DOES RURAL MICRO CREDIT IMPROVE WELL-BEING OF BORROWERS IN THE PUNJAB (PAKISTAN)?

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Abstract. Rural micro credit is intended primarily for investment in rural productive activities to improve well-being of poor. However, its use to meet daily consumption needs is not prohibited. Nonetheless, credit increases income and consequently effects consumption. Punjab Rural Support Programme provides micro loans to rural poor who have regular source of income. The study uses six years (1999-2004) secondary data and primary data of 2005. Primary data, using stratified random sample technique of variables like credit, income, assets, education and family-size, was collected and applied to multiple regression model. It was concluded that micro credit was largely availed by the poor borrowers, however, non-poor also availed micro loans. Also per capita credit to poor was less than per capita to non-poor. The results show that it is not just micro credit but education also improves income. Assets and family size has insignificant role in income improvement. In rural areas therefore, the micro credit organization need to focus on the amount of loan, customize and geographically target new loan products and discourage misdirected use of micro credit so that income of poor may improve.

I. INTRODUCTION

It is argued that credit availability improves well-being of borrowers in variety of ways. The most significant improvement is in income and assets of borrowers. Other ways in which credit could be beneficial to the borrowers

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via improved incomes is better education, health, nourishment and self-esteem.

Rural credit, mainly available to large and medium farmers for agriculture purpose, excluded small farmers and non-farmers as the latter did not possess collateral and were un-bankable due to their low economic position. Research corroborates that in developing countries big farmers could borrow large sum of cheap loan, which was in many instances not repaid owing to weak enforcement of repayment rules primarily due to their political influence (Adam, 1995; Penny, 1983; Robinson, 2001; Von Pischke 1983). Availability of formal rural credit did preclude accessibility to small farmers and non-farmers which comprised sizeable population in villages. They borrowed from informal sources like middle-man (money lender), friends and relatives to meet investment and consumption needs.

As big farmers benefited from large cheap loans and excluded small borrowers, micro loans, therefore, was designed for borrowers whose income was periodic; however, slightly above, below, or on the poverty line. The design of loan product did not require conventional collateral in the form of land/property, and group guarantee was the eligibility criteria for acquiring micro loans. The main aim of micro loans was to provide sustainable livelihood to low income households, which consequently was crucial to sustainability of micro finance organization (MFO) because increased income could also improve the repaying capacity of poor households.

There is a viewpoint based on empirical studies (Robinson, 2001; Morduch, 1998; Burgess and Pande, 2004) that credit availability reduces poverty and improves well-being of small borrowers. Micro loans used for financing collectively identified small community projects and personal difficulties, generate surplus for community and individual household, which produces greater social benefits.

This paper attempts to evaluate the income improvement of rural borrowers of Punjab Rural Support Programme (PRSP) in Pakistan. The three research questions are: (1) Are micro loans by PRSP given to those who have regular income, which is slightly above, on and below the poverty line? (2) Does income improve due to micro loans and other factors like education, assets and family size of borrowers, and (3) Do micro loans by PRSP provide sustainable livelihood? The first question is explored by analyzing secondary data of PRSP. The relation of income with micro credit, assets, education and family size is analyzed using primary data collected through survey. The study uses six years (1999-2004) secondary data and survey data of 2005. The third question is inferred from the conclusions of

the first two questions and the observations of the researcher during interview with borrowers.

The paper is divided in five sections. Section II of the paper gleans through the literature review on micro credit and its well-being aspects. Section III analyses data from 24 participating villages of PRSP and assesses targeting and per capita loans to participating poor and very poor borrowers. Section IV gives a detailed methodology of primary data collection from four locations of the two participating districts. Section V presents the results and, finally, conclusions are drawn in section VI.

II. LITERATURE REVIEW

Micro credit is considered as panacea to the economic problems of poor households. It is perceived to bring them out of poverty and provide respectable living through provision of sustainable livelihood and penultimate consumption smoothing. It is assumed that sustainable livelihood would give sustained income to poor borrowers. Studies on micro credit affirm the positive impact of credit on household income. In rural areas in Pakistan the extent of credit use for agriculture inputs is high and credit for consumption is 5% more than for agriculture inputs, which is largely met through informal sources; and keep the poorer households at the level of better-off households. Without credit the former would drop below poverty line (Malik and Nazli, 1999).

Theoretically, credit increase income of households and as income of household increases more resources are available for expenditure, savings, and investment in assets. Studies have shown micro credit improves capacity to cope economic difficulties because there is a positive influence of micro credit on well-being of borrowers (Hoque, 2008).

The other argument is that micro credit does not create assets of poor and very poor borrowers, but only increases income to the extent to meet daily expenditure. In certain situations, it reduces assets because the demand for repayment of loan is so severe that borrowers are compelled to sell assets to repay loan. At "lower levels of income there is greater risk that unlucky or improvident borrowers may be forced by their exposure to debt into selling assets which will permanently lower their income possibilities" (Mosely and Hulme, 1998, p. 787). Morduch (1998) comparative study of Bangladesh Rural Advancement Committee (BRAC) and Bangladesh Rural Development Board (BRDB) with Grameen Bank suggests that there was no evidence in increased consumption and school enrollment of Grameen borrowers.

Repayment of micro credit installment is burdensome for poor borrowers whose income and assets are at subsistence level. Persuasive loan staff insists on payment on time leaving no flexibility and thus rural households either further borrow or sell liquid asset in certain cases (Marr, 2004). This further depletes household assets and income.

It is added that visible difference in well-being of borrowers in terms of improved income, assets, education, and accessibility to other services is also due to availability of road network, transport and information. The poor urban population may not be as constrained or deprived as their rural counterpart because of their connectivity and accessibility to markets. Villages in close proximity to urban centre may benefit from the connectivity with urban markets and get better return from the use of credit which consequently enhances income. Villages remotely located with poor social and physical infrastructure may not be able to make better use of credit.

Credit therefore plays a vital role in rural economic life both in terms of meeting consumption needs and production needs. However, it needs to be determined how those at the bottom rung of the economic status respond to micro credit in terms of income and education.

III. WHO GETS CREDIT?

The PRSP poverty profile uses eight eligibility criteria (Table 1) based on economic position of borrowers. The eligibility criteria are size of land-holding, income source, transport, and farm machinery, housing condition, access to agriculture-input, livestock, access to education and health facility. Each of the criteria is arranged vertically and is matched with the extent of ownership/access to each of criterion on descending horizontal scale. The horizontal scale of poverty decreases from left to right. For example size of land-holding (an asset-criterion) for rich borrowers is more than 12.5 acres in irrigated area is on the extreme left of the scale and for 'poor' and 'very poor' it is less than four acres or landless on the extreme right. The extent of ownership/access for other criterion is defined in similar way. While, PRSP maintains category of 'destitute', loan is hardly provided to this group.[1] The 'poor' and 'very poor' are the main recipient of loans, possessing less than four acres of land or are landless. The Programme was less stringent in following the eligibility criteria especially in its initial years.

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[1]The category is changed to 'poor' and 'non-poor'.

TABLE 1
Profile of Clients of PRSP

Details	Rich	Well to do	Poor	Very Poor	Destitute
Landholding size	Irrigated land more than 12.5 acres	Irrigated land 4-12 acres	Less than 4 acres of land, or landless	Landless	Landless
Source of income	Members of house hold in service business agriculture More than one earner	Doing low paid jobs small business farmers, even landless but additional source of income	Small farmers, tenants, only source of income are farming. One earner, many dependents	Land workers, labourers, mostly daily wages, no regular income	Nil, surviving on Zakat, charity, occasional labour
Transport, farm machinery	Tractor/ Car/ motorcycle other farm machinery	Motorcycle	Bicycle/cart	None	None
House condition	Big and cemented, electrified, proper sanitation	Medium size and well built with proper sanitation	Clay built, no electricity	Not built physical, condition not good	Small and clay built
Access to agri-inputs	Access to good quality agri-inputs on time Does not need credit for agri-inputs	Can buy agri-inputs, sometimes need credit for agri-inputs	Accessible. Only buy on credit	Not accessible on time, always needs credit	Nil
Livestock	More than 10 animals	5-10 animals	2-4 animals	1-2 animals	1-2 animals
Access to education	High education (at least enough resources for higher education)	Up to high school level. Can go to other villages for high school education	Only primary education, in some cases not even primary education	No access to proper education Cannot afford to send children school	Nil
Access to health facilities	Have access to proper health facilities	Basic health facilities	Access to basic health	Cannot avail pro-per health facility	Nil

Source: Punjab Rural Support Programme (2004), *Annual Report*.

On the average in six years (from 1999 to 2004), 52% 'poor' owning less than four acres of land or landless or tenants, received credit. During the same period on the average 24% 'very poor' who were land workers/daily wage earner, possessing one to two animals received credit. 16.4% 'better off' and 7.0% 'well-to-do' and on the average 0.035% 'destitute' received micro loans during the period understudy.

FIGURE 1

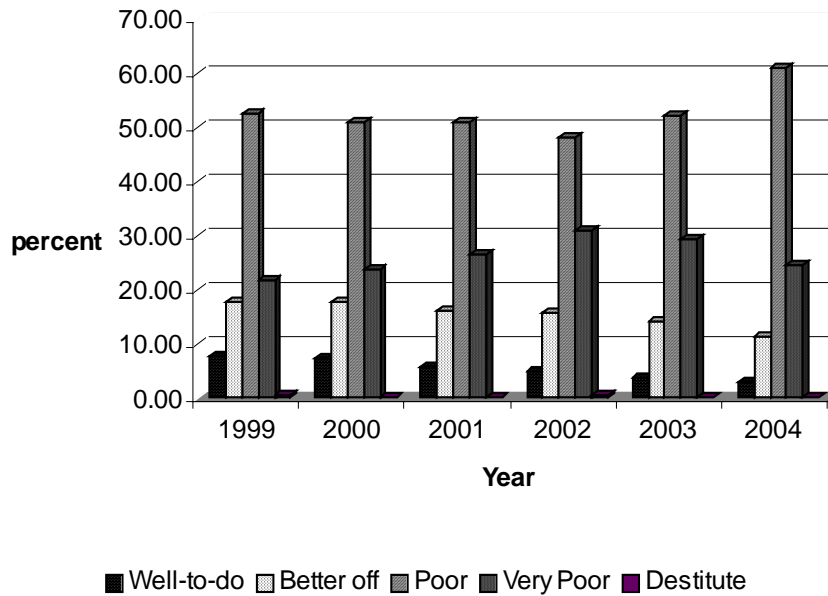Percentage Borrower in Each Category by Poverty Status

Figure 1 illustrates that credit given to 'well-to-do' declined from 7.63% in 1999 to 2.88% in 2004. Similarly, 11.5% 'better-off' received micro credit in 2004 compared to 17.73% in 1999. Credit to 'poor' gradually increased from 52.5% in 1999 to 61.0% in 2004, which was an increase of nine points. Twenty-four percent 'very poor' received credit in 2004. It is concluded that PRSP gave credit largely to those who had relatively at least one periodic source of income and owned one to two animals and had little access to education and health. The 'very poor' and 'destitute' did not receive much credit because of uncertain and below subsistence income and low social capital. Thus, PRSP loans were fairly well targeted to the rural 'poor' who had social capital, periodic but low income.
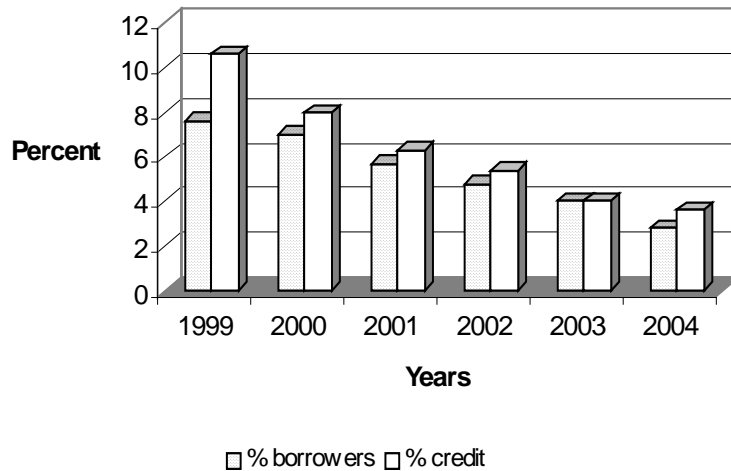
PER CAPITA CREDIT TO POOR

The size of micro loan is debated in terms of how much should be the loan amount to have returns which generate enough surplus to repay loan and meet basic household expenditure. The loan size of the PRSP for common investment, that is, for purchase of livestock especially buffalo (the average current market price of milch buffalo is Rs. 70,000-80,000) is considered insufficient by rural clients.

Analyzing the average loan size per person it came out to be Rs. 12334, Rs. 14223, Rs. 12985, Rs. 12082, Rs. 11324, and Rs. 11068 for the years 1999, 2000, 2001, 2002, 2003, and 2004 respectively. It was expressed by the borrowers the credit amount being too little to undertake new economic activity rather borrowed amount was invested in on-going economic activity like livestock, agriculture input etc. Large extended family (which is common characteristic of Pakistani rural society) acquired multiple loans in the name of different family members for new economic venture and consumption expenditure as well. Such families were in advantageous position, as compared to smaller ones because of their size and social capital.

FIGURE 2

Percentage of 'Well-to-Do' Received Greater Percentage
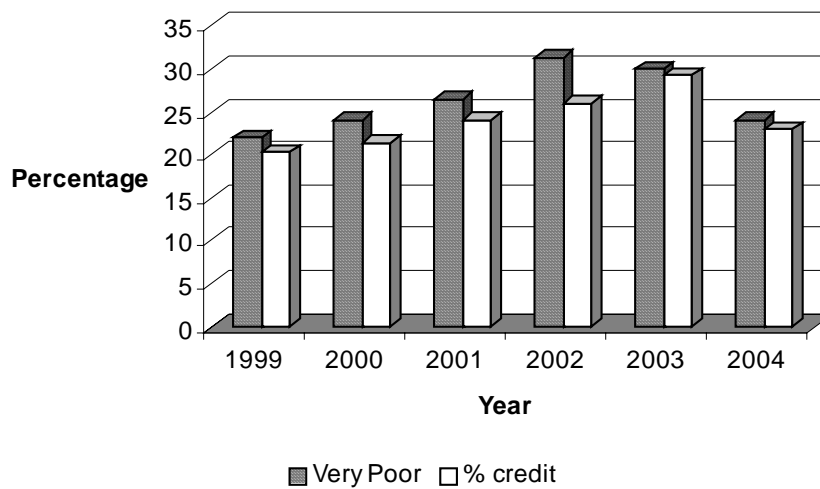of Per Capita Credit

The data reveals that small percent of 'well-to-do' received greater per capita credit. For example, in year 1999, 7.6% of 'well-to-do' received 10.6% of the credit disbursed, 17.7% 'better-off' received 19.5% credit. For 'well-to-do' and 'better-off' category per capita credit was higher for the six years (Figure 2). Per capita credit available to 'poor' and 'very poor' is less compared to 'well-to-do'.

In 1999, 52% 'poor' received 49.5% credit. Fifty-one percent received 52%, 52% received 52% credit, 48% received 52.5% credit, and 61.7% received 60.4% credit for year 2000, 2001, 2002, 2003, and 2004 respectively. Figure 3 illustrates that twenty-two percent of 'very poor' received 20.3% credit, 24% received 21.3% credit, 26.5% received 24% credit, 31.4% received 26% credit, 30% received 29.3% credit and 24% received 23% credit in year 1999, 2000, 2001, 2002, 2003 and 2004 respectively. The per capita micro credit to 'very poor' is even less than 'poor', in other words, percentage of credit to 'very poor' category is shared by greater number of very poor borrowers – a smaller pie is shared by greater number of 'very poor'.

FIGURE 3

Percentage of 'Very Poor' Borrowers Received Lesser Per Capita Credit

It is concluded from the analysis of population data that the percentage of borrowers in the former two categories, that is, 'well-to-do' and 'better off' obtained more percentage credit. It is also inferred that 'well-to-do'

though lesser in percentage received larger share of the credit. The per capita credit to poor and very poor is less than per capita credit disbursed to' well-to-do' and 'better-off'. Less per capita credit available to 'poor' and 'very poor' means that poor who are already on the poverty line and have meager assets and low income, the little credit improves income and well-being to a very small extent.

IV. METHODOLOGY AND DATA SOURCES

Two kinds of data sets are used, that is, PRSP macro data of 24 districts where it is functional and survey undertaken by the author of the two out of 24 participating districts of PRSP in 2005.

SAMPLE OF HOUSEHOLDS FOR PRIMARY DATA

Stratified simple random sample technique was used to conduct the survey of participating households only. The survey was carried out in September and October 2005. The sample districts in which PRSP is operational were selected according to deprivation (poverty) ranking. Social Policy Development Centre (SPDC, 2004), Karachi, has ranked all the districts of Pakistan according to deprivation. Deprivation is defined in terms of education, employment, health care, clean drinking water etc. Punjab has 34 districts, ranked on deprivation basis. Two districts, *i.e.* high on rank (prosperous) and low on rank (deprived) were selected. The districts were Sialkot and Muzaffargarh respectively. From each of these districts, a village and settlement each were selected. The criterion of selection of village/settlement was also deprivation. Thus, one village and one settlement from both the districts were selected.

SAMPLING

Sialkot district located in the north of Punjab is prosperous. One settlement, *i.e.* Dera Chander Khan, and one village Talhara were selected. The former was relatively deprived area and the latter was relatively prosperous village. Muzaffargarh district situated in the south of Punjab is deprived and from this district, Hussainwala, a settlement, and Sohrien, a village, were selected. The former was relatively deprived settlement and the latter was relatively prosperous village. In the two districts, the villages were revenue circles, while settlements in both the cases were situated at around two kilometers away from the villages. It may be noted that the settlements in both instances were more deprived and comprised mainly of one caste. Settlements in Punjab are many and usually suffer more exclusion.

Sample villages were identified keeping in view the following criteria:

(*a*) Village/settlement should be from poor and rich districts.

(*b*) Within the poor district, a poor settlement and a relatively prosperous village was identified.

(*c*) Within the rich district, a poor settlement and relatively prosperous village was identified.

Total households in the four locations were 500. Out of five hundred households in the four locations 68 households were interviewed. These households constitute 14 percent of sample. The sample households from each village/settlement were non-randomly selected, by first mapping the village/settlement. The village/settlement was explored by walking on the periphery and identifying such public places like shop, mosque, school and dispensary, etc. Interviews of head of household were undertaken starting from one edge of the villages. Only the participating households were interviewed. After completing the interview of head of household on outer boundary, interview from the head of households from the inner cluster was done. This methodology produced sample for multiple regression where the sample was non-random.

QUESTIONNAIRE DESIGN

Questionnaire was designed to collect primary data on income, assets, education and family size of households. Questions were framed keeping in view the level of literacy of the borrowers and the objective of research. The questions were simple, straight and closed ended. In all twenty questions were framed. The questionnaire was test run on 10 head of households. The questionnaire was simplified in the light of feedback from the test run. Actual survey was carried out on finalized questionnaire. During the survey while data on income, family size, education, assets, age, was collected, qualitative information of the location was also gathered.

INCOME

The income of borrowers, that is, head of household was assessed during the interview by asking occupation and sources of income. Sources of rural income were both farm and non-farm. In a household father and sons lived together and their income was taken together. The primary cross-sectional data has 60 percent of borrowers in a non-random sample living below poverty line[2] having average per capita monthly income of Rs. 790. Land

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[2]Poverty line as defined in Poverty Reduction Strategy Paper is Rs. 784 per capita per month in 2002 prices.

holdings of borrowers in the sample did not exceed four acres. The maximum size of land was four acres and minimum size was less than ½ acre. Some worked as daily wage earner in factories, construction labour, and workshop. Skilled workers went to cities to earn higher wages. Average monthly income of sample borrowers was Rs. 7449.0. The sample therefore, included only poor and very poor household according to the poverty profile of PRSP. Incomes were generally low despite, multiple income sources of sample household. Annual income without micro credit was used in the analysis.

FAMILY SIZE

The average family size was nine members. In regression analysis exact number of family members in each household was used. The family comprises extended family in which parents, single and married brothers and single sisters all lived together. The income in extended family is also shared.

EDUCATION

The average education level of head of household was 3.5 years of schooling; the highest level being 12 years of schooling and lowest being zero years. In the analysis number of years of schooling of head of household was used.

ASSETS

Assets are categorized as tangible or in tangible. Tangible assets are financial and durable goods. Tangible assets are bonds, stocks, mutual funds, savings, own-home, transport etc. Intangible assets increase access to opportunities and contribute to the ability to earn income and acquire tangible assets. Examples of intangible assets are education, health, work experience and social network.

For the purpose of this, study tangible assets consisted from less to more liquid assets. The less liquid assets comprised land, own-house, tractor, car, bicycle etc. Due to lower water table, cultivable land is scarce in Southern Punjab; as such, its value compared to Northern Punjab (Sialkot District) is less. Even if household owns 12 acres of land in Southern Punjab, its value would be less. In order to irrigate land Peter pumps are widely installed in northern and southern Punjab for which small farmers usually borrow from PRSP. Own house is an asset which all micro borrowers possess because having a one room shelter is within the reach of rural household where land for the purpose is almost free.

In rural areas, more liquid assets constitute livestock (cow, buffalo, camel, sheep, goat, ducks and hen). Every rural household owns some kind and amount of livestock which varies with economic position of household. Goats and sheep are widely reared by both low and high-income household in rural areas. These are reared to fetch better price in urban market for Eid and other Muslim occasions. The liquid assets are both assets and savings (investment). These easily convert into cash when needed. It may be mentioned, PRSP micro credit is available for purchase of cattle and poultry. Rural community's assets are not financial but mainly in kind. Consumer durables like refrigerator, television etc was not owned by any household even in the more prosperous village of southern Punjab. The assets comprise own house, livestock, means of transport if any and, some small household items.

CREDIT

Low-income households, especially rural low-income household have little formal relationship with banking system; this makes them dependent on informal lending market, who charge predatory price for lending due to their low creditworthiness. Micro credit, therefore, provides opportunity to poor to avail loan despite low creditworthiness.

PRSP micro credit is available at 14% effective interest rate on declining balance approach. The loan size is from Rs. 10000 to Rs. 30000. Rs. 10000 is the mode and Rs. 14000 is average loan size. The terms of loan are for one-year period. The sample interviewee received varying loan, *i.e.* from Rs. 10,000 to Rs. 25000. The credit amount therefore remained within that range irrespective of need or demand. The micro credit of PRSP is therefore, supply driven which has number of implications for borrowers and lender. Repeat loans were incentive for regular repayment of credit. In addition, different family members in a household became members of community organization (CO) for acquiring and benefiting from credit. This augmented resources of large household.

The data on credit was obtained from the office of PRSP and verified during interview. Interviewees in the sample had repaid loan three months before the survey was conducted. No significant variation in assets or income therefore was expected in the short period, hence increase in income and asset due to credit are taken as occurring in same time. Loan was repaid in twelve installments on declining balance method. For the purpose of analysis, credit repayment was calculated for each household and annual repaid amount of loan was used in the analysis.

THE MODEL

In order to derive results from the primary data of the variables discussed above, the following model is presented:

$$y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4$$

y = annual income of household without credit

x_1 = micro credit

x_2 = assets

x_3 = family size

x_4 = education

V. RESULTS

It is about well-being of poor communities living at the periphery of the mainstream development. The well-being is measured from their present income (it is assumed that households will consume leading well-being) and its improvement due to micro loan availability by PRSP, assets, family size and education. Multiple regression analysis was carried to determine improvement in income of micro borrowers of PRSP in selected districts. The results of the multiple regression are given in Table 2. All variables were entered and R^2 0.10 was obtained. The F-test of the multiple regression was 1.75 (Table 2) which is smaller than the critical value (2.53) shows the significance of the analysis. It shows that micro credit improves income $(H_0 = \mu)$.

TABLE 2

Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	62998090787.903	4	15749522696.976	1.756	0.149
Residual	565200375595.155	63	8971434533.256		
Total	628198466383.059	67			

All variables are significant in improving well-being of poor communities, especially micro credit and education. The multiple regression results show that the t-ratio of micro credit and education are high showing significance of the variables in income improvement (Table 3). Family sizes, followed by assets have least effect on the income.

Micro credit has significance in improving income as indicated by the results of multiple regressions. There is addition to income by way of credit, savings etc., but it is to be seen whether that income is obtained from investment of borrowed capital or is credit used for consumption. During the interviews the question, how credit was used had three responses. One, it was invested in livestock, second, it was used for purchase of agriculture inputs and third, it was used in personal consumption. In all the three uses, income had improved and it is the particular use of credit that will determine whether there will be continuous future streams of benefit or one time benefit. In Southern Punjab credit was largely used for consumption and it created problems in the repayment of installments from the area.

TABLE 3

Multiple Regression Results

Variables	Coefficient	Standard error	t-ratio	Partial correlation
Constant	8390	47008.9	0.178	
Micro credit (x_1)	3.24	2.2	1.472	0.182
Assets (x_2)	0.0282	0.060	0.471	0.060
Family size (x_3)	1820.7	3176.8	0.573	0.072
Education (x_4)	5048.54	2894.2	1.744	0.215

Education levels of the people in the sample locations were generally very low. The average year of schooling was 3.5 years and there were around 36 illiterate borrowers in the sample, which is more than 50%. Some households that appeared relatively prosperous in the sample had some level of literacy, were more informed and ambitious because every household member was contributing to the income in one or the other way. The other set of relatively poor household, had low level of literacy and information. These household also had low level of ambitions and drive because of which their incomes were low. In the latter households, generally, there was proclivity to meet immediate consumption needs, while in the former the approach was to invest in ongoing economic activity.

It is added that government schools were distantly located in the sample locations; especially in settlements and primary school established with the support of community and PRSP were functional in one location. The demand for education is highly elastic in poorer communities because

decrease in income or distance of school from house contributes to increase in illiteracy among poor and very poor.

Family size is not as significant as education and micro credit. Family size may not improve income as much however it provides social and psychological security and protection which is absent due to any formal institutional structure for the purpose. Though, in the sample it was observed that extended families borrowed multiple loans.

Assets have least to do with income improvement. Income of the poor rural households are not function of assets, in fact assets are basic needs: a house, made of mud, for shelter; livestock for provision of food and some income and some other basic household items. Therefore, assets do not increase incomes more than what 'poor' and 'very poor' possess.

In answering the third question whether micro credit supports sustainable livelihood or not, it is concluded from the above discussion that micro credit can provide sustainable living, though presently it is not adequately meeting the objectives. Observations from the survey tell that in sizeable instances micro credit was misdirected and used in meeting routine consumption needs which certainly meets short-term needs but is not channeled to an investment that would provide sustainable livelihood. Beside, the amount of loan is not enough to make meaningful return on investment; a Rs. 10,000 loan is neither here nor there.

VI. CONCLUSIONS AND POLICY APPROACH

Micro credit is targeted to poor and very poor as according to the definition of PRSP and having changed the definition to 'poor' and 'non-poor' it has made it more ambiguous and vague, the already complex conceptual and definitional dimensions of poverty and poor. Although, poor and very poor are targeted nevertheless the use of loans is quite misdirected with the result repayment of installments became difficult in certain areas. The organization needs to keep in view geographical and cultural aspects while designing loan product and disbursing credit. A uniform size fit all may not give the desired results of credit for investment. A more vigilant and motivated loan staff that makes frequent visits to the community organization in the villages is suggested.

The main lessons learnt are that there are economically and socially diverse settlements and villages in Punjab, Pakistan. Not only these are physically inaccessible in certain cases but also suffer deprivation, because of poor road network, absence of basic health and education facilities to the extent that presence of government seems non-existent. In such situation the

responsibility of NGOs like PRSP increases, which diverts and dilutes the core functions. Besides, NGOs are not substitute of government authority and responsibility. It would be appropriate for NGOs to focus on core functions and may coordinate with government departments for effectiveness of their programme, while the main responsibility be handled by government by reforming its institutions.

The participating poor who had repaid loan their income improved with credit however manner of utilization of borrowed amount determines present income and ability to cope with hardship. In the sample 80% of the credit was invested in ongoing economic activities and 20% went to fulfilling consumption needs. Of the 80% of credit nearly 60% went in the investment of livestock. The contribution of PRSP micro credit in investment of livestock (buffalo or cow) is around ¼ of the total cost. The remaining ¾ is mustered through informal sources. The livestock sector has potential to generate income for the poor, therefore, PRSP need to focus on this sector in liaison with the livestock and other related (veterinary services) department and develop credit line for livestock market. PRSP may hire livestock and veterinary expert service who can advise borrowers.

While education and micro credit explain income improvement in the model there are other factors like connectivity of village with urban market where rural poor can sell their product and labour and make sustainable livelihood. Cottage industry can be promoted through micro credit. The producer of handicraft does not receive enough return and many traditional handicrafts at the verge of extinction because of poor access of the producer to the markets either due to poor connectivity or information (despite increased mobile phone usage and prevalence). In cooperation with other organizations supporting traditional art and craft, micro credit can be provided to artisan in the villages to provide sustainable livelihood and income.

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