To make them active participant of development there is need of proper initiatives. The First Microfinance Bank (FMB) is part of the Aga Khan Development Network (AKDN) which has been running a successful microfinance and integrated rural development program in the remote and isolated Northern areas of Pakistan since 1982. The major objective of the bank is to increase the outreach of financial services to those sections of the society that are often neglected by the traditional banking sector. Empowerment of women is the top priority of the bank and the governing principle of the bank is to reduce the vulnerability of poor women and increase their standing in society. We analyze the impact of VGFS by the First Microfinance Bank on poverty reduction and women empowerment in rural area of district Gilgit. A field survey questionnaire was designed to assess the impact of Microfinance on the women empowerment in Gilgit. A total of 200 female respondents were selected through multi-stage, disproportionate, stratified sampling technique, wherein 100 respondents of treatment group are selected on random basis and the rest 100 respondents of control group were selected

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using score matching technique. Using Mean Difference model of impact evaluation, the study results show that microfinance services of (FMFB) has significantly contributed towards women's empowerment by influencing women's decision-making power and enhancing their overall socio-economic status. Results also show that VGFS by FMFB help in reducing poverty.

Keywords: Microfinance, Women Empowerment, Empowerment Indicators, Propensity Score Matching

Introduction

The menace of poverty is deep rooted in the developing world especially in the rural areas and the same holds for Pakistan. United Nations identified rural women as a catalyst for change if the objective of eradicating poverty is to be attained. Invisible and industrious, neglected and under nourished, she is the pivot on which the rural household functions; the major contributor to the agricultural labour force producing more than 50% of the developing world's food; one who tend sows, reaps, gather crops, cares for animals, plants herbs, and looks after the families but hardly ever recognized in the statistics of production while easily made a target of cultural malpractices which not only hurts her dignity but even take her life.[1]

Female participation in economic activity, a strong indicator of women empowerment, has always been lower in Pakistan.[2] Females are facing a least conducive environment in context of labour force participation. Female participation in labour force-13.7 percent in 1998 registered a very slight improvement reaching to 15.93 percent in 2003-04 (Census). The participation was only 10 percent in formal sector indicating that females have fewer opportunities in formal sector, where as they were in great number in informal sectors but were unpaid. Further to mention female have only 5 percent quota in public sector that is now raised to 10 percent but only 2.8 percent of them is working in public sector.

The Microfinance (hereafter MF) sector in Pakistan dates back to 1960s when initiatives such as Comilla project was undertaken for community level credit. A number of new initiatives have emerged during the following decade including the Orangi Pilot Project in Karachi and the Agha Khan Rural Support Programme (AKRSP) rural credit and savings projects in the country's Northern Areas. RSPs, mostly targeting poor and rural local communities, provide microfinance and other

development services to local community. Currently, nine RSPs are working in the country, embodied in national level network known as Rural Support Program Network (RSPN). The MF sector in Pakistan has shown impressive growth over the past few years and has emerged as one of the fastest growing sectors. During 2007, it expanded outreach by 47 % and continued to expand at 13% during third quarter in 2008. At present, MF covers almost 90% of the districts of the country. However, in comparison with other South Asian countries, the MF sector in Pakistan is still at early stages of development and some key challenges remain. The MF industry has remarkably reached to 1.9 million active borrowers from an almost negligible base in 2003, out of which nearly half are female clients. The present set of microfinance providers who are members of Pakistan Microfinance Network (PMN) reach over 1.9 million clients as borrowers with Gross Loan Portfolio (GLP) of Rs 23,354 million, 2.7 million as savers with net savings of Rs 8,354 million and 3.9 million as insurance clients with sum insured of Rs 54,823 million. In spite of this high growth rate the penetration rate, however, remains very low at around 7%. Penetration rates are high in populated states of Punjab (69.7% of active borrowers) and Sindh (22.3% of active borrowers). NRSP, Khushali Bank (KB) and Kashf remained the market leaders in terms of both active borrowers and GLP by holding together about 60% of the market. NRSP has the largest market share (22.8%) in terms of active borrowers, followed by KB (20.1%), Kashf (16.2%), FMFBL (11.9%) and TMFB (4.2%). Similarly, in terms of geographic spread, KB covers 80 districts, NRSP 51, FMFBL 46, TMFB 29 and Kashf 25 districts. As per latest estimates for March 2010, 55% borrowers are rural and female clients.[3]

The Aga Khan Rural Support Program (AKRSP), since its inception during 1982, stimulated and created about 4,000 Village/Women Organization (V/WOs) in Northern Areas and Chitral. These village level organizations were instrumental in transforming the socio-economic conditions and livelihood opportunities of the target communities. The most important and revolutionary contribution that Aga Khan Rural Support Programme (AKRSP) has made, was mainstreaming women for equitable and sustainable development by establishing active grass-root level Women Organizations and local support organizations. Through this forum, women are taking charge of their needs and have, in turn, ownership over development initiatives. The challenge was however to consolidate and strengthen these V/WOs and transform them to respond to the changing socio-economic and political landscape.[4]

The vast majority of the population in Gilgit is rural and depends on subsistence farming as a source of livelihood. A fundamental goal of rural development intervention is to reduce incidence of poverty in the communities through empowering them. According to AKRSP socioeconomic survey the incidence of poverty in Gilgit in the year 2005 was 29% (AKRSP 2005). Since 2002 the FMFB is providing group based financial services to address the problem of poverty and to improve empowerment levels of poor rural women in this region. In this regard FMFB Gilgit mobilized PKR 58 million from 7145 depositors till 2007. The total number and amount of loans were 3365 and PKR 93 million, respectively, wherein 2411 male borrowed PKR 71 million and 954 female borrowed PKR 22 million. How far the VGFS of FMFB has reached to the absolute poor and contributing toward improving empowerment levels in Gilgit? There is some evidence that these activities and services have contributed towards poverty reduction by creating trust and confidence through strengthening the community organizations. However, there exists a need to investigate the exact nature of the role of VGFS of FMFB toward poverty reduction and improving empowerment levels in Gilgit.

Number of studies have been conducted on the role of microfinance in poverty alleviation and rural development at global and national level However we could locate no study for the Northern Areas of Pakistan including Gilgit. This work attempts to investigate the impact of Village Group Financial Services on poverty reduction and women empowerment in Gilgit. The finding of this study may help us to understand the role of microfinance institutions in other regions of Pakistan. However, there are certain limitations of this study. First, the study is restricted to district Gilgit only. Secondly, due to non-availability of base line data, no comparisons are possible. Third, the analysis is limited to five core indicators of empowerment, namely economic empowerment, income empowerment, education and health empowerment, asset empowerment, and social empowerment.

Literature Review

Microfinance refers to the provision of financial products to low-income groups. These financial services may include credit, savings and insurance products. The Canadian International Development Agency (CIDA) defines microfinance as:

> "The provision of a broad range of financial services to poor, low income households and micro-enterprises usually lacking access to formal financial institutions"[5]

Dhavamani addresses two issues i.e. to enumerate the growth of self-help groups and to analyze the empowerment of the women through self-help groups in Sattur Talka using primary and secondary data. Out of total 398 groups, functioning under three NGOs, author selected 10 percent of each group from each NGO. The study finds that women empowerment aims at enabling them to realize their identities, potentiality and power in all spheres of their lives. Findings of the study show that real empowerment of women is possible if they enjoy easy access to the economic resources, a significant participation in the power structure of society and decision making process.[6]

J. Lennie, suggests interactive communication technology (ICT) for the effective and quick empowerment of women in study area "Queensland". The study finds that ICTs play an important role in the fulfillment of rural women's diverse needs and community participation processes. ICTs can also play an important role in the facilitation of psychological, technological, political and social empowerment.[7]

U. Ebirim, analyzes that Nigerian women, particularly rural women are wallowing in ignorance, hopeless poverty, total illiteracy, political bankruptcy and disempowerment. In this study the author uses qualitative method of investigation. Data was collected through open ended questionnaire and focused group discussions. Author concludes that women in Nigeria are not allowed to participate in the political process indicating disempowerment of women in Nigeria. The study also highlights that the Better Life Program (BLP) was a good attempt to empower rural women through 'Non-Formal Education' programs, but was discontinued by the government of Nigeria due to which the progress in women empowerment declined.[8]

N. Ghosh, investigates the external input based agrarian development in the developing world that has been criticized for its shortcomings both in respect of sustainability and inclusiveness. In his paper the author revisits the place of women as human resources in agricultural development planning in India and also made an assessment of entrepreneurship as an instrument towards income potential and empowerment of farm women. Author finds that promoting enterprises among rural women is viewed as a promising route to increase farm incomes along with gender empowerment. Agro-based enterprises offered significant potential to tie together the cost advantages of using resources available abundantly in the rural economy while relieving the women from the exploitations of participation, thus farm helped the women for developing more confident and informed attitudes in life. The study demonstrates how locally available resources and econ-friendly techniques along with indigenous knowledge reinforced with scientific

research and training can form a valuable tool-kit for enhancing farm incomes and for improving the position of women.[9]

Hoque and Itohara examine the status of rural women's participation in economic activities and their role in decision making in the study area. The study concludes that despite the poor socioeconomic status, the rural women of the study area actively participated in various economic activities especially in livestock and poultry management, various post-harvested operation and some non-agriculture activities. Results also indicate that due to participation in economic activities the rural women in Bangladesh are earning some cash that contribute to their household income. Findings also show that in most cases the rural women's participation in decision making process regarding different family affaires is lower than their male members.[10]

Parveen and Leonhäuser investigate the nature and extent of Bangladeshi rural women's empowerment and factors affecting it. Using both quantitative and qualitative methods of investigation, the study identifies a strategic framework for improving the existing empowerment levels of rural women. Empowerment indicators like contribution to household income, access to resources, ownership of assets, participation in household decision making, perception on gender awareness and coping capacity to household shocks were chosen for analysis. Developing a cumulative empowerment index (CEI) it was found in the study that sex of children, formal and non-formal education, and exposure to media, spousal relationship, and free mobility have highly significant effects on CEI.[11]

Batool and Sajid investigate women's related issues in four sample districts of Azad Jammu and Kashmir (AJ&K). The study draws conclusions from primary collected data through interviews with the respondents, that women's decision making power is related to their mobility. The results indicate different levels of decision making at household level for both rural and urban women. The authors further conclude that women participation in jobs can empower them.[12]

Sharif and Nosheen examine determinants of women empowerment in Southern Punjab. Based on OLS, results of the study are indicative that women having bank account, having access to media, participating in excursion activities, age of women, married women and women having Islamic view point were statistically significant variables contributing positive impact towards women empowerment in the rural area as well as in urban area. Results also suggest that better situation of women empowerment in urban areas as compared to rural and tribal areas is due to easy access to job opportunities education, health and media, along with higher levels of education of household and the most

important better knowledge of Islamic teachings and its practice in urban areas women had.[13]

Sami Ullah et al. investigate the attitude of male youth towards family practices and empowerment of women through closed and open-ended questionnaires. Specific questions regarding women ownership in property, women participation in democratic process like registration of vote and its casting were included in the questionnaires to check the male youth perceptions and attitudes towards women empowerment. The study concludes that due to better education and higher level of awareness regarding the issue of gender, the attitude of male youth has improved over the time. The male youth perception were positive in the area of women participation in democratic process i.e. voter registration and vote casting. The results of the study also indicate positive practice of giving ownership in property to their family women.[14]

Research Methodology

In order to get representative sample, we have used multi-stage disproportionate stratified random sampling technique for this study. Since District Gilgit is already stratified geographically in the form of well known villages (strata) and for each village (stratum) well defined boundaries are there, therefore the study rely on existing stratification instead of making new stratification. In the first stage, sampling frame for the beneficiary households of Village Group Financial Services for the year 2007 in district Gilgit has been collected from the First Micro Finance Bank Gilgit Branch. The sampling frame included a village (stratum) wise list of beneficiary households. At the second stage five villages (Karga, Nala, Basin, Nomal, Oshikhandas) have been chosen randomly from the sampling frame. The sampling frame for these five villages was consisting of 498 beneficiary households of VGFS[15]. At the third stage samples from each village (stratum) have been selected through disproportionate stratified random sampling technique keeping in view that the selected samples from each stratum will represent the population. We selected Twenty percent (a total of 100) of the total beneficiary population as samples.[16] Similarly, equal numbers of samples from the five villages have been chosen for the control group following the score card of treatment group.

To avoid selection bias and to make our research results more appropriate and reliable we have used score matching technique in order to make treatment and control group similar in all aspects except for treatment (i.e. providing loan to treatment group only). The control household samples have been chosen in such a way that they are in close geographic proximity to the beneficiary household samples and have had

similar socio-economic status before the VGFS introduction. For this purpose National Poverty Scorecard of Pakistan identified by Word Bank has been used to identify the matched households.[17]

Since we do not have base line data for VGFS beneficiaries, therefore we have used Mean Difference Model of impact evaluation for our study as under:

To test whether the difference in means between treatment and control groups is statistically significant or not, we use t-test. As our samples are independent we use following formula to compute t-statistics:

$$t = \frac{\bar{X} - \bar{Y}}{\sqrt{\frac{\sigma_x^2}{n_x} + \frac{\sigma_y^2}{n_y}}} \qquad (1)$$

Where $\bar{X}$ is mean of treatment group, $\bar{Y}$ is mean of control group, σ_x^2 is population variance of treatment group, σ_y^2 is population variance of control group, n_x is sample size of treatment group, n_y is sample size of control group.

When population variances are unknown and assumed to be equal then we use their sample variances S_x^2 and S_y^2 to compute a pooled variance estimator (S_p^2) as

$$S_p^2 = \frac{[(n]_x - 1)S_x^2 + (n_y - 1)S_y^2}{(n_x + n_y - 2)} \qquad (2)$$

and then use following formula of t-statistics

$$t = \frac{\bar{X} - \bar{Y}}{\sqrt{\frac{S_p^2}{n_x} + \frac{S_p^2}{n_y}}} \qquad (3)$$

However, if population variances are unknown and not equal[18], then following modifications are required in computation of t-test, variances and the degrees of freedom.

$$t = \frac{\bar{X} - \bar{Y}}{\sqrt{\frac{S_x^2}{n_x} + \frac{S_y^2}{n_y}}}$$

with degree of freedom

$$= \frac{\left[\left(\frac{S_x^2}{n_x}\right) + \left(\frac{S_y^2}{n_y}\right)\right]^2}{\frac{\left(\frac{S_x^2}{n_x}\right)^2}{n_x - 1} + \frac{\left(\frac{S_y^2}{n_y}\right)^2}{n_y - 1}} \qquad (4)$$

Results

Major objectives of microfinance and rural support programs are to alleviate poverty and to promote the empowerment levels of poor rural women through encouraging them to initiate income generating projects so that they become self-sufficient and financially more independent. The Medium Term Development Framework (MTDF) 2005-10 prepared by government of Pakistan gives special attention to the problem of poverty and women empowerment in rural areas of Pakistan and considers microfinance as an effective tool to overcome these problems. In order to analyze the impact of village group financial services on economic decision-making, purchasing power, financial independence, control on income and savings and control on loan, women empowerment in this research has been divided in to five parts i.e. economic empowerment, income empowerment, asset empowerment, education and health empowerment and social empowerment.

Impact of VGFS on Rural Poverty

A total of RKR 7208205 loan disbursed among treatment group. How beneficiaries of the loan use this fund? Following table shows the distribution of VGFS loans among the treatment group:

Distribution of Loan among Various Uses by Treatment Group (PKR)

Treatment Group	Crops	Livestock	Business	Housing	Consumption	Others	Total
	451000	1115000	3499205	663000	492000	988000	7208205
	6.26%	15.47%	48.54%	9.20%	6.83%	14%	100%

From the total amount of treatment loan 6.26% goes to crops sector, 15.15% to livestock, and 48.54% to business, 9.20% to housing, 6.83 to consumption and 14% to other uses.[19] It is evident that most of VGFS loans have been used for productive purposes and the share of loans used for consumption purposes is very small, i.e. 6.83%.

How far the funds of VGFS are reaching to the poor? In order to answer this question we analyze the poverty score card of treatment group. This study finds that out of 100 sample households of treatment group 54 were living under absolute poverty line.[20] Thus, most of the beneficiaries were poor.

We analyze the impact of VGFS on rural poverty following the income data collected from the survey. For this we use the concept of poverty line income [21] and poverty headcount ratio (HCR) widely used in Pakistan in social impact assessment studies. The results of poverty

headcount ratio in both control and treatment households from the survey are given in the following table:

Poverty Headcount Ratio for Treatment and Control Groups

Group	Poverty Rate (HCR)
Treatment Group	24
Control Group	32
All Households (HH)	28

The Poverty Headcount Ratio indicates that number of poor households are 24 out of total 100 in treatment group the same was 54 out of 100 before program launched. This Poverty Headcount Ratio is higher in controlled group i.e. 32 households out of 100. These results indicate that VGFS helps in eradicating poverty in the study area.

Economic Empowerment

The economic empowerment index consists of fourteen broad indicators also used by Zaidi et al and Jamal.[22] These indicators include questions regarding women power in decision making about purchase and sale of houses, jewelries, livestocks, household dresses, borrowing of money and repayment of debt. The following table shows total and average economic empowerment scores of control and treatment groups derived from the economic empowerment index.

Economic Empowerment

	Total Score	Mean score
Treatment Group (T)	1150	11.5
Control Group (C)	810	8.1
Difference	340	3.4

The economic empowerment index for treat and control group shows that out of a total score of 1400 for each group, treatment group women scored 1150 while control group scored 810. The difference between two sores is 340. Similarly, the mean score of treatment and control group is 11.5 and 8.1 respectively. The difference in mean scores for control and treatment group women is 3.4. It implies that on average treatment women are economically more empowered than control women by 3.4 points.

Income Empowerment

The income empowerment index includes five indicators of income relating decision making to check the women empowerment at

household level of both treatment and control group women. These indicators consist of questions regarding the sources of income generation and use of income for different purposes at household level. The following table shows total and means scores derived from the income empowerment index of treatment and control groups.

Income Empowerment

	Total Score	Mean score
Treatment Group (T)	382	3.82
Control Group (C)	314	3.14
Difference	68	0.68

The total empowerment scores obtained by treatment and control groups in the income empowerment index are 382 and 314 points out of total 500 points and mean scores are 3.82 and 3.14 points, respectively. The difference in obtained scores is 68 points while the mean difference in means scores is 0.68 points. On the basis of income empowerment index we conclude that treatment women are more empowered than control women as treatment women scored more points than control women in the income empowerment index.

Asset Empowerment
Asset empowerment index include eight important indicators of women decision making regarding household assets. The index include questions to check women decision making power relating to holding of land, cash, saving, operation and maintenance of bank accounts, sell, transfer and exchange of different household assets. Following table shows the asset empowerment sores for treatment and control groups:

Asset Empowerment

	Total Score	Mean score
Treatment Group (T)	397	3.97
Control Group (C)	298	2.98
Difference	99	0.99

Out of total score of 800 for each group, treatment group women scored 397 while control group scored 298. The difference between two is 99 score points. Similarly the mean scores of treatment and control group are 3.97 and 2.98 score points, respectively. The difference in mean scores for control and treatment group women is 0.99 score points. From the asset empowerment index it is evident that in average treatment

women are economically more empowered than control women by 0.99 score points.

Education and Health Empowerment
The education and health empowerment index includes ten indicators regarding women decision making on education and health expenditures. Some of the major indicators include questions relating to the issues of children education and health, children spacing, nutritional requirements of the family etc. The education and health empowerment index score points for control and treatment groups are given as under:

Education and Health Empowerment

	Total Score	Mean score
Treatment Group (T)	661	6.61
Control Group (C)	560	5.60
Difference	101	1.01

Above results show that treatment women are more empowered than control women because total and mean score points for treatment group in the education and health index are greater than control group. The total and mean scores differences among treatment and control groups are 101 score points and 1.01 score points, respectively.

Social Empowerment
Social empowerment index consists of ten indicators including questions relating to the social aspect of women empowerment i.e. questions relating to dresses, religious beliefs, women participation in social functions, NGOs programs, the extent of women association in political parties and their participation in democratic process etc. The social empowerment index results for treatment and control groups are given in the following table:

Social Empowerment

	Total Score	Mean score
Treatment Group (T)	554	5.54
Control Group (C)	483	4.83
Difference	71	0.71

From above table it is quite evident that total and mean score points of treatment group are higher than control group indicating higher social empowerment of treatment group.

All above results show that Village Group Financial Services provided by First Microfinance Bank helped in increasing women empowerment. In all five categories of women empowerment the total and mean score of those women who benefited from program are higher than those who did not. However to test statistical reliability of the difference in women empowerment scores of control and treatment groups in all the five categories of empowerment (economic, income, assets, education and health, and social) we use t-test. Results of F and t-tests are summarized below in table

Independent Sample Test Results

Empowerment Indicators	F-Test(P-Value)	t-Test(P-Value)
Economic	35.689 (0.000)*	8.587 (0.000)*
Income	22.293 (0.000)*	4.222 (0.000)*
Asset	3.474 (0.064)***	4.757 (0.000)*
Education and Health	38.599 (0.000)*	3.105 (0.002)*
Social	3.130 (0.078)***	3.771 (0.000)*
*Significant at 1% **Significant at 5% ***Significant at 10%		

In case of women empowerment, we reject the null of equal variances in all the five categories of empowerment (economic, income, asset, education and health, and social), as suggested by P-values of F-test. So we use t-test for testing the difference between two means by using the formula of t test given by equation 4. The reported values of t-test suggest that the differences between two means for all five categories are statistically significant. It means that treatment women are more empowered than control women in all the five empowerment categories. On the basis of above results we can conclude that VGFS provided by First Microfinance Bank Gilgit has improved the conditions of women and women empowered in all five categories.

Conclusion
One of the major objectives of microfinance and rural support programs is to promote the empowerment levels of poor rural women through encouraging them to initiate income generating projects so that they become self-sufficient and financially more independent. According to the study results of women empowerment indices, the First Microfinance Bank's microfinance program, particularly it's Village Group Financial Services, have a significant positive impact on the empowerment levels

of treatment women in district Gilgit. The study results show significant and positive differences between treatment and control women at the five categories of women empowerment (economic, income, asset, education and health and social empowerment). This indicates that when women participate in income generating activities, their power and worth in household decision making also improve along with the increase in household income, because they become an earning hand to their family.

Moreover, results based on score card show that fund provided through VGFS is reaching to the poor segment of the women in district Gilgit. Using PKR 1505 per capita per month, the results show that program helped in reducing poverty to a significant level.

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[15] 79 households from village Basin, 54 households from Karga,123 households from Danyore,134 households from Nomal and 108 households from Oshikhand Das

[16] 16 from basin, 11 from Karga, 24 from Danyore, 27 from Nomal and 22 from Oshikhandas

[17] Poverty score card is technique used in impact assessment evaluation for matching controlled and treatment groups efficiently in such a way that both the groups have similar socio economic condition at the time of project initiation.
[18] To test whether variances are equal or not we use F-test as:

$$F = \frac{\frac{S_X^2}{df}}{\frac{S_Y^2}{df}}$$

If F computed is greater than F critical we reject the null of equal variances and

conclude that variances of treatment and control groups are not equal.

[19] Other uses include machinery, social functions, health care, education, repayment of loans, etc.

[20] Based on poverty scorecard, all households which scored less than 24 score points, are considered as poor.

[21] Poverty line income is drawn at a level of per capita income considered necessary to provide a minimum standard of living. In Pakistan the poverty line income is PKR 1505 per capita per month for the year 2010 based on PSLM 2007. Socio-Economic Baseline Survey of Kashmore district: Rural Support Program Network (RSPN) Islamabad, Pakistan, (2010)

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