

Economic Analysis of Agriculture Small Loan and its Multidimensional Benefits for Farmers' Community: an Analytical Study from South Region of Punjab Province, Pakistan

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Abstract

To enable farming sector more productive and efficient, agriculture small loan can play a vital role. For adoption of modern farm practices and technologies, the shortage of agriculture credit is one of the major problems encountered by small subsistence rural farmers. In Pakistan's economy, the agriculture sector contributes 21 percent of GDP and absorbs more than 43 percent labor force. The aim of this study was to measure the multi-dimensional benefits of agriculture small loan on the living standard of farmers. This study was carried out in four districts of Punjab province located in south region as it offers a large population of agriculture community. The climatic conditions, soil structure and plain fields favor agriculture farming. Two groups of farmers who borrowed agriculture small loan and who did not borrowed were selected through purposively sampling technique. T-test, averages, percentages and descriptive statistics were applied to compare the benefits of agriculture small loan between two groups. The results were significant at 5 % confidence interval. The outcomes of t-ratio suggested that technical efficiency of agriculture small loan borrowers was higher than non-borrowers, the crop productivity and average profits earned by loan borrowers group was higher than non-borrowers, 40 percent respondents believed that agriculture small loan had increased their access to basic healthcare facilities, 45 % agriculture loan borrowers had increased their marketing orientation, the number of livestock animals were more with borrowers, around 76 percent farmers were of opinion that their social expenditures and status had raised and approximately 57 % agriculture small loan borrowers were doing alternative off-farming income generating activities by utilizing the surplus income. The study concluded that if small subsistence farmers are properly educated and adequate agriculture small loans are provided, than agriculture small loan can be used a tool for socioeconomic development and sustainable growth of agriculture sector in Pakistan.

Keywords: Agriculture Small Loan. Crop Productivity, Market Orientation, Social expenditures, poverty eradication, Punjab

1. Introduction

For the growth and development of any enterprise, credit is conceived as a tool. It enables the entrepreneurs to provide better working capitals, adopt latest technologies and move forward for new investment opportunities. Credit make possible to reduce poverty in the society development process. The application of credit in any business is considered to have significant impact including agriculture which is an important sector in Pakistan. Any country cannot neglect the importance of agriculture as it provides a source of food to their people who are working in other sectors of economy. Agriculture is the largest sector which contributes nearly 21 % to Pakistanis' Gross Domestic Production (GDP). Around 43% of Pakistan labor force is directly or indirectly absorbed in agriculture sector (GOP, 2014-15).

In developing nations to make agriculture sector more productive and efficient, the application of agriculture loan had played an important role. Pakistan is on the route of development and its farmers are in the process of adopting modern agriculture practices such as high-yielding seeds, fertilizers, pesticides and latest operational machinery. All these inputs are purchased against cash and shortage of finance faced by the farmers turned them towards dependence on credit markets. Therefore after harvesting period to fulfill next cropping season expenditures, the farmers immediately needed finances. Although in many economies the rural credit is not considered as direct tool of production yet it is very effective to shatter the ferocious circle of "grow-eat-grow" in rural economy. To use the recommended doses of agriculture inputs and adopt new technologies, the

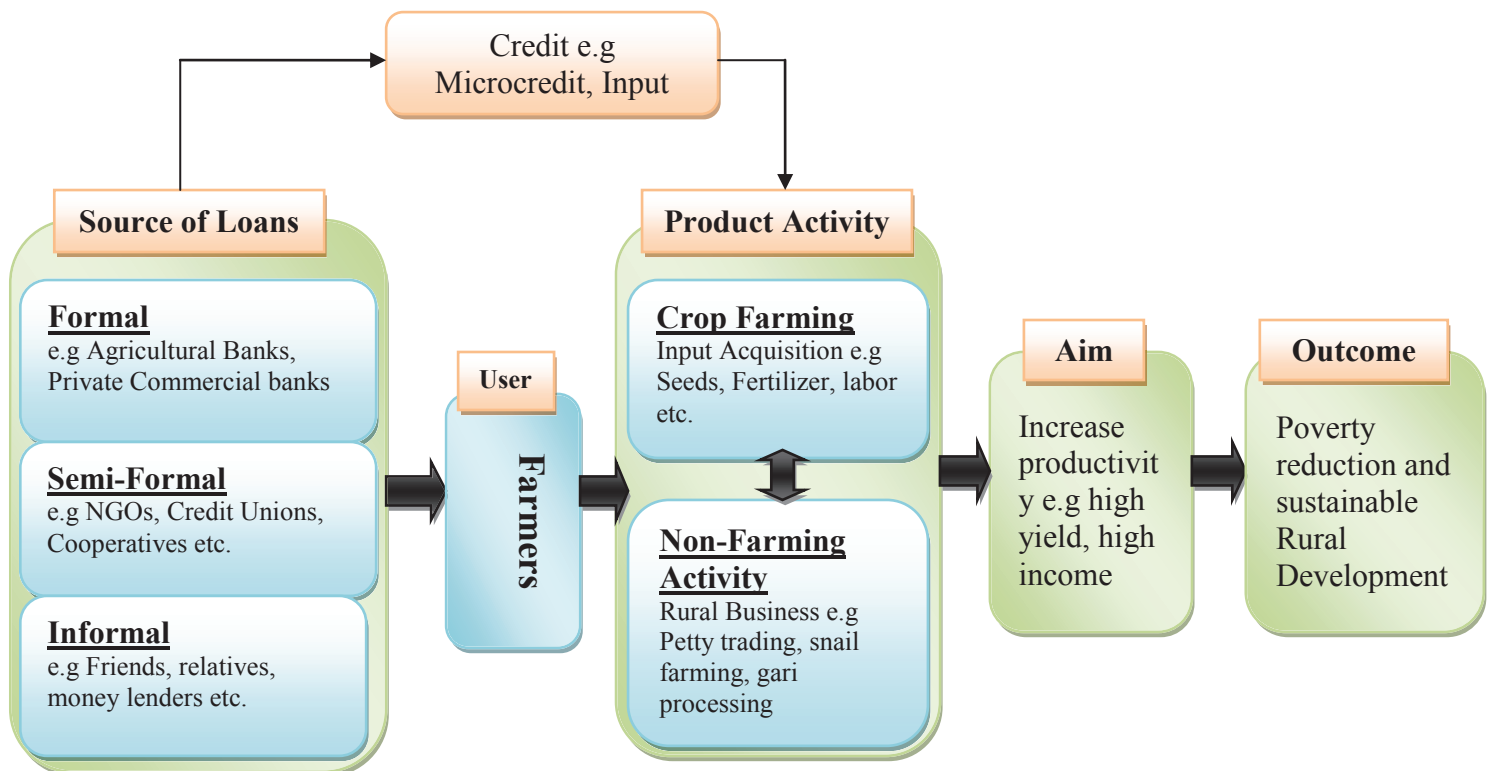
agriculture loans are helpful in minimizing financial constraints encountered by farmers.

Agriculture small loan schemes offer small rural farmers a simple access to loan. These schemes use non-formal loan-structural arrangements like collateral substitutes, group loaning, collateral free loans, short term progressive loans and varied installments schedules. The agriculture small loan institutional and operational framework is different than formal business financial institutions. The primary source of funds for agriculture small loan institutions is not on deposits collection. The agriculture small loan institutions provide financial services mostly to small scale and landless farmers. In addition to provide farming loan, agriculture loan institutions also provide non-credit services like capacity building, vocational trainings and assisting in marketing of agriculture commodities. To fulfill the farmers' demand for optimal use of inputs in agriculture farming, an efficient credit market can be helpful for improving the efficiency of crops productivity, farmers' livings and sustained growth. (Feder, et.al., 1990).

In spite of recent improvements in agriculture loan sector, the increase in crop production is still a challenge. For agriculture small loan institutions, it is very important to understand the nature and context of agriculture crops and their potential role. Actually, agriculture financing needed a different approach as compared to typical microfinance organizations. The characterization of agriculture sector include the unpredictable returns on capital, slower velocity of capital, higher uncontrolled natural risks and lack of finance & business knowledge by farmers. Although it is believed that higher output levels can be achieved by applying new production technology but to gain access to such technology, credit is prerequisite particularly for the small subsistence farmers with little or no capital of their own. Hence, agriculture small loan is conceived very critical in enhancing crop production and mitigating many challenges associated with agriculture growth (Miller, 2011).

1.1 Theoretical Framework and Sources of Agriculture Loan in Pakistan

The provision of agriculture loans had remained the prime policy of Pakistani governments to fulfill the credit requirements of farming community. The agriculture loan market is characterized by the co-existence of formal, semi-formal and informal lenders. The figure.1 showed the pictorial sketch of Pakistan credit market for agriculture farming.



Source: Market information, 2016

Figure.1

Major share of institutional or formal loan for agriculture sector is being provided by state-owned agriculture

bank as Zarai Tariqati Bank Ltd (ZTBL). Many domestic private and commercial banks are also engaged in disbursing agriculture loan for achieving higher production. The regulatory body of banks i.e. State Bank of Pakistan attached high priority to ensure on-time provision of agriculture loan to farmers. The semi-formal agriculture loan institutions are comprised of NGOs, other micro-finance banks and cooperative societies registered under company act of Pakistan. The informal sources of agriculture small loan include a wide range of lenders in the market and surrounding villages, it also included relatives and friends. However, small share of agriculture loan is fulfilled through these informal sources.

To shift subsistence farming to modern commercialized agriculture, utilization of agriculture small loan over the years had shown a rise trend in the farming sector. Due to small landholding structure of Pakistani farmers, low crops yield and low income, the share of saving among majority of farmers is meager. Therefore it necessitates for credit institutions to step forward and help them in adopting latest farm practices. Agriculture loan is universally considered an integral part for transformation of agriculture modernization and commercialization. However, despite of considerable efforts to streamline the agriculture loan system, the desired achievements are still fall short. Unless agriculture loan market is not systematically institutionalized for farmers, the dream of sustainable agriculture development cannot be materialized.

2. LITERATURE REVIEW

Agriculture sector is a most important concern across the entire globe. Food security, especially among poor populations of developing countries is no longer guaranteed, the growing prices of food products such as rice, wheat, cereal, milk and meat are gigantic problem for consumers. From another perspective, high performing agriculture markets have potential to provide new investment and innovative approach for farmers to earn a decent living. But to avail this chance, farmers need finance to invest and increase production. The improved agriculture practices are comprised of good quality seeds, better fertilizers and integrated protection measures (IPM). Owing to cash scarcity and non-payments of expenditures, farmers need immediate funds for next cropping season. The well-organized agriculture finance market can offer a chance to farmers in fulfilling their funds necessities for balanced use of inputs in agriculture cultivation. (Feder et al., 1990)

For a diverse agriculture production pattern, capital development, better resource use efficiency and poverty eradication of rural farmers, the agriculture loan is a vital element. The provision of agriculture small loan is expected to improve higher employment utilization, enhancing yield and income and food production which will ultimately lead to welfare of farming community (Oblagunju, 2007).

Agriculture loans are provided to small farmers in order to bridge the gap between their income and costs. Agriculture loans are not only wanted for better seeds, fertilizers and latest farming implements but also needed for liquid capital to finance the harvesting, haulage of crops and similar other farm operation too (Iqbal, et al., 2003).

Zuberi (1989) attempted to provide indication for the role of institutional credit in agriculture productivity and concluded that nearly 70 percent of total formal credit is utilized for the buying seeds and fertilizers. He declared that most of the increases in agriculture production can be explained by measuring changes in the expenditure amount of seeds and fertilizers. They applied a two -stage model structure, in first stage probability of taking formal loan is predicted and the impact of fertilizers use per acre was estimated by suing the predicted values in second stage. Their results revealed that institutional credit is an important factor for seeds and fertilizers expenditure in farming. Von Braun, Malik and Zeller (1993) studied that farmers who had received agriculture loan were 37 percent in better position to utilize higher inputs as compared to who have no access to credit.

Binswanger and Khandker (1995) estimated the impact of institutional credit by using district-level data in India and their results showed that institutional credit enhance rural income and agriculture production. They founded that rural benefits are exceeded by at least 13 percent than from cost of formal system. The small loan schemes are more effective than any other schemes, in assisting the poor. Pit and Khandker (1998) analyzed the Grameen Bank credit program impact in Bangladesh on different kind of individual and household outcomes such as school enrollment, assets accumulation, labor supply and family fertility rate. They concluded that micro-credit is a significant tool and it had a positive influence on the welfare of poor households in Bangladesh.

Qureshi and Faruquee (1996) concluded that the share of formal loan in agriculture GDP is not more than 5 percent and it explain only one-third of rural credit. Zarai Tariqati Bank Ltd is leading in providing agriculture loans. The private commercial banks are hesitant to disburse agriculture loan. The commercial banks loan portfolio for rural area is not more than 5 percent; instead they focus on commercial loans. It is due to the reason

that commercial bank required physical collateral to reduce risk of loan and associated transaction cost of lending. The poor rural farmers are lacked of physical assets to offer as collateral for banks. The provision of more loans to many smallholders may increase transaction cost. But to reduce high loan default rates, it is more feasible to offer loan for smallholders as recovery rate from small farmers is higher than for large farmers in agriculture.

Nuryatono.N. et al., (2005) concluded that agriculture contribution in development process is important but poverty is a major problem of rural areas. Their results were that around 46 percent of total rural households are considered as poor. Although the rate of interest is lower

for formal loan than an informal loan but transaction cost of borrowing formal loan are higher than informal loan. The informal loans have less transactions cost as these loans are independent and free from collateral, time period and size of loan. Informal loan providers also help the farmers by facilitating in marketing or purchasing of seeds and fertilizers. The informal loans are mostly purpose-specific.

Binswanger and Rosenzweig (1986) concluded that albeit the shortcomings of informal loan, the governments had attempted to provide agriculture loan to farmers through developing alternative loan institutions. Many such attempts have failed in delivering a viable loan disbursing mechanism. This failure was due to high covariate risk of agriculture production nature, scattered information, lack of proper enforcement of loan agreements between stakeholders and government hasty interference in credit markets etc. All these factors are alleged for the poor performance of government-directed credit schemes.

Anka (1992) analysed that the policy makers and bankers should thoroughly understand the concept of agriculture credit. This type of credit may help to eliminate the two major problems of Pakistan's rural economy. The first problem is the persistent poor income of rural farmers due to low yield per acre and second problem is perpetual losses due to less recovery of agriculture loan. Although agriculture credit gives farmers an independent social and economic identity but small farmers hesitate to borrow loan from formal banks due to complicated and lengthy procedure. They prefer to buy inputs on very high prices from commission agents which deduct the amount after marketing farmers' agriculture produce.

Abdedullah, et al. (2009) find out that provision of credit helped the dairy farmers to improve their income and credit has a defining role in livestock sector. The agriculture small loan not only helps to enlarge the economies of scale but also assist in enhancing the livestock sector productivity from available resources. The family labor role is even more important in growth. The credit helped in expansion of livestock farm size and hence the unemployed & untrained rural labor is absorbed at their door steps. This mechanism helps to cut-down the migration process of rural population towards cities.

Saleem, M.A. & Jan, F.A. (2011) conducted a study on the impact of agriculture credit on crop productivity in Pakistan. They used Linear Regression the Cobb-Dougllass Model for types of credit disbursed for different variables included in model such as seeds, fertilizers and pesticides. Their results showed a positive and significant effect at 5 percent level and claimed that over 80 percent variations in the agricultural production were explained by the explanatory variables included in the model. Further one percent increase in the disbursement of institutional credit for seeds, fertilizers and pesticides increased agricultural GDP about 1.5 percent and suggested that agriculture credit is very important tool increasing agricultural productivity. The study under hand had the following specific objectives:

1. Measuring the role of agriculture small loans in improving agriculture production between loan receivers and non-receivers farmers.
2. Multi-dimensional benefits analysis of agriculture small loan on rural farmers' living standard.
3. Make appropriate policy suggestions for proper utilization of loan in rural areas

3. MATERIAL AND METHODS

3.1 Description of Study Area

The south part of Punjab province in Pakistan was chosen as study area for this research work. The primary reason for selecting this region was the favorable climatic and soil conditions for agriculture farming and

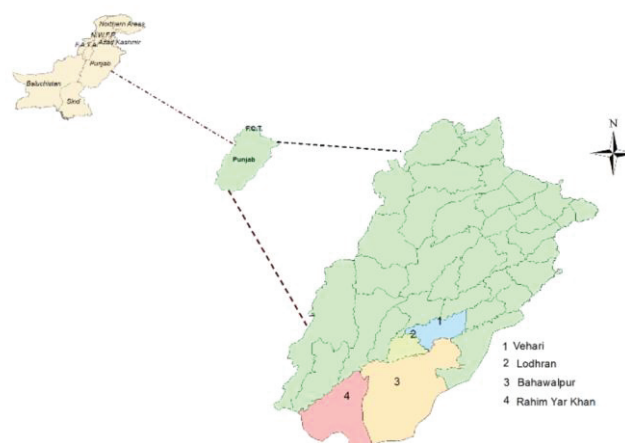


Fig.2 Geographical location of study area

secondarily this region offers a rich agriculture farming community for sampling & survey. The major crops grown in this region are cotton, wheat, maize, rice and sugarcane. Important vegetables are as tobacco, sunflower, potato, onion, tomato, green chilies, okra and pumpkins etc. Minor crops are such as mustard, lentil, barley, sorghum etc. From south region of Punjab province, four districts such as Vehari, Lodhran, Bahawalpur and Rahimyar Khan were selected.

3.1 Data Collection

The target population for this study was the agriculture farming community. The study utilized both primary source data and secondary source data. The secondary data was sourced from agriculture loan providing financial institutions, agriculture department and research institutions. The primary data was collected through field survey. From selected four districts, twenty villages were chosen on purposive sampling basis to analyze the influence of agriculture small loan on farmers' living standard. The farmers living in these villages constitute the study population for this research. A total sample size comprising of 200 respondents were selected from these villages. Out of these 200 farmers, 100 were of agriculture small loan receivers and 100 were non-receivers. There were two sub-groups, one composed of the agriculture small loan receivers considered as treatment group and another who have not received loan constituted the control group. Respondents for both control and treatment groups have similar socioeconomic conditions. Fourteen farmers' responses were not appropriate and up to requirement, so were dropped from analysis and a total sample of 186 was utilized for data analysis. As this research was conducted in selected villages of four districts in south region of Punjab province, so it implies geographical limitations. The data was collected in January and February 2016. The proportional distribution of sample size among four districts is shown in Table-1.

Table.1 Distribution of Sample Size among Four Districts

Sr.No.	Districts	Agri. Small Loan Receivers	Non-Receivers	Total
1	Vehari	20	20	40
2	Lodhran	25	25	50
3	Bahawalpur	23	23	46
4	Rahimyar Khan	25	25	50
Total		93	93	186

Authors' sample size selection

For data collection a questionnaire was prepared, before field survey it was pre-tested. The biased questions were removed and modified according to the cultural and social norms of locality. The questionnaire included questions about household socioeconomic characteristics such as household size, education, experience, farm size and social status etc. The questionnaire also includes questions about agriculture small loan utilization in farming and its various impacts on households' living standard. So a comprehensive questionnaire was developed to achieve two objectives. The first was to collect information relevant to study objectives and the second to collect data which is reliable and valid for research.

3.2 Analytical Techniques

The collected data was statistically analyzed with the help of econometric tools such as t-test by using statistical software E-View 8th version. Simple data analysis calculations were conducted by frequency distribution, cross tabulation, mean, percentages and averages. The paired sample difference between treatment group i.e agriculture small loan receivers and non-receivers was performed by t-test.

$$t = \frac{(X1 - X2) - d_0}{\sqrt{(S1^2/n1 + S2^2/n2)}}$$

Where,

X1 = For agriculture small loan receivers mean value

X2 = For non-receivers mean value

d₀ = mean of the difference between paired observation

n1 and n2 = sample size of agriculture small loan receivers and non-receivers

S12 = sub sample variance

Averages

Formula to measure averages

$$\text{Avg.} = \frac{n}{N}$$

Where,

Avg. = Average,

n= number of observation in a particular group

N=total number of observations

Percentages

Formula to measure percentages

$$P = \frac{n}{N} * 100$$

Where,

P= Percentage

n= number of observation in sample group

N =total number of observations.

4. RESULTS, DISCUSSION AND ANALYSIS

4.1 Farmers' Socioeconomic Descriptive statistics

It is prime important to discuss the socioeconomic characteristics of farmers under study. During data collection, survey questionnaire contained questions about the social status of farmers as farmers' age, education, household size, land ownership and other livelihood occupation etc. These socioeconomic characteristics are presented in Table-2. The descriptive statistics of farmers showed that around 43 percent farmers were from age group of 36-45 year whereas 33 % from 25-35 age groups while 22 percent were from age group 46-55 years. At the same time it was found that average family size of sample was around 5.5 person per family. The education level of farmers showed that around 65 percent farmers were literate and 35 percent were illiterate. The literate farmers were of school grade 2-4, some were secondary educated and few were higher secondary educated. The level of education seems to be important socioeconomic variable for adoption of latest agriculture practices.

Table.2 Important Socioeconomic Characteristics of the farmers in Study Area

Sr. No.	Description	Percentage
Age Group (years)	25-35	33
	36-45	43
	46-55	22
Family Size	Average Persons in a family	5.5
Education Level	Literate	65
	Illetare	35
Diversified Occupation	Agriculture farming	47
	Both Farming & Off Farming	53
Farming Land Status	Owner	27
	Owner-cum Tenant	45
	Only Tenant	28
Farm Size	Average land are in Acres	2.5

Source: Authors Field Survey Results, 2016

As the average farm size of respondents was just 2.5 acre which was below subsistence level. Such farmers do not have much resource for better livelihood and they need to find out some off-farming sources of income. Therefore a majority of small farmers around 53 percent supplement their family income from both agriculture farming and off-farming activities. The status of agriculture land showed that 45 percent of respondents cultivated own as well as tenant agreed land, whereas 27 percent farmers were land owner while 27 percent were cultivating tenant land and had no owned farm land.

4.2 Impact of Agriculture Small Loan on Yield of Major Crops

The collected data was processed and analyzed by employing t-test and results are shown in Table-3. The impact of agriculture small loan was analyzed among loan-receivers and non-receivers on four major crops such as cotton, wheat, maize and rice. The outcomes showed that significant difference exist among yield of major crops between agriculture small loan receivers and non-receivers. The differences were significant at 5% confidence interval level.

Table.3 Comparison of Major Crops Yield among Farmers of Four Districts in Punjab

Crops	Agri. Small Loanee				Non-Loanee				t-ratio
	Average Yield (**mond/Acre)	Min	Max	Std.Dev	Average Yield (**mond/Acre)	Min	Max	Std.Dev	
Cotton	16	10	20	5.822	12	08	16	3.563	2.17*
Wheat	28	22	38	5.67	22	18	27	4.23	3.14*
Maiz	40	32	53	6.763	35	28	45	5.343	3.51*
Rice	32	21	40	4.231	27	20	32	3.442	2.85*

Source: Authors Field Survey Results, 2016 **Yield is shown in monds/ acre. One mond is equal to 40 Kg.

The outcomes shown in Table-3 support the hypothesis that utilization of agriculture small loan statistically explains the difference in crops yield among farmers. The agriculture loan-receivers produced higher yield as compared to non-receivers. The t-ratio clearly suggested technical efficiency of agriculture small loan receivers in crop production. The agriculture loan receivers were likely to utilize optimum inputs thereby achieved high yield and this was attributed to technical information as part of loan package by financial institutions. The more available information with agriculture loan receivers, enable them how to combine individual inputs in right proportion to maximize crop yield. The average and maximum yield of cotton yield for agriculture small loan-receivers was 10-15% higher as compared to non-receivers. Similarly wheat yield is higher 18-21% for agriculture loan-receivers whereas maize average and maximum yield is 11-17% higher while rice yield is 15-18 % is more as compared to non-credit users. Similar results were found by Chandio, A.A. et.al., (2015) in Pakistan that agriculture credit availability was important as it removed the financial constraints of cash inputs and enhance technical efficiency of farmers. The cost structure also shows interesting point that non-borrowers spend more average expenditure on inputs but their expenditure were not consistent with their yield and income, as both income and yield were low than that of agriculture small loan receivers. It may be due to that non-borrowers inefficiently utilized the inputs due to lack of technical advice, low education level, large family size and lack of using the scientific instructions applied in farming.

4.3 Impact of Agriculture Small Loan in Farmers' Income

The average profit earned by agriculture small loan receivers was also statistically different from non-receivers households at 5 % confidence level. The data analysis results for making comparison between both groups are depicted in Table-4. The outcomes of survey results clearly showed that agriculture small loan receivers are higher income level and profits as compared to credit non-users. The t-ratio showed the significant results for all four districts included in this study. The average cost and income were calculated on acre basis and profits are derived by subtracting all expenditure on crops from total revenue by selling agriculture produce. The prices are mentioned in Pakistani currency rupee (Rs.) and international equivalent may calculated by using prevailing exchange currency rates.

Table.4 Comparison of Income Level among Farmers of Four Districts

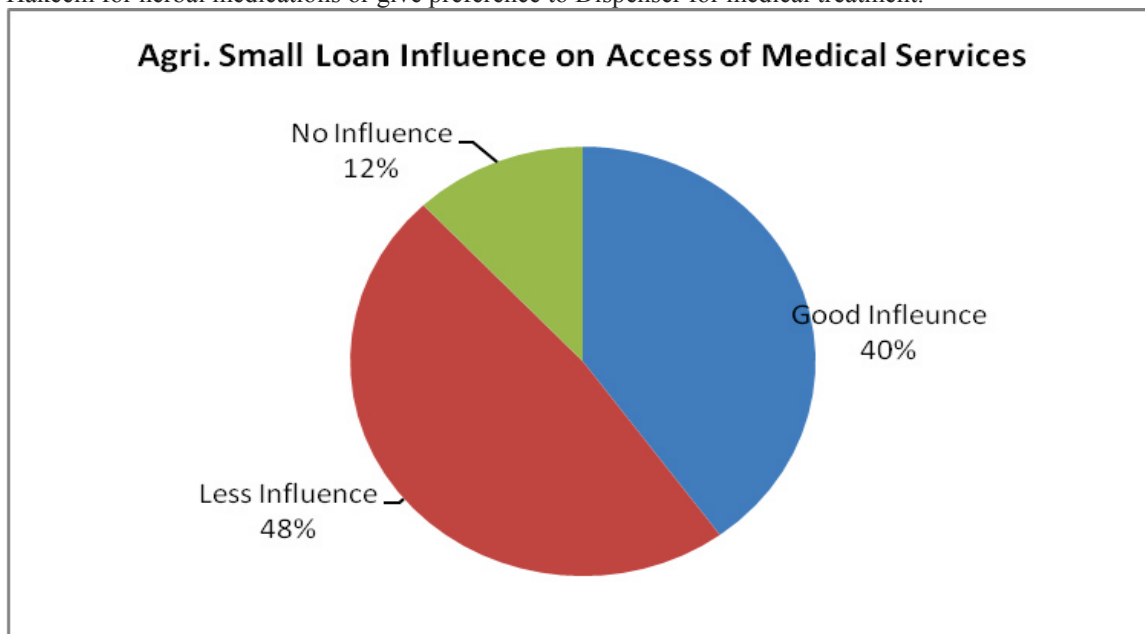
Districts	Agri. Small Loanee			Non-Loanee			t-ratio
	*Average Income	Average Cost	Average Profit	Average Income	Average Cost	Average Profit	
Vehari	55640	25760	29880	52550	24560	27990	3.29
Lodhran	53765	26540	27225	50560	25450	25110	3.07
Bahawalpur Rahimyar	57840	24860	32980	53670	23490	30180	3.56
Khan	55350	23580	31770	51650	25435	26215	2.92
Total	55648	25185	30463	22107	24733	27273	3.25

Source: Authors Field Survey Results, 2016. * Figures in tables are in Pakistani currency Rupees (Rs.)

The results were in-consistent with previous studies that there exist positive relationship between credit and income level (Owusu-Antwi and Antwi 2010; Ashaolu et al. 2011; Rahman et al. 2011; Ammani 2012). The study in hand evidently suggest that agriculture small loan should be in more accessible to rural farmers as it is critical variable in assisting farm income.

4.4 Agriculture Small Loan and Farmers' Access for Medical Care

Health is always a basic concern for government. Mostly medical care centers are constructed in rural areas to provide better healthcare facilities. From field survey, it was found that agriculture small loan affect the farmers' access to basic medical services. The respondents were subjected to enquire their opinion by incorporating close ended questions such as how much credit influence their access for medical services before and after credit use (options were credit has much influence, less influence, no influence). The results obtained from analysis of collected data are explained through pi-chart in Figure- 2. Among farmers 40 percent respondents believed that agriculture small loan had increased their access to basic health facilities which they do not have before. 48 percent farmers respond that agriculture small had a little influence on their access for medical services while 12 percent respondents were of opinion that it had no effect on basic health facilities. Same results were suggested by Adams and Bartholomew (2010) that farmers do not have access for basic health care and after receiving the credit they could access basic medical care services. If farmers have no access to medical healthcare centers then they visited the traditional medical treatments or quack doctors while some farmers in rural areas prefer to visit Hakeem for herbal medications or give preference to Dispenser for medical treatment.

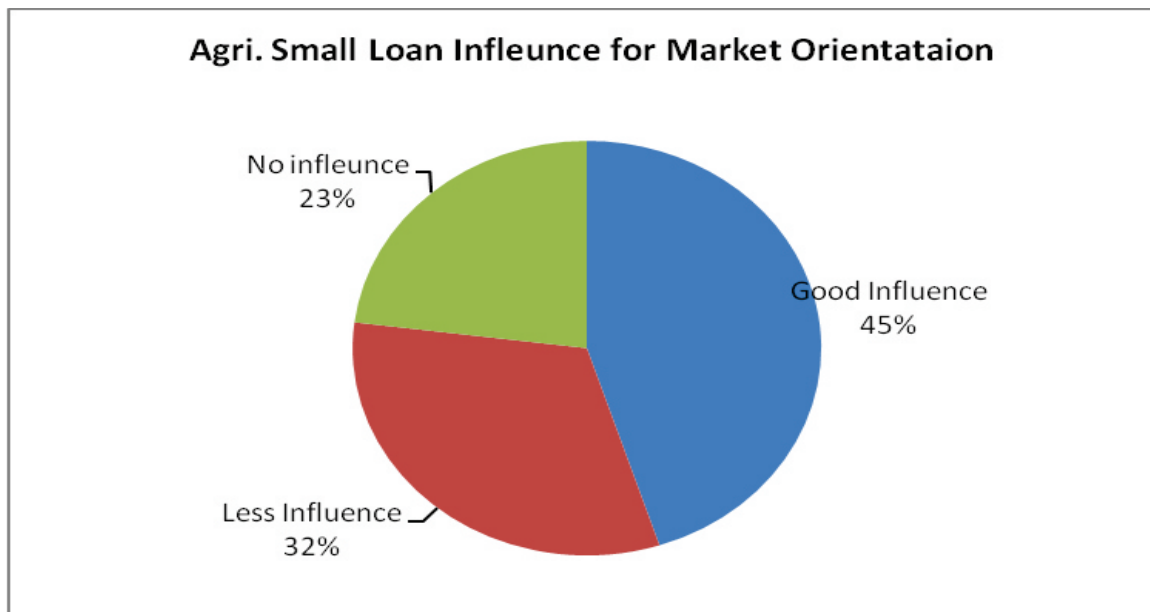


Source: Authors Field Survey Results, 2016

Figure. 3

4.5 Impact of Agriculture Small Loan on Market Orientation

For better marketing of agriculture produce, the access to transportation and communication are always prime concern for rural farmers. The farmers were enquired about the impact of agriculture small loan on their access to better marketing of their produce. The results of data analysis are shown in Figure-3. Approximately 45 percent of farmers believed that agriculture small loan had enabled them to buy their own mode of transport to move crop products to nearby agriculture markets. 32 percent farmers vowed that agriculture small loan had less impact on improving the transportation and communications whereas 23 percent farmers said they had no influence of agriculture loan on enhancing their marketing orientation and they prefer to sell their agriculture produce to rural middlemen. Small rural farmers pay for transportation services such as rent for van during crop season to move in urban markets. Majority of farmers had positively increased their market orientation as after getting loan they bought bicycle, motor bike and tractor trolley (Yaseem and Sarwar, 2011). After taking loan rural farmers are able to increase their crop yields which ultimately increase their revenue. This surplus income is utilized for having own mood of transportation. The rural farmers which are lacking in capital and market information still use private transport. Access to more market orientation assist farmers in fetching higher market prices.



Source: Authors Field Survey Results, 2016

Figure.4

4.6 Impact of Agriculture Small Loan on Livestock Growth

To supplement rural household income, livestock play an important role. Almost every household engaged in agriculture farming kept different kinds of livestock such as milch animal like buffalo and cows. Some farmers engaged in raising poultry and fattening animals. The livestock situation was also observed in study area and a comparison was made between groups of agriculture small loan loanee and non-loanee. The numbers of livestock kept by agriculture small loanee and non-loanee were noted and it was found that agriculture loan loanee had more number of livestock animals as compared to non-loanee. The comparison results are shown in Table-5.

Table.5 Impact of Agri. Small Loan on Livestock

Livestock	Agri. Small Loanee	Non-Loanee	Percentage change
Buffalo	2	3	50
Cow	2	3	50
Bull	1	1	0
Goats	4	7	75
Poultry	3	6	100

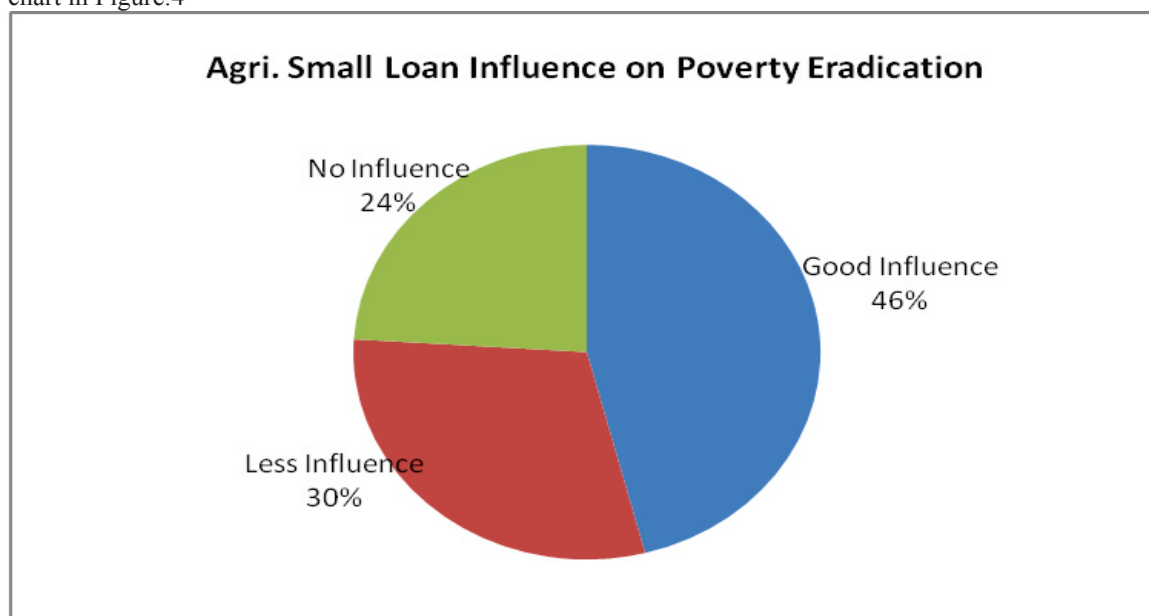
Source: Field Survey Results, 2016

The comparative outcomes between two groups elaborated that agriculture small loan had positive intervention on livestock growth. Table-5 showed the number of livestock animals held with agriculture small loanee and non-loanee. It is evident from these results that utilization of agriculture small loan and mechanized cultivation, the land is more efficiently shifted either for major crops or for milk enhancing fodders for animals. For rural households, the poultry is very important home based micro enterprise. As a result of loan application, the farmers were able to 100 percent increase poultry home based folk. Similarly 75 percent goats were increased whereas 50 percent rise in buffaloes and cows were noted. The growth of livestock was influenced by positive effects on increase of farmers' income. The use of agriculture small loan and variations in livestock animals showed that if small farmers are properly guided and required information is provided in appropriate manners, they can play a vital role in socioeconomic development of Pakistan.

4.7 Impact of Agriculture Small Loan on Poverty Eradication

The small farmers borrowed agriculture loan to invest in farming activities and attempt to increase their earning capacity which resultantly improve their living standard. The results of data analysis are depicted through pi-

chart in Figure.4



Source: Authors Field Survey Results, 2016 Figure. 5

The expenditures on social sectors between agriculture small loanee and non-loanee were examined during the survey of study. The expenditures of social sector include education, healthcare, better housing, learned business skills, consumption diversification and assets accumulation etc. The study results showed that 46 percent respondents believed that they have good influenced on their social expenditures while 30 percent respondents of view that agriculture small loan had less influence on their expenditures and 24 percent said no influence at all. Therefore majority of rural farmers had some positive influence on their poverty reduction by the application of agriculture small loan in crop farming.

4.8 Impact on Enhancing New Employment Opportunities

To improve the economic situation and achieve maximum profit, rural people re-invest their surplus amount in other earning activities. The farmers under observation were subjected to ask for alternative off-farming earning opportunities and the results are shown in Table-6.

Table .6 Diversified New Jobs Opportunities

Category	Petty trading	Agribusiness Processing	Services	Others	Total	%
Agri.small Loanee N= 96	30	14	3	8	55	57
Non-Loanee N=90	18	6	0	12	36	40

Source: Authors Field Survey Results, 2016

The outcomes of data analysis showed that 57 percent agriculture small loan users were engaged in alternative earning business activities aside from crop farming. The alternative earning opportunities include petty trading (30), agribusiness processing (14), and other (11) job opportunities include working in some institutions or doing masonry work. Among credit non-users, 18 farmers were doing petty trading, 6 were engaged in agribusiness processing activities while 12 farmers were involved in others activities as vegetable growing and carpentry work, so overall 40 percent farmers in this group were doing off-farm business activities. The trend of agriculture small loanee towards livelihood diversification is 17 percent higher than non-loanee. These additional job opportunities provide them an opportunity to purchase certain inputs such as fertilizers, pesticides and other inputs which contribute to productivity improvement (Hilson, et.al, 2013). In this manner, the rural farmers are able to safe from frequently natural climatic vulnerability and from unfavorable marketing situation or microeconomic policies. Thus to spread the risk across different income generating activities, the rural household use this idea for making growth in farm output. This increased farm output in return will create more off-farm income generating opportunities through linkage effects in rural areas. It is necessary in rural area scenario where many rural families cannot depend alone on farming to provide sufficient mean of survival. So livelihood diversifications become prominent to compliment farming income.

5.CONCLUSION

The study was aimed to empirically analyze the relationship between agriculture small loan and its diverse impacts on farmer's life. The crop yield data of four major crops such as cotton, wheat, maize and rice between agriculture small loan borrowers and non-borrowers was processed through t-test and the results showed that agriculture small loan borrowers obtained 10-18 percent higher yield than non-borrowers. This increase was due to optimal use of inputs and application of technical knowledge. The data analysis results for making comparison of income level between both groups showed that average profit level was statistically higher for borrowers at 5% confidence level. From field survey it was found 40 percent farmers believed the agriculture small loan had increased their access to basic health facilities which they do not have before. After taking loan rural farmers were able to increase their crop yields which ultimately increase their revenue. Approximately 45 percent of farmers used the surplus income for having own mode of transportation to move their agriculture produces in nearby markets. The numbers of livestock kept by agriculture small loanee and non-loanee were found that loan borrowers have more number of livestock animals than non-borrowers. The loan utilization had enabled farmers to 100 percent increase poultry home-based folk, 75 percent goats were increased whereas 50 percent rise in buffaloes and cows. This growth in livestock was experienced due to positive effects of farmers' income. The study resulted positive influence on social sectors expenditures between agriculture small loan borrowers and non-borrowers. Around 46 percent farmers believed that they had good influenced on social expenditures while 30 percent of view that agriculture small loan had less influenced, so majority of rural farmers had some positive influence on their poverty reduction. The study outcomes showed that 57 percent agriculture small loan users were engaged in alternative business activities aside from crop farming and the trend of agriculture small borrowers towards livelihood diversification is 17 percent higher than non-borrowers. As many rural families cannot depend alone on farming to provide sufficient mean of survival. Thus to spread the risk across different income generating activities, the idea of livelihood diversifications become prominent to compliment farming income. The study concluded that agriculture small loan was a tool for socioeconomic development of rural farmers. Therefore, if small farmers are properly guided and required information is provided in appropriate manners, they can play a vital role in sustainable agriculture development of Pakistan.

RECOMMENDATIONS

- ❖ Agriculture and private commercial banks should extend adequate credits to small farmers according to their education, farm size and farming experience to get maximum benefits of credit as compare to illiterate farmers.
- ❖ Proper policies should be formulated with a favorable credit delivery system on easy terms and conditions to rural poor farmers.
- ❖ Other national and international organizations like World Bank, FAO, USAID and NGOs should adopt loan granting system to enable small farmers improve their income, living standard and ensure the food security.
- ❖ The Pakistan government should provide education programs which will guide them to use optimal use of inputs and increase crops productivity.

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